OECD Territorial Reviews

THE MEGAREGION OF WESTERN SCANDINAVIA 2018

OECD

OECD Territorial Reviews: The Megaregion of Western Scandinavia

Please cite this publication as:
OECD (2018), *OECD Territorial Reviews: The Megaregion of Western Scandinavia*, OECD Publishing, Paris.
http://dx.doi.org/10.1787/9789264290679-en

ISBN 978-92-64-29066-2 (print)
ISBN 978-92-64-29067-9 (PDF)

Series: OECD Territorial Reviews
ISSN 1990-0767 (print)
ISSN 1990-0759 (online)

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Foreword

Not all cities are equally prepared to compete in a globalised economy. The largest cities around the world are often better equipped than smaller ones to attract investment, increase their market shares, upgrade their skills base and move up the global value chain. Such cities benefit from "agglomeration economies", which typically arise when firms and workers come together in close proximity, share knowledge and become more productive.

When cities that are relatively smaller on a global scale – such as Oslo, Gothenburg and Malmö – engage in a network with each other, they can collectively "borrow" agglomeration economies while minimising the costs associated with large cities, such as traffic congestion, air pollution, soaring house prices and social inequalities. For example, improving the transport network between two similar sized cities will reduce the cost of moving goods and people between them. These cities will gain faster and cheaper access to product markets. Their labour pool will get bigger and become more diversified. Therefore, the city network helps each individual city to function as if it were twice as big, without necessarily enduring the drawbacks that come with larger size. Such city networks can sometimes grow to encompass more neighbouring cities, expanding into "megaregions".

The *OECD Territorial Review of the Megaregion of Western Scandinavia* explores this new economic scale by looking at how Oslo, Gothenburg and Malmö have grown more interconnected with each other and their hinterlands. The review offers targeted policy recommendations to help local and national stakeholders build a more dynamic, sustainable and inclusive megaregion.

This review was carried out under the auspices of the OECD Regional Development Policy Committee and its Working Party on Urban Policy. Within these unique arenas for international exchange and debate, around 100 OECD Territorial Reviews have been conducted, allowing for peer-to-peer learning and the dissemination of best practices.

Acknowledgements

This *Territorial Review on the Megaregion of Western Scandinavia* was produced in the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE), led by Lamia Kamal-Chaoui, Director, and as part of the programme of work of the Regional Development Policy Committee.

The OECD would like to thank the eight regional and local authorities that supported this Review: the counties of Akershus and Østfold in Norway; the counties of Västra Götaland, Halland and Skåne in Sweden; the city of Oslo in Norway; and the cities of Gothenburg and Helsingborg in Sweden.

Special thanks go to Jon Moxnes Steineke, Senior Adviser, Akershus County Council, Norway; Tomas Ekberg, Chief Analyst, Region Västra Götaland, Sweden; Madeleine Nilsson, Analyst, Region Skåne, Sweden; Lena Holmberg, Project Co-ordinator, Region Västra Götaland, Sweden; as well as the members of the political reference groups and steering groups, analysts and communication experts who worked on the project.

The OECD extends warm thanks to all the stakeholders from government, civil society, academia and business representatives across the regions met during the on-site study missions in January 2017 and April 2017. The OECD would also like to thank the national government authorities from Norway and Sweden for their input during the process.

The OECD is grateful to the three peer reviewers who contributed valuable international insights to the project: Johannes Gielge, Head of the Urban Research Section of the Urban Planning Department, City of Vienna (Austria); Gil Kelley, General Manager, Planning, Urban Design and Sustainability, City of Vancouver (Canada); and Xavier Tiana Casablancas, Head of International Relations, Barcelona Metropolitan Area (Spain).

The review was co-ordinated and edited by Soo-Jin Kim of the Cities, Urban Policies and Sustainable Development Division. The report was supervised by Rudiger Ahrend, Head of the Economic Analysis, Statistics and Multi-Level Governance Section. The review was drafted by Daniela Glocker (Chapter 1), Soo-Jin Kim (Chapter 2), and Chris McDonald (Chapters 3, 4 and 5).

The review also benefited from comments by Karen Maguire, Aziza Akhmouch, Enrique Garcilazo, Varinia Maria Michalun, Oscar Huerta Melchor, Elodie Isabel De Oliveira and Abel Schumann. Jennifer Allain copyedited and formatted the manuscript. Jeanette Duboys, Cicely Dupont-Nivore and Pilar Philip prepared the review for publication.

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Executive summary

Key messages

- "Western Scandinavia" is an unofficial name that eight regional and local authorities have chosen collectively to designate the area of this OECD study – the 500-kilometre coastline joining up the capital of Norway (Oslo), the second- and third-largest cities in Sweden (Gothenburg and Malmö), and their hinterlands. Western Scandinavia brings together 30% of the Norwegian population and 33% of the Swedish population. It generates slightly less than the gross domestic product (GDP) of Norway (USD 228 billion) and about half of the GDP of Sweden (USD 400 billion). It also offers a high quality of life and a dynamic economic base.
- Western Scandinavia is part of the Scandinavian-Mediterranean (ScanMed) corridor of the Trans-European Transport Network (TEN-T). While connectivity within Western Scandinavia in terms of road infrastructure has improved in recent years, rail infrastructure remains underdeveloped, notably due to the lack of cross-border transport planning at the national level.
- Growing signs of integration illustrate Western Scandinavia's potential to develop into a competitive and attractive megaregion. Commuting flows have increased, including between Västra Götaland and Skåne where they used to be traditionally low. Economic and cultural linkages are also growing stronger, as illustrated by the number of Swedish-controlled enterprises in Norway (and vice versa) and the number of holiday homes owned by Norwegians in Sweden, for example.
- At the same time, mismatches in the labour market are jeopardising the competitiveness of Western Scandinavia. Job growth did not keep pace with the inflow of working-age individuals. Despite economic growth, the unemployment rate in Western Scandinavia has not come down from around 7% since the crisis. There is a lasting shortage of labour in some occupations, notably in high-skilled jobs.
- Despite a long history of Nordic co-operation and the existence of numerous collaborative networks and platforms, Western Scandinavia lacks a clear vision of what it wants to achieve collectively and has a weak capacity to speak with one voice. As a result, it remains isolated from national decision-making processes, both in Norway and in Sweden.

Key recommendations

- Future progress could be achieved by taking concrete action at two scales: 1) at the broader "megaregional" scale; 2) within each region.

Building collectively a more dynamic, sustainable and inclusive megaregion

- **Strengthening the evidence base: the "why".** The shared Nordic model of the "Good Life" could offer a natural common ground for stronger co-operation. Making statistics on quality of life comparable across the border could help assess the opportunities and challenges that call for a joint policy response.
- **Identifying and implementing a shared project: the "what".** Drawing on existing collaborative networks, Western Scandinavia could work jointly on concrete projects, which could include culture and tourism, climate goals, health, and sustainable transport, among others.
- **Improving horizontal and vertical co-ordination of public investment: the "how".** Promoting integrated development in Western Scandinavia requires effective mechanisms for aligning investment goals and priorities across levels of government (ranging from subnational to national and supranational levels). In particular, the creation of a Swedish-Norwegian transport commission and a Swedish-Danish transport commission could help implement a better co-ordinated approach to cross-border transport planning.
- **Bringing all stakeholders on board and investing in a branding strategy: the "who".** In a context where the geographic scope of collaboration is evolving and the goal of the megaregion approach is not to form a new administrative layer, it is essential to engage all relevant actors in developing a common sense of ownership and to monitor progress towards the achievement of collective goals.

Addressing opportunities and challenges within each region

- **Oslo/Akershus/Østfold:** While Oslo and Akershus form a high-productivity metropolitan region, it needs to promote innovation in high-value producer services, ensure housing and sustainable transport for its growing population, and integrate new migrant groups into its economy. Østfold is transitioning to higher value manufacturing and services. An overall priority for this region will be to support job creation, innovation and entrepreneurship, while upgrading skills.
- **West Sweden (Gothenburg/Västra Götaland/Halland):** Maintaining the momentum of a successful transition towards knowledge-based activities requires boosting productivity growth and strengthening regional attractiveness. Actions that can support the business environment (e.g. innovation system, skills, infrastructure, and fostering entrepreneurship and small- and medium-sized enterprises) and to strengthen the competitiveness of the cultural sector should continue to be a key priority.
- **Skåne:** While Skåne has a good innovation climate according to the Regional Innovation Scoreboard, its economic performance in terms of per capita GDP and productivity growth has been lower than the national average over the past decade. Enhancing productivity will require focusing on developing a more inclusive and efficient labour market, and investing in infrastructure that better links people to jobs and reinforces the role of Skåne as Sweden's physical gateway to Europe.

Assessment and recommendations

Setting the scene: Tapping the benefits from agglomeration while minimising its costs through city networks and megaregions

Across the world, urbanisation continues to shape territories in different ways. While the urban population is projected to rise from below 1 billion in 1950 to an estimated 9 billion by 2100, urban settlement patterns vary widely across countries. Cities range from small and medium-sized municipalities in Europe to megalopolises far over 10 million in Asia, for example. Stronger competition to increase market shares, attract high-skilled workers and move up the global value chain places a premium on agglomeration benefits, which allow for reaping economies of scale and are facilitated by spatial proximity and knowledge spillovers. Agglomeration benefits tend to increase with city size if other conditions are met, including accessibility to employment, a skilled workforce, research and innovation, and effective governance arrangements to improve public policy delivery across sometimes centuries-old administrative boundaries.

However, large cities do not only reap agglomeration economies; they also tend to face negative externalities associated with extensive population growth, including traffic congestion, air pollution, soaring housing prices and social inequalities. In this context, greater connectivity between cities that are economically complementary but spatially too remote from each other to "cluster" physically can allow them to "borrow" agglomeration economies while minimising the costs of large cities. If, for example, two similar sized cities become highly connected through a well-developed transport network, this can mimic a doubling in population size by reducing transport and communication costs, ensuring faster and cheaper access to product markets, and enlarging and diversifying labour pools.

Such city networks can sometimes expand to "megaregions". This new larger economic scale encompasses a polycentric grouping of cities and their hinterlands that are connected through transport infrastructure, economic linkages, topography, an environmental system, or a shared culture and history, which together shape a common interest for this wider territory. This search for borrowed agglomeration economies is an increasingly relevant factor for the competitiveness and attractiveness of cities and territories in Europe. Very few cities in Europe have the scope or the vision to grow into megalopolises. However, they still face tough global competition for investment and could respond to it more effectively **together** with their neighbouring territories – as will be illustrated in the case of Western Scandinavia, where the capital of Norway and the second- and third-largest cities of Sweden are located in relative proximity to each other. Recent OECD work on defining megaregions across OECD countries suggests that Western Scandinavia forms a potential megaregion, where the current long travel times and the lack of adequate transport infrastructure are, however, hampering further economic integration. The *OECD Territorial Review of Western*

Scandinavia explores the present status of connectivity along the coast and offers policy recommendations to help local and national stakeholders build a more dynamic, sustainable and inclusive megaregion.

Key findings

"Western Scandinavia" is a bottom-up regional initiative to join forces between Oslo, Gothenburg and Malmö.

"Western Scandinavia" is an unofficial, self-given name that eight regional and local partners – i.e. three counties in Norway (Oslo, Akershus and Østfold), three counties in Sweden (Västra Götaland, Halland and Skåne), and two cities in Sweden (Gothenburg and Helsingborg) – have chosen collectively to designate the area submitted to the present OECD study. It covers the 500-kilometre long coast joining up the capital of Norway (Oslo), the second- and third-largest cities in Sweden (Gothenburg and Malmö), and their hinterlands. Western Scandinavia brings together about a third of the population of Norway and Sweden (30% of the Norwegian population and 33% of the Swedish population in 2016). With an aggregated gross domestic product (GDP) of USD 201 billion, it generates slightly less than the GDP of Norway (USD 228 billion) and about half of the GDP of Sweden (USD 400 billion).

About 60% of Western Scandinavia's combined population is concentrated in three metropolitan areas, which are not immediately contiguous but distributed in almost equal distances from each other along the Kattegat-Skagerrak Strait: approximately 1.3 million people in Oslo-Akershus, 900 000 in Gothenburg (in the region of Västra Götaland) and 700 000 in Malmö (in the region of Skåne). While these individual metropolitan areas remain relatively small in the international arena, when considered together and with their hinterlands they form a coastal stretch of almost 5 million people, i.e. nearly double the population size of the OECD average Territorial Level 2 region.

Each of the three regions forming Western Scandinavia are prioritising specific challenges: 1) Oslo and its neighbouring county Akershus form a high-productivity metropolitan economy, and in the context of Norway's economic transition will need to foster new high-value business opportunities and address skills mismatches, whereas Østfold is focusing on improving skills and competencies to support a structural transformation in its manufacturing sector toward higher value activities; 2) Gothenburg and West Sweden more broadly (Counties of Västra Götaland and Halland) are experiencing strong economic performance after a successful transition towards knowledge-based activities, and future priorities include developing urban environments that enable better connectivity, facilitate knowledge spillovers and enhance regional attractiveness; 3) Skåne, a traditionally strong region in terms of innovation, has also made a successful transition to higher value producer services but faces the challenge of low labour productivity growth and the challenge of integrating large inflows of foreign migrants, while serving efficiently as Sweden's physical gateway to continental Europe since Skåne is strongly integrated with eastern Denmark into the Öresund region.

All three regions of Western Scandinavia have focused on reinforcing polycentric regional development (through land-use and infrastructure strategies) and enhancing co-ordination between regional and municipal levels of government. Such objectives are visible in most of the regional strategic documents currently in place: the Oslo-Akershus Joint Regional Plan for Transport and Land Use; the Vision of Västra

Götaland and the Regional Development Programme of Västra Götaland "VG2020"; Skåne's regional development strategy "The Open Skåne 2030" and "Strategies for Polycentric Skåne".

While Western Scandinavia serves both Norway and Sweden as a major freight hub, internal connectivity remains underdeveloped, notably due to the lack of cross-border transport planning at the national level.

While the three metropolitan areas and their respective immediate hinterlands are facing distinct challenges, they share a key function as a major transport corridor. A general common interest to all territories forming Western Scandinavia is that they collectively form one of the busiest transport corridors in Europe – both in terms of freight and passenger transport. Western Scandinavia hosts Norway's largest airport (Oslo accounted for two-thirds of Norway's international freight operations in 2016) and Sweden's two largest ports (Gothenburg and Helsingborg, with the former operating 130 direct lines to destinations all over the world). Classified as part of the Scandinavian-Mediterranean (ScanMed) corridor of the Trans-European Transport Network (TEN-T), connectivity within Western Scandinavia has improved in recent years. Significant investments have upgraded road infrastructure (including the four-lane stretch of the European route E6 between Oslo and Gothenburg, which was completed in 2015). A daily average of about 2 500 trucks and 50 000 individuals cross the Norway-Sweden border on road.

By contrast, given the current lack of fast rail infrastructure (both across the Norway-Sweden border and between the second- and third-largest cities in Sweden), trains have gradually lost competitiveness to roads, particularly on the Oslo-Gothenburg route. As an illustration, a freight train currently takes twice as long as a truck on this route. The average speed by car is about 30 km/h faster than the average speed by train. Out of the seven daily trains currently running between Oslo and Gothenburg in each direction, only three run at full speed (at about 85 km/h).

Road transport is (and will likely continue to be, in case of inaction) a main contributor to air pollution in Western Scandinavia. Cities and regions in Western Scandinavia have put forward ambitious emission reduction targets by timelines ranging between 2020 and 2050, but achieving those targets will require efforts to address the increasing pressure on road infrastructure that public authorities have anticipated over the same horizon. Transport demand in Western Scandinavia will also be influenced by external developments (e.g. the opening of the Fehmarn Belt fixed link between Copenhagen and Hamburg by 2028 can be expected to influence trade volumes running through the Western Scandinavia freight corridor).

There is currently little to no co-ordination between Norway and Sweden in terms of transport infrastructure planning at the national level. Each country operates its own national transport plan, whereas cross-border transport projects tend to fall outside national planning frameworks. In contrast, regional and local stakeholders have made continuous efforts to raise awareness on the need for more effective cross-border transport investment, including in Denmark. For example, in 2013, business organisations in Norway, Sweden and Denmark wrote to their respective ministers in charge of transport to point out the urgency to act. In a promising step towards addressing cross-border transport challenges, the Transport Committee in the Swedish parliament announced that the government should develop a national strategy for cross-border rail traffic to reduce the vulnerability of the transport system (as part of the proposals for

the National Transport Plan 2018-2029). The plan is currently submitted for comments and will be decided by the government in the first half of 2018. The national transport plans of Norway and Sweden will then cover the same planning period (2018-29).

Growing signs of integration illustrate Western Scandinavia's potential to develop into a competitive and attractive megaregion.

While limited high-speed transport infrastructure may have hampered the integration among regions across Western Scandinavia in the past, the geographical proximity between the large metropolitan areas, together with the combination of historical ties and low language barriers, has offered a natural ground for joint development. Although traditional indicators of economic connectivity (such as population settlement patterns, commuting flows or co-patenting activities) indicate a moderate degree of interconnection, they also display **increasing** linkages in several aspects. Linkages rarely take place between all three large metropolitan areas as a whole, but many types of linkages are intensifying. For example:

- Over the past 15-20 years, Western Scandinavia's strong population growth has resulted in the densification of existing urban clusters, urban sprawl at the fringes of metropolitan areas and the formation of lower density rural clusters along the coastline.
- A rising number of Swedish-controlled enterprises in Norway, as well as Norwegian-owned enterprises in Sweden, indicate tightening economic linkages between the two countries. For example, about 20% of Norwegian-owned firms in Sweden are located in the Gothenburg region.
- Commuting flows within Western Scandinavia have also increased, including between Västra Götaland and Skåne (where commuting used to be traditionally low but has increased by 35% over a period of ten years). In the case of Skåne (which is connected to Denmark through Malmö-Copenhagen and Helsingborg-Helsingør links), maintaining and reinforcing the relationship with Copenhagen and further down to Hamburg is also of strategic importance – not only for Skåne, but also more broadly for Western Scandinavia.
- More than 40% of the holiday homes in Sweden that are owned by Norwegians are located in the Swedish part of Western Scandinavia (mostly in Västra Götaland).

Furthermore, additional factors of integration attest to the capacity of Western Scandinavia's territories to grow further **together** into a dynamic and attractive megaregion. First, high quality of life is a defining feature of Western Scandinavia. While at the national level, Norway and Sweden rank above the OECD average in 7 out of 11 dimensions measured in the OECD Better Life Index (jobs and earnings, education and skills, housing, work-life balance, civic engagement, social connections, and health status), Western Scandinavia performs above the average of all OECD regions on **all** well-being dimensions measured by the OECD Regional Well-being framework. It ranks particularly high with respect to (stated) life satisfaction, the perceived social support network (community), civic engagement and safety. A wide variety of large-scale cultural and sports events has contributed to a shared recognition that Western Scandinavia is a good place in which to work, live and relax.

Second, Western Scandinavia's diverse and innovative economic base has facilitated a swift recovery from the 2008-09 global financial crisis. The economy of Western Scandinavia has proven to be relatively robust to shocks. After dipping during the

global financial crisis, GDP per capita in Western Scandinavia quickly resumed growth, increasing by 5.4% between 2009 and 2014. Western Scandinavia created about half of Norway's gross value added (GVA) and more than one-quarter (27%) of Sweden's GVA in high-productivity sectors (i.e. information and communication; financial and insurance activities; real estate activities; professional, scientific and technical activities; as well as administrative and support service activities) in 2014. All the regions composing Western Scandinavia but one are classified as "innovation leaders" in the European Commission's Regional Innovation Scoreboard 2017. Western Scandinavia is endowed with several leading research and higher education institutions (such as the University of Lund, the Norwegian University of Life Sciences, Chalmers University of Technology, the Max IV and ESS institutions – to name only a few). Such actors, together with all relevant public and private actors in Western Scandinavia, could develop stronger knowledge-sharing collaboration to further boost existing clusters (e.g. ICT, life and health science, renewable energy and environmental technology, automotive).

However, current and anticipated mismatches on the labour market are jeopardising the competitiveness of Western Scandinavia.

Western Scandinavia has a growing but not yet fully inclusive labour market. Between 2000 and 2016, Western Scandinavia grew from 4.1 million to 4.8 million inhabitants – expanding by 17% (compared with a national population growth of 16% in Norway and 11% in Sweden over the same period). This growth was driven by net internal in-migration, both from European and non-European countries (including other Nordic countries, but also conflict zones such as Afghanistan, Eritrea, Somalia and the Syrian Arab Republic). Job growth did not keep pace with the inflow of working-age individuals. Despite economic growth, the unemployment rate in Western Scandinavia has not come down from around 7% since the crisis. The persistence of unemployment in Western Scandinavia also partly reflects a rise of the unemployment rate in Norwegian counties (following the dip in oil prices in 2014) that was not fully counterbalanced by a decrease in Swedish counties.

While Western Scandinavia registers generally high levels of educational attainments, there is a lasting shortage of labour in some occupations, notably in high-skilled occupations. About 44% of Western Scandinavia's population aged 25-64 (aged up to 66 in Norwegian data) have a post-secondary education, which is slightly higher than the national average for Sweden (42%) and Norway (40%). However, the lack of engineers and education professionals in some parts of Western Scandinavia (e.g. in Oslo-Akershus and the metropolitan area of Gothenburg) co-exists with skills gaps in areas such as healthcare, elderly care, transport and construction that require lower levels of qualifications. Meanwhile, the recent or ongoing restructuring of the manufacturing sector has pushed many workers out of the labour market. Foreign-born workers, who have concentrated in the large metropolitan areas, face a combination of economic and social obstacles to access employment opportunities. If left unaddressed, current and projected skill mismatches may slow down productivity growth in Western Scandinavia, thereby impairing a major driver of national growth.

Despite a long history of Nordic co-operation and the existence of numerous collaborative networks and platforms…

Faced with such opportunities and challenges, Western Scandinavia benefits from a deeply rooted tradition of collaboration that has developed at various levels over time. First, a long history of Nordic co-operation has developed at the national level (notably from the 1950s to the 1970s, with the creation of the Nordic Council for inter-parliamentary collaboration and the Nordic Councils of Ministers for inter-governmental, thematic collaboration). Second, a number of regional partnerships between cities and regions within Western Scandinavia have emerged (in the 1980s and 1990s, with the Svinesund Committee, the Gothenburg-Oslo Partnership and the Öresund Committee, which was later reformed into the Greater Copenhagen and Skåne Committee). Third, Sweden's accession to the EU in 1995 has facilitated access to EU-led Interreg collaboration (especially through the Öresund-Kattegat-Skagerrak programme and the Sweden-Norway programme).

In this context, a major foundation for Western Scandinavia was laid by the "Corridor for Innovation and Cooperation" (COINCO) project family, including the original COINCO project from Oslo to Berlin (2005-07) and the COINCO North II project (2012-14). The latter project was subsequently renamed the "Scandinavian 8 Million City" project, based on the vision that the regions of Oslo, Gothenburg, Malmö and Copenhagen could build a polycentric megaregion of more than 8 million Scandinavians who share a similar language and culture. The project focused on improving transport infrastructure, including through the investigation of high-speed rail (which would cut travel time between Oslo and Copenhagen from the current 7 to 8 hours – by slow train with no direct connection – down to 2.5 hours), upgrading the InterCity X system and establishing a green freight corridor.

… Western Scandinavia lacks a clear vision of what it wants to achieve collectively.

Despite their large variety, existing collaboration bodies in Western Scandinavia face limitations in power. On the positive side, they certainly represent an endeavour to find joint solutions to collective cross-border problems, ranging from infrastructure to labour market and climate change issues and regulations. They have been successful in sharing data, knowledge and policy experiences. At the same time, most of the existing collaboration bodies only command "soft power". Their efforts to remove barriers and build a more internationally competitive territory have often yielded frustrating results against the magnitude of legal, fiscal, regulatory and other differences between Norway and Sweden.

Western Scandinavia currently lacks a clear vision of what to achieve collectively. It has a weak capacity to speak with one voice and present strong evidence to the two respective national governments. The most advanced attempt for creating a politically integrated governance body in Western Scandinavia has been the "Scandinavian Arena", a cross-border political co-operation body, which also initiated the 8 Million City project and served as a steering group for the project. Although the 8 Million City project allowed for a substantial amount of innovative thinking and data mining, it never managed to put together a full, coherent cost-benefit analysis covering the entire high-speed coastal rail corridor it was advocating for. Ultimately, this investment did not materialise. In Sweden, following the Swedish government's decision to prioritise high-speed rail connecting Stockholm to Gothenburg and Malmö instead, the Swedish Negotiation for

Housing and Infrastructure started investigating concrete co-funding mechanisms for these two planned routes. After seeing their joint efforts fall short of fulfilling their long-standing goal, local partners in Western Scandinavia – including at the political level – may have experienced a certain level of "collaboration fatigue", which explains the current fragmentation of collaborative platforms and the absence of a tangible, federating project. As a result, Western Scandinavia (as an entity) today remains isolated from national decision-making agendas, both in Norway and Sweden.

Key recommendations

Future progress could be achieved by taking concrete action at two scales: 1) at the broader "megaregional" scale; 2) at the regional scale.

1. Building collectively a more dynamic, sustainable and inclusive megaregion

Strengthening the evidence base: The "why"

The various parts of Western Scandinavia share a Nordic model of the "Good Life", with a combination of values, assets and capacities that could offer a natural common ground for stronger co-operation. This joint banner would have a powerful driving force to attract and federate a large number of stakeholders who can take the idea of the megaregion forward. Developing a solid evidence base could help rally forces around this common cause. Collecting reliable and comparable cross-border statistics on key indicators could help assess the magnitude of the opportunities and challenges that call for a joint policy response. Many good statistics are currently available on a wide range of topics in Western Scandinavia, but they are not necessarily exploitable as such because they follow different methodologies or cover different time periods, for example. A full cost-benefit analysis for required investments would need to be conducted, preferably across the wider Oslo-Hamburg corridor in the context of co-operation in an enlarged STRING network.

Identifying and implementing a shared project: The "what"

The basic and obvious premise is that not everything needs to be achieved at the megaregional scale. Drawing on existing collaborative networks, Western Scandinavia could work jointly on concrete key themes, which could include, for example:

- **Liveability, culture and tourism:** when considered jointly rather than as separate events occurring in separate spots, the palette of high-profile artistic, sports, business and other events in Western Scandinavia depicts a vibrant and lively place with a compelling attractive power, which could become far more visible if a co-ordinated package was planned, developed and implemented.
- **Climate and sustainable urban futures:** joining forces to develop a network of smart and sustainable cities could help achieve climate ambitions and smart specialisation priorities.
- **Health and well-being:** a proactive alliance could help facilitate dispersion of knowledge across institutions and companies specialised in health and medical technologies.
- **Integrated labour markets:** more could be done to consolidate existing labour market integration services and better match skills and jobs.
- **Sustainable and green transport:** both economic and environmental imperatives call for alternative solutions to road transport and there are abundant opportunities for mutual learning in terms of low-emission transport

technologies and automated driving, including by tapping into existing test arenas. More broadly speaking, a full cost-benefit analysis could be conducted for a fast, modern rail network on the coast, possibly extending to the wider Oslo-Hamburg corridor.

- **Marine and maritime environment:** the preservation of a competitive and sustainable marine and maritime environment is a broader societal challenge that Western Scandinavia would be well-positioned to address collectively.
- **The transition towards a bioeconomy:** a collaborative strategy in bioeconomy, notably in biogas, could help build critical mass, promote knowledge sharing and encourage investment.

Partners are encouraged to adjust and refine this list of ideas to build their own roadmap.

Improving horizontal and vertical co-ordination of public investment: The "how"

Promoting integrated development in Western Scandinavia requires effective mechanisms for aligning investment goals and priorities across levels of government (ranging from subnational to national and supranational levels). Both in Norway and in Sweden, public investment registered one of the strongest increases in the OECD area over the period 2000-14, and subnational governments accounted for just under half of total public investment in 2014. In the field of transport infrastructure in particular, Norway and Sweden are also engaged in EU-level co-operation, notably through their active involvement in the work for developing the ScanMed corridor and the TEN-T framework. Moving forward, initiatives to raise awareness and provide a stable setting for collaboration should be considered and implemented. For example, the creation of a Swedish-Norwegian transport commission and a Swedish-Danish transport commission could help implement a better co-ordinated approach to cross-border transport planning.

Bringing all stakeholders on board and investing in a branding strategy: The "who"

A shared, comprehensive vision needs to be defined using existing networks. A number of key players need to be brought around the table, ranging from public, private and community spheres. In particular, Western Scandinavia has the distinct advantage of hosting several leading research and higher education institutions, which could collectively help raise the international profile of the potential megaregion and drive further connectivity. It is essential to engage all relevant actors in defining a clearly identifiable "brand" for Western Scandinavia, developing a sense of ownership and monitoring progress towards the achievement of collective goals. This is particularly important in a context where the geographic scope of collaboration is evolving and the goal of the megaregion approach is not to form a new administrative layer. The point for Western Scandinavia is not to cover a pre-determined perimeter or to create an additional administrative apparatus. Rather, its success depends on its collective capacity to identify a clear vision for its future, capitalise on existing co-operation mechanisms, develop a menu of concrete actions for the short and the long term, and implement them effectively.

2. Addressing opportunities and challenges within each region

Oslo/Akershus/Østfold: Supporting job creation, innovation and entrepreneurship, while upgrading skills

Oslo, Akershus and Østfold enjoy high levels of well-being in an OECD context, but face strategic policy challenges associated with supporting innovation and economic diversification, skills and inclusive growth, infrastructure and land use. Norway is experiencing structural change due to lower commodity prices, and Oslo, Akershus and Østfold can play a key role in supporting this transition. Oslo and Akershus form a single labour market; while this is a high-productivity metropolitan region, challenges associated with promoting innovation in high-value producer services, ensuring the supply of housing and provision of sustainable transport for a growing population, and the inclusion of new migrant groups into the economy, will need to be addressed. On the other hand, Østfold encompasses two distinct local labour markets. These two labour markets register weaker performance and face the challenge of transitioning to higher value manufacturing and services. This overall diagnosis points to two main strategic policy challenges for Oslo, Akershus and Østfold. The first is how to facilitate the creation of new jobs and business opportunities that are high value and take advantage of the economic transition that Norway is facing. The second is equipping people with the skills, and addressing mismatches in the labour market, to ensure that businesses have the capacity to take advantage of new opportunities and grow.

Innovation and entrepreneurship could be further strengthened through efforts to:

- address fragmentation in cluster activities by re-prioritising existing efforts and developing common funding platforms (between Oslo, Akershus and Østfold) with national agencies to build scale and better co-ordinate investment
- prioritise initiatives in Østfold that support structural transformation in the manufacturing sector toward higher value activities and better transport links with Oslo-Akershus.

Further strengthening capabilities and mechanisms to deliver regional competency plans can be achieved by:

- investing in generating timely information about local labour market conditions and forecasting to anticipate future skills requirements
- utilising clusters to develop and attract specialised skills, strengthening relationships between education and training providers and business
- working with civil society organisations to help migrants integrate into informal social networks.

West Sweden (Gothenburg/Västra Götaland/Halland): Boosting productivity growth and strengthening regional attractiveness

West Sweden is experiencing strong economic performance after a successful transition towards knowledge-based activities. Continuing this momentum requires a focus on developing urban environments that enable better connectivity, facilitate knowledge spillovers and enhance regional attractiveness, but also on addressing challenges such as the integration of migrants, facilitating housing supply, and increasing skills and competencies. Actions that can support the business environment (innovation system, skills, infrastructure, and support for entrepreneurship and small and medium-sized businesses) should continue to be a key priority. Increasing the size and scale of local labour markets could help boost the productivity and growth performance of key tradeable sectors even further. This includes continuing to develop

better connections between Gothenburg and other urban settlements in the region, and to the higher productivity cities of Oslo, Copenhagen and Stockholm. The competitiveness of knowledge-intensive and tourism-related services are supported by urban and rural environments that are attractive to skilled workers and visitors, which is a major asset for the region to nurture in an increasingly competitive global market for tourism and skills.

Region Västra Götaland and Region Halland, together with the municipalities in the area, can increase long-term urban productivity by:

- working with the national government to develop an integrated spatial planning model for the functional urban area of Gothenburg and the appropriate administrative mechanism to support its implementation (e.g. expanded regional planning authority, municipal mergers)
- developing a priority infrastructure project list for West Sweden in partnership with national transport agencies (in Norway, Sweden and Denmark), municipalities, transport operators (port, rail, airport), which includes the identification of options for public-private partnerships to finance these priorities (the effectiveness of this arrangement would depend upon the active participation and commitment of all parties, and its integration with transport planning and resource allocation mechanisms)
- implementing a pilot model that gives Region Västra Götaland and Region Halland a joint mandate in planning, prioritising and co-ordinating investment in innovation at the regional scale
- in line with the conclusions in the OECD Territorial Review on regional policy for Sweden in 2017, the regional councils in Halland and Västra Götaland could also be given a clear mandate by the national government to jointly plan and co-ordinate employment and skills policies at the regional level.

Region Västra Götaland and Region Halland can build on the strength of their cultural sector by:

- linking the programmes and networks developed through the cultural strategy with initiatives to support entrepreneurship and labour market integration of disadvantaged communities (e.g. newly arrived foreign migrants, workers in rural places affected by restructuring)
- developing an integrated tourism strategy for West Sweden that can provide a common platform for prioritising markets, common branding and promotional activities, articulating the linkages between tourism and land use, innovation, and infrastructure policies at the local and regional level, and strengthening cross-border linkages
- developing a collaborative platform with higher education institutions in the region to increase the number of international students in West Sweden, including the identification of barriers to international education at a national level, and providing better on- and off-campus support at a local and regional level.

Skåne: Fostering a more inclusive labour market and improving transport infrastructure and accessibility

Skåne has a good innovation climate according to the Regional Innovation Scoreboard, but the economic performance of Skåne (in terms of per capita and productivity growth) has been lower than the national average over the past decade. Low

productivity and a strong labour market can be partly explained by the comparatively higher levels of population growth experienced in Skåne. However, as the working-age population has increased, the employment rate remains low. Another factor explaining current growth dynamics is the significant structural economic change in recent decades. Labour-intensive manufacturing industry has declined, but Skåne has also successfully moved up the value chain, with a focus on professional and scientific services in areas such as ICT, packaging and clean technologies. Although this shift toward a knowledge-based economy is a positive trend, some places within Skåne are still experiencing the impacts of restructuring in the manufacturing sector and its flow-on impacts such as low labour force participation. Enhancing the productivity of Skåne will require a key focus on developing a more inclusive and efficient labour market, and investing in infrastructure that better links people to jobs, and reinforces the role of Skåne as Sweden's physical gateway to Europe.

The Skåne Regional Council could be given a clear mandate by the national government to plan and co-ordinate employment and skills policies at the regional level. This can be achieved by strengthening the role of the Competence Co-operation Skåne to facilitate joint planning efforts between municipalities, national agencies and other social partners, notably through:

- an expansion of pilot projects that promote parental participation of migrants in schools
- improvements in targeted educational, mentoring, social and civic participation support for migrants who arrive at the age 15-19
- addressing resource constraints of small municipalities in relation to education and social services (for example by facilitating shared services arrangements between smaller and larger municipalities)
- developing tailored pathways for vulnerable youth at risk of leaving school in disadvantaged communities (for example, by strengthening local platforms that bring together schools, local employers and vocational training providers that link mentoring and peer support, social services, work placements and training opportunities).

Making the most of infrastructure investments in Skåne will require focus on three key areas:

- establishing a mechanism to ensure more effective integration of national transport planning in Sweden and Denmark that can facilitate joint long-term planning, prioritisation, sequencing and financing of transport infrastructure
- giving the Skåne Regional Council the mandate to prepare a strategic spatial planning and validate local comprehensive land-use plans, and to be the planning authority for major development projects (making the Skåne Regional Council a national pilot for a county council to strengthen its role in strategic spatial planning)
- ensuring that large-scale infrastructure investment that improves accessibility for regional centres (Ystad, Trelleborg, Landskrona, Hässleholm and Kristianstad) and surrounding rural areas is integrated with initiatives to lift skills and promote innovation amongst local firms.

Part I.
The Megaregion of Western Scandinavia

Chapter 1. Connectivity in the Megaregion of Western Scandinavia

This chapter introduces the concept of megaregions and explores the potential of Western Scandinavia – an area that reflects the informal collaboration of cities and regions along the coast stretching from Oslo in Norway to Gothenburg and Malmö in Sweden – to develop as a megaregion. The chapter starts with a general introduction about megaregions. It then turns to a short assessment of Western Scandinavia, its quality of life and economic competitiveness, comparing outcomes to national and international trends. Finally, it analyses functional linkages within Western Scandinavia in order to assess its degree of integration.

Key findings and recommendations

Western Scandinavia refers to a 500-kilometre long urban corridor along the coast of the Kattegat-Skagerrak strait, stretching over six counties in two countries – Norway and Sweden. The area is home to around 5 million people, 60% of which lives in one of the three metropolitan areas (Oslo, Gothenburg and Malmö). By presenting itself as a unified megaregion with all of the combined assets of its cities and regions, Western Scandinavia aims to raise its global competitiveness and attractiveness.

- Defining the geographic extent of a megaregion is key for identifying and engaging relevant stakeholders. This is, however, an empirically difficult and data-intensive task, which requires regional disaggregated and comparable data. In the case of Western Scandinavia, this task is further complicated by its cross-border nature, with two different national institutions in charge of data collection. Evaluating and monitoring the degree of functional integration within Western Scandinavia calls for increased co-ordination with respect to the type of data to be collected, the time frame, as well as the definition of a set of indicators that allows for measuring functional integration between places. These indicators could be based on commuting and commodity flows, or linkages between firms.
- Western Scandinavia shows good potential to develop into a megaregion. The region offers a high quality of life and is continuously growing in terms of population and employment. Attractive landscapes, a range of urban amenities and cultural events, as well as an innovation-friendly business environment with a well-developed cluster structure, are among the main assets of Western Scandinavia. The regions within Western Scandinavia have many features that should bring them together, such as a similar culture and language, as well as historical ties. At the same time, economic linkages and collaboration within Western Scandinavia indicate three smaller scales:
  - In the north, the Norwegian part of Western Scandinavia shows some degree of connection and collaboration with Västra Götaland. For example, overnight stays and the ownership of holiday homes indicate that Norwegians travel to Västra Götaland, although they tend to stay in Gothenburg and in close proximity to the Norwegian border. Linkages towards the south of Western Scandinavia (below Västra Götaland) are less pronounced and seem to be mainly driven through research collaborations, which depend on the research agendas of universities.
  - At the centre, West Sweden acts as an anchor, interacting with both the northern and the southern parts of Western Scandinavia. For example, Västra Götaland hosts several large-scale events that attract visitors from all other parts of Western Scandinavia and beyond.
  - In the south, Skåne shows strong connections and a higher degree of functional integration with the metropolitan area of Copenhagen than with any other part of Western Scandinavia. Commuting flows from Skåne towards Copenhagen are, for example, much higher than towards West Sweden because of the close proximity and fast travel times.

Clusters located in Western Scandinavia are leaders in several fields, such as life sciences, sustainable energy, environmental technology, maritime industries and the automobile industry. Greater collaboration between these

clusters could support further knowledge creation and innovation within their fields as well as disseminate knowledge among different sectors and clusters.

The different parts of Western Scandinavia face common challenges associated with their role as a main freight corridor, which hosts main ports and international airports and links to continental Europe. Most freight entering and leaving Scandinavia travels through Western Scandinavia on roads, which is more competitive, faster and cheaper than rail. The main highways are already running close to their capacity. As freight volume transported through the megaregion is expected to grow significantly, a co-ordinated strategy covering all of Western Scandinavia is necessary to optimise freight transport along the corridor and to develop sustainable transport solutions.

- Functional integration of Western Scandinavia is held back by its limited railway network. High connectivity between the economic centres is key for greater integration. Currently, long stretches of single track between Oslo and Gothenburg, as well as smaller segments between Malmö and Gothenburg, significantly reduce maximum speed and the frequency of trains running between the cities. While an upgrade of the connection between Malmö and Gothenburg is proposed in the upcoming Swedish National Transport Plan, the "missing link" between Oslo and Gothenburg remains a more open challenge. So far, the poor rail connection has resulted in a dominance of road traffic, not only for passenger traffic but also for freight, which constitutes a major environmental obstacle in the long term. To assess the full benefits of a better railway connection for Western Scandinavia, a thorough cost-benefit analysis for the entire corridor should be conducted, incorporating the wider economic and social benefits as well as analysing different scenarios. A solid understanding of both positive outcomes and drawbacks can help to develop a joint strategy and increase the engagement of the different stakeholders at local, regional and national level.

The concept of megaregions

Regions are facing a continuous transformation shaped by economic, technological and social developments that affect residents' activity and spatial patterns. Globalisation has increased the central role of urban areas in the competitiveness of regional and national economies due to their potential for reaping agglomeration economies (OECD, 2015c). Like the majority of cities in Europe, the cities located in Western Scandinavia are small when compared internationally (see Box 1.1). As an extreme but telling example, the People's Republic of China alone has been adding around half a dozen cities with several million inhabitants per year over the last decade (OECD, 2015b). In contrast, the population of Western Scandinavia totals less than 5 million inhabitants scattered across the main cities and the suburban hinterland. Not only does this imply smaller home markets, but it also means that even the larger cities in Western Scandinavia may not reach a critical mass to benefit from economies of scale. Moreover, cities and regions are facing local and global competition not only with respect to product markets, but also in terms of retaining and attracting skilled workers, especially in research and knowledge-intensive industries. Therefore, co-operation and pooling resources between neighbouring regions and cities can increase their international visibility and strengthen their competitiveness at a global scale.

The megaregion as a new geographical unit represents an integrated network of cities and adjacent regions. It has been the subject of growing interest in academic and political discussions. As Ross puts it: "Increasingly, the most appropriate unit of social organisation and economic co-ordination is not the city, not even the metropolitan area; it is the city-region or the region-wide network of cities" (Ross, 2009: 1). A megaregion can therefore be understood as an economic unit that comprises a polycentric agglomeration of cities and its less dense hinterlands, which are linked through infrastructure, economic connections, settlement patterns and land use, topography, an environmental system, or a shared culture and history that together shape a common interest for the wider region (Regional Plan Association, 2006). In a policy context, megaregions are often discussed with respect to sustainable planning and large-scale infrastructure investments such as high-speed trains, which are argued to be planned more efficiently at a megaregional scale (see, for example, Ross, Woo and Wang [2016]; Ross [2011]; Marull et al. [2013]).

A well-developed transport network is key for developing and tightening social and economic linkages within a megaregion. With greater connectivity, cities have the potential to "borrow" agglomeration and can benefit from greater market access and larger labour pools (Meijers, Burger and Hoogerbrugge, 2016). If, for example, two similar sized cities become highly connected, this can mimic a doubling in population size – increasing relationships between the two cities and allowing for a concentrated and diversified economic and social structure. If this process is well managed, negative agglomeration externalities (such as increasing housing costs, congestion and/or reduction of green space, which usually accompany such extensive population growth) can be avoided, while benefits of agglomeration can be tapped. In a spatial setting like Western Scandinavia, where cities are not immediately contiguous (compact agglomeration) but rather form a linear type of network (corridor), well-designed policies to improve connectivity and reap agglomeration economies are even more relevant. While several European highways run through Western Scandinavia, connecting the regions and cities to each other, rail traffic is often not competitive *vis-à-vis* road transport. Despite significant improvements of local and regional train traffic around the metropolitan areas over the past 10-15 years (see e.g. Ruter AS [2016]; Örestat [2017a; 2017b]; Statistics Sweden [2017c]),[1] railway connections between the main economic centres within Western Scandinavia face severe shortcomings. Both in Norway and Sweden, intercity railway networks focus on connecting the capital city with the rest of the country. As a result, the cross-border connection between Oslo and Gothenburg consists of long stretches of single track, which not only reduces the frequency but also the maximum speed at which trains can travel between these two metropolitan areas (see the section on the physical infrastructure in Western Scandinavia for a detailed discussion).

Defining the geographic extent of an emerging megaregion can help mobilise relevant stakeholders and identify common challenges at the appropriate scale. In practice, this can be a data-intensive task (see Box 1.2), but the gains of presenting itself as a unified entity with all of the combined assets of individual cities and regions may ensure greater global visibility of Western Scandinavia and its individual parts. This, however, requires joint strategies and policy approaches of local and national governments. For example, as will be detailed in this chapter, Western Scandinavia is a major freight corridor and the road infrastructure faces increasing pressure on the existing network – leading to congestion and increasing negative externalities on the environment. Sustainable transport solutions will require co-ordinated approaches to infrastructure

planning among all stakeholders, involving not only cities and regions, but also the national governments of Norway and Sweden.

This chapter will first provide an assessment of Western Scandinavia's combined potential with respect to its quality of life and economic competitiveness, comparing outcomes to national and international trends. The chapter will then analyse the extent to which Western Scandinavia currently functions as an integrated megaregion. This analysis will lead to the next chapter, which discusses what kind of governance arrangements could support Western Scandinavia in utilising its full potential.

Western Scandinavia in the national and international context

Western Scandinavia has a dynamic demography

From a national perspective, Western Scandinavia brings together about a third of the population of each country. In 2016, about 33% of the Swedish population lived in the Swedish part of Western Scandinavia and about 30% of the Norwegian population resided in the Norwegian part (OECD, 2017b). About 60% of the combined population of Western Scandinavia is concentrated in the three metropolitan areas (see Annex 1.B for a definition of OECD metropolitan areas). In 2014, Oslo, the largest metropolitan area with respect to population size, was home to about 1.3 million people, followed by Gothenburg in Västra Götaland with a population of 900 000, and Malmö in Skåne with 680 000 inhabitants (OECD, 2017a). The remaining 40%, a smaller but still significant share of Western Scandinavia's population, lived outside the metropolitan areas, often in smaller urban areas along the coast.

Box 1.1. **Introducing the area of study: Western Scandinavia**

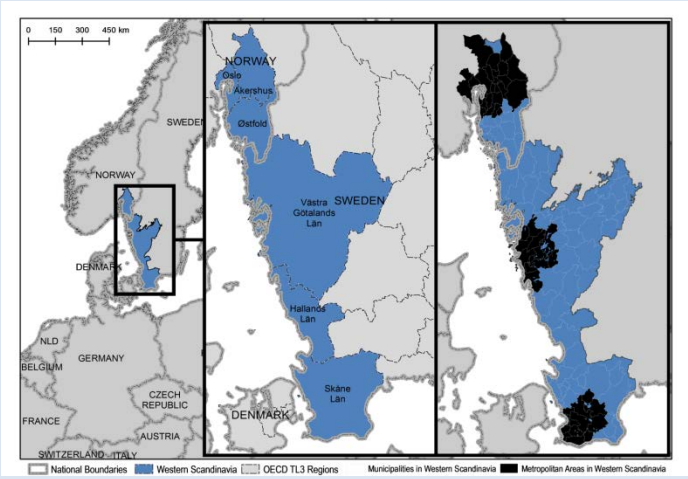
"Western Scandinavia" refers to a self-named territory joining up the south-east of Norway and the south-west of Sweden, opposite the Baltic Sea. This urban corridor stretches over more than 500 kilometres along the coast of the Kattegat-Skagerrak sea areas, from Oslo, through Gothenburg, down to Malmö (Figure 1.1). Given its proximity to Malmö in the south of Western Scandinavia, the Copenhagen area is a natural partner in forming a potential megaregion with Western Scandinavia. However, authorities in Copenhagen have chosen not to be part of this study.

As defined in this study, Western Scandinavia:

- Provides home to almost 5 million people and covers a surface area of almost 50 000 km^2, encompassing 6 counties – 3 in Norway (Oslo, Akershus and Østfold) and 3 in Sweden (Västra Götaland, Halland and Skåne).
- Features a diverse landscape, ranging from a densely populated urban coast to smaller towns, woodland and a major lake system in the inland.
- Covers 3 OECD metropolitan areas (Oslo, Gothenburg and Malmö), which rank among the 25 largest cities in the Baltic Sea Region at positions 10, 16 and 25 respectively (VASAB, 2016). They are distributed in almost equal distances within the narrow corridor of Western Scandinavia: Oslo is located in the north, Gothenburg in the centre and Malmö in the south.
- Serves as a gateway to continental Europe. Several highways and railways run through its territory, connecting it to national and international economic centres. The European route E6 runs through Western Scandinavia from north to south and provides the main infrastructure connecting the regions and cities to

each other. In the south, the E20 connects Western Scandinavia to Copenhagen across the Öresund bridge.

Figure 1.1. **Western Scandinavia**



Source: Shapefiles for administrative boundaries provided to the OECD by the Norwegian and Swedish authorities; Shapefile for metropolitan areas.

Table 1.1. **Snapshot of Western Scandinavia**

	Akershus	Oslo	Østfold	Västra Götaland	Halland	Skåne	Western Scandinavia total	Sweden	Norway
Population (2016)	594 209	657 478	289 823	1 648 680	314 784	1 303 630	4 808 604	9 851 020	5 210 720
Area (km^2)	4 579	426	3 889	23 797	5 428	10 969	49 088	407 340	304 226
Municipalities (2016/17)	22	1	18	49	6	33	129	290	426
OECD regional typology	Predominantly urban	Predominantly urban	Inter-mediate	Predominantly urban	Inter-mediate	Inter-mediate			

Sources: OECD (2018), "Regional demography", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/a8f15243-en; OECD (2018), "Metropolitan areas", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00531-en.

Over the last decade, Western Scandinavia has benefited from strong natural population growth, positive in-migration from other parts of Norway and Sweden, as well as net immigration from other countries. The strongest population growth was concentrated in the Oslo area (Figure 1.2). From 2000 to 2016, the population in Western Scandinavia grew by 17%, from 4.1 million to 4.8 million inhabitants – higher than total population growth of 11% in Sweden and 16% in Norway over the same period (OECD, 2017b). The bulk of this growth was driven by net in-migration from other countries. Traditionally, immigration from other Nordic countries is high. Immigrants from Sweden are the second-largest population group living in the Norwegian part of Western Scandinavia (Norwegian Directorate of Integration and Diversity, 2017). In the Swedish part – reflecting the Swedish national trends – the number of immigrants from war zones such as Afghanistan, Eritrea, Somalia and the Syrian Arab Republic has increased.

Box 1.2. **Delineating the geographic extent of a megaregion**

In theory, megaregions can be delineated through a morphological, functional or network approach (Marull, Font and Boix, 2015; Ross et al., 2009). The **morphological** approach identifies megaregions based on continuous urban settlement areas that reach certain thresholds of density, dimension or degree of urbanisation. The underlying idea of this approach is that contiguous development results from functioning as a megaregion. If multiple urban centres become integrated to the point where their labour markets and local supply chains overlap, the space between them tends to fill up with lower density development. The **functional** or **network** approach defines a megaregion as an area of interactions between actors, which can go in multiple directions and on several interconnected multiple layers. Identifying complex structures requires information on flows between the different parts of the megaregion. Such information can help capture material or immaterial flows. Material flows are directly observable and can be measured, such as commuting flows or commodity flows. Immaterial flows include observable ones, such as email and telephone exchange, as well as non-observable ones, such as knowledge flows (Trullén, Boix and Galletto, 2013: 256).

In practice, the delineation of megaregions relies mainly on the morphological approach, which dates back to the 1960s, when Gottman (1969) first noticed the growing interconnection between Boston and Washington. Gottman defined this corridor as a megalopolis, i.e. an agglomeration of different activities, settlements and landscapes, reaching a much larger size than the one that typically characterises urban agglomerations. Florida, Gulden and Mellander (2008) use satellite nightlight data to identify 40 megaregions across the world. This methodology has the shortcoming that real interconnections between places are not measured; but it has the advantage that it does not rely on administratively defined data. Some efforts have further attempted to complement population data with commuting patterns and proximity (see Lang and Dhavale [2005]; Regional Plan Association [2006]). Ross et al. (2009) extend those approaches by mathematically modelling relational characteristics of regions based on commodity flows in the United States. One example where a network approach has been applied to a pre-defined area is the wider region of Nuremberg in Germany (*Metropolregion Nürnberg*). In this case, information on commuting, migration and telecommunication (connections between landlines) was used to assess the linkages within the Metropolregion of Nuremberg (von Dobschütz, 2014). As a network or flow approach is very data-intensive, a functional or network approach is much harder to conduct than a morphological approach due to limited data availability and comparability at the local and regional level.

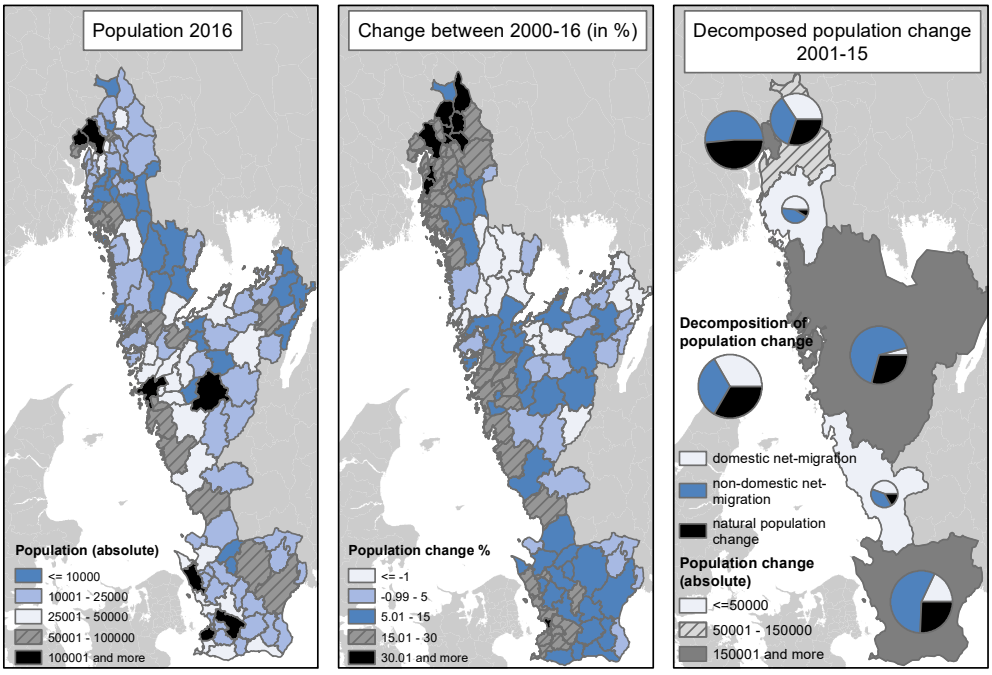
Sources: Lang, R. and D. Dhavale (2005), "Beyond megalopolis; Exploring America's new 'megapolitan' geography", www.china-up.com:8080/international/case/case/293.pdf; Regional Plan Association (2006), "America 2050: A prospectus", www.america2050.org/pdf/America2050prospectus.pdf; Florida, R., T. Gulden and C. Mellander (2008), "The rise of the mega-region", http://dx.doi.org/10.1093/cjres/rsn018; Ross, C. (ed.) (2009), *Megaregions: Planning for Global Competitiveness*; Ross, C. et al. (2009), *Megaregions: Delineating Existing and Emerging Megaregions*; Marull, J. et al. (2013), "Emerging megaregions: A new spatial scale to explore urban sustainability", http://dx.doi.org/10.1016/j.landusepol.2013.04.008; Trullén, J., R. Boix and V. Galletto (2013), "An insight on the unit of analysis in urban research"; von Dobschütz, P. (2014), Räumliche Beziehungsgefüge in der Metropolregion Nürnberg - eine Analyse von Migrations-, Pendler- und Telekommunikationsdaten, https://www.metropolregionnuernberg.de/fileadmin/metropolregionnuernberg2011/07service/02downloads/06vortraegeundveroeffentlichungen/RaeumlicheBeziehungsgefuegeinderMetropolregionNuernberg.pdf.

continuously over the last decade, transforming the local population structure (Statistics Sweden, 2017d). For example, the number of immigrants arriving in the

Swedish part of Western Scandinavia has increased by 20 000, reaching 53 000 in 2016, with about 30% of them being of Syrian nationality (Regionfakta, 2017a; Statistics Sweden, 2017f). As will be detailed in Chapter 5, this large inflow is increasing pressure on public welfare spending, service provision and infrastructure. For example, housing, language courses and other integration measures need to be provided. Projections suggest that the population will continue to increase in Western Scandinavia to reach about 5.4 million inhabitants by 2025 (Region Halland, 2017; Region Skåne, 2017; Statistics Norway, 2016b; Västra Götlandsregionen, 2017).

Figure 1.2. **Population and population growth in Western Scandinavia**

By municipality (2000-16); by Territorial Level 3 region (2001-15)



1. Population for Sweden as of 31 December 2000 and 31 December 2016.
2. Population for Norway as of 1 January 2001 and 1 January 2017.
3. Decomposition of population change by TL3 regions from 2001-15.

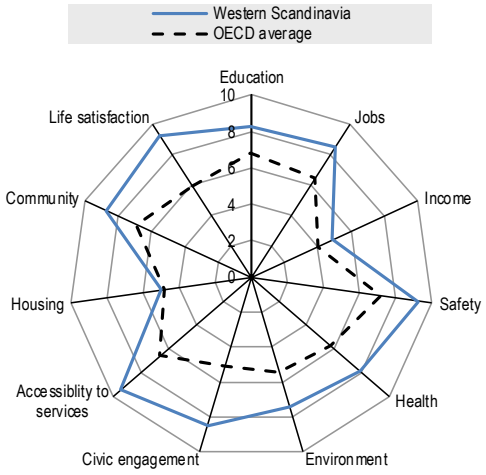
Sources: Statistics Norway (2017e), "Table: 07459: Population, by sex and one-year age groups. 1 January (M)"; Statistics Sweden (2017i), "Population by region and year"; Statistics Sweden (2017f), "Migration by region, observations and year"; Statistics Norway (2017c), "Table: 05426: Immigration, emigration and net migration (M)"; Statistics Norway (2017d), "Table: 06913: Population 1 January and population changes during the calendar year (M)".

Western Scandinavia offers a high quality of life

A high quality of life in Western Scandinavia contributes to continuing population growth. According to the 2016 OECD Better Life Index, Norway and Sweden rank above average in jobs and earnings, education and skills, housing, work-life balance, civic engagement, social connections, and health status. Both Norway and Sweden rank among the top five OECD countries regarding the quality of the living environment as reflected in air and water quality. Such high quality of life at the national level also translates locally into high levels of well-being outcomes, as measured by the OECD Regional Well-being framework (OECD, 2014a). The different regions forming

Western Scandinavia exhibit a higher standard of living than most OECD regions (measured at Territorial Level 2 [TL2], see Annex 1.A). On all dimensions captured, Western Scandinavia performs above the average of all OECD regions (Figure 1.3). It ranks specifically high with respect to stated life satisfaction, the perceived social support network (community), civic engagement and safety. While it does not perform as well as in income (disposable income of private households per capita) and housing, it remains slightly above the average of all OECD regions.

Figure 1.3. **Well-being scores in Western Scandinavia and across the OECD, 2014**

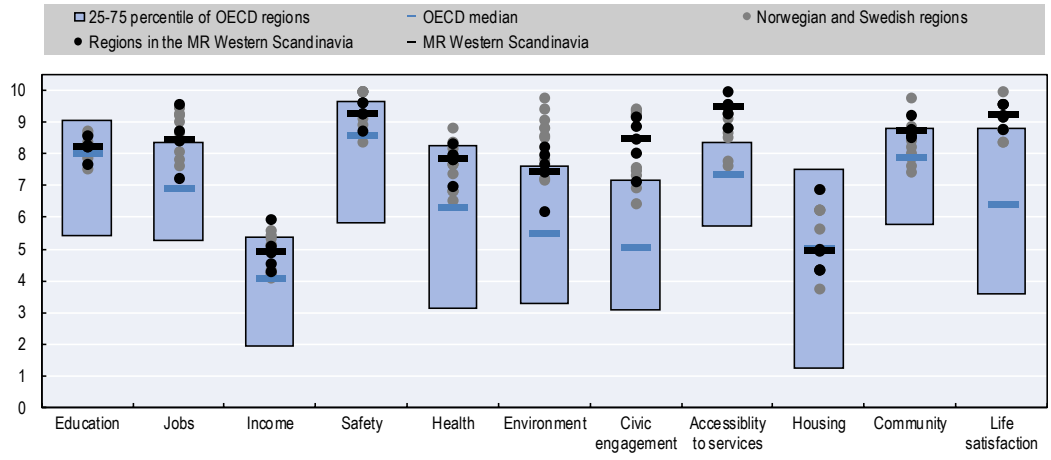


Notes: Numbers for the megaregion are based on the population weighted average of the respective indicator values. Based on the adjusted values, the scores were calculated according to the min-max method as described in OECD (2014a). Numbers further refer to OECD TL2 areas, and therefore include Blekinge County (South Sweden) and Buskerud, Vestfold and Telemark (South-Eastern Norway). See Annex 1.A for a definition of the OECD regional typology.
Source: OECD (2016c), "OECD Regional Well-being indicators data file", https://www.oecdregionalwellbeing.org/assets/downloads/OECD-Regional-Well-Being-Data-File.xlsx (accessed June 2016).

Although the regions constituting Western Scandinavia perform above the average of OECD regions on several socio-economic dimensions, disparities exist. All regions rank among the top 75% of OECD regions in terms of accessibility to services, civic engagement, perceived life satisfaction and perceived social support (community), but in some regions, the indicator places them below the OECD median (Figure 1.4). For example, Western Scandinavia ranges just above the median of OECD regions with respect to education. While the share of employees that have completed at least a secondary education is the highest in Oslo and Akershus (85.5%), the region of South-Eastern Norway that includes Østfold ranks last among the regions of Western Scandinavia (80.1%). As will be detailed in Chapter 3, regional disparities in skills in the Norwegian part of Western Scandinavia are reinforced by an economy based on manufacturing and consumer services as well as only modest growth in the creation of skilled jobs in Østfold. Further disparities can be observed in terms of jobs, income and housing. For example, Oslo and Akershus are in the top 5% of all OECD regions with respect to job indicators. In 2014, they exhibit a high employment rate of about 80%, a low unemployment rate of 4.9% and an average disposable income per capita of USD 24 721. In contrast, in South Sweden, the employment rate is significantly lower, at about 75%, and the unemployment rate is twice as high than in Oslo and Akershus at 10%; disposable income per capita is significantly lower at USD 18 765.

Regional disparities across Western Scandinavia are also apparent in terms of housing. Population growth in Western Scandinavia has increased pressure on the housing market as it has outpaced the rate of construction of new dwellings. Housing affects quality of life in strong connection with other well-being dimensions, such as health, income and life satisfaction. Housing costs often represent the largest expenditure in household income. Increases in housing costs might push less wealthy households out of certain neighbourhoods, especially in attractive areas. For example, when measuring housing by the average number of rooms per person (the only OECD-wide comparable indicator at a regional scale), West Sweden and South Sweden score below the OECD median, whereas South-Eastern Norway is in the top quartile. This suggests that space for living is more affordable in the less dense parts of Western Scandinavia, such as in Østfold. Indeed, housing prices and rental prices are significantly higher in the Oslo and Akershus region than in Østfold (Statistics Norway, 2017h; 2017b). But even in Østfold, as well as in all other parts of Western Scandinavia, housing and rental prices have been increasing over the last few years. This reflects not only an imbalance of demand and supply, but also the attractiveness of the area for in-migration (Statistics Norway, 2017h, 2017b; Statistics Sweden, 2017g, 2017a). Despite high construction costs in Western Scandinavia, demand for housing is high (Business Region Göteborg, Region Halland and Västra Götlandsregionen, 2017). As will be detailed in Chapters 3 and 5, population growth in several parts of Western Scandinavia has outpaced housing supply, calling for efficiency improvements in land-use planning procedures.

Figure 1.4. **Regional well-being in Western Scandinavia, 2014**



Notes: Population weighted average for scores of Western Scandinavia. Numbers are based on OECD TL2 areas, and therefore include Blekinge County (South Sweden) and Buskerud, Vestfold and Telemark (South-Eastern Norway).
Source: OECD (2017e), "Regional well-being", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00707-en (accessed in May 2017).

Western Scandinavia has a robust economy and offers a variety of employment opportunities

The regions in Western Scandinavia are a key driver for the economy of their respective countries. In 2012, Western Scandinavia generated a gross domestic product (GDP) of about USD 201 billion, which represents only slightly less than the GDP of Norway (USD 228 billion) and about half of the GDP of Sweden (USD 400 billion) in the same year (OECD, 2017c). More than two-thirds of Western Scandinavia's GDP (68%) was created in the three metropolitan areas, totalling almost USD 137 billion, which is higher than the USD 124 billion produced in the metropolitan area of Stockholm. However, given their respective population size, the three metropolitan areas jointly lag behind Stockholm in terms of GDP per capita, at about USD 48 000 compared to USD 61 000, respectively (OECD, 2017a).

The economy of Western Scandinavia has proven to be relatively robust to economic shocks. After an economic downturn during the years of the crisis, GDP per capita in Western Scandinavia quickly resumed growth. It rose by 5.4% between 2009 (where real GDP per capita in 2010 prices was the lowest following the crisis) and 2014 (Figure 1.5A). This growth was much stronger than the national average of Sweden (1%), but below that of Norway (8.1%). Already by 2011, GDP per capita had recovered its pre-crisis levels and exceeded them in the following years. In an OECD context, however, Western Scandinavia registered a slightly slower growth during the 2000-14 period than the median growth across OECD TL3 regions. Between 2000 and 2014, GDP per capita in Western Scandinavia grew by 1.4% per year, below a median average annual growth of 1.8% across OECD TL3 regions (OECD, 2017c). This may be partly because Western Scandinavia and the individual regions in it started from higher levels of GDP per capita. In 2000, GDP per capita in Western Scandinavia was about USD 39 000, whereas the median across OECD regions was significantly lower, at about USD 27 100. Despite slower growth, GDP per capita in Western Scandinavia was therefore still significantly higher than the OECD median in 2014 (USD 45 142 compared to USD 30 377).

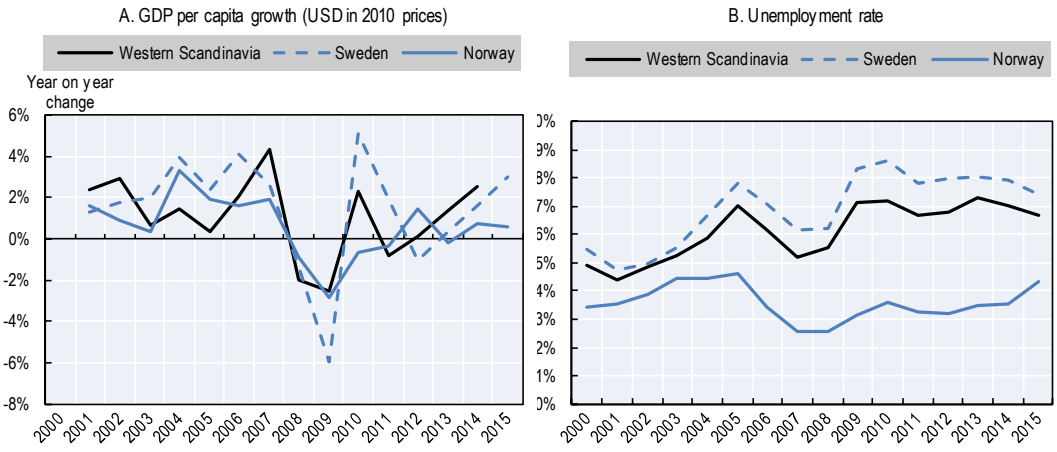
The impact of the global crisis on unemployment in Western Scandinavia was more persistent than on economic growth. Unemployment increased from 5.4% in 2008 to 7.1% in 2009. It has since remained fairly stable at around 7%, ranging between the Norwegian and Swedish national averages (Figure 1.5B). Within Western Scandinavia, the Norwegian counties used to have a significantly lower unemployment rate (around 3-4% in 2014) than the Swedish ones (ranging between 6% in Halland and 10% in Skåne). However, by 2016, the unemployment rate in the Swedish counties had decreased (ranging from 4.9% in Halland to 8.4% in Skåne). By contrast, it increased in the Norwegian counties (ranging from 4% in Akershus to 5.6% in Østfold), following the dip in oil prices in 2014 (see Chapter 3).

GDP per capita growth in Western Scandinavia was driven almost equally by demographic change and by change in labour productivity. As mentioned earlier, Western Scandinavia has experienced significant population growth due to internal in-migration, as well as positive net-migration from European and non-European countries (see Chapter 5). Western Scandinavia attracted working-age individuals, which positively affected labour force participation and activity rates. However, job growth did not keep pace with the increased labour force potential; therefore, employment rates decreased. Between 2009 and 2014, the activity rate (measured as the ratio of the working-age population over total population) declined slightly due to

an inflow of younger population. At the same time, labour productivity increased on average by 0.8% annually between 2009 and 2014 (Table 1.2). While higher than the Norwegian national average, labour productivity growth remained below that of the Swedish national average. This reflects to some degree Norway's endowment with oil and gas resources, which were traditionally a main contributor to the country's economic growth. The fall of oil prices in 2014 revealed the need for economic diversification and for decreasing the dependency on oil. As will be highlighted in Chapter 3, the Norwegian part follows the strategy of the Swedish parts of Western Scandinavia by focusing on creating more jobs in the knowledge-based economy with high labour productivity growth potential.

Figure 1.5. **Economic trends in Western Scandinavia, Norway and Sweden**

2000-14/16



Notes: Norwegian GDP (at national and TL3 level) for 1997-2007 has been estimated by the OECD based on System of National Accounts classification (SNA) 1993 data. The unemployment rate is defined as the number of unemployed persons aged 15 years and older in relation to the population aged 15 years and older. No labour force data for working-aged population (15-64 years old) is available for Swedish TL3 regions in the Western Scandinavia megaregion.
Sources: OECD (2017c), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en; OECD (2017d), "Regional labour", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/f7445d96-en (accessed in May 2017).

The overall economic performance of Western Scandinavia, as well as its swift recovery from the crisis, can be attributed to its diverse economy. While Norway's economy as whole is highly dependent on the oil and gas sector, economic activities that are directly or indirectly related to oil and gas only account for about 9% of total employment in the Norwegian part of Western Scandinavia, which is lower than the national average of 13% (Blomgren et al., 2015). Moreover, compared to the respective national averages, economic sectors in Western Scandinavia are characterised by high or rising productivity. Gross value added (GVA) in information and communication; financial and insurance activities; real estate activities; professional, scientific and technical activities; as well as administrative and support service activities represented about a fifth of total GVA in Norway, and about 16% in Sweden in 2014. About half of Norway's GVA in these sectors was created in the Norwegian part of Western Scandinavia, and more than one-quarter (27%) of Sweden's GVA in these sectors in the Swedish part.

Table 1.2. **Decomposition of GDP growth**

	GDP per capita	Labour productivity	Employment rate	Participation rate	Activity rate	Population
Average annual change, 2000-14						
Western Scandinavia (in %)	1.0	0.6	-0.2	0.5	0.1	1.0
In relation to national growth in Norway (%-point)	**0.4**	**0.1**	-0.2	**0.5**	-0.1	0.0
In relation to national growth in Sweden (%-point)	-0.3	-0.2	0.0	0.0	0.0	**0.3**
Average annual change, 2009-14						
Western Scandinavia (in %)	1.1	0.8	0.0	0.3	-0.1	1.1
In relation to national growth in Norway (%-point)	**0.9**	**0.4**	**0.1**	**0.6**	-0.3	-0.1
In relation to national growth in Sweden (%-point)	-0.5	-0.4	-0.1	-0.1	**0.1**	**0.3**

Notes: GDP is measured per capita, in million USD in 2010 prices and PPP. Labour productivity is measured as GDP per worker aged 15 and older; the employment rate is the ratio of workers to the labour force aged 15 and older; the participation rate is the ration of labour force over working-age population aged 15 and older; the activity rate is the ratio of working-age population aged 15 and older over total population.
Sources: OECD (2017c), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en; OECD (2017d), "Regional labour", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/f7445d96-en (accessed in May 2017).

Demographic change can benefit economic growth, but labour productivity in Western Scandinavia needs to increase to sustain growth in the long term. Compared to regions across the OECD (classified as TL3 region, see Annex 1.A), labour productivity in Western Scandinavia is well above the OECD median and has grown slightly above average. High productivity sectors are important for job creation. Over the 2009-13 period, more than a third of new jobs (38%) were created in professional, scientific and technical activities and administrative and support service activities (which accounted for about 80% of these newly created jobs), followed by information and communication (12%), and real estate activities. However, another 46% of new jobs were created in the sector of public administration, educational and health services (OECD, 2017c). A large concentration of employment in the non-tradable sectors is often associated with lower incentives for entrepreneurs to move into tradable activities that are more productive and more dynamic (OECD, 2016b). Already, the relative contribution of the public sector to GVA in Western Scandinavia declined between 2009 and 2013 despite the job growth in this sector. In comparison, the relative contribution to GVA grew for information and communication; financial and insurance activities; real estate activities; professional, scientific and technical activities; as well as administrative and support service activities (OECD, 2017c).

A key factor in shaping productivity performance is to provide an environment that stimulates innovation and entrepreneurship. Not only are new enterprises essential in employment creation, labour productivity growth also appears to be higher in countries that have higher start-up rates and churn rates (Calvino, Criscuolo and Menon, 2015; OECD, 2016a). In Western Scandinavia, the number of start-ups has been increasing over the last years. Between 2010 and 2013, the number of registered new enterprises increased by 8.6%, from 40 201 to 43 654. However, in proportion to the labour force aged 15 and older, the start-up rate remained fairly stable, at around 1.7% (OECD, 207d; Statistics Norway, 2016a; Tillväxtanalys, 2015, 2011). About a third of all Swedish start-

ups that were created over the last couple of years were located in the Swedish part of Western Scandinavia (Tillväxtanalys, 2015). In the Norwegian part, the percentage of new enterprises in relation to all start-ups in Norway was about 40% (Statistics Norway, 2016a). However, business dynamics vary greatly between Norway and Sweden. In most countries, more than a third of start-ups fail in the first three years, and more than half in the first five years, which potentially hampers long-term growth and innovation. While start-up rates tend to be higher in Norway than in Sweden, start-ups are also less likely to survive the first five years (OECD, 2016a). These patterns at the national level also translate into the respective parts of Western Scandinavia. In relation to the labour force aged 15 and older, the rate of newly created businesses in 2013 was higher in the Norwegian part than in the Swedish part (2.5% vs. 1.4%, respectively). However, start-ups in the Norwegian part of Western Scandinavia have a significantly lower probability of surviving the first three years (Table 1.3). Discrepancies with respect to the three-year survival rate within Western Scandinavia reflect the difference in the economic structure. For example, new firms emerging in Østfold in 2008 were more frequently in the construction sector. They experienced a significantly higher survival rate than similar firms in Oslo and Akershus, where new firms were started more frequently in the professional, scientific and technical sector – which is a sector that tends to have a higher churn rate (Statistics Norway, 2016a). Higher survival rates in the Swedish part of Western Scandinavia could indicate a better support system, such as access to finance, state aid and public procurement, and internationalisations – areas where Sweden generally performs well in an EU perspective (OECD, 2015a).

Table 1.3. **Three-year survival rate of businesses started in 2008**

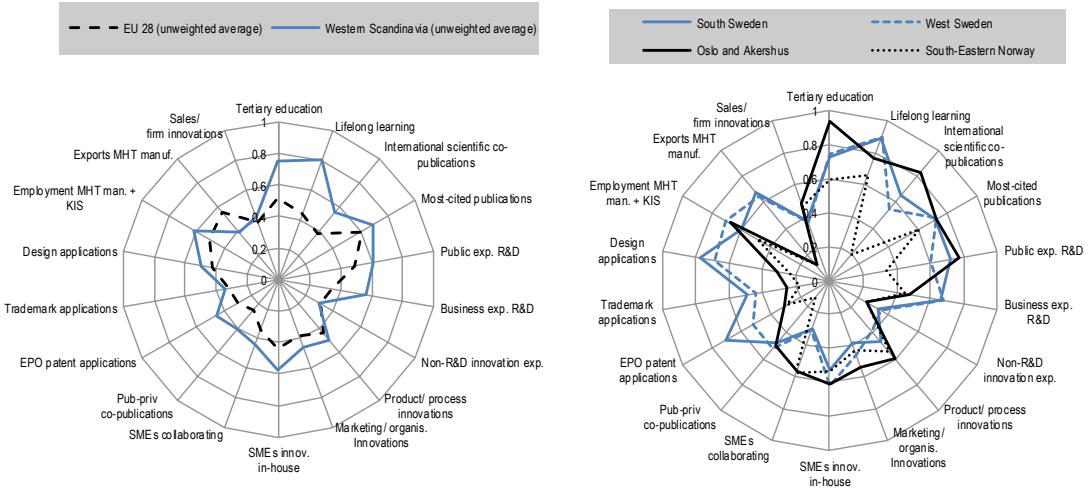
	Number of new enterprises	Number of enterprises still running after 3 years	3-year survival rate
Akershus	5 254	1 871	36%
Oslo	95 86	3 068	32%
Østfold	2 040	882	43%
Västra Götaland	9 256	6 307	68%
Halland	1 625	1 061	65%
Skåne	7 920	5 355	68%
Western Scandinavia (total)	35 681	18 544	52%

Notes: Methodology for data collection differs between Norway and Sweden. While information for Norway is register based, the data for Sweden are based on a survey. Numbers refer to all industries and all organisational structures.
Sources: Statistics Norway (2016a), "Table: 08316: New established enterprises, by industry, legal form, size class, and survival years (C)"; Statistics Norway (2016b), "Table: 11168: Population projections 1 January, by sex and age, in 9 variants (M) (UD)"; Statistics Sweden (2013), Uppföljning av 2008 års nystartade företag – tre år efter start.

Western Scandinavia is a leading innovation region in a European context. In the Regional Innovation Scoreboard 2017, the European Commission assesses the innovative performance of 214 regions across 22 EU countries and Norway (European Commission, 2017c). The individual regions forming Western Scandinavia are classified as innovation leaders (South Sweden and West Sweden, Oslo and Akershus), and strong innovators (Sor-Ostlandet). Figure 1.6 shows the average of the normalised scores of the indicators. In terms of enabling factors and firm activities, such as population with a tertiary education, R&D expenditure and European Patent Office (EPO) patent applications, to name a few, the regions in Western Scandinavia tend to

perform well above the EU-28 average. In a European context, there are only a few areas where Western Scandinavia performs below average. Indicators on innovation outputs (e.g. medium- and high-tech exports in relation to total product exports, the share of small and medium-sized enterprises introducing product or process innovations, or sales of new-to-market and new-to-firm innovations as a percentage of total turnover) are less strong, indicating that the innovation potential is not fully utilised yet.

Figure 1.6. **Regional Innovation Scoreboard, 2017**



Notes: Scores only available at NUTS-2 level (comparable to OECD TL2 level). Sydsverige (South Sweden) includes Blekinge County in addition to Skåne, and Sor-Ostlandet (South-Eastern Norway) includes Buskerud, Vestfold and Telemark in addition to Østfold. The indicators are (clockwise): population with a tertiary education; lifelong learning; scientific co-publications; most-cited publications; R&D expenditure public sector; R&D expenditure business sector; non-R&D innovation expenditures; product or process innovators; marketing or organisational innovators; SMEs innovating in-house; innovative SMEs collaborating with others; public-private co-publications; EPO patent applications; trademark applications; design applications; employment medium- and high-tech manufacturing and knowledge-intensive services; exports medium- and high-tech manufacturing; sales of new-to-market and new-to-firm innovations. Details on the definition of the indicators can be found in European Commission (2017c).
Source: European Commission (2017c), *Regional Innovation Scoreboard 2017*, http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en (accessed in September 2017).

Regional innovation indicators highlight differences in innovation potential within Western Scandinavia. For example, as will be described in Chapter 3, the structure of the economy in Østfold is very different from the one of other parts of Western Scandinavia, because it concentrates on manufacturing and consumer services. While it performs the lowest in Western Scandinavia, Østfold has seen an upward shift from its classification as a "moderate inventor" to a "strong innovator" according to the Regional Innovation Scoreboard (European Commission, 2017c; 2016). This may reflect the success of the region's ambitions to restructure its economy towards higher value manufacturing and services.[2] Oslo and Akershus have access to a skilled labour force and are performing well with respect to innovation-enabling factors. Moreover, they are the centre of R&D activity within Norway and a global hub in knowledge-intensive services such as maritime finance and offshore engineering/supply industries. However, they are lagging behind South Sweden and West Sweden in innovation

output measures. South Sweden registers the strongest performance in terms of the number of EPO patent applications and the share of SMEs introducing product or process innovations. The good performance of South Sweden can be explained by the presence of strong economic clusters in Skåne. Such clusters include life science, logistics and packaging, ICT, new media, food industry, maritime industry and CleanTech, which are strongly linked to the University of Lund, Malmö University and the Swedish University of Agricultural Sciences (see Chapter 3 for a more detailed analysis). West Sweden has improved its ranking with respect to the share of medium- and high-tech product exports. It is Western Scandinavia's leading region in terms of employment in medium- and high-tech manufacturing and knowledge-intensive services. It has further caught up with Skåne with regard to business R&D, and even outpaced Skåne and Stockholm in terms of business R&D expenditure in relation to regional GDP in 2015 (the last observable year) (Statistics Sweden, 2017e). This reflects the fact that the region has successfully strengthened its knowledge-intensive industry (see Chapter 4 for a detailed discussion).

Western Scandinavia provides a skilled local labour market

Businesses need access to resources and markets in order to thrive. One important production input for most firms is labour. Access to a skilled labour force that matches job requirements is therefore an essential factor for business creation and their success. Especially in smaller enterprises that do not have the capacity to train their employees and to invest in their skills, access to a pool of skilled local labour is critical for their competitiveness (OECD, 2017f). The educational level of the population in Western Scandinavia is comparatively high. About 44% of the population aged 25-64 (aged up to 66 in Norwegian data) have a post-secondary education, which is higher than the national average for Sweden (42%) and Norway (40%) (Statistics Norway, 2017g; Statistics Sweden, 2014). However, current and projected skill mismatches can slow down productivity growth (as will be described in Chapter 3). Skilled labour, in combination with the availability of intermediate goods, production services and knowledge spillover between adjacent firms, is a main factor that contributes to agglomeration benefits (Audretsch, Lehmann and Warning, 2005; Duranton and Puga, 2004; Overman and Puga, 2010; Puga, 2010).

But access to international markets remains limited

Regions with high accessibility to local and international markets have a competitive advantage in attracting new firms. The economic geography literature highlights the role of transport costs for agglomeration of firms and workers (Krugman, 1991; Krugman and Venables, 1995). Recent OECD work (OECD, 2017g) underpins the impact of reduced transportation costs within regions on the birth of new firms. Good accessibility to external markets is expected to be particularly important for Western Scandinavia, which has relatively small local markets. To expand the consumer base, investment in regional infrastructure can support connectivity within the region. It is not only the availability, but also the quality of physical infrastructure (such as roads, ports and airports) and the efficiency in their operation that affect the competitiveness of firms and their ability to access international markets (OECD, 2017f). An analysis of potential accessibility to population – therefore indirectly reflecting access to markets – has been conducted for different transport modes by ESPON (2017). Accessibility depends on the size of the home market as well as distance to roads, railway and airports, given the respective analysed transport mode. Moreover, accessibility is

measured based on the location of centroids rather than urban centres. This results in a potential bias, especially for larger Territorial Level 3 (TL3) regions. For example, Västra Götaland has the largest home market within a 60-minute drive by car, followed by Skåne (Figure 1.7). The picture is likely to be different if accessibility were calculated for Gothenburg and Malmö respectively, given Malmö's proximity to Copenhagen metropolitan area.

Considering the spatial layout and the semi-peripheral location of Western Scandinavia in Europe, there is a distinct north-south divide regarding access to markets. Accessibility to markets decreases as analysed thresholds regarding travel time get longer. The top panel of Figure 1.7 displays the accessibility to population within a three-hour reach. The south of Western Scandinavia has the highest accessibility potential to population, whereas the north has the lowest. For example, it takes about a two-hour drive from Oslo to reach the same size population that can be reached from Skåne within one hour. Within a three-hour drive originating from Oslo, only the Gothenburg market can be reached, whereas the markets that can be reached from Gothenburg in the same time span include Oslo and Greater Copenhagen. Similarly, starting from Skåne, the population that can be accessed is more than twice as large as the one that can be accessed from Oslo, Akershus or Østfold, as the economic centres of Gothenburg, the Copenhagen metropolitan area and their surroundings can be reached within three hours. The north-south gap in potential access to population remains consistent across different transport modes as well as in terms of allowing for mixed modes. While some parts in Western Scandinavia enjoy an even higher accessibility than the Stockholm area, it remains comparatively low in an international context. For example, one needs to drive more than three hours from Skåne to reach the same population size as can be reached from Paris within just one hour.

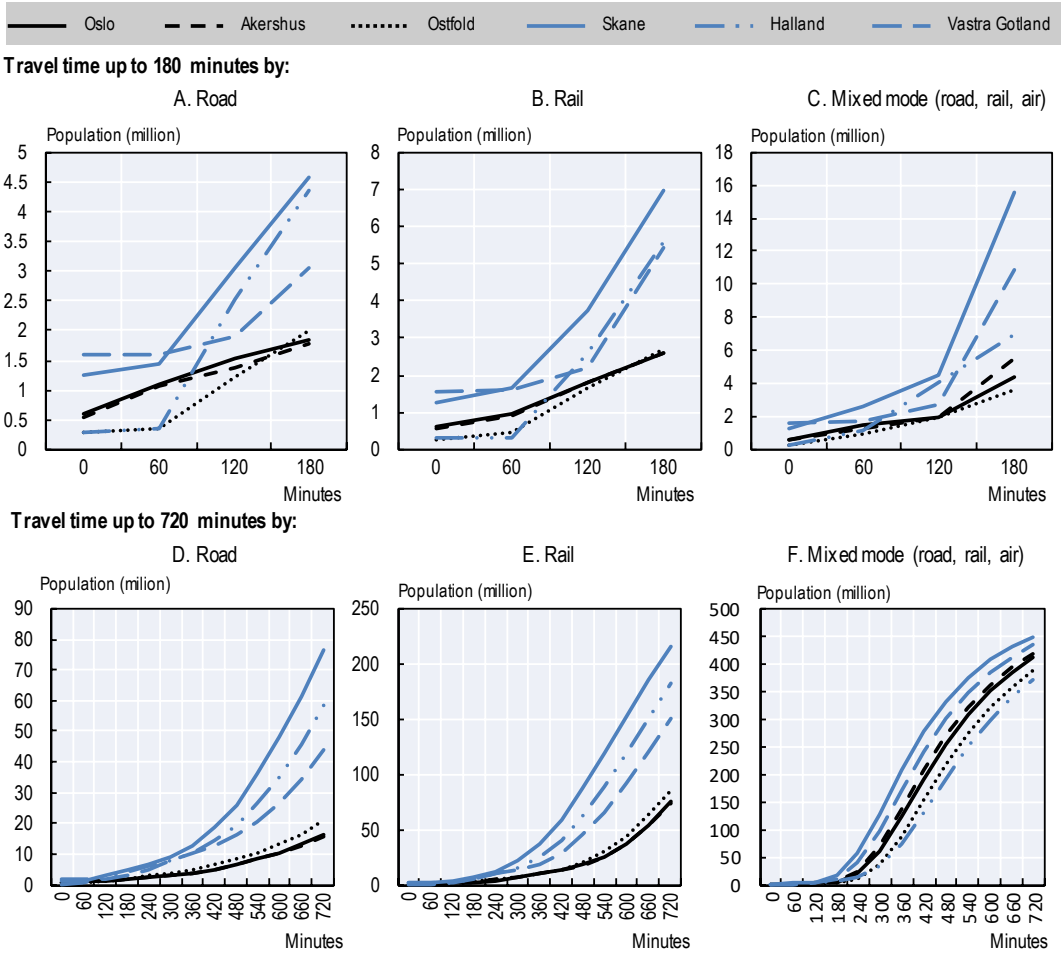
Differences in potential access to population decrease with travel times that increase beyond the three-hour threshold. The lower panel of Figure 1.7 shows potential accessibility to population within 12 hours. The importance of access to international airports rises with longer travel intervals, as planes become more time-efficient over longer distances. Panel F in Figure 1.7, for example, shows how the northern part of Western Scandinavia is catching up when multiple transport modes are considered. Still, neither Oslo nor Akershus reaches the same accessibility to population as Västra Götaland and Skåne, as both latter regions have access to international airports as well. Overall, considering a combination of transport modes, differences with the European mainland – albeit still present – become significantly smaller as travel times increase.

Western Scandinavia is a logistic hub for freight

Western Scandinavia provides strategic logistics hubs of national and European relevance (OECD, 2012a; Trafikanalys, 2016). Sweden's two largest ports are located within Western Scandinavia and serve as important gateways to global markets. For example, the Port of Gothenburg has 130 direct lines to destinations all over the world (Box 1.3). It handles four times more containers (TEUs[3]) than the second-largest container port, Helsingborg, does (ITF, 2017). There are two additional container ports in Western Scandinavia, as well as several smaller ports that are relatively well developed and complementary (OECD, 2012a). The locational advantages of Western Scandinavia are reinforced by two international airports located in the vicinity of Oslo and Gothenburg. Among Norwegian airports, for example, about two-thirds of international freight operations in 2016 went through Oslo airport (Avinor, 2016). About 10% of Sweden's foreign air cargo (in tonnes) goes through the Landvetter airport in

Gothenburg (Transportstyrelsen, 2017). Moreover, the Copenhagen international airport is in close proximity to the southern part of Western Scandinavia and provides a high accessibility to international markets. In addition to freight transport, the ports and airports serve as hubs for extensive passenger traffic. While ferries convey extensive traffic to Denmark, Germany and Poland, the airports of Oslo and Gothenburg (as well as Copenhagen) connect Western Scandinavia directly to more than 100 destinations worldwide.

Figure 1.7. **Accessibility to population, 2011**



Notes: Calculations are based on NUTS 3 areas. Thus, the travel time measures the time needed to reach one NUTS3 centroid from another one. For details on the calculation by different modes see: http://fit.espon.eu/faq.php.
Source: ESPON (2017), "Functional Indicator Tool", http://fit.espon.eu/region.php (accessed in June 2017).

Located at Scandinavia's crossroads, Western Scandinavia is a major corridor for freight that enters or leaves the ports and airports or that is in transit over land to the rest of Sweden, Norway or Denmark over the Öresund bridge (OECD, 2012a; Trafikanalys, 20116). The main transport corridor for Norwegian foreign trade and transit goods runs from the north to the south of Western Scandinavia, connecting Oslo with the port of Gothenburg. However, the physical infrastructure running along this corridor has a limited capacity to accommodate increasing freight flows, which can weaken the fluidity of trade and ultimately the competitiveness of the megaregion. In 2016, most goods were loaded on trucks in Västra Götaland and Skåne, including a

significant part for transport onward to other counties in Sweden and to other Nordic countries (Statistics Sweden, 2017h). Past trends in freight transport indicate that rail is losing competitiveness to road. Since 2009, there has been a continuous decrease in the number of freight trains crossing the Swedish-Norwegian border in Western Scandinavia. By contrast, the number of heavy trucks crossing the border has increased by 40% in the last ten years (Business Region Göteborg, Region Halland and Västra Götlandsregionen, 2017). The main reasons for this shift are the liberalisation of truck transport and the improvements of road infrastructure. Since 2015, the E6 highway connects Gothenburg and Oslo via a continuous four-lane road. Trucks between Oslo and Gothenburg only take about half the time as a freight train on the same stretch (Trafikverket and Jernbaneverkert, 2016).

In order to support growth effectively, transport corridors need to accommodate increasing volumes of goods flows. In 2016, the Swedish Transport Agency projected an increasing importance of Western Scandinavia as a freight corridor. Until 2030, freight in transit transported on roads towards and from the ports and airports in the Swedish part of Western Scandinavia is expected to increase the pressure on road infrastructure by an added freight volume of 20-30 million tonnes per year, whereas rail transport is not expected to increase significantly (Trafikanalys, 2016). This growing pressure on road infrastructure is also influenced by developments outside Western Scandinavia and Sweden. The Fehmarn Belt fixed link is planned to connect Copenhagen and Hamburg by 2028, and in the absence of a sufficient rail infrastructure, increasing freight flows are expected to enter and exit Western Scandinavia by road over the Öresund bridge and to be transported along (parts of) the north-south corridor of Western Scandinavia (Green String Corridor, 2014).

Road transport is a main contributor to local air pollution in Western Scandinavia. Compared to other OECD countries, Norway and Sweden are at the forefront of environmental sustainability. Still, especially in the metropolitan areas of Western Scandinavia, thresholds of local air pollutants have been temporarily exceeded, potentially harming the population's health. For example, in Oslo, the threshold levels for particulate matter were exceeded on 26 days in 2015 (NLOD, 2017). Over the last years, progress has been achieved and greenhouse gas emissions have decreased in all parts of Western Scandinavia. Further, cities and regions in Western Scandinavia have put forward ambitious climate change reduction targets. For example, the city of Oslo aims for public transport to be climate neutral and to halve CO_2 emissions from fossil energy sources by 2020, and to achieve carbon neutrality by 2050. Västra Götaland aims to be fossil-independent by 2030. Already, greenhouse gas emissions have been cut by 12% on average in Western Scandinavia since 2009 (Table 1.4).

Table 1.4. **Greenhouse gas emissions to the air in Western Scandinavia**

1 000 tonnes CO_2 equivalent

	2009	2011	2013	2014/15	Change 2009-14/15
Akershus	1 825	1 878	1 823	1 773	-3%
Oslo	1 310	1 233	1 456	1 233	-6%
Østfold	1 551	1 574	1 547	1 449	-7%
Västra Götaland	16 429	15 447	14 307	14 364	-13%
Halland	1 774	1 748	1 452	1 470	-17%
Skåne	7 915	7 881	7 308	6 702	-15%
Western Scandinavia (total)	30 804	29 761	27 893	26 991	-12%

Sources: Statistics Norway (2017i), "Table: 10608: Greenhouse gases, by source and pollutant (C)"; Statistics Sweden (2016), "Air emissions by region, industrial classification NACE Rev. 2, substance and year".

Box 1.3. **The port of Gothenburg**

The port of Gothenburg is the largest port in Scandinavia and a very important gateway to the world for Scandinavia. Within a radius of 500 kilometres, about 70% of Scandinavia's industry and population are located, as well as three capital cities: Stockholm, Oslo and Copenhagen. The port of Gothenburg plays a key role for the development of trade not only in Sweden, but also in Scandinavia.

About one-quarter of all Swedish foreign trade goes through the port, which has 130 direct lines to destinations all over the world. Sixty per cent of all container traffic in Sweden (867 000 TEU [twenty-foot equivalent unit]) pass through the Gothenburg harbour. Exports comprise mainly steel, vehicles and forest products as well as paper, pulp and timber products. Imports are largely in the form of consumer goods such as clothes, furniture, food and electronics (Port of Gothenburg, 2017).

Port and city authorities are often confronted with diverging interests. Policy dilemmas may occur in various areas such as economic development, land use, employment or environment, as great differences can occur in the structural logic of these areas. For example, port authorities typically target higher cargo traffic and better performance of port-related industries. By contrast, city governments are primarily interested in a port's added value to the region as well as the generation of local employment. The Port of Gothenburg employs, directly or indirectly, around 22 000 people in the Gothenburg area (ITF, 2017). Construction and operation of the new port terminals and logistics areas are expected to generate even more jobs and contribute to the growth of the port. Since the beginning of the 2000s, the Port of Gothenburg has put in place an innovative policy of using onshore power supply. Vessels that are at the quay typically use their diesel engines to meet energy needs for certain functions, such as lighting, heating and air conditioning. This use of the diesel engine is a source of considerable local air pollution and greenhouse gas emissions. The Port of Gothenburg was the first in the world to propose that vessels be connected to the local energy network, which made it possible for these vessels to shut off their engines during their stay in the port (called "cold ironing"). For its pioneering role in this technology, the Port of Gothenburg was chosen as the leader of the Working Group on Onshore Power Supply created by the World Port Climate Initiative.

To remain competitive, ports need to be integrated in a multimodal transport network to improve market access and ensure fluidity of trade through smooth interconnections with the road and rail network outside the port (ITF, 2017; OECD, 2014b). Goods on railway to the Port of Gothenburg have increased, but there is a need for further investment in rail infrastructure to expand this trend.

Sources: ITF (2017), "The impact of mega-ships: The case of Gothenburg", http://dx.doi.org/10.1787/0f200c27-en; OECD (2014b), *The Competitiveness of Global Port-Cities*, http://dx.doi.org/10.1787/9789264205277-en; Port of Gothenburg (2017), "The port of Gothenburg", https://www.portofgothenburg.com (accessed in June 2017).

A region-wide approach to reduce emissions also needs to target the transport sector. This could be achieved by shifting from roads to rail at least part of the freight along the north-south transport corridor of Western Scandinavia. This would require investment in building a more competitive railway network. Further, urban and regional planning that provides residents with access to low-carbon transport networks could limit their need to travel by private modes. For example, the Swedish part of

Western Scandinavia could follow Norway's national strategy of rolling out electric vehicles and charging stations in order to support the ambitious climate targets at a megaregional scale. Co-operation involving the automobile sector in West Sweden, where electric buses and cars are already being produced and used, could support this roll-out on a larger scale within Western Scandinavia.

Towards an integrated megaregion of Western Scandinavia

Population and economic growth trends highlight the potential of Western Scandinavia to function as an integrated megaregion. Among many of the individual assets of cities and regions within Western Scandinavia are a high quality of life and an innovation-friendly business environment that attracts people and firms alike. To ensure that Western Scandinavia is more than just the sum of its individual assets, functional integration and the use of complementarities is essential. The remainder of this chapter will assess to what extent Western Scandinavia already functions as an integrated megaregion.

The physical infrastructure in Western Scandinavia as an enabling factor of functional integration

Infrastructure that connects people is necessary for creating or strengthening social and economic linkages between places. While the era of digitalisation increasingly allows for access to services and knowledge without actual mobility, physical transport infrastructure channelling goods and labour is still a necessary condition to support linkages and facilitate functional integration between regions. In recognition of the importance of a well-running transport infrastructure for the competitiveness of the European Union and its individual member countries, the European Commission initiated the Trans-European Transport Network (TEN-T) in the 1990s. The TEN-T programme aims to support projects that represent a high European added value, as well as projects of common interest and traffic management systems that will play a key role in facilitating the mobility of goods and passengers within the EU (Box 1.4). The corridor running from Oslo down to Malmö was classified as part of the Scandinavian-Mediterranean core network (ScanMed), including both road and railway networks. As highlighted above, the E6 is the main highway connecting the metropolitan areas in Western Scandinavia from Malmö to Oslo with four lanes. The last stretch of this highway between Oslo and Gothenburg was upgraded to four lanes in 2015, supported within the TEN-T programme. With a daily average of about 2 500 trucks and 50 000 individuals passing through the border, the E6 is the most important road crossing between Norway and Sweden, both in freight transport volume and passenger transport, illustrating the high demand of transport connectivity along this corridor (Kystverket et al., 2014).

Box 1.4. **The Trans-European Transport Network (TEN-T)**

The Trans-European Transport Network (TEN-T) was established by the European Commission in the 1990s to support the construction and upgrade of transport infrastructure across the European Union. It dedicates financial support towards the realisation of important transport infrastructure projects – in line with the overarching goal of European competitiveness, job creation and cohesion. The projects within the TEN-T represent all transport modes – air, rail, road and maritime/inland waterway – plus logistics and intelligent transport systems, and involve all EU member states. Within the TEN-T, transport infrastructure is classified into comprehensive and core networks. Core networks are the most important connections within the comprehensive network linking the most important nodes.

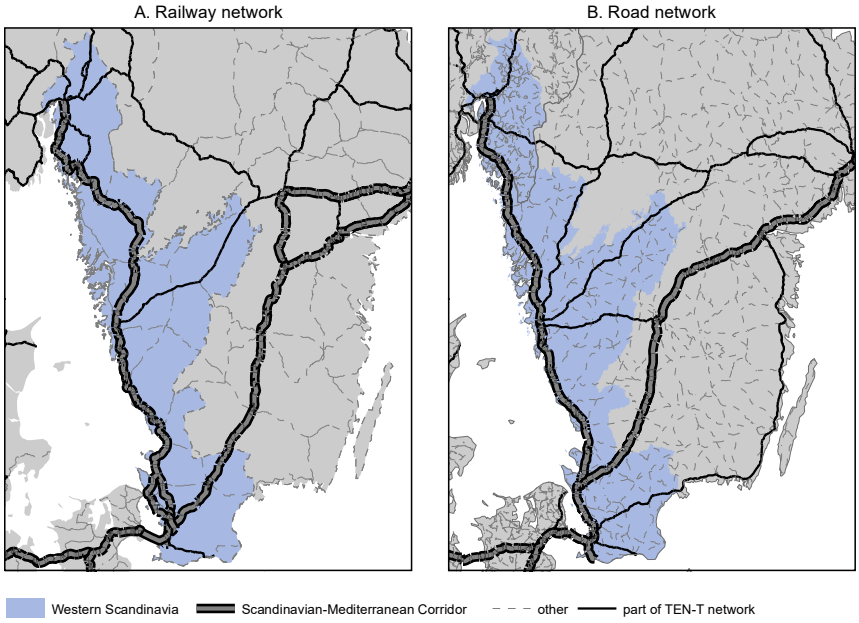
The TEN-T were motivated by the recognition of the importance of a strategic approach to develop a European-wide network of transport infrastructure. The Scandinavian-Mediterranean Corridor – one of the nine corridors identified following the 2013 review – covers Western Scandinavia entirely. The whole corridor stretches from Finland and Sweden in the north, to the island of Malta in the south, taking in Denmark; northern, central and southern Germany; the industrial heartlands of northern Italy; and the southern Italian ports. It therefore represents a crucial north-south axis for the European economy.

Experience with the implementation of projects has shown that the efficient completion of these network corridors is sometimes affected by complex regulatory and administrative arrangements, which can contribute to increased costs, delay and uncertainty for infrastructure projects. Notwithstanding the relevance of regulatory and administrative requirements, unnecessary costs and delays can arise when regulations or policies are not clear enough or are inconsistent with other regulations or policies (including those in other member states). Unclear regulation can lead to suboptimal investment choices, while legal uncertainty can deter private investment in projects.

Between 2007 and 2013, the TEN-T programme supported the completion of 30 priority projects, as well as projects of common interest and traffic management systems that play a key role in facilitation the mobility of goods and passengers within the EU. For this programming period, it had a budget of about EUR 8 billion. For the current EU programing period 2014-20, an estimated EUR 500 billion of financial investment is required for project implementation. By 2030, the completion of the TEN-T Core Network Corridors alone will require approximately EUR 750 billion worth of investments. The largest percentage of this amount will come from the national budgets of member states, complemented by EU grants.

Sources: European Commission (2017a), "Infrastructure – TEN-T – Connecting Europe: About TEN-T", webpage, http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/abouttent.htm (accessed in September 2017); European Commission (2017b), Infrastructure – TEN-T – Connecting Europe: EU funding for TEN-T", https://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/project-funding_en (accessed in September 2017).

Figure 1.8. **TEN-T and the Scandinavian Mediterranean Corridor in Western Scandinavia**

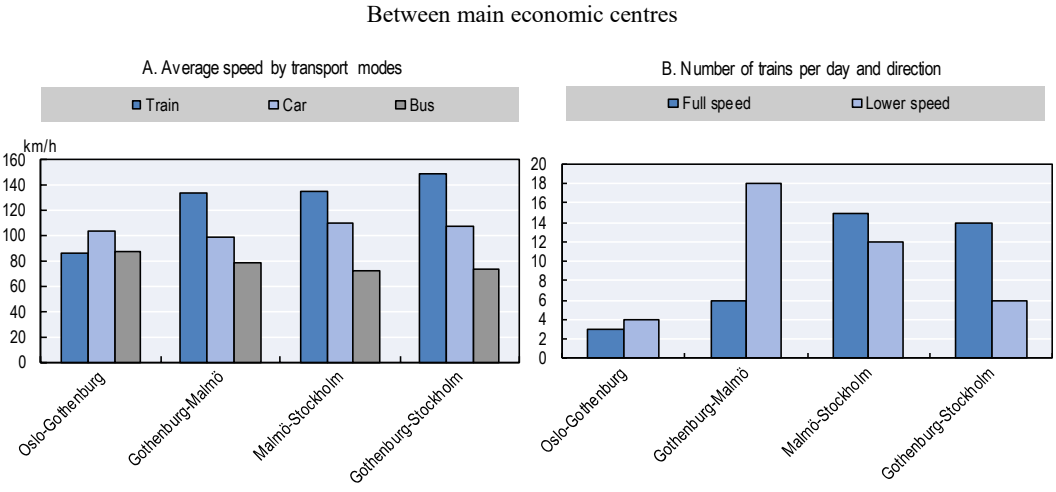


Note: Ten-T core and comprehensive roads and railway lines are displayed as part of the TEN-T network.
Source: Shapefiles on road and rail provided to the OECD by the local team. Ten-T corridors were elaborated from: http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html.

The railway network within Western Scandinavia is not competitive *vis-à-vis* the road network. While parts of the railway network in Western Scandinavia are covered by the TEN-T programme, the railway connecting the economic centres of Oslo, Gothenburg and Malmö include several stretches of single track. Not only is maximum speed lower on single tracks, but these also affect the frequency at which trains can run, since oncoming trains have to meet each other at crossing points. Parts of single-track railway in the Norwegian part of the megaregion are planned to be expanded to double track as part of the ongoing Intercity Triangle project around Oslo, to be completed in 2034. The new national transport plans in Norway and Sweden consider the current rail connection between Oslo and Gothenburg as a deficiency. This would require conducting the adequate studies to make it possible to include a fully upgraded, double-track rail connection in the next revised plan. However, a fully upgraded, double-track railway across the border is not yet included in current national transport plans, neither in Norway nor in Sweden (see a detailed discussion on the governance aspects regarding cross-border transport plans in Chapter 2). This single-track stretch is often referred to as the "missing link", which contributes to the lack of relative competitiveness of cross-border rail transport. Figure 1.9 shows the lack of competitiveness of the rail system between Oslo and Gothenburg. The left panel displays the average speed for the different transport modes between Oslo and Gothenburg, as well as between Gothenburg, Malmö and Stockholm. While average speed for cars and buses does not vary greatly for all of these connections, a significant discrepancy is observable for train connections. On the Oslo-Gothenburg route, the average speed is about 50-60 km/h slower than on the other routes. Further, the average speed by car is about 30 km/h faster, which means that the Oslo-Gothenburg route is not competitive compared to road transport. The long stretches of single track also

affect the frequency of trains running between these two metropolitan areas. In total, only seven trains run per day and per direction between Oslo and Gothenburg, of which only three run at full speed of about 85 km/h. Even within Sweden, stretches of single track hamper competitiveness, such as the missing links on the west coast line in Helsingborg and Varberg. These connections have been identified in the proposal for the upcoming Swedish National Transport Plan as parts that will be upgraded to double track to increase capacity and reduce travel time (Trafikverket, 2017).

Figure 1.9. **Average speed and frequency of trains compared to other modes, 2017**



Notes: Calculations for trains are based on actual distances and train timetables published for September 2017 by www.sj.se. Average speed for buses and cars based on Google Maps.
Source: Information provided to the OECD by the local team.

Improvements in the railway network can support shifting transport from road to rail and generating socio-economic and environmental benefits. For example, higher accessibility to economic centres by high-speed rail can affect the location decisions of firms and households, as it allows them to reach more jobs and markets in a given time frame. Spatial impacts of large transport infrastructure projects are generally unknown *ex ante*, and experiences across the OECD suggest a wide variety of possible results (Box 1.5). A high-speed rail connection between two cities does not necessarily imply that benefits are distributed equally across both cities. In an extreme case, it may result in the absorption of one market into the other rather than in extending the joint market of the connected cities. Further, more peripheral cities and regions may benefit differently from the transport investment. Cities that have a greater accessibility to new high-speed rail stations along the line are likely to benefit more. Thus, a well-developed "feeder" network – the local rail network connecting to the high-speed rail – is an important factor for the local development of regions surrounding the main cities and allows distributing the benefits of the investment into a greater area. Albeit not exclusively focusing on rail transport, a study by Ahrend and Schumann (2014) showed that greater accessibility in terms of shorter travel time to economic centres creates positive spillover effects in surrounding regions.

Box 1.5. **European evidence on the spatial impact of high-speed trains**

France

The introduction of high-speed rail (*train à grande vitesse*, TGV) in France between Paris and the country's second city Lyon (a distance of about 464 kilometres – comparable to that between Oslo and Malmö) led to a steep increase in the number of passengers in both directions. This reflected two trends: 1) a shift of about one-third of passengers from air to rail; 2) an increase of about 30% in the average annual number of journeys per passenger. The Lyon region, far from being absorbed by the Paris region as some had feared, actually extended its markets. Some firms from the Lyon area had advantages over their Parisian competitors that they had previously been unable to exploit (because at that time, it took too long to get there; transport costs were too high, etc.). Chen and Hall (2012) examine the effect of increased connectivity in the form of reduced travel time, and the degree to which it facilitates economic restructuring in de-industrialising regions in a comparison of Nord-Pas-de-Calais (France) and Lancashire (United Kingdom). They find that the roll-out of high-speed rail in France has a more pronounced and broader regional impact than the mere upgrading of existing infrastructure, such as the one that occurred in the United Kingdom, but that the benefits still tend to accrue to the larger and economically more dominant region (in this case, Paris).

Germany

Ahlfeldt and Feddersen (2017) examine the impact of the construction of a high-speed rail link between Frankfurt and Cologne that was inaugurated in 2002. They argue that the location of intermediate stations was effectively exogenous to local economies. This assumption allows them to identify the impact of rail connection on different places, as well as the agglomeration effect in surrounding areas and the spread of those effects in space. They find that the intermediate stops benefited substantially from high-speed rail in terms of economic activity, but that they benefited far more as potential places to live, offering new commuting possibilities towards the main centres. These benefits were highly localised and were found to decrease rapidly with distance from the stations. This suggests that a high-speed rail link between Oslo and Malmö or Copenhagen might have a similar effect, leading to greater concentration of economic activity along the line, and especially in the three metropolitan areas, while intermediate places and those located near the line but lacking stops might miss out on potential benefits.

Spain

The high-speed rail between Barcelona and Madrid was opened in 2008, covering a distance of about 620 kilometres. It reduced the travel time between the two cities from 5.5 to 2.5 hours. Since the introduction of the high-speed rail, passenger numbers increased due to a shift from air to train. In 2008, about 12% travelled by train, whereas the number increased to 63% in 2016. The high-speed rail link has been successful with respect to connecting both cities. In the case of Catalonia, it has also been a valuable networking tool for the large cities and supported the development of some medium-sized cities and the creation of new economic opportunities.

Box 1.5. **European evidence on the spatial impact of high-speed trains** (*continued*)

United Kingdom-France (Eurostar)

The Eurostar connecting London to Paris provides a salient case study of potential impacts at various geographic scales. Although the service began in 1994, the project did not reach its full potential until 2007, when the high-speed rail was fully extended to London. The benefits of high-speed rail to the English county of Kent – a region along this corridor that feared the potential loss of employment in competing port and ferry services – are, to date, ambiguous. The construction of intermediate stations (especially Ebbsfleet) connected to the local rail network led to important investment in housing and commercial property, but these investments remain limited in scope and scale. Looking at the period when the Eurostar's high-speed rail stopped at the tunnel and continued on conventional lines to London Waterloo, Hay, Meredith and Vickerman (2004) found only limited impact on Kent and little potential for further development. This is consistent with other research suggesting that a region's economic potential prior to large infrastructure investment is a critical determinant of the investment's impact. For example, Kveiborg's (2013) comparative case study of the Eurostar and the proposed Fehmarn Belt fixed link emphasises that the impact on the intermediate regions is likely to be limited and will accrue only over the long term, except where those intermediate regions have latent potential that could be exploited through increased connectivity. The main exceptions are places where intermediate stops are located. In the case of the Eurostar, Lille and Ashford (before the re-routing of Eurostar via Ebbsfleet) enjoyed better economic performance than their respective regions in the first decade of the Eurostar's operation.

Source: Hay, A., K. Meredith and R. Vickerman (2004), "The impact of the Channel Tunnel on Kent and relationships with Nord-Pas-de-Calais", https://www.kent.ac.uk/economics/documents/research/seminars/archive/FullReport.pdf; Chen, C.L. and P. Hall (2012), "The wider spatial-economic impacts of high-speed trains: A comparative case study of Manchester and Lille sub-regions", https://doi.org/10.1016/j.jtrangeo.2011.09.002; Kveiborg, O. (2013), "Economic effects of large-scale infrastructure projects"; Ahlfeldt, G.M. and A. Feddersen (2017), "From periphery to core: Measuring agglomeration effects using high-speed rail", https://doi.org/10.1093/jeg/lbx005.

Potential spatial and socio-economic benefits from a high-speed rail linking Oslo, Gothenburg and Malmö have not been assessed yet in a coherent manner. As part of the Interreg cross-border collaboration promoted by the European Union, local and regional stakeholders from Western Scandinavia, as well as the Copenhagen region, attempted to create a megaregion encompassing a population of 8 million to increase the global competitiveness of the whole area (Box 1.6) and see further discussion in Chapter 2). Within this "8 Million City" project, a high-speed rail connection linking the cities of Oslo, Gothenburg, Malmö and Copenhagen was seen as an enabler for creating an integrated megaregion. While several cost-benefit analyses were conducted for different sections of the route, different approaches and assumptions were applied (Oslo Economics, 2012; Region Skåne, 2014; Atkins, 2012). As such, no conclusive cost-benefit estimates are available regarding the impact of a high-speed rail connection for the whole Western Scandinavia corridor. To assess the full benefits of a better railway connection for Western Scandinavia, a thorough cost-benefit analysis for the entire corridor needs to be conducted, incorporating the wider economic and social benefits and looking into different alternatives of upgrades. As an upgrade of the rail infrastructure will not benefit all cities and regions equally, a realistic assessment of the benefits and potential drawback can support the development of a joint communication strategy and create greater visibility among the different stakeholders at local, regional and national levels.

Box 1.6. **The 8 Million City project (COINCO II)**

The 8 Million City project was a bottom-up, EU-funded project aiming to link up cities along the Oslo, Gothenburg, Malmö and Copenhagen corridor to form one cohesive megaregion. The project originated from the COINCO ("Corridor for Innovation and Co-operation") Interreg projects, which initially focused around the themes of co-operation on innovation, best practice governance and energy, as well as the construction of a high-speed rail infrastructure. The construction of a high-speed rail infrastructure received the most attention and turned into the main topic of the 8 Million City project. It was recognised that the population density within the corridor was low by international standards. Therefore, the 8 Million City project built on the fact that the regions of Oslo, Gothenburg, Malmö and Copenhagen together compose a potential polycentric megaregion with a critical mass of more than 8 million residents who share a similar language and culture. Establishing a high-speed rail was seen as the precondition for connecting people and economic centres, and ultimately for increasing the region's international competitiveness.

Within the 8 Million City project, several alternatives for high-speed rail connections were raised, proposing different options in terms of travel time, number of stops and financing schemes. For example, the introduction of an IntercityX system running on double track from Oslo to Copenhagen was projected to decrease travel time from 8 hours to 4 hours. A high-speed rail running on its own tracks in parallel was projected to further reduce travel time to 2.5 hours, therefore becoming competitive *vis-à-vis* air transport. In order to avoid any efficiency loss, capacity enhancements in the form of additional tracks were suggested, especially around cities, as well as co-ordinated investments between the countries with respect to time scale and technical standards.

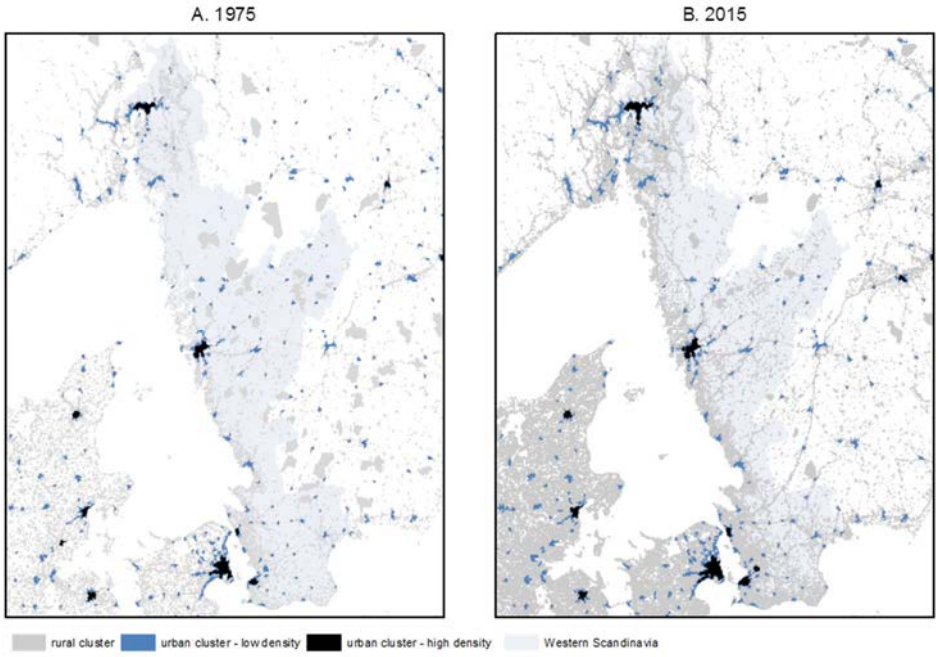
However, no in-depth cost-benefit analysis covering the entire corridor was conducted as part of the 8 Million City project. A cost-benefit analysis covering the section between Oslo and Gothenburg was commissioned in 2010 by the Norwegian Ministry of Transport. Yet, it only took into consideration costs and benefits incurred from Oslo to the Swedish border. The analysis included two different assessments, each one with different assumptions regarding environmental impact, reductions in travel time, operator costs and employment effects. The two assessments produced very different results, ranging from a net loss of NOK 5.4 billion to a net gain of NOK 9.9 billion.

Source: Adapted from Region Skåne (2014), "The Scandinavian 8 Million City: Final report 2014", www.8millioncity.com/innhold/The_Scandinavian_8_million_city___short_version_eng_.pdf (accessed in May 2017).

Has Western Scandinavia grown into a network of cities?

Urbanisation is a dynamic process that changes the urban landscape and requires flexible approaches to adapt to emerging challenges. Figure 1.10 contrasts the human settlement patterns of Western Scandinavia in 1975 and 2015. If, over time, multiple urban centres form a network that becomes integrated to the point where their labour markets and local supply chains overlap, the space between them should be expected to fill up with lower density development. While urban areas have experienced a period of fast suburbanisation in the 1960 and 1970s, spatial growth of built-up areas almost stagnated until 2000 (Vilhelmson, 2005). Since then, Western Scandinavia has experienced strong population growth, resulting in the densification of existing urban clusters, urban sprawl at the fringes of metropolitan areas (see, for example, European Environment Agency [2016], and the formation of low-density rural clusters, especially along the coastline).

Figure 1.10. **Change in human settlement patterns, 1975-2015**



Sources: Pesaresi, M. And S. Freire (2016), "GHS settlement grid following the REGIO model 2014 in application to GHSL Landsat and CIESIN GPW v4-multitemporal (1975-1990-2000-2015)", European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/jrc-ghsl-ghs_smod_pop_globe_r2016a (accessed in May 2016).

Similarly to the development across all Nordic countries, population growth in Norway and Sweden was concentrated in already existing functional urban areas. Thus, about 97% of population growth in the Nordic states between 1995 and 2015 occurred in the 30 largest functional urban areas (NordRegio, 2016). This trend also translated into the spatial development of Western Scandinavia where urban areas densified over the years. Densification can support the efficient use of existing infrastructure and provide greater accessibility to economic centres than new developments in the outskirts. At the same time, high connectivity (e.g. in the terms of commuting) between already existing settlements may still lead to integration between them, which is not observable in the

form of newly emerging settlements. Only when space constraints arise, diverting some of the population growth away from the three main cities and supporting more balanced development could help alleviate increasing pressure resulting from continuous population growth. To ensure environmental sustainability, this should, however, be accompanied by investments in public transport infrastructure. Co-ordinated transport strategies in all of Western Scandinavia, aligned with local land-use developments, could relieve the pressure on existing public transport infrastructure and the housing market by better connecting new housing developments to economic centres without contradicting sustainable development goals.

Economic connectedness in Western Scandinavia is growing

Western Scandinavia has shown some signs of increased economic interaction over the last years. A rising number of Swedish-controlled enterprises in Norway, as well as Norwegian-owned enterprises in Sweden, indicate growing economic linkages between the two countries. While information on the number of firms controlled by a Swedish or Norwegian owner in the respective opposite side of Western Scandinavia is not systematically available, the increase in national numbers is very likely to be reflected in Western Scandinavia. In the period 2008-15, the number of companies controlled by Norwegian owners located in Sweden increased from 1 985 to 2 186 (Sweden, 2017a; Tillväxtanalys, 2017, 2010). About a fifth (463) are located in the Gothenburg region employing about 8 600 workers. The sectors with the largest share of Norwegian-owned establishments in the Gothenburg region in 2015 were commerce, property and business service (Business Region Göteborg, 2016). But the number of Swedish-owned enterprises located in Norway also increased, from 1 728 to 2 200 between 2008 and 2015, albeit less than the Norwegian-owned in Sweden (Statistics Norway, 2017f).

Trade connections highlight interdependence of the regions within Western Scandinavia. Import and export data that are available for Västra Götaland and Skåne show the importance of the Norwegian market for the region. In 2016, 11% of Västra Götaland's exports went to Norway, and about 7% of its imports came from Norway. Similar numbers are reported for Skåne, whose main export partner is Norway, with 13% of its exports in 2015. However, in terms of imports, the Norwegian market is less relevant and does not rank among Skåne's top ten import partners.[4]

Commodity flows are a main driver of economic connectedness

Cities and regions in Western Scandinavia form a freight corridor. Given that regionally disaggregated information is not available on the origin and destination of freight, it is not possible to analyse commodity flow as such to assess the degree of economic integration within Western Scandinavia. Moreover, as described above, freight entering and leaving Sweden through Denmark via ports and airports crosses Western Scandinavia. In addition, imports and exports from Norway are often handled through the Port of Gothenburg after transferring through distribution centres that are typically located in southern Sweden (Avinor et al., 2015). Regions and cities in Western Scandinavia therefore face joint challenges that result from the increase of freight traffic on roads. Over the years, the number of heavy trucks crossing the Norwegian-Swedish border has increased, whereas freight on rail has declined (Norwegian Public Road Authority, 2017; Norwegian Rail Authority, 2016). Increasing pressure on existing infrastructure generates congestion, which both aggravates emissions and undermines economic competitiveness. Freight flows may be redirected towards the

Fehmarn Belt fixed link once it is finished. Improvements in railway infrastructure could incentivise a shift from road to rail and contribute to more sustainable growth in cities and regions of Western Scandinavia (Green String Corridor, 2014; Trafikanalys, 2016). In 2016, a joint assessment of rail infrastructure by the Norwegian and Swedish Rail Authorities confirmed, in particular, that upgrading single track to double track between Oslo and Gothenburg would benefit freight transport, as well as creating positive spillovers for passenger transport.

Commuting flows indicate little exchange between metropolitan areas within Western Scandinavia

No formal barriers to labour mobility exist in Western Scandinavia, but cross-border commuting remains low. In 1954, all formal barriers to the migration of workers across the Nordic countries were removed. Since then, no permit is required for a Nordic citizen to work and reside in another Nordic country. Moreover, local authorities across all Nordic countries are committed to actively inform employment agencies in the other Nordic countries about local job openings and working conditions. Workers in Western Scandinavia are therefore not constrained by formal barriers and have the possibility to commute regardless of national borders. Regular flows of labour can therefore provide an indication of the degree and the perimeter of integration in Western Scandinavia. It should be noted, however, that commuting over long distances in the absence of sustainable transport solutions is not necessarily desirable from a public policy perspective and should therefore be only cautiously interpreted as a measure of success for the integration of the area.

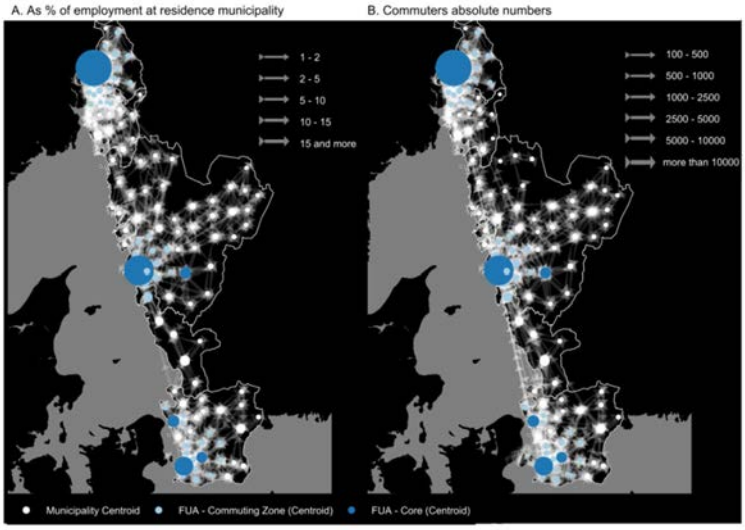
Commuting flows in Western Scandinavia are concentrated **around** the metropolitan areas, with little exchange **between** them. Commuting is strongest between Gothenburg and Malmö, with about 3 000 workers per day in 2014. This is almost twice as much as the commuting between Oslo and Gothenburg (about 1 600), which in turn is twice as much as the commuting between Oslo and Malmö (800 workers). Given that the working population in each of the metropolitan areas is larger than 300 000 workers, the relative percentage of workers commuting on a frequent basis between the metropolitan areas is comparatively low. Workers generally commute from their municipality towards the nearest metropolitan area, whereas flows **between** neighbouring municipalities are limited, especially across the Norwegian-Swedish border. While some workers commute from Swedish municipalities to Norway, the national border still marks a clear demarcation line with respect to commuting flows. This finding is in line with the results presented in Gundersen and Juvkam (2013), who analyse cross-border commuting flows between Norway and Sweden. They conclude that the commuting levels of Swedish municipalities towards any Norwegian municipality are too low to consider it an integrated labour market area. However, comparing their results based on 2009 data with the more recent commuting flows from 2014 indicates that the relative share has slightly picked up, although it remained significantly below 5% of the working population.

An important factor that shapes commuting patterns in Western Scandinavia is related to cross-border differentials with respect to wages and cost of living. About 10% of the workers who reside in Sweden near the border commute to Oslo-Akershus-Østfold on a daily basis (about 1 800 out of almost 18 000). By contrast, less than 1% of the workers who live in Norway near the border commute to West Sweden and Skåne (about 200 of almost 40 000). This almost one-directional pattern can be explained by higher average wages in Norway, and generally lower costs of living in Sweden, in

addition to a variety of fiscal and regulatory barriers (see Chapter 4). Households can maximise their disposable income if they locate just across the border on the Swedish side, but work on the Norwegian side. A similar trend was observable after the opening of the Öresund bridge connecting Malmö to Copenhagen (Box 1.7). On the Swedish side of this fixed link, comparatively lower property prices in Sweden than in Denmark resulted in a housing boom, while employment was concentrated in and around Copenhagen, where salaries were far higher (OECD, 2012a). Better accessibility in the border region between Oslo and Gothenburg can therefore be expected to have a similar effect, with more people locating in the Swedish part of the megaregion and commuting towards the Norwegian part. As the location decision of households depends on how the house prices as well as local economies and labour markets are developing, commuting flows can also develop in the other direction. For example, following the global crisis the commuting from Skåne to Copenhagen declined (Box 1.7), whereas commuting from Skåne to West Sweden increased steadily (Statistics Sweden, 2017c).

Figure 1.11. **Commuting flows in Western Scandinavia, 2014**

Percentage of working population and absolute numbers

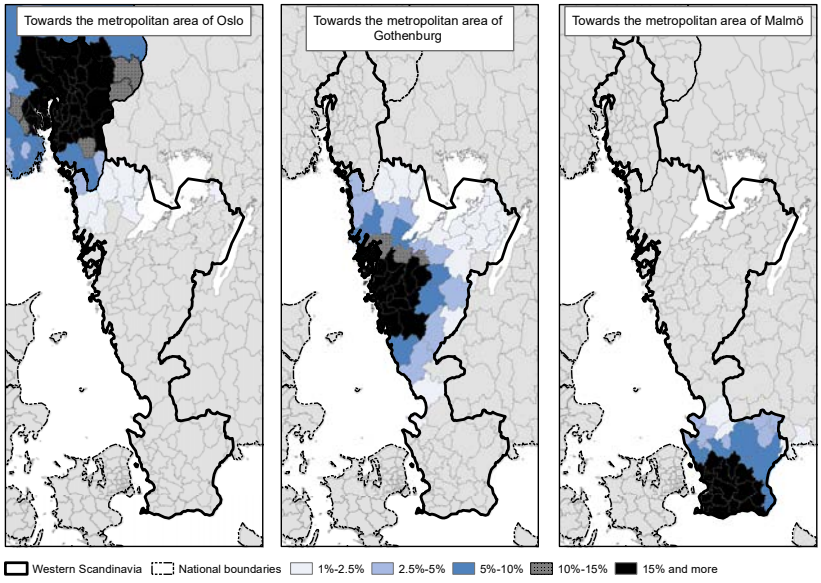


Note: The size of the circles indicates the working population in a given municipality. The larger the circle, the larger the size of the working population.
Sources: Örestat (2017a), Öresundsdatabasen (engelsk): "OEPEN1D – Commuters and other income recipients from Sweden to Denmark by municipality of residence, workplace municipality, type and sex (1997-2015)", www.orestat.se/sv/Øresundsdatabasen-engelsk; Örestat (2017b), "Öresundsdatabase (engelsk): OEPEN2D: Commuters and other income recipients from Denmark to Sweden by municipality of residence, workplace municipality, type and sex (1997-2015)"; Statistics Norway (2017a), "Table: 03321: Employed persons per 4th quarter, by municipality of work and municipality of residence (M)"; Statistics Sweden (2017c), "Gainfully employed commuters by municipality 16+ years by municipality of residence, municipality of work and sex. Year 2004-2015"; Västra Götalandsregionen (2015), Antal arbetspendlare från Sverige till Norge efter tid, bostadskommun och arbetskommun; Västra Götalandsregionen (2014), Antal Arbetspendlare fran Norge till Sverige efter Tid, Bostadskommun och Arbetskommun.

Recent commuting patterns do not delineate Western Scandinavia as one integrated megaregion. In particular, commuting between the northern and the southern parts of Western Scandinavia is significantly less pronounced than commuting between the

cities in Skåne and Copenhagen, which are much closer to each other (both in terms of distance and travel time). At the same time, it is possible to analyse whether functional integration in Western Scandinavia has changed over time, using a dynamic approach such as the recalculation of functional urban areas. Greater integration of the commuting zone

Figure 1.12. **Commuting towards metropolitan areas within Western Scandinavia, 2014**

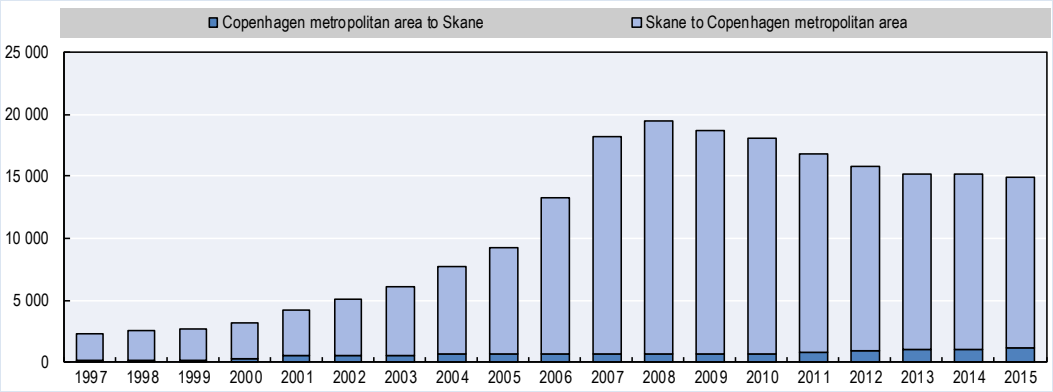


Note: Commuting flows from municipalities, including cross-border commute, as a percentage of the working population towards the metropolitan areas in Western Scandinavia for 2014, latest year available.
Sources: Statistics Norway (2017a), "Table: 03321: Employed persons per 4th quarter, by municipality of work and municipality of residence (M)"; Statistics Sweden (2017c), "Gainfully employed commuters by municipality 16+ years by municipality of residence, municipality of work and sex. Year 2004-2015"; Västra Götalandsregionen (2015), Antal arbetspendlare från Sverige till Norge efter tid, bostadskommun och arbetskommun; Västra Götalandsregionen (2014), Antal Arbetspendlare fran Norge till Sverige efter Tid, Bostadskommun och Arbetskommun.

Box 1.7. **Functional integration between Copenhagen and Skåne**

The Öresund region encompasses eastern Denmark, as well as Skåne on the Swedish side. Denmark's capital Copenhagen is located less than 30 kilometres from Malmö, the third-largest city in Sweden. The Öresund strait forms not only the national, but also a natural border and up until 2000, travelling from one side to the other was only possible by ferry. In 2000, the two sides of the strait became connected by a fixed link between Copenhagen and Malmö – the Öresund Bridge – in addition to a ferry route between Helsingör and Helsingborg. The opening of the Öresund Bridge provides insights on the potential benefits from infrastructure investments that connect cities. Before the opening of the Öresund Bridge, less than 2 000 residents in Skåne commuted to the metropolitan areas of Copenhagen. Following the opening of the bridge, a housing boom ensued on the Swedish side, where property prices were far lower, while employment was concentrated in and around Copenhagen, where salaries were far higher – effectively a degree of integration by specialisation (Decoville et al., 2013). Over the course of a decade, the number of daily commuters rose roughly nine-fold, to more than 19 000 per day, although it declined slightly following the global crisis. The majority of commuters resided in Skåne and worked in the metropolitan area of Copenhagen. By contrast, the number of commuters who resided in the metropolitan area of Copenhagen and worked in Skåne remains small, but increased steadily.

Figure 1.13. **Commuter flows between Skåne and the Copenhagen metropolitan area, 1997-2015**



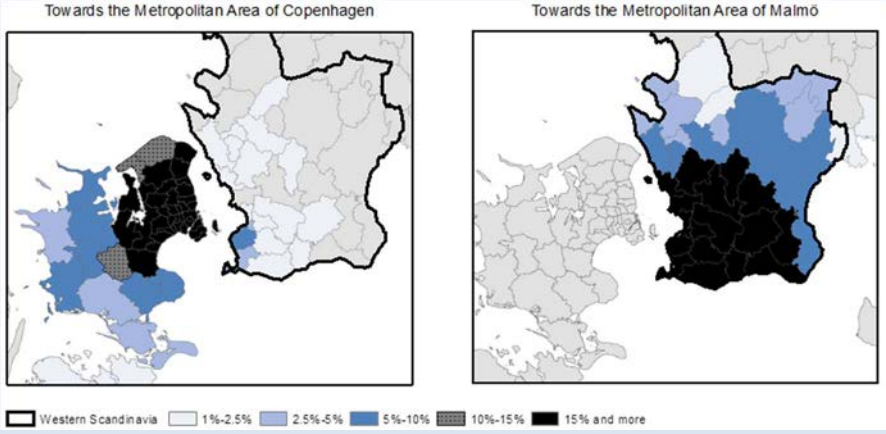
Source: Örestat (2017a), Öresundsdatabasen (engelsk): "OEPEN1D – Commuters and other income recipients from Sweden to Denmark by municipality of residence, workplace municipality, type and sex (1997-2015)", www.orestat.se/sv/oresundsdatabasen-engelsk (accessed in June 2017); Örestat (2017b), "Öresundsdatabase (engelsk): OEPEN2D: Commuters and other income recipients from Denmark to Sweden by municipality of residence, workplace municipality, type and sex (1997-2015)".

However, Malmö was not simply absorbed into Copenhagen's commuter belt. Some land-intensive activities relocated from Denmark to southern Sweden, in search of lower costs. Employment growth in 2000-09 in the Malmö region exceeded that of both the Stockholm and Gothenburg regions, and that of Sweden as a whole (OECD, 2012a). Cross-border integration then stalled for some time following the global financial crisis, resulting in a decrease in commuter flows for the first time since the opening of the Öresund bridge.

Box 1.7. **Functional integration between Copenhagen and Skåne** (*continued*)

Copenhagen and Malmö remain two distinct metropolitan areas according to the OECD definition of functional urban areas. An assessment of population density and commuting flows in 2014 identifies the two metropolitan areas as two separate units. While commuting flows in relation to the working population from the Swedish side towards the metropolitan area of Copenhagen are the highest from Malmö (6%), they remain below the threshold of 15% that defines functional integration (Figure 1.14). Commuting flows show some degree of concentration of workers commuting between Helsingborg and Copenhagen, although the percentage of workers is significantly lower than between Malmö and Copenhagen and surrounding areas. In addition to the Öresund bridge, workers residing in and around Helsingborg can commute to the northern part of the metropolitan area of Copenhagen by ferry, which currently takes about 20 minutes between Helsingborg and Helsingør. An additional fixed link connecting Sweden to Denmark, through a tunnel between Helsingborg and Helsingør, is being analysed by Denmark and Sweden in a three-year project that began in the autumn of 2017. A tunnel is expected to reduce the travel time to about 4 minutes between the two municipalities, and from 75 minutes to 40 minutes from Helsingborg to Copenhagen central station.

Figure 1.14. **Commuting between the metropolitan areas of Skåne and Copenhagen, 2014**



Source: Örestat (2017a), Öresundsdatabasen (engelsk): "OEPEN1D – Commuters and other income recipients from Sweden to Denmark by municipality of residence, workplace municipality, type and sex (1997-2015)", www.orestat.se/sv/Øresundsdatabasen-engelsk (accessed in June 2017); Örestat (2017b), "Öresundsdatabase (engelsk): OEPEN2D: Commuters and other income recipients from Denmark to Sweden by municipality of residence, workplace municipality, type and sex (1997-2015)".

The cross-border nature of the Öresund region remains a constraint for functional integration. Even in the European single market, the persistence of differences in tax legislation, exchange rate differentials, labour codes and other regulatory regimes constitutes a barrier to deeper integration across the Öresund (OECD, 2012a). A recent example of cross-border barriers includes the passport controls that were introduced in January 2016 as a response to the refugee crisis and the massive wave of immigration. While the ID checks did not affect commuting times by car and ferries, it significantly affected commute by train. Train operators were obliged to conduct ID checks on all passengers before the train left Denmark, and on the Swedish side, a check was performed on all passengers at the first stop. A journey between the central stations of Copenhagen and Malmö took twice as long as before ID checks were introduced, since travel times had increased from

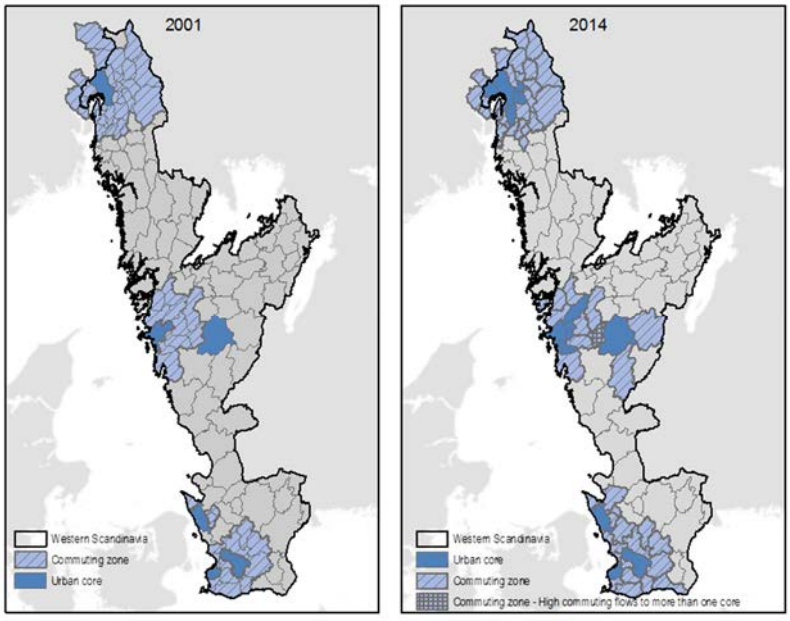
Box 1.7. **Functional integration between Copenhagen and Skåne** (*continued*)

35 minutes to 75 minutes (Öresundinstitute, 2017). This constraint on travel time resulted in a modal shift from train to car, as well as a decrease in the total number of workers commuting between Skåne and the metropolitan area of Copenhagen. In May 2017, the temporary ID checks on buses, trains and ferries traveling from Sweden to Denmark were stopped in favour of strengthening border controls. These recent and unforeseeable changes are one example of how functional integration between the metropolitan area of Copenhagen and Skåne can be hampered as a result of its cross-border nature.

Sources: OECD (2012a), *OECD Territorial Reviews: Skåne, Sweden 2012*, http://dx.doi.org/10.1787/9789264177741-en; Decoville et al. (2013), Comparing cross-border metropolitan integration in Europe: Towards a functional typology, https://doi.org/10.1080/08865655.2013.854654; Örestat (2017a), Öresundsdatabasen (engelsk): "OEPEN1D – Commuters and other income recipients from Sweden to Denmark by municipality of residence, workplace municipality, type and sex (1997-2015)", www.orestat.se/sv/oresundsdatabasen-engelsk (accessed in June 2017); Örestat (2017b), "Öresundsdatabase (engelsk): OEPEN2D: Commuters and other income recipients from Denmark to Sweden by municipality of residence, workplace municipality, type and sex (1997-2015)"; Öresundinstitute (2017), "Fact sheet: The effects of the ID and border checks between Scania and Zealand", www.oresundsinstituttet.org/fact-sheet-the-effects-of-the-id-and-border-checks-between-scania-and-zealand.

towards one metropolitan area or more could be a first sign of an evolution towards a network of cities. Figure 1.15 depicts the original functional urban areas as defined by OECD (2012b) based on 2001 population density and commuting data (left panel), and those redefined based on 2014 data (right panel). The comparison highlights two main developments. First, the functional urban areas developed in a compact manner, with a densification of the urban core along main transport routes. In the Oslo metropolitan area, the commuting zone remained fairly constant, whereas the urban core extended, indicating that the municipalities in and close to the centre increased their population density since 2001. A similar trend occurred in the Gothenburg metropolitan area. Second, greater functional integration (measured as increased commuting towards the urban cores) is observable in the municipalities between the functional urban areas of Malmö and Helsingborg. Despite this pattern, Malmö and Helsingborg still remain two distinct functional urban areas, which are not integrated with each other as per the OECD classification.[5] In West Sweden, the functional urban area of Borås expanded by two municipalities, which are now categorised as its commuting zone.

Figure 1.15. **Functional urban areas in Western Scandinavia**



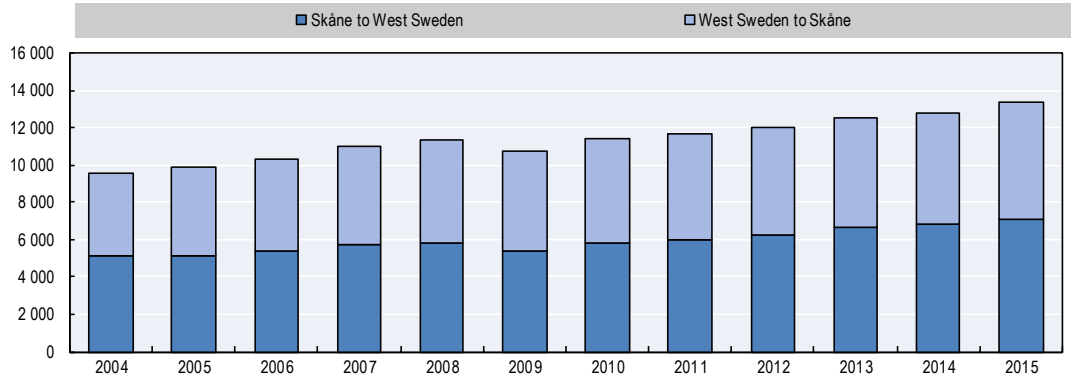
Notes: 2001 functional urban areas are calculated based on Corine Population grid. 2014 functional urban areas are based on GHS population grid. According to the GHS population grid, Borås municipality was just below the threshold of being identified as an urban core. Since it is an important economic centre for the region, rounded values were applied to keep the consistency with previous OECD and Eurostat classifications.

Sources: OECD (2012b), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, http://dx.doi.org/10.1787/9789264174108-en; Statistics Norway (2017a), "Table: 03321: Employed persons per 4th quarter, by municipality of work and municipality of residence (M)"; Statistics Sweden (2017c), "Gainfully employed commuters by municipality 16+ years by municipality of residence, municipality of work and sex. Year 2004-2015"; Västra Götalandsregionen (2015), Antal arbetspendlare från Sverige till Norge efter tid, bostadskommun och arbetskommun; Västra Götalandsregionen (2014), Antal Arbetspendlare fran Norge till Sverige efter Tid, Bostadskommun och Arbetskommun; European Commission, Joint Research Centre (JRC), Columbia University and Center for International Earth Science Information Network (2015), "GHS population grid, derived from GPW4, multitemporal (1975, 1990, 2000, 2015)", European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/jrc-ghsl-ghs_pop_gpw4_globe_r2015a (accessed in May 2017).

Commuting flow data can provide useful insights about daily activity patterns, but are not likely to reflect the full story. In a megaregion setting, distances often go far beyond what anyone would agree to commute on a daily basis. Still, integration in the form of regular labour exchange – e.g. once a week, or over a certain time period bound to a given project – may be present but not measured by the data. For example, register data with individuals' place of residence and work will capture the main workplace, but spells of work at other destinations might not be recorded. Cross-border statistics, on the other hand, are often based on commuting surveys conducted over the course of a week with commuters as respondents. The probability to capture workers with an occasional but frequent long commute is much smaller than for someone who travels the same journey each day. For example, 1.2 million Norwegians stay overnight in Västra Götaland, accounting for about 12% of total overnight stays. On average, almost half of the overnight visitors coming to Västra Götaland are business travellers or conference participants (Regionfakta, 2017). Since about a third of Norway's population resides in the Norwegian part of Western Scandinavia, and given the

proximity, it can be assumed that they constitute a large share of these visitors to Västra Götaland. Still, with respect to the delineation of Western Scandinavia, commuting flows are informative. While commuting flows are likely to underestimate the actual degree of integration of the area, they indicate that Skåne is more integrated with the Copenhagen region than with other parts of Western Scandinavia (see Box 1.8). Although more workers are travelling from Skåne to the Copenhagen region, commuting between Skåne and West Sweden increased steadily over the 2004-15 period, indicating increasing interaction between the two regions. In 2015, the total number of commuters between West Sweden and Skåne reached almost 13 400 workers, i.e. an increase of 35% over a horizon of ten years (Figure 1.16). Commuting between Skåne and West Sweden has reached similar levels as commuting from Skåne to metropolitan Copenhagen, but it shows a more balanced interaction (Statistics Sweden, 2017c). In this respect, potential governance arrangements could help extend collaboration between Western Scandinavia and the Copenhagen area by addressing joint challenges, especially in light of large-scale infrastructure investments (see Chapter 2).

Figure 1.16. **Commuter flows between Skåne and West Sweden**



Source: Statistics Sweden (2017c), "Gainfully employed commuters by municipality 16+ years by municipality of residence, municipality of work and sex. Year 2004-2015".

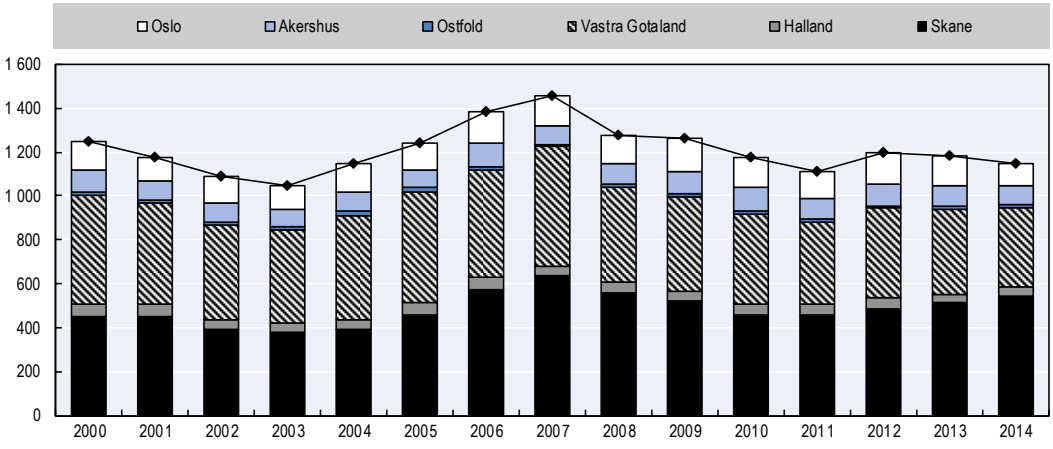
Co-patenting activities in Western Scandinavia

Collaboration and economic interaction between the different regions within Western Scandinavia are quite low as measured by co-patenting activity. As highlighted earlier, Western Scandinavia generally performs well with respect to innovation indicators. Figure 1.17 shows the number of patent applications by region of inventor for the period 2000-14. The number of Patent Co-operation Treaty (PCT) applications filed in Western Scandinavia remained fairly stable, at around 1 200. The trend in patent applications follows the trend of R&D investments, which has been fairly consistent over this time frame (see Chapters 4 and 5). In 2014, about a fifth of patent applications in Western Scandinavia were filed in the Norwegian part, but most patent applications were filed in Skåne (547), followed by Västra Götaland with about 356 filed applications. Analysing the strength of technology portfolio of patent applications in terms of its relevance for future growth, BAK Basel Economics (2017) shows that Oslo, West Sweden and Skåne (which the authors consider as part of the Öresund region) all have seen a growth of world-class patents since 2000. Life sciences are the main area of innovation in Western Scandinavia, in which its regions are generally

performing very well. Øresund is leading in terms of the total number of patents and the share of world-class patents within Europe, followed by Oslo and West Sweden (BAK Basel Economics, 2017). However, given their individually small market size when compared to innovation hubs (such as the Randstad in the Netherlands, or San Francisco and Boston in the United States), each of the regions is lagging behind, constrained by a lack of critical mass.

Figure 1.17. **PCT patent applications in Western Scandinavia**

By region and priority year



Note: PCT patent applications (fractional count, by region of inventor and priority year).
Source: Own elaboration based on EPO *Worldwide Statistical Patent Database "PATSTAT"*.

The potential for pooling resources and knowledge within Western Scandinavia could be further exploited. In general, the number of applications in which a co-inventor from a different region was registered was low. This number decreased significantly when regions were further apart, indicating limited co-operation between regions. Table 1.5 shows the PCT patent applications for TL3 regions within Western Scandinavia in 2000 and 2014. The numbers on the diagonal show the fractional count of patent applications within a given TL3 region, and the off-diagonal numbers show the co-patenting activity between regions. Co-patenting is more likely to occur between Oslo and Akershus, between Västra Götaland and Halland, and between Västra Götaland and Skåne. In 2014, most co-patenting activities were registered between Halland and Västra Götaland, followed by Oslo and Akershus. Comparing co-patenting activities in 2014 with 2000 shows no increase in co-operation within Western Scandinavia. Given the strong importance of life sciences within the different parts of Western Scandinavia, stronger collaboration could improve innovation outcomes. For example, most research activities in Oslo have taken place in the pharmaceutical industry, and the region experienced strong growth in world-class pharmaceutical patents between 2000 and 2015. West Sweden hosts AstraZeneca, one of the world's biggest pharmaceutical companies, which is also the region's leading researcher in the field of life sciences (BAK Basel Economics, 2017). Providing a platform for knowledge sharing and creating incentives for collaboration and combining resources could reduce the disadvantage of facing smaller markets and potentially lacking critical mass.

Table 1.5. **Co-patenting activities within Western Scandinavia**

		Oslo	Akershus	Østfold	Västra Gotaland	Halland	Skåne
Oslo	2000	124.6	18.4	1.0	0	0	0.7
	2014	106.1	15.7	0.0	0.9	0	2.0
Akershus	2000	20.5	98.6	1.7	0	0	1.0
	2014	16.8	83.3	2.0	1.3	0.3	0.3
Østfold	2000	1.7	1.0	18.1	0.5	0	0
	2014	0	1.8	16.5	0.3	0	0
Västra Gotaland	2000	0	0	0.5	494.7	11.1	13.2
	2014	0.6	0.9	0.7	355.7	16.8	8.9
Halland	2000	0	0	0	18.9	56.1	3.7
	2014	0	0.3	0	27.2	41.1	7.9
Skåne	2000	0.3	1.0	0	10.6	1.9	452.4
	2014	1.5	0.3	0	7.4	5.1	547

Notes: Numbers reflect PCT patent applications (fractional count, by inventor and priority year). Patent counts are based on the inventor's region of residence and fractional counts. If two or more inventors are registered on the patent document, the patent is classified as a co-patent. If one application has more than one inventor, the application is divided equally among all of them and subsequently among their regions (fractional counting), avoiding thus double counting. The priority date corresponds to the first filing worldwide and therefore closest to the invention date. On the diagonal, numbers indicate PCT patent applications and off-diagonal numbers indicate co-patenting activity with applications filed by an inventor in region A and a co-inventor in region B.
Source: Own elaboration based on EPO *Worldwide Statistical Patent Database "PATSTAT"*.

Cross-border collaboration through EU funding

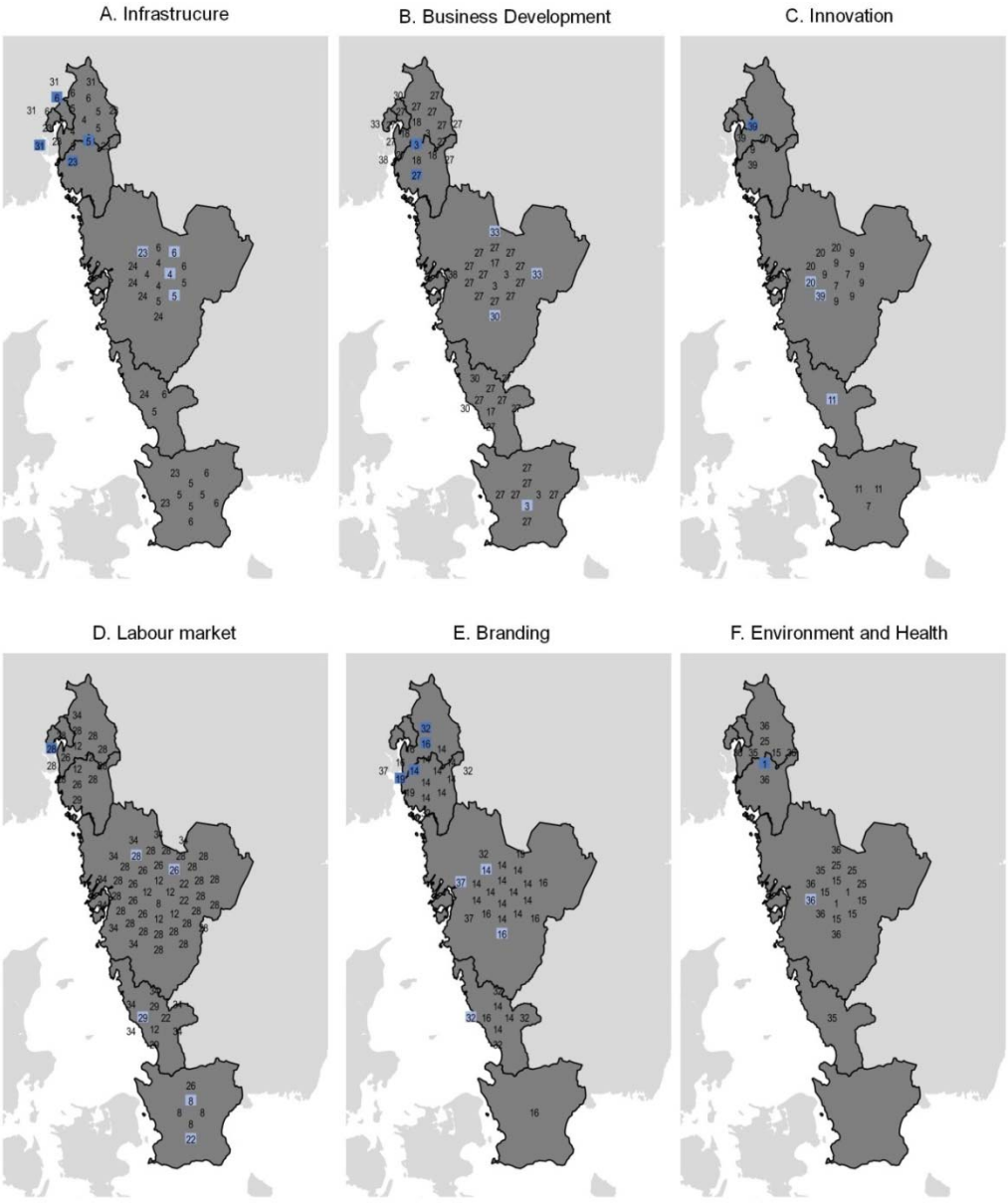
Cross-border collaboration can indicate economic linkages that extend beyond daily commuting flows. Western Scandinavia falls under six joint programmes within the EU framework (Interreg programmes), including the Öresund-Kattegat-Skagerrak programme (ÖKS), which was established as an expansion of the Öresund programme (see Chapter 2). The programme in its current coverage was first introduced in the period 2007-13, and provided local and regional stakeholders in cross-border regions with a platform to develop joint strategies to exploit untapped growth potential. Areas of support are innovation, low-carbon economy, transport and employment. Besides local and regional stakeholders in Western Scandinavia, the programme involved project participants from parts of Denmark, as well as Buskerud, Vestfold, Telemark, Aust-Agder and Vest-Agder in Norway. The programming period 2007-13 was the first time that stakeholders from Norway participated in an Interreg programme, whereas participants on the Swedish side of Western Scandinavia had already gained experience with Interreg programmes in previous periods by collaborating with Denmark in the Öresund region and other EU members. While these programmes are specifically introduced to incentivise cross-border collaboration, the participation of stakeholders in Western Scandinavia in joint projects reveals common interests. Stakeholders from at least two countries have to be involved, but several local partners from the same country can join a given project. Analysing joint project participation can therefore shed some light on economic integration. While this collaboration might not be happening outside of incentivised EU programmes, no joint project participation would indicate that even in an incentivised setting, collaboration and common interests are low. In contrast, as Norway has to provide its own financing, its participation in projects can indicate strong interests that have the potential to be carried on outside the Interreg framework.

Cross-border collaboration within the Interreg ÖKS programme reveals a divide of Western Scandinavia into north and south. An early study of Rocha Medeiros (2009) analysed the spatial impacts in the cross-border regions of Norway and Sweden. He identifies Oslo, Gothenburg and Malmö as the main cities in a polycentric network in Western Scandinavia with potentially strong economic relations and functional complementarities between Oslo and Gothenburg; no direct complementarities are found in the case of the cities located between those two cities. Moreover, while the study highlighted potential complementarities between Gothenburg and Malmö, it found no obvious links between Oslo and Malmö. Using data for the finished programme period of 2007-13, Figure 1.18 depicts the projects of the ÖKS where at least two partners from different TL3 regions have participated.[6] Infrastructure and business development projects, such as "COINCO" or "Rekreative ruter", are well-represented throughout Western Scandinavia, with at least one stakeholder in each TL3 region. This highlights the focus of the different parts of Western Scandinavia to establish themselves as a single megaregion and to improve the infrastructure network. Other projects, such as the "STRAKKS" project that focuses on the attractiveness of cities, are concentrated only in the Norwegian part of Western Scandinavia. Reversely, the "Gateway" project is only concentrated in the south of Western Scandinavia. Participation in joint projects therefore points to a division of Western Scandinavia into a northern part (consisting of Oslo, Akershus and Østfold) and a southern part (consisting of Skåne and Halland). The region of Västra Götaland, located within the centre of Western Scandinavia, collaborates with one or the other depending on the project, and serves as an anchor region that connects the north and the south.

Potential complementarities in Western Scandinavia that could be used to foster collaboration are emerging with respect to sustainable growth strategies that focus on creating a low-carbon economy (see Chapter 2). Important steps forward have been taken in the current programming period 2014-20 of the Interreg IVA-ÖKS. As the current programming period is still open for submitting project proposals, the total number of registered projects (32 at the beginning of 2017) is too low to analyse project collaboration on a large scale at the moment. There are, however, some good examples that highlight recent developments towards engagement across regions within Western Scandinavia. For example, with a total budget of EUR 12 million, "BioGas 2020" is one of the largest projects so far, involving 35 partners in Denmark, Norway and Sweden. The project aims to increase co-operation in the biogas industry and to encourage investment in the sector. The project leader is located in the Innovatum Science Park in Trollhättan in West Sweden, and partners are, among others, distributed across municipalities in Skåne, Østfold and Oslo. Within the project, a biogas platform should be provided and engage a large number of partnerships, it also provides tools, pilots and tests (Business Region Göteborg, Region Halland and Västra Götlandsregionen, 2017; Västra Götlandsregionen, 2017). As such, the project might serve as a starting point to further engage in the biogas sector within the regions of Western Scandinavia and strengthen knowledge-sharing and support further collaboration (see Chapter 2 for a detailed discussion).

Figure 1.18. **Programme participation in Interreg IV A – Öresund-Kattegat-Skagerrak**

Participation of stakeholders within Western Scandinavia, by TL3 region and project, 2007-13



Notes: Highlights indicate project leader (light blue) and main leader in Norway (dark blue). Same numbers indicate same project. Only projects with at least two participants from two different TL3 regions within Western Scandninavia are depicted. The larger the circle, the higher the number of joint projects.
Source: Own elaboration based on Interreg IV A – Öresund-Kattegat-Skagerrak (Interreg IV A, 2017), Projektbank 2007-2013, http://interreg-oks.eu/webdav/files/gamla-projektbanken/se/Menu/Projektbank+2007-2013.html (accessed in May 2017).

Research infrastructure and collaboration within Western Scandinavia

Western Scandinavia hosts several universities, research parks and incubators that could benefit from greater integration. When including Copenhagen, the corridor has 29 universities, which bring together around 260 000 students and 14 000 researchers

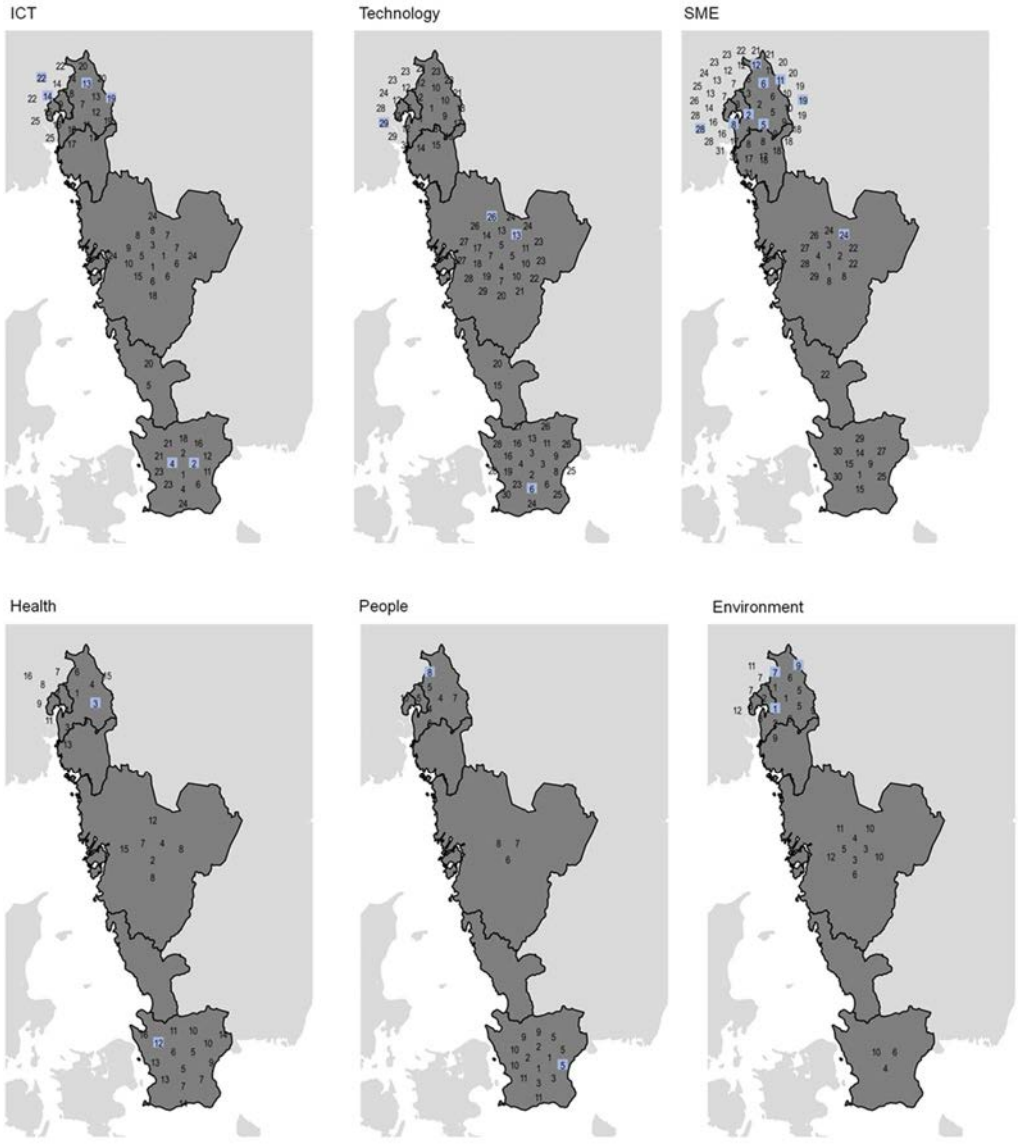
(Region Skåne, 2014). When it comes to assessing the degree of integration in the megaregion, students are an interesting population group to examine as they tend to be very mobile. Exchange programmes during the course of studies can help forge relationships that influence economic and research linkages in later stages of their career. Although Western Scandinavia hosts several higher education institutions that have a similar specialisation and are also competitive at an international scale, there seems to be only little exchange of students. For example, the University of Lund ranked in the top 100 universities worldwide according to the Times Higher Education Ranking (2016), but it registered less than 80 students with Norwegian nationality in the academic year 2015/16. The University of Gothenburg and the University of Oslo both rank in the top 100 in the field of clinical, pre-clinical and health – still, there were only about 70 students with Norwegian nationality at the University of Gothenburg in the year 2015/16. In comparison, the exchange of Norwegians towards Denmark is significantly higher. About 750 Norwegians were registered as students at Copenhagen Business School in the year 2014/15 (Senter for internasjonalisering av utdanning, 2016).

Western Scandinavia hosts several leading research and higher education institutions, and its well-developed cluster structure suggests good potential for stronger collaboration. First, regarding university specialisation, the three largest universities in Western Scandinavia – the University of Oslo, the University of Gothenburg and the University of Lund – as well as the University of Copenhagen all rank high in the field of health and life sciences (Times Higher Education Ranking, 2016). Moreover, life science clusters in Skåne and Gothenburg, as well as health clusters in Oslo, could provide a common ground for collaboration. Research co-operations within Western Scandinavia (proxied by funding under the 7th Framework Programme of the European Union's Research and Innovation Programme) are displayed in Figure 1.19. In contrast to participation in the Interreg Öresund-Kattegat-Skagerrak, there are several instances of collaboration between the northern and the southern parts of Western Scandinavia, which mainly depict connections between the University of Oslo and the University of Lund. While Gothenburg has a slightly different profile with its specialisation in the manufacturing sector (see Chapter 4 for more detailed discussion), there is still some joint participation in projects focusing on health.

Existing clusters in Western Scandinavia could be strengthened by better identifying and utilising synergies among them. Total programme participation in the 7th Framework Programme indicates the presence of clusters in ICT, SMEs, health and the environment in several parts of Western Scandinavia – mainly concentrated around the university infrastructure. While participating institutions in different sectors do cluster within the regions of Western Scandinavia, interactions **between** these clusters are often limited. Instead, research co-operation is undertaken with partners in the rest of Norway, Sweden or internationally. Possible synergies across the existing clusters in Western Scandinavia could be particularly enhanced with respect to sustainable development. For example, there is a concentration of renewable energy and environmental technology networks in the Norwegian part of Western Scandinavia; the Gothenburg region hosts the Swedish chemical and material cluster; and a network of environmental technology companies – the Sustainable Business Hub – is located in Skåne (Oxford Research, 2014).

Figure 1.19. **Participation in the EU 7th Framework Programme, 2007-13**

Participation of stakeholders within Western Scandinavia, by TL3 region and project



Notes: Highlighted numbers indicate project co-ordinators. Same number indicates participation in the same project. Only projects with at least two participants from two different TL3 regions are depicted. The amount of numbers within a given TL3 region depicts the number of joint projects within Western Scandinavia.
Source: Own elaboration, based on European Union (2014), "CORDIS – EU research projects under FP7 (2007-2013) – Organisations", http://cordis.europa.eu/data/fp7org201504.xlsx; European Union (2013), "CORDIS – EU research projects under FP7 (2007-2013) – Programmes", http://cordis.europa.eu/data/cordisfp7programmes.csv.

Economic growth can emerge not only from complementarities, but also from related variety. While complementarities imply that one activity is required to make another one function well, they are not limited to one sector. Rather, different sectors could benefit from knowledge diffusion through greater collaboration in terms of related

variety. Thus, when different sectors are sufficiently related, existing knowledge in one sector can create benefits in the other through spillovers, thereby stimulating the creation of new technologies, products and services that are harder for others to replicate as they lack this joint expertise. For example, the strong automobile sector in the Gothenburg area already benefits from co-operation with the Innovation Centre of the Chinese automobile manufacturer Geely, the safety company Autoliv and the ICT company Volvo IT to advance autonomous driving. Moreover, there is increasing evidence that new industries are deeply rooted in related activities that are present in a region and set in motion a process of regional branching (see, for example, Asheim, Boschma and Cooke [2011] or Boschma and Frenken [2011] for a literature review). Extending the scope of collaboration in Western Scandinavia to include Copenhagen could help reap further complementarities. According to a recent study on the intercity connectivity networks of financial and other business service firms and ICT service firms based on the Nordic capital regions, there is still a rather hierarchical urban system within the Nordic countries, but the capital regions such as Oslo and Copenhagen are also horizontally interconnected through transnational business networks (Schmitt and Smas, 2012a; 2012b).

Cultural linkages

Western Scandinavia is characterised by a dynamic cultural sector, active participation in society and a common focus on quality of life. Historical ties have resulted in a similar culture and language barriers are relatively low. The number of overnight stays and secondary homes in West Sweden that are owned by Norwegians indicate cultural linkages, highlighting not only lower costs of living but also the attractiveness of the Swedish part of Western Scandinavia (see Chapter 4). More than 40% of the holiday homes in Sweden that are owned by Norwegians are located in the Swedish part of Western Scandinavia. Most of them are located in Västra Götaland in proximity to the national border (Table 1.6). For example, Norwegians own about 1 500 holiday homes in Strömstad and about 1 200 in Tanum, both of which are municipalities bordering Norway (Statistics Sweden, 2017b).

Table 1.6. **Number of holiday homes owned by natural persons in 2016**

By foreign nationality

	Total number of holiday homes	Of which those with owners from			Swedish expatriated living in Norway
		Denmark	Norway	Other or unknown country	
Skåne	41 111	2 737	84	934	114
Halland	21 168	1 214	39	590	66
Västra Götaland	74 662	582	4 698	2 156	962
Western Scandinavia (Swedish part)	136 941	4 533	4 821	3 680	1 142
Total Sweden	576 806	11 025	11 711	14 756	2 706

Source: Statistics Sweden (2017b), "Number of holiday homes owned by natural persons in 2016".

Attractive landscapes and urban amenities paired with cultural events have a strong potential to attract visitors from within and outside Western Scandinavia. In 2014, about one in four holiday homes located in Sweden was within the Swedish part of Western Scandinavia. Most of those were owned by Swedish nationals (90%). While

only a small share of those are Swedish expatriates, about 40% of the 2 706 expatriates living in Norway own a holiday home in the Swedish part of Western Scandinavia (Table 1.6). Western Scandinavia further attracts international and local visitors through the many cultural events that are regularly organised in different parts of the megaregion. For example, the Gothenburg book fair is Europe's second-largest book fair and attracted around 100 000 visitors in 2016. Other recurrent, large-scale events include Gothenburg's Culture Festival (1.5 million visits in 2016) and the largest film festival of the Nordic countries (attracting around 30 000 visitors). In addition, sport events in the Swedish part of Western Scandinavia include the largest youth football and handball tournaments in the world (Gothenburg region), the Gothenburg half marathon, the tennis events "SkiStar Swedish Open" and "Ericsson Open" (Skåne), or the Nordea Masters golf tournament (Skåne), to name but a few (Business Region Göteborg, Region Halland and Västra Götlandsregionen [2017] and information provided to the OECD by the local team of Skåne).

Large-scale cultural and sporting events can initiate closer co-operation among local and regional actors in Western Scandinavia. These types of events have often proven to spark collaborative efforts in an OECD context (see Chapter 4). While the tourism industry is growing fast in Western Scandinavia, there is no joint strategy to leverage the existing large-scale events to promote the attractiveness of the whole megaregion. Infrastructure investments that would allow tourists to easily explore all parts of Western Scandinavia could not only attract more international visitors to the region, but also encourage residents within Western Scandinavia to explore their surrounding region and support the shaping of a common identity. For example, a single tourism pass covering all of Western Scandinavia that provides discounts on train tickets and on tickets to main cultural attractions could stimulate exchanges within the megaregion (and also provide a tool for data collection). Such an approach was successfully followed in the Nuremberg metropolitan region in Germany, where targeted support to the development of internal tourism helped residents rediscover their region and created a sense of common identity in the entire region (OECD, 2013). A joint branding and marketing strategy can not only help attract visitors into the area, but also increase the awareness of the local assets of Western Scandinavia for high-skilled individuals and firms and positively influence their location decision (see Chapter 4).

Notes

1. For example, the proximity between Malmö and Copenhagen resulted in fairly well-developed cross-border railway connections via commuter trains that run more frequently then many domestic lines.

2. It should, however, be noted that changes in the Norwegian data collection methodology for the national innovation survey changed from 2016 to 2017. The Norwegian R&D and innovation surveys, which until 2016 used to be run in combination, were run as separate surveys in Norway in 2017. This boosted the enterprise innovation performance measures in 2017, as the reporting firms no longer merely report on R&D-based innovations as they tended to do in the innovation surveys of previous years. The upward shift in the Regional Innovation System classification of (all) Norwegian counties from 2016 to 2017 is thus more likely to be the result of changes to the data collection methods than a result of actual improved performances.

3. Twenty-foot equivalent unit (TEU) is a standard unit to count containers and their capacity. One 20-foot ISO container equals 1 TEU.

4. Import and export information was provided to the OECD by the local team of Västra Götaland and Skåne and is based on unpublished information of the Unit for International Trade Statistics in Statistics Sweden.

5. Differences to local labour market areas defined by Statistics Sweden arise due to a different approach and thresholds used in the OECD approach to identify functional urban areas. Thus, Statistics Sweden classifies local centres as municipalities where at least 80% of the working population does not commute to another municipality. If, in addition, the largest commuting stream to any other municipality is less than 7.5%, the municipality was classified as an independent local centre. In a second step, every dependent municipality was allocated to the local centre that received the largest amount of commuters (www.scb.se/statistik/_publikationer/AM0207_2009A01_BR_AM95BR1001.pdf).

6. Since the current programming period Horizon 2020 is still running and accepting project proposals, there is a much lower number of joint projects recorded so far (32 projects as of January 2017 compared to 128 projects in the 2007-13 period). Therefore, the closed programming period is used to capture a more detailed picture.

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Annex 1.A. The OECD territorial classification and 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 (TL3) is composed of micro-regions. In addition, OECD small regions (TL3) 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 be misleading. 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 as 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 million 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.B. Functional urban areas

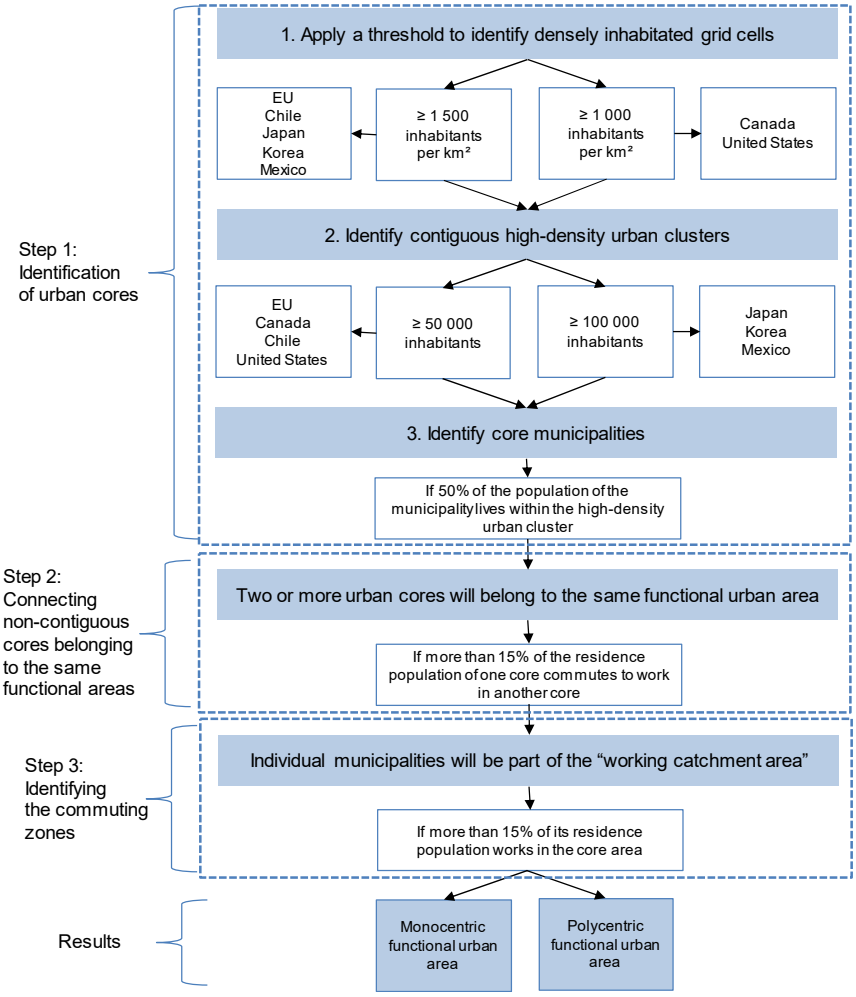
The OECD, together with the European Commission, defined an approach for classifying urban areas based on functional integration rather than administrative boundaries that allows a consistent analysis of urban dynamics, growth patterns and economic interaction with surrounding areas over time. Functional urban areas that have a population of 500 000 or more are classified as metropolitan areas.

This method, illustrated in Figure 1.B1, takes into account population density and commuting between urban areas in order to define the boundaries of cities that correspond to functional entities rather than administrative ones (see OECD [2012]). An urban core consists of a high-density cluster of contiguous grid cells of 1 km² with a density of at least 1 500 inhabitants/km². A lower threshold of 1 000 people/km² is applied to Canada and the United States, where several metropolitan areas develop in a less compact manner. In Mexico, as well as Japan and Korea, small clusters that host 100 000 people or less are dropped, whereas in Europe, Canada, Chile and the United States small clusters are defined as inhabiting 50 000 people or less. A municipality is defined as being part of an urban core if at least 50% of the population of the municipality lives within the urban cluster.

Two urban cores are considered integrated and part of the same metropolitan area if more than 15% of the working residence population of any of the cores commutes to work in the other core.

Commuting zones are defined as all municipalities with at least 15% of their working residence population working in a certain urban core. Municipalities surrounded by a single functional urban area are included and non-contiguous municipalities are dropped.

Figure 1.B1. **Procedure for defining functional urban areas in OECD countries**



Source: OECD (2012), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, http://dx.doi.org/10.1787/9789264174108-en.

Reference

OECD (2012), *Redefining "Urban": A New Way to Measure Metropolitan Areas*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264174108-en.

Chapter 2. Building more effective governance in Western Scandinavia

This chapter examines how governance tools could support more integrated development in Western Scandinavia. It is organised in three parts. First, it maps the institutional landscape in Western Scandinavia. Second, it discusses opportunities and challenges for greater collaboration among the local partners. Third, it offers a set of insights that could help inform and advance the agenda of a stronger, more integrated megaregion.

Key findings and recommendations

- The various parts of Western Scandinavia share a Nordic model of the "Good Life", which could offer a natural common ground for stronger co-operation, greater international attractiveness and higher quality of life. Such co-operation is not about creating a new administrative apparatus for a pre-determined perimeter, but rather about capitalising on existing forces to work for a better future together. In its current setting, however, Western Scandinavia is not fully equipped to work effectively as a megaregion, notably considering the lack of cross-border transport planning at the national level. This chapter calls on both local and national stakeholders in Western Scandinavia to seize the benefits of closer co-operation and take concrete action.
- Western Scandinavia operates in a complex, versatile and crowded institutional landscape. Both in Norway and in Sweden, regional and/or municipal reforms have been implemented recently or are underway, shifting powers across levels of government and calling for institutional and financial adjustments. The geography of governance in Western Scandinavia tends to reflect its current functional geography, with good collaboration between the regional and municipal levels within each of the three large metropolitan areas (around Oslo, Gothenburg and Malmö).
- Western Scandinavia benefits from a long history of Nordic co-operation, which has underpinned the emergence of collaborative networks at various interregional scales and in major Interreg programmes and projects. However, many of these initiatives focus on knowledge sharing and have resulted in modest concrete outcomes. The long travel times involved in the coastal corridor are compounded by the lack of modern and efficient rail infrastructure. In this geography, combined with typical obstacles to cross-border integration, Western Scandinavia currently lacks a clear unifying vision for development.
- Key recommendations to empower more effective governance in Western Scandinavia revolve around finding common answers to four basic questions:
  - Strengthening the evidence base for collaboration: the "why". While Western Scandinavia mostly functions around its three large metropolitan areas, signs of growing interlinkages between them underline their potential to work closer together as a megaregion. Steps towards better tapping this potential include improving data collection and analysis on the "Good Life" across Western Scandinavia, as well as conducting a full cost-benefit analysis on the investments required to ensure faster and more sustainable transport.
  - Identifying and implementing a shared project: the "what". Drawing on existing collaborative networks, Western Scandinavia could build a roadmap for collective action around concrete key themes, which could include, for example: liveability, culture and tourism; climate and sustainable urban futures; health and well-being; integrated labour markets; sustainable and green transport; the preservation of a sustainable marine and maritime environment; and the transition towards a bioeconomy.
  - Improving horizontal and vertical co-ordination of public investment: the "how". Promoting integrated development in Western Scandinavia requires effective mechanisms for aligning investment goals and priorities across levels of government. More specifically, the creation of a Swedish-Norwegian

transport commission and a Swedish-Danish transport commission, for example, could help implement a better co-ordinated approach to cross-border transport planning.

- Bringing all stakeholders on board and investing in a branding strategy: the "who". Western Scandinavia has the distinct advantage of hosting several leading research and higher education institutions, which could collectively help raise the international profile of the potential megaregion and drive further connectivity. It is essential to engage all relevant actors in defining a clearly identifiable "brand" for Western Scandinavia, developing a sense of ownership and monitoring progress towards the achievement of collective goals.

Introduction

"Western Scandinavia" seeks to build a network of mutually complementary territories along the coast joining up Oslo, Gothenburg and Malmö, by leveraging its combined strengths as an internationally competitive and attractive coastal megaregion (see Chapter 1). Yet, simply adding up individual assets does not automatically lead to the emergence of a megaregion. A 500 kilometre-long coast, a population of 5 million and an aggregated gross domestic product (GDP) of USD 200 billion may only have a limited impact if no effective governance is in place to help local partners identify a common goal: leverage their combined spending power and implement their action plans together. Conversely, governance alone can do little to empower a territory where there is no compelling economic, social and institutional rationale for collaboration – a political construct on its own is bound to hit its limits soon enough. To accomplish its objective of becoming a strong and attractive megaregion in the global arena, Western Scandinavia needs to work on achieving a clear agreement about its own vision and collectively define the concrete steps to take.

This chapter is organised in three parts. First, it maps the institutional landscape in Western Scandinavia. Second, it discusses opportunities and challenges to make collaboration more effective and fruitful. Third, it offers a set of insights on concrete steps that could help build a stronger, more integrated megaregion.

Institutional mapping in Western Scandinavia

Western Scandinavia is operating in a rather complex, versatile and crowded institutional landscape. This section reviews two main features of the institutional environment around Western Scandinavia that shape its capacity to perform as an integrated megaregion:

- A national background of regional and municipal reforms in Norway and Sweden (as well as Denmark), which generally aim to create fewer, stronger subnational governments in the near future, but inevitably generate uncertainty in the transition period;
- Current scales of collaboration: 1) between the regional and municipal levels: several instances of successful co-operation among regional and municipal authorities within each of the three large regions (Oslo/Akershus/Østfold, West Sweden, Skåne); 2) between the national and regional levels: innovative examples of national-regional co-financing for specific policies (e.g. urban transport, cultural policy).

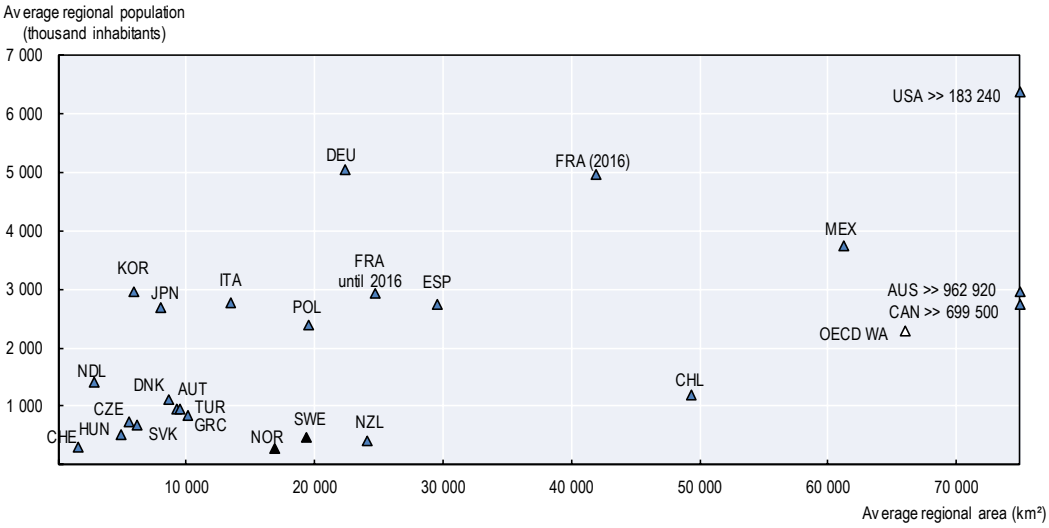
Regional and municipal reforms are shifting powers in Norway and Sweden

The territories forming Western Scandinavia have different sizes and financial resources compared to their respective national averages and OECD averages. Western Scandinavia brings together the Norwegian capital and the second- and third-largest Swedish cities. As discussed in Chapter 1, while these individual regions are large (in population size) in their national context, they remain relatively small in the international arena – in fact, none of them gets close to the size of the average OECD region. However, when considered altogether, Western Scandinavia is almost twice as large as the typical OECD region – achieving a potential critical mass of more than 4.8 million people, nearly double the 2.3 million OECD average (Table 2.1 and Figure 2.1).

Table 2.1. **Regions of Western Scandinavia in a national and OECD context: The potential to achieve a critical mass together**

	Oslo	Akershus	Østfold	Average regions Norway	Västra Götaland	Halland	Skåne	Average regions Sweden	Total Western Scandinavia	Average regions OECD
Population (2016)	657 478	594 209	289 823	285 389	1 648 680	314 784	1 303 630	461 719	4 808 604	2 279 843
Area (km²)	426	4 579	3 889	16 903	23 797	5 428	10 969	19 397	49 088	66 026

Figure 2.1. **Average regional size in OECD countries**



Note: OECD WA: OECD weighted average.
Source: OECD (2017c), *Multi-Level Governance Reforms: Overview of OECD Country Experiences*, http://dx.doi.org/10.1787/9789264272866-en.

Ongoing reforms in Norway and Sweden are expected to shift further regional and municipal boundaries (and possibly competencies):

In **Norway**, since the current government (Conservative/Progress party) first took office in October 2013, the objective has been to streamline the regional (county) and municipal levels to improve the efficiency of public service delivery. Regarding the regional level, a government bill was presented to the parliament in April 2017 and put forward a proposal to reduce the number of counties from 19 to 10, plus Oslo. This includes a proposed merger of the Østfold, Akershus and Buskerud County Councils into a single new administrative regional entity surrounding Oslo. At the same time, in June 2017, the parliament approved the government's municipal reform, set to reduce the number of municipalities from 428 to 354. In the Oslo/Akershus/Østfold territory, the number of municipalities will be reduced from 41 to 33. Municipal mergers are a combination of voluntary and compulsory ones, and include some voluntary municipal mergers across county boundaries (both Østfold/Akershus and Akershus/Buskerud borders). Both regional and municipal reforms are scheduled to go into full effect from 1 January 2020. The government has also proposed revisions in the distribution of responsibilities. Some responsibilities may be decentralised from the national government to county councils (e.g. cultural heritage; funding of selected cultural institutions and events; procurement of domestic aviation services), while others will be decentralised

from county councils to municipalities (e.g. dental care, conditional transfer of public transport to some metropolitan municipalities, and additional welfare services such as child care and social housing). At the time of writing, the precise range of new responsibilities remains to be determined, subject to political negotiations. A government expert committee was appointed in mid-June 2017 with the task of proposing a revised set of responsibilities for the reformed county level. The committee's proposals are scheduled to be reported by 1 February 2018.

Sweden's multi-level governance structure, which traditionally follows an "hourglass" shape with strong upper (central) and lower (municipal) tiers, and a slimmer middle (county) tier, appears to be rounding out, as more county councils have gained regional development responsibilities (OECD, 2017f). Until recently, Sweden was exploring the possibility of a significant regional reform. In March 2015, the government appointed a committee in charge of investigating larger regions that would match functional geographies. In 2016, a proposal to reduce the number of regions from 21 to 6 was presented, with a possibility to start mergers in 2019 and complete them by 2023. This reform is no longer on the table for discussion. A new parliamentary committee is currently investigating ways to improve the capacity of municipalities to meet new societal needs, possibly through a reform of municipal boundaries and responsibilities.

The momentum for regional reforms in Norway and Sweden (until 2016) is in line with the overall trend in many OECD countries, where the creation of a regional level has often been followed by a process of upscaling and reinforcement. In both Norway and Sweden, regional boundaries date as far back as the 17th century, thereby drawing the second-oldest regional map in the OECD after Austria (Table 2.3).[1] Such historic regional borders therefore no longer necessarily match today's functional geography. It remains unclear to what extent such reforms would affect regional and local financial resources and expenditures compared to OECD trends (Figure 2.2). Both in Norway and in Sweden, the government's current search for cost-efficient public service delivery is quite similar to the rationale at work in several OECD countries, such as Finland, France and New Zealand, where reforms have aimed to achieve a larger critical mass and to simplify public administration (Box 2.1).

Table 2.2. **Overview of multi-level governance frameworks in Norway, Sweden and Denmark**

	Norway	Sweden	Denmark
Population	5.3 million	10 million	5.7 million
Overall multi-level governance framework and political timeline	Both municipal and regional reforms underway to create fewer and larger entities. Last national elections in September 2017. Last local elections in 2015, next elections in 2019.	"Hourglass"-shaped structure with strong upper (central) and lower (municipal) tiers, and a slimmer middle (county) tier appears to be rounding out, as a result of an experimental regional reform in 1999 that reshaped the map and gave regional development responsibilities to two pilot counties (Västra Götaland and Skåne), then extended the scheme to more counties including Halland (14 in 2017). No hierarchical relationship between regions and municipalities. Last national and local elections in 2014, next elections in September 2018.	Major reform in 2007, with regional and municipal mergers. No hierarchical relationship between regions and municipalities. Last national elections in 2015, next elections in 2019. Last local elections in November 2017.
Municipal level	Several mergers were implemented over time and the last voluntary merger process was launched in 2014. A committee of experts was appointed and the government has announced its plan to reduce the number of municipalities from 428 to 354 by 2020.Municipal functions include education, health and social care, local roads, utilities, local town planning, environmental protection, culture, firefighting, etc.	290 municipalities, with a long tradition of inter-municipal collaboration as an alternative to municipal mergers. New Parliamentary Committee currently investigating ways to strengthen the capacity of municipalities to meet new societal needs. Municipalities have wide-ranging responsibilities, including social protection, elderly care, education and vocational training, planning and building issues, healthcare (prevention), environmental protection, utilities, local roads and public transport, leisure and culture, housing, rescue services, etc.	Compulsory merger process reduced the number of municipalities from 271 to 98. Municipalities gained responsibilities and are now in charge of pre-school; primary, lower secondary and specialised education; part of healthcare (e.g. long-term elderly care, prevention and rehabilitation); social welfare; support services; sports and culture; spatial planning; nature and environment; job centres; integration of immigrants; local roads, etc.
Regional level	Decision to reduce number of counties from 19 to 10 plus Oslo. County responsibilities include regional planning and development, roads and public transport, upper-secondary education, dental health, culture, environmental protection, etc.	21 counties (including one municipality [Gotland] with county council responsibilities). Sweden was exploring the possibility of a significant regional reform that would have reduced the number of counties from 21 to 6, but this reform has been abandoned. County responsibilities include healthcare (primary care, hospitals, ambulatory care, dental care, medical services), local and regional public transport, and culture. Many county councils (14 in 2017) also have regional development responsibilities. County administrative boards represent the national government in each county and are in charge of co-ordinating national government activities in the counties. In four counties, the boards are also responsible for regional development.	Regional reform abolished the 14 counties and replaced them with 5 regions with no taxing powers. Regions are in charge of healthcare services, regional development, regional transport and environment. However, it is reported that the Danish government aims to remove regions from the spatial planning horizon.

Table 2.3. **Regional and intermediate levels of government in OECD countries**

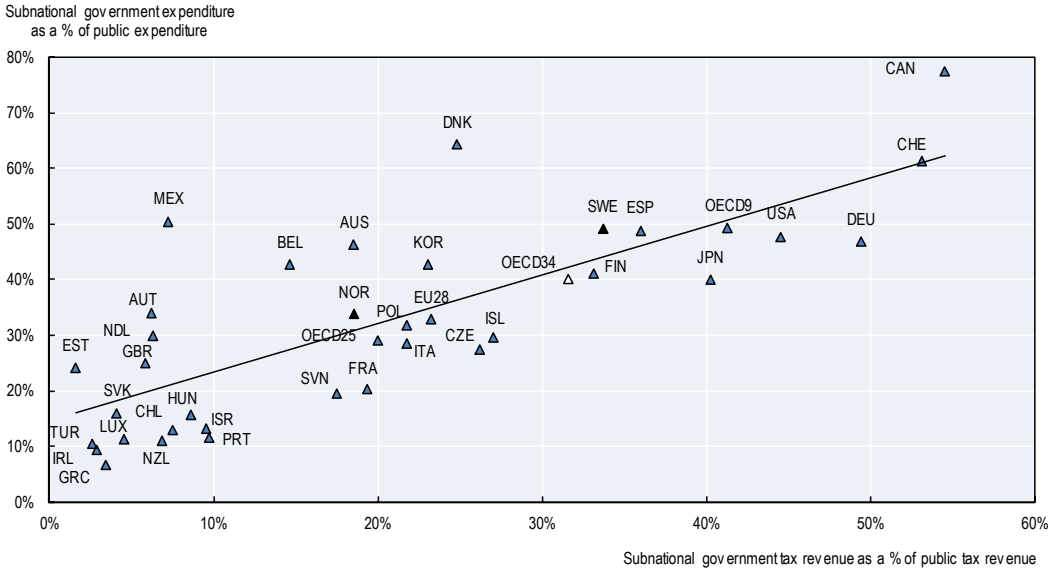
(As of 2016)	Intermediary and regional levels	Year of creation	Recent reforms – Notes
Federal countries			
Australia	6 states and 2 territories	1901	
Austria	9 *Bundesländer*	Middle Ages (16th century)	
Belgium	10 provinces	1830	Role of provinces being revised by their respective region.
	3 regions and 3 language communities	1970	Six reforms from 1970 to 2011, transforming Belgium into a federal county.
Canada	10 provinces and 3 territories	1867-1999	
Germany	Intermediary: 402 districts (295 rural districts and 107 district-free cities)	Since the 16th century	
	Regional: 16 *Länder*	1949 and 1990	2006 and 2009 federal reforms.
Mexico	31 states and Mexico City	1824	Fiscal and regulatory decentralisation since late 1980s.
Spain	Intermediary: 50 provinces	1833	Since 2013, some municipal responsibilities (less than 20 000 inhabitants) transferred to provinces.
	Regional: 17 autonomous communities	1978	Each region has its own autonomous status. Specific "foral" status for Basque Country and Navarra.
Switzerland	26 cantons	Middle Ages	
United States	Intermediary: 3 031 counties	Since the 1630s	
	Regional: 50 states	1776/81 (original 13)	
Unitary countries			
Chile	15 regions	2009	Regional councils directly elected since 2013; regional executives to be elected directly from 2017.
Czech Republic	14 regions (including the city of Prague)	2000	
Denmark	5 regions	2007	2007 regional reform merged 13 counties to form 5 regions without taxing powers.
Finland	1 autonomous region (island region of Åland)		A reform is under way to set-up 18 self-governing regions.
France	Intermediary: 101 *départements*	1791	Discussions on the future of the departments postponed to 2020.
	Regional: 18 regions	1982	Thirteen regions instead of 22 in mainland France since the 2015 reform. They received additional responsibilities.
Greece	13 regions	2011	Created by the Kallikratis reform as self-governing regions from previous 54 prefectures.
Hungary	19 counties	Restored in 1990	Counties lost several responsibilities since the 2012 constitutional reform and the 2011 Law on Local Governments.
Italy	Intermediary: 107 provinces and metropolitan cities	1802-61	Provinces being transformed into inter-municipal bodies and creation of metropolitan cities (2014 act). Constitutional reform underway to abolish the provinces.
	Regional: 20 regions + 2 autonomous provinces	1948 and 1970	Five regions with special status and 15 with ordinary status, 2 autonomous provinces. Constitutional reform is underway.

Table 2.3. **Regional and intermediate levels of government in OECD countries** (*continued*)

(As of 2016)	Intermediary and regional levels	Year of creation	Recent reforms – Notes
Japan	47 prefectures	1871	One metropolitan district (Tokyo), two urban prefectures (Kyoto and Osaka), one "district" or "circuit" (Hokkaidō) and rural prefectures. Regional reform discussed for many years (mergers – *doshusei*).
Korea	17 regional-level entities	1991	Nine provinces, six metropolitan cities, Sejong Self-governing City and Seoul capital city.
Netherlands	12 provinces	Before 1848	Regional reform envisaged for many years (mergers). Last attempt in 2014 failed in the parliament.
New Zealand	11 regional councils	1989	
Norway	**19 counties**	**1660s**	**A regional reform is underway (mergers and new distribution of responsibilities).**
Poland	Intermediary: 380 counties	Reinstated in 1999	Counties include 314 counties and 66 cities that have a county status.
	Regional: 16 regions	1999	A law passed in 2009 reinforced regional responsibilities.
Portugal	2 autonomous regions of Azores and Madeira	1976	Creation of eight self-governing regions in continental Portugal rejected by a referendum held in 1998.
Slovak Republic	8 higher territorial units	2001	
Sweden	**21 county councils**	**1634 initially, 1999 reform**	**County councils have different types of status and responsibilities. Reform in 1999 reduced the number of counties from 24 to 21 (creation of Västra Götaland and Skåne). Further regional mergers were investigated in 2015-16 but were eventually dropped.**
Turkey	81 entities	2005	Since 2012 reform, 51 self-governing special provincial administrations and 30 metropolitan municipalities.
United Kingdom	Intermediary : 27 county councils (England)	1889	
	Northern Ireland, Scotland and Wales	1998	Project of regionalisation in England suspended indefinitely following negative results of 2004 referendum.

Source: adapted from OECD (2017c), *Multi-Level Governance Reforms: Overview of OECD Country Experiences*, http://dx.doi.org/10.1787/9789264272866-en.

Figure 2.2. **Share of subnational governments in total tax revenue and total expenditure in OECD countries, 2014**



Note: OECD 9: federal countries. OECD 25: unitary countries. Latvia is not included due to the lack of data availability.
Source: Based on data from OECD (2016e), "Subnational governments in OECD countries: Key data (2016 edition)", https://www.oecd.org/cfe/regional-policy/Subnational-governments-in-OECD-Countries-Key-Data-2016.pdf.

Combining the regional reform with a municipal reform, as in the case of Norway, has sometimes proven to be an effective way to facilitate the reform process in other OECD countries, such as the ones mentioned above. Opposition to a controversial reform may be reduced by bundling it with a more popular one, as stakeholders who stand to lose from one reform may be able to gain from the other. In Norway, the principle of subsidiarity has placed a heavy burden on municipalities, which are relatively small by international standards and have struggled to keep up with the magnitude of their tasks (Table 2.4). Following the recommendations of the *ad hoc* expert committee, in June 2017, the parliament approved the government's proposal to reduce the number of municipalities from 428 to 354 by 2020. In the Norwegian part of Western Scandinavia this implies that the number of municipalities will decrease from 41 to 33. The approach to municipal mergers is a combination of voluntary and forced. Voluntary mergers include some that cut across county boundaries (Østfold/Akershus and Akershus/Buskerud). Sweden has established a parliamentary committee in charge of investigating ways to strengthen the capacity of municipalities to meet new societal needs, which is scheduled to submit its proposal by 2019. In this respect, OECD experience suggests that identifying an optimal municipal size or evaluating the economic benefits of municipal mergers remains a complex task, with mixed or inconclusive evidence (Box 2.2). The mere number or size of municipalities generally contains no information on the existing level of co-operation or the actual need for co-operation. Changing administrative borders also has social and political implications that may not be declared goals, but latent political agendas – since territorial reforms can reduce the power of a strong opposition party and affect political majorities (as in the example of the Wien-Umgebung County in Austria in Box 2.3).

Box 2.1. Regional reforms in OECD countries: The examples of Finland, France and New Zealand

Finland

The regional reform in Finland aims to achieve greater efficiency in public service delivery in order to bridge the EUR 3 billion sustainability gap, by up-sizing and reducing costs. Several scenarios were considered, ranging from 5 (a figure based on several economic and social criteria) to 19 regions. The approved project establishes 18 new regions, which will be based on the current map of statutory joint municipal boards (operating as regional development and planning authorities). The 18 self-governing regions will have directly elected councillors and are scheduled to be created in January 2019.

France

In January 2016, the number of regions in mainland France decreased from 22 to 13. A major objective of the French regional reform was to build more homogenous regions from a socio-economic point of view. Regional boundaries had been criticised since the creation of administrative regions in the 1950s. The main criterion for new regional boundaries was population size (new regions should have at least 2 million inhabitants). Regional surface areas were also taken into account, as well as the presence of a metropolitan city within the regional territory, economic performances and cultural cohesion. However, to avoid lengthy debates that could stall the reform process, regions were merged "block by block" without splitting departments. There are now 13 regions in mainland France instead of 22. Six regions remained unchanged (Île-de-France, Centre, Pays de la Loire, Bretagne, Corse, Provence-Alpes-Côte d'Azur) and there are seven new regions. The regional reform took place in a context of deteriorating public finances linked to the euro area crisis and pressure from European authorities to introduce structural reforms. It was implemented at the same time as significant cuts in transfers from the central government to local authorities and regions, already facing budgetary challenges. The introduction of the regional reform aims to consolidate public finances through savings and efficiency gains. Such gains are also expected to come from an institutional reform (clarification in the allocations of responsibilities between regions and departments, and abolition of the general clause of competence). A report submitted to the government in June 2014 found that EUR 5.7 billion were wasted each year due to overlaps and cross-flow of funds between subnational governments. Another report from April 2014 found that each region had, on average, 75 different bodies dedicated to economic development. The French central government has also started to adapt its own administration to the new regional map.

Box 2.1. **Regional reforms in OECD countries: The examples of Finland, France and New Zealand** (*continued*)

New Zealand

The Local Government Commission in charge of restructuring the organisation of local governments, which was established under the Local Government Act 2002, was not bound by the previous local structure. It could introduce drastic changes, such as splitting up some councils. The commission radically reformed the structure and functions of local governments. For this purpose, it relied on a set of "principles" enshrined in the Government Economic Statement (1987) and sent to local authorities for information and consultation. The previous 200 local authorities were replaced by 12 regional councils and 75 city and district councils (currently 11 regions and 67 city and district councils). A large number of special-purpose bodies was abolished (there were 800 general and special-purpose authorities initially). The restructuring process was very heterogeneous, with some local authorities remaining unchanged, while others were formed from the amalgamation of several small authorities, or by portions from larger authorities. Regional boundaries, in particular, were mainly based on the boundaries of drainage basins. However, the choice to disregard old communities may have been costly. Previous political structures often did not disappear but were transformed into boards or committees, which generated hostility and undermined the effectiveness of the reform. It has been argued that a more bottom-up approach would have garnered greater public support and helped maintain a closer connection with local communities.

Source: Adapted from OECD (2017c), *Multi-Level Governance Reforms: Overview of OECD Country Experiences*, http://dx.doi.org/10.1787/9789264272866-en.

Table 2.4. **Number and size of municipalities in the OECD, 2015-16**

	Number of municipal level entities	Average municipal size (number of inhabitants)	Median municipal size (number of inhabitants)	Average municipal area (km^2)	Percentage of municipalities with less than 2 000 inhabitants
Federal countries					
Mexico	2 457	45 740	12 730	797	13%
Australia	571	41 005	12 605	12 369	19%
Belgium	589	19 030	12 045	51	1%
United States	35 879	8 990	n.a.	249	69%
Canada	3 805	8 205	950	695	68%
Germany	11 092	7 320	1 710	32	54%
Spain	8 119	5 605	565	62	72%
Austria	2 100	4 090	1 790	39	55%
Switzerland	2 294	3 590	1 370	17	61%
Unitary countries					
Korea	228	224 440	146 520	436	0%
United Kingdom	389	166 060	132 240	623	0%
Ireland	31	149 530	122 900	2 206	0%
Japan	1 741	72 715	31 300	215	4%
New Zealand	67	68 590	32 400	3 954	1%
Denmark	98	58 155	42 850	438	1%
Turkey	1 397	53 940	8 595	550	7%
Chile	345	51 650	18 205	2 146	5%
Netherlands	390	43 540	26 515	86	1%
Sweden	**290**	**33 890**	**15 435**	**1 405**	**0%**
Greece	325	33 410	n.a.	403	n.a.
Portugal	308	33 400	14 380	299	2%
Israel	255	33 190	n.a.	85	3%
Finland	313	17 530	6 060	971	14%
Poland	2 478	15 530	7 540	126	1%
Norway	**428**	**12 185**	**4 715**	**711**	**22%**
Slovenia	212	9 730	4 730	95	12%
Italy	8 047	7 545	2 430	37	44%
Estonia	213	6 165	1 710	204	54%
Luxembourg	105	5 360	2 520	25	37%
Iceland	74	4 445	880	1 355	72%
Hungary	3 178	3 125	815	29	76%
France	35 885	1 855	435	16	86%
Slovak Republic	2 927	1 850	655	17	85%
Czech Republic	6 258	1 640	420	12	89%
OECD 34	**132 888**	**9 570**	**n.a.**	**251**	**31%**

Note: Countries are sorted in descending order of municipal population size.
Source: OECD (2017c), *Multi-Level Governance Reforms: Overview of OECD Country Experiences*, http://dx.doi.org/10.1787/9789264272866-en.

Box 2.2. Identifying an optimal municipal size and evaluating the benefits of municipal mergers: A difficult task

Is there an optimal municipal size?

Before even considering an optimal municipal size from an angle of democratic legitimacy, defining an optimal size from an economic point of view depends on numerous factors, such as: 1) the national context; 2) differences in the cost of public service delivery; 3) the nature of municipal responsibilities.

- Depending on the national context, a given population threshold in a given country can seem small or large. For example, the critical mass was estimated to be 3 000 residents in Luxemburg and 5 000-6 000 inhabitants in Estonia (per the recommendations that an administrative reform expert committee put forward in November 2015), but 10 000-20 000 residents in Norway (per the 2014 *ad hoc* expert committee appointed by the government), and 20 000 residents in Finland during the PARAS reform (only for primary healthcare and related services – compared with 50 000 residents for vocational education, for example). In the case of Finland, the methodology used to identify an optimal threshold was criticised and the legislation was changed in 2011 to include more diverse criteria.
- Costs of public service delivery can be shaped by geography (topography, remoteness and accessibility, etc.); demographic characteristics (density, socio-economic structure of population, ageing population); the general environment (urban or rural); and the economy (structure of local economy, municipal financial resources, etc.). Linguistic and/or cultural particularities may also be taken into account (e.g. in Estonia, Finland, Greece, Iceland, etc.).
- Regarding municipal responsibilities, the "functional" geography may differ from one public service to another (e.g. service areas for water supply are not the same as those for education). For example, in the United States, a wide variety of "special districts" (as opposed to general purpose local governments) provide a single public service (or a set of related public services) to the residents of a determined area.

How to evaluate the benefits of municipal mergers?

Many factors are at play:

- Whether the reform takes place in rural or urban areas, and merges homogenous or heterogeneous municipalities (e.g. in terms of size, public services, wages, financial autonomy). For example, the 1989 reform in New Zealand successfully enhanced the capacity and operational efficiency of large local governments, but negatively affected smaller councils (those with less than 20 000 residents) (McKinley, 1998).

Box 2.2. **Identifying an optimal municipal size and evaluating the benefits of municipal mergers: A difficult task** (*continued*)

- Whether the merger affects capital-intensive services (which require infrastructural investment and maintenance, such as water management or public transport) or labour-intensive services (such as policing, social services, education or healthcare). For example, still in New Zealand, a study by TBD Advisory in 2013 considered 70 local authorities and 16 distinct functions over five years, and found evidence of economies of scale only in 5 specific functions out of 16 (mostly large-scale capital investment), whereas it found diseconomies of scale for labour-intensive functions.

It may take several years after the reform has been implemented for savings to occur. The early stage of reforms may induce transition costs and a temporary rise in expenditure, due to the high costs of integrating operations in areas such as information systems or infrastructure development. In Japan, for example, there is evidence of wage inflation compared to pre-merger levels (Suganuma, 2006; Schmidt, 2009). In Denmark and Finland, free-riding behaviour by municipalities prior to municipal mergers has also been observed. The merger process created a temporary common pool problem because there is a delay between the initial decision about mergers and the actual mergers (Blom-Hansen, 2010).

Municipal mergers may also result in diseconomies of scale, especially in very small or very large new municipalities. In the case of Japan, the unit costs of local public services follow a U-shaped curve: they are high for the smallest municipalities, tend to decrease until around 120 000 residents, and increase again as municipalities grow beyond this threshold. In Finland, costs appear to be the lowest in the range of 20 000-40 000 residents. A literature review by Byrnes and Dollery (2002) reveals mixed results: only 8% of the reported studies found economies of scale, whereas 24% indicated diseconomies of scale, and 29% found evidence of both.

Besides economic efficiency considerations, another concern is that municipal mergers are not always democratically effective and may hinder accountability and democracy. There is a perception that people's voices (through public meetings, hearings, elections and direct contacts with officials) may be heard less than they were at the smaller municipal scale. Mergers are also sometimes seen as a threat to local identity and historical legacy, which raised a serious concern both in France and Japan.

Sources: Adapted from OECD (2017c), *Multi-Level Governance Reforms: Overview of OECD Country Experiences*, http://dx.doi.org/10.1787/9789264272866-en, based on Suganuma, S. (2006), "60% of mergers spawn oversized assemblies"; Schmidt, C. (2009), "The changing institutional framework for local democracy in Japan", www.fsjapan.uni-osnabrueck.de/media/Schmidt/Schmidt_Local_Democracy.pdf; Blom-Hansen, J. (2010), "Municipal amalgamations and common pool problems: The Danish local government reform in 2007", http://dx.doi.org/10.1111/j.1467-9477.2009.00239.x; Byrnes, J. and B. Dollery (2002), "Do economies of scale exist in Australian local government? A review of the research evidence", https://doi.org/10.1080/0811114022000032618; OECD (2014b), *OECD Economic Surveys: Finland 2014*, http://dx.doi.org/10.1787/eco_surveys-fin-2014-en.

Box 2.3. **Municipal and county mergers and de-mergers: The example of Austria**

In Austria, the county of Wien-Umgebung was dissolved as of 1 January 2017. It used to consist of suburban municipalities that had been merged with Vienna during World War II, but were separated again afterwards. Wien-Umgebung was the second-largest county among the 25 counties or independent towns constituting the province of Lower Austria. Like Vienna, most of Wien-Umgebung had a leftist majority (social-democratic and environmentalist parties) whereas the province of Lower Austria has a conservative majority (People's Party). With the 2017 reform, Wien-Umgebung was divided into four parts, each of which was absorbed into a different predominantly rural county (Bruck an der Leitha, Korneuburg, St. Pölten Land and Tulln).

A rich experience of bottom-up collaboration within individual regions

Several parts of Western Scandinavia have developed successful governance partnerships: 1) between regional and municipal levels; 2) between national and regional levels (e.g. in terms of financing urban transport and implementing cultural policy).

A focus on polycentric development based on collaboration between the regions and the municipalities

All three sub-regions of Western Scandinavia have focused on ensuring polycentric regional development (notably in terms of land use) and enhancing co-ordination between regional and municipal levels of government. This stated objective is visible in most of the regional strategic documents currently in place: the Oslo-Akershus Joint Regional Plan for Transport and Land Use; the Vision of Västra Götaland and the Regional Development Programme (RUP) of Västra Götaland "VG2020"; Skåne's regional development strategy "The Open Skåne 2030" and "Strategies for Polycentric Skåne" (Table 2.5). In the case of Oslo-Akershus, the national government's push for a joint regional plan on transport and land use stimulated co-ordination between both counties and municipalities (Box 2.4). In the case of the two Swedish sub-regions, the focus on polycentric development may also reflect the fact that the current perimeter of Västra Götaland and Skåne is the result of county amalgamations in 1998-99.[2] The Committee for Sustainable Development in Västra Götaland ensures effective co-ordination and mutual reinforcement between regional and municipal initiatives (Box 2.5). Other examples of good co-ordination between regional and municipal levels also address specific policy fields, such as broadband and tourism in Halland, and housing in Skåne (Box 2.6).

Box 2.4. Oslo-Akershus Regional Plan for Transport and Land Use

Background. The challenges of the metropolitan area of Oslo have long been high on the national agenda, closely linked with those of Akershus. In 1998, the Norwegian government and the parliament had even discussed merging Oslo and Akershus, and an alternative option consisted in merging Oslo and its neighbouring municipalities. While these initiatives were aborted, Oslo and Akershus have continued to build on their long tradition of co-operation, notably in the field of transport. In 1974, a joint public company was established by Oslo, Akershus and national authorities for regional transport under the name of "Great Oslo Local Traffic". In 2008 this was consolidated to incorporate all local public transport under the joint holding Ruter AS. In addition, the creation of the Oslo Region Alliance in 2005 has further stimulated strategic planning for the wider metropolitan area. Another factor of successful co-operation was the directive from the national government to Oslo and Akershus to develop a joint Regional Plan for Transport and Land Use. The regional plan was adopted in 2015, together with an action programme for the first phase of implementation (2015-18).

Principles. The main objective of the regional plan is: 1) regional land-use policy to support densification in specified growth centres, polycentric development and the protection of green spaces; 2) transport: to connect the urban centres in the region with public transport, and link them to external towns and regions, while reducing car dependency and making the transport system sustainable and accessible to all. Municipal master plans are obliged to take the principles of the regional plan into account – failing that, regional and national authorities have the power to veto the municipal master plans. To reach the goals put forward by the regional plan, 90% of new development in the "urban belt" (Oslo agglomeration) and 80% of development outside the "urban belt" is required to take place in "growth zones", to be defined in detail by municipal master plans within walkable range from public transport (railway, subway and bus). In 2015, Oslo became the first to revise its municipal plan to align it with the regional plan. The other 22 municipalities in Akershus are in the process of revising their master plans. Strategic agreements have subsequently been approved (2017) between regional and national authorities to strengthen the implementation of principles in the regional plan. Currently, these agreements are divided in two categories: "urban development agreements" for land use (e.g. an agreement signed between Oslo, Akershus and the national government in September 2017), and "urban environment agreements" for transport (e.g. an agreement signed by the Akershus County Council, the municipality of Oslo and the national government in January 2017). In the future, these two agreements are likely to be merged into single "urban growth agreements" on land use and transport.

Table 2.5. **Regional strategies in Oslo/Akershus, Västra Götaland and Skåne**

	Oslo/Akershus	Västra Götaland	Skåne
Strategic document	Regional Plan for Transport and Land Use (2015)	Vision Västra Götaland "A Good Life" (2005) Regional Development Programme (RUP) of Västra Götaland 2014-2020, VG2020	Skåne's regional development strategy "The Open Skåne 2030" (2014) "Strategies for Polycentric Skåne" (2013)
Visual representation			

Source: OECD elaborations based on visuals produced by Oslo/Akershus, Gothenburg Region and Skåne.

Box 2.5. **The Committee for Sustainable Development in Västra Götaland**

Both the Vision of Västra Götaland and the Regional Development Programme of Västra Götaland (RUP) have been developed through close co-operation between the region and the municipalities. The formal responsibility for monitoring the implementation of both strategic documents and evaluating their results lies with the Committee for Sustainable Development. The committee was set up when Region Västra Götaland was founded in 1999. It brings together politicians from the region and from the four associations of municipalities in the region (representing the 49 municipalities). The committee is directly linked to decision making in the Regional Executive Board. It is responsible for co-ordinating regional and municipal work in transport and infrastructure planning, culture, climate and environment, industry, R&D, labour market and competence development. While the RUP provides the overall strategy for the region, different parts of the region have chosen to focus on certain aspects of the strategy and they receive part of the region's financial resources.

Source: Based on materials provided by the local team.

Box 2.6. Examples of regional-municipal collaboration on specific policy fields: Halland and Skåne

Halland: Broadband and tourism

In Region Halland, a municipal committee (Kommunberedningen Halland) was set up in 2011 to promote co-ordination between the regional and local levels. The committee is composed of politicians from Region Halland and from its six municipalities. The committee is part of Region Halland's political organisation (regional executive board). It is supported by several strategic groups that cover various areas, such as public transport, infrastructure, spatial planning, business development, culture, school and integration. Two specific examples of collaboration can illustrate the work of the committee. First, in 2015, discussions in the municipal committee and in different forums between the public sector and the broadband industry about the lack of broadband coverage in rural areas led to the adoption of a regional broadband strategy. The strategy endorses the national goal that 90% of all households and businesses in Sweden should have access to broadband of 100 Mbit by 2020. In 2016, Region Halland signed a contract with a private company which stipulates that all properties (homes, businesses) in rural areas will be offered access to high-speed broadband at a fixed price regardless of the location. Region Halland will invest about EUR 10 million, and the private company's ambition is to invest EUR 150 000. Second, at the end of 2015, Region Halland and municipalities reached an agreement to bolster a more ambitious regional tourism strategy. A new project, called "Destination Halland 2020", was launched shortly after. The project aims to develop the tourism industry by focusing on three areas: knowledge, business development and communications. It seeks to better identify the visitors' needs and habits, to improve attractions and to communicate in new ways to international markets. The project is co-financed by the EU Structural Funds, Region Halland and the municipalities.

Skåne: A regional housing network

In 2014, a collaborative network focusing on the housing sector in Skåne (Skånskt bostadsnätverk) was jointly set up by Region Skåne, the County Administrative Board of Skåne and the Skåne Association of Local Authorities. The network aims to encourage a balanced increase in housing construction and advocate with a unified voice at the national level for Skåne's specific needs. Other partners include the Swedish Construction Federation South and the associated regional committee (consisting of the CEOs of ten large construction companies and the Chamber of Commerce and Industry of Southern Sweden). Additional stakeholders – such as representatives from banks, academia, housing organisations (e.g. the Swedish Union of Tenants and the Swedish Property Federation South) and municipalities (both politicians and officials), planning architects and housing co-ordinators – have been involved in the network at different occasions. The network used to be co-funded by the three founding institutions, until 2016 when Region Skåne and the Swedish Construction Federation South signed a three-year collaboration project (Vi bygger Skåne 2016-2018).

Box 2.6. **Examples of regional-municipal collaboration on specific policy fields: Halland and Skåne** (*continued*)

The network has facilitated the collection and dissemination of better data about the housing market of Skåne. Together with the Swedish Construction Federation South, Region Skåne has produced a report about the challenges and opportunities of the regional housing market in Skåne (2015) and another report about the drivers and factors of success (2016). In collaboration with the Chamber of Commerce and Industry of Southern Sweden, Region Skåne has also developed a housing barometer, which shows how many dwellings are built every quarter and compares the construction rate to the two other largest Swedish metropolitan areas, Stockholm and Gothenburg. A subsequent report analysed the attractiveness of Skåne through residents' willingness to pay for housing. The network has organised several conferences, seminars and meetings with key stakeholders. The largest event is the Skåne Housing Forum (Skånskt bostadsforum), which takes place in late autumn every year since 2014. It brings together about 150 partners of the housing sector, experts and politicians for a discussion of key issues about the housing market. Other events have also involved speakers from parliamentary committees or investigators appointed by the government, and have helped raise awareness about Skåne's housing needs.

Source: Based on materials provided by the local team and http://bostadsnatverk.skane.se/publikationer-och-rapporter-2.

Political networks in the three metropolitan areas

All three metropolitan areas – around Oslo, Gothenburg and Malmö – have established joint political bodies (Table 2.6). The geography of governance that these joint bodies reflect broadly matches the economic geography as depicted by the OECD functional urban areas (FUAs) identified in Western Scandinavia, although the spatial perimeter of the former remains slightly smaller than the latter. The main activities of the joint bodies – spatial planning, transport and regional development more generally – are also in line with those of the metropolitan governance bodies in the OECD (Figure 2.3). This reflects the fact that the economic geography in metropolitan areas often grows before institutional co-operation. Oslo, Akershus and Østfold are also members of the Eastern Norway County Network (Østlandssamarbeidet), which co-ordinates regional transport issues (intercity development) and international co-operation issues (Box 2.7).

A long tradition of voluntary intermunicipal co-operation

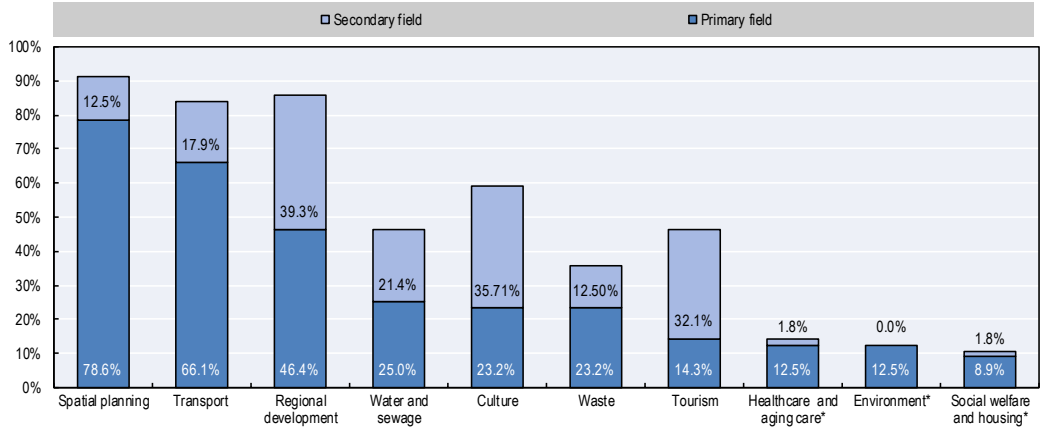
Given that both Norway and Sweden have long traditions of voluntary intermunicipal co-operation, Western Scandinavia is home to several intermunicipal entities. In the Oslo/Akershus/Østfold region, municipalities have established several regional councils (*regionsamarbeid*), which play both a political and administrative co-ordination role.[3] Västra Götaland counts four associations of municipalities, each of which organises co-operation among its member municipalities and helps bridge municipal and regional work. In Skåne, an example of close voluntary co-operation among municipalities can be found in the "Family Helsingborg" (Box 2.8).

Table 2.6. **Joint political bodies in the three metropolitan areas of Western Scandinavia**

	Oslo Region Alliance	Gothenburg Region Association of Local Authorities (GR)	Greater Copenhagen and Skåne Committee
Date of creation	2005	2002	2016
Members	78 local authorities (city of Oslo; counties of Akershus, Buskerud, Hedmark and Østfold; municipalities surrounding Oslo).	Association of 13 municipalities (Ale, Alingsås, Gothenburg, Härryda, Kungsbacka, Kungälv, Lerum, Lilla Edet, Mölndal, Partille, Stenungsund, Tjörn, and Öckerö). One of the four regional associations of municipalities in Västra Götaland.	Region Zealand, the Capital Region of Denmark and Region Skåne, i.e. a total of 79 municipalities (46 in Denmark and 33 in Sweden).
Population covered	2.2 million people	+1 million people	4 million people
Organisation	Council: the highest political body, composed of the mayors of the municipalities and heads of counties in the region, as well as the governing mayor of the city of Oslo. Board: the executive body, composed of 18 members (representatives of mayors, the mayors of Akershus and Buskerud, the vice-mayor of Østfold county, as well as the governing mayor of the city of Oslo, who is the Board's current chairman). Secretariat: serves the political bodies and co-ordinates the administrative work. Also has a liaison group, technical groups with members from the region's municipal and county administrations, and a European office.	The GR delegation has 97 members. Board of directors: 22 representatives from all municipal executive boards and 11 deputies. Presidium of the board composed of a chairman and three vice chairmen. Management groups: appointed by the board for different areas of activity. The GR is financed through a mix of annual membership fees from the member municipalities (25%) and income from conferences, training courses, etc.	Political board: meets four times a year. Administrative steering group: meets four times a year. Co-ordination group: meets every other week.
Fields of work	- Joint profiling and branding strategy, based on the Oslo Region Brand Management Strategy (2015) - Competence, innovation and competitiveness - Spatial development, transport and communications - Climate policies	- Regional planning (e.g. elaboration of a joint strategy "Structural Illustration for the Gothenburg Region") - Environment - Traffic - Labour market - Welfare and social services - Competence development, education and research The GR works closely with Business Region Gothenburg AB (BRG), which serves the 13 member municipalities of the GR and is owned by the city of Gothenburg. The BRG is financed by a mix of grants from member municipalities, funds for the regional growth programme from Västra Götaland, as well as co-financing and operating grants from other regional and national government agencies and the business community on a project basis.	Five objectives: - Joint marketing of "Greater Copenhagen" - A strong international infrastructure - Attracting investors, tourists, companies and talent - An integrated and sustainable growth region, including supporting a coherent job market and work to influence legislation and border barriers that are considered obstacles for growth - Shared strategic business initiatives

Source: Based on the websites of Oslo Region Alliance, https://www.osloregionen.no/about-osloregionen; the Gothenburg Region Association of Local Authorities, www.grkom.se/toppmenyn/omgrgoteborgsregionen/inenglish.4.5f30b95110fd8ec51a8000187.html; Business Region Gothenburg, https://www.businessregiongoteborg.se/en/about-us; www.greatercph.dk/komiteen/handlingsplan; and materials provided by the local team.

Figure 2.3. **Main fields of work of metropolitan governance bodies in the OECD area**



Note: Activity in the field of work is disaggregated by primary (dominant) activity and secondary (minor) activity of the respective governance body.
Source: 2nd OECD Metropolitan Governance Survey (2016).

Box 2.7. **The Eastern Norway County Network**

The three Norwegian counties of Oslo, Akershus and Østfold are members of the Eastern Norway County Network (Østlandssamarbeidet). The network is a voluntary co-operation body in charge of promoting regional transport issues (inter-city development) and international co-operation issues in eight counties in the south-eastern part of Norway (Akershus, Buskerud, Hedmark, Oppland, Oslo, Telemark, Vestfold and Østfold). Member counties aim to influence the development of the wider region (by adopting a joint approach towards national or county decision-making bodies) and to achieve more efficient solutions for matters within the responsibilities of the county (by sharing the work and developing joint projects).

The highest decision-making body in the Eastern Norway County Network is the Regional Co-operation Board. Each county is represented on the Board y three members: the Chairman of the County Council (in Oslo: the Chief Commissioner of the City Government); the leader of the opposition; and the County Executive (in Oslo: the Director General at the Chief Commissioner's Department). The Executive Committee (composed of the eight county executives) submits recommendations to the Regional Co-operation Board.

Political committees and administrative groups carry out most of the daily activities and submit proposals for the network's annual action programme. Political committees consist of two representatives from each county council and one from Oslo. Administrative groups are composed of the heads of the concerned field in each county. Permanent political committees and administrative groups exist in the following areas: transport and communications; education and competence; international co-operation. In addition to the permanent groups, separate project organisations can be established. The Eastern Norway County Network also has its own secretariat. The secretariat is a service and co-ordination body for the board, the committees and the various groups.

Source: Adapted from materials received from the local team.

Box 2.8. **Family Helsingborg**

Since the 1990s, "Family Helsingborg" has brought together 11 municipalities, which share the vision of acting as one contiguous territory in the north-west of Skåne (Bjuv, Båstad, Helsingborg, Höganäs, Klippan, Landskrona, Perstorp, Svalöv, Åstorp, Ängelholm and Örkelljunga). Family Helsingborg has a board of directors (consisting of the mayor and the opposition leader from each municipality) and a municipal executive group (composed of the directors from all municipalities). Helsingborg is in charge of co-ordinating and administering the activities of the board, the municipal executive group, the various networks and projects through a joint secretariat. Municipalities pay an annual membership fee based on their population size.

Family Helsingborg's business plan is the comprehensive governing document. The business plan is divided into five target areas: 1) infrastructure and public transport; 2) enterprise and industry; 3) learning; 4) openness and inclusion; 5) environment. For each target area, one or more municipalities have the political responsibility to establish an action plan. In 2013, a Structural Plan for Northwest Skåne was adopted. The purpose was to strengthen the regional aspects of spatial planning. The plan is used among member municipalities as a strategic document in their work on long-term planning, such as the revision of municipal master plans. In 2016, a Strategy on Infrastructure and Public Transport was also adopted to serve as a basis for national and regional transport infrastructure planning for the period 2018-29. Other areas of collaboration include urban planning, social services, housing, security, culture, libraries, rescue operations and human resources. For example, in 2014, six municipalities (Båstad, Helsingborg, Höganäs, Ängelholm, Svalöv and Åstorp) set up a common human resources service centre, which manages the payroll and pensions.

Source: Adapted from materials received from Helsingborg.

Innovative national-regional co-financing: The examples of urban transport and culture

Vertical collaboration among all three levels of government – national, regional and municipal – can be illustrated by the introduction of innovative co-financing agreements for transport infrastructure, called "packages". Western Scandinavia features two successful examples of such packages, in Oslo and in West Sweden (see the summary in Table 2.7 and a description in Box 2.9). Both political agreements allow for substantial national investment in urban transport infrastructure under the condition that the metropolitan areas create a new tax or a charge (a ring road toll in Oslo, congestion tax in Gothenburg) and use the revenue to match national funding.

Table 2.7. **Snapshot of the Oslo Package and the West Sweden Package**

	Oslo Package (Oslopakke)	West Sweden Package (Västsvenska paketet)
Time horizon	1990-2036 Phase 1: 1990-2000 Phase 2: 2001-11 Phase 3: 2012-28	2009-26
Co-financing partners	National government City of Oslo County of Akershus (* The funding plan was revised in June 2016)	National government (50%) Congestion tax (41%) City of Gothenburg (4%) Region Västra Götaland and Region Halland (4%) Realised property values (1%)
Total budget	EUR 6.3 billion (NOK 59 billion at 2010 prices) for current Phase 3	EUR 3.5 billion
Fiscal tool	Toll revenues from ring road around Oslo	Congestion tax in Gothenburg

Box 2.9. Two examples of transport co-financing programmes: The Oslo Package and the West Sweden Package

Oslo Package

Norway has developed "city packages" (Bypakker) as an integrated part of national transport planning, which is confirmed by the national parliament. City packages are long-term plans for the development of transport systems in a city or in a metropolitan area (typically over a period of 20 years), which are co-funded with road tolls. City packages include investment projects related both to roads and to public transport systems. Over the past 35 years, in-migration to the Oslo region has increased the pressure on the transport system. Policy makers came to the understanding that the expansion of infrastructure alone could not solve problems of transport capacity, congestion and environmental issues; the key is to improve public transport so as to reduce road use and improve air quality and noise, in particular in the urban core.

- Oslopakke 1: In 1990, the Oslo ring road was established to assist the development of the main road system in Oslo and Akershus, and to donate 20% of its revenue to improve public transport, in particular buses, trams and the local metro system.
- Oslopakke 2 (2001-11): Upgrading transport infrastructures and the rolling stock. National and local governments introduced Oslopakke 2 with a view to provide funding through user surcharges to upgrade infrastructure and the rolling stock for public transport. The financial framework provided by Oslopakke 2 amounted to NOK 11.3 billion: 71% from the national rail and road infrastructure budget; 21% from user surcharges (payments from road and transport users); 5% from the budget of the city of Oslo; 3% from property developers. About 60% of the funds were invested in improvements to the rail track system, stations and terminals; 32% on infrastructure projects such as the metro, local traffic flow measures (bus lanes and signal controls) and multimodal public transport terminals; and 8% on new rolling stock.

Box 2.9. **Two examples of transport co-financing programmes: The Oslo Package and the West Sweden Package** (*continued*)

- Oslopakke 3: Railway, bus, road and metro expansion until 2028. Oslopakke 3 is an overarching plan for building and funding roads and public transport in Oslo and Akershus. The financial framework of the transportation plan is NOK 59 billion (at 2010 price levels) until 2028. Oslopakke 3 is funded by toll road charges and grants from the Norwegian government, the city of Oslo and Akershus County. There is also additional railway investment in the region. The Oslopakke 3 funding plan was revised by the signatories in June 2016. The revised Oslo Package has been extended up to 2036. There is a much stronger emphasis on public transport than before, including reduced funding for motorways, new metro extension and tunnels, and substantial increases in all toll charges. Toll charges will also be differentiated and spread more widely across the region, with higher costs for diesel vehicles and during rush hour.

West Sweden Package

The West Sweden Package stems from the recognition that the long-term capacity for transport in Gothenburg has long been under pressure and growing obsolete. Several priorities have been identified: a new bridge over the River Göta Älv, which divides the city; a new tunnel under the same river; increasing the capacity in West Sweden to relieve the demand on Gothenburg Central Station; new investments in roads, a more sustainable public transport system, cycling lanes, etc. All these investment needs were put together in an agreement (package) between the national government and the region. The package was then enabled by the introduction of a congestion tax in Gothenburg, so that the tax revenues could be invested in financing the infrastructure needs outlined in the package. The same concept of regional co-financing had been tested earlier in Stockholm. The total cost of the investments in the West Sweden agreement is approximately EUR 3.5 billion. The financing is split between the national government (50%), the revenues from the congestion tax (41%), the city of Gothenburg (4%), Region Västra Götaland and Region Halland (total 4%), and realised property values (1%). While the decision on the agreement was taken with clear majorities in the political bodies of Gothenburg, Region Västra Götaland and Region Halland, there was limited, if any, public discussion. In a local advisory referendum, which took place after the agreement was implemented, a majority of citizens was against the tax, but the tax collection (started in 2013) is still in place. The tax is SEK 9-22 depending on the time of day (the corresponding tax in Stockholm is SEK 11-35 and in Oslo NOK 33). Since the tax was implemented, travel by car has increased in Gothenburg in line with the national average, but travel by public transport has increased faster. The package is now being implemented and most investments are scheduled to be finalised by 2026.

Source: Based on materials provided by the local team.

Another interesting example of collaboration between national and regional levels of government is the Swedish model of cultural policy. Since the Swedish parliament decided in 2011 to decentralise the cultural policy budget, the government has redistributed about USD 145 million (SEK 1.2 billion) annually to the regional level. A key objective of this new model is to better reflect regional specificities in national

cultural policy and align the latter with the regional map in Sweden. In order to receive national funding, regions are required to elaborate a three- or four-year cultural plan by involving municipalities, local cultural stakeholders and the civil society in the process. National funding is earmarked to support pre-defined sectors (e.g. professional performing arts, museums, libraries and literature, film except for screening, crafts, archives). On average, about a fifth of the national cultural subsidy within the collaborative model goes to Västra Götaland (a total of USD 48 million, i.e. SEK 396 million in 2016). Including this national funding, Västra Götaland has the largest cultural budget in Sweden (SEK 1 480 million in 2016, i.e. SEK 970 per capita, almost twice as high as the average of SEK 501 for all regions). A 2016 study by the Swedish parliament's Culture Committee has indicated that the new model has been successful in vitalising regional cultural life and regions have generally increased their financial support for culture. However, it also suggested that overall national funding has decreased, compared to regional funding, and that the administrative workload for regions has increased due to reporting requirements. The strictly sectoral organisation of the collaboration (e.g. between the Ministry of Culture and Region Västra Götaland's Culture Committee) and the predefined list of activities that are eligible for funding leaves only limited scope for regions to invest in their specific fields of strength (e.g. in Västra Götaland: architecture, design, cultural schools).

Opportunities and challenges for joint action in Western Scandinavia

A long history of Nordic collaboration and several inter-regional partnerships…

Western Scandinavia benefits from a long tradition of collaboration that has developed at various levels over time:[4] first, at the national level between Nordic countries (from the 1950s to the 1970s); second, between some regions and cities within Western Scandinavia (in the 1980s and 1990s); third, following Sweden's accession to the EU in 1995, a fruitful participation in EU-led Interreg programmes and projects that further boosted collaboration within Western Scandinavia (Table 2.8).

Collaboration between Nordic countries

Two major fora bring together all five Nordic countries (Denmark, Finland, Iceland, Norway, Sweden) and three autonomous territories (the Faroe Islands, Åland, Greenland):

- Nordic Council: an inter-parliamentary collaboration body created in 1952, the era after World War II when the international society was calling for closer cross-border co-operation (the United Nations and the Council of Europe were also created during this period). A major achievement of the Nordic Council is the signature of the Nordic Passport Convention in 1957 between Denmark, Finland, Norway and Sweden allowing the waiver of passport control at intra-Nordic frontiers.
- Nordic Council of Ministers: an inter-governmental collaboration body created in 1971 to complement the work of the Nordic Council. Despite its name, it actually covers ten thematic councils, each specialised in a policy area (e.g. labour, education and research, environment, finance). However, transport is not one of them – although almost 50 years have passed since the establishment of the Nordic Council of Ministers, there has been little Nordic collaboration on transport issues.

Table 2.8. **Comparison of existing co-operation bodies in Western Scandinavia**

Name of institution (listed by year of creation)	Geographic perimeter/members	Key competencies	Examples of achievements
Nordic Council of Ministers (national level) (1971)	All across the Nordic region/Denmark, Finland, Iceland, Norway, Sweden and the autonomous territories of the Faroe Islands, Greenland and the Åland Islands	Status as the official body for formal inter-governmental co-operation in the Nordic Region at the minister-level. The council holds ordinary annual meetings and extraordinary meetings on particular themes. Decisions, taken collectively, serve only for consultation and co-ordination without affecting the countries' sovereignty. Main focus areas: 14 sectors for strategic co-operation including sustainable cities, climate and energy solutions, food and nutrition, welfare solutions, gender, business and work.	Creation of a common Nordic labour market and a passport union in the 1950s. Development of the Nordic Council of Ministers' sustainability strategy, "A Good Life in a Sustainable Nordic Region", adopted in 2013 and running until 2025. A web platform called GRO has been developed and operated by the council to encourage the staff and partners to systematically integrate the strategy in their work.
Svinesundskommittén, formerly known as Grensekomiteen Østfold-Bohuslän (1980)	The area stretching between Norway and Sweden with special emphasis on the region of Västra Götaland and the county of Østfold and their border municipalities	Status as a non-governmental alliance. Through its network of contacts on both sides of the border, it works actively on border barrier questions and creates a forum for discussion and promotes the elaboration on various co-operation projects, such as facilitation of commuting across the border and development of small and medium-sized enterprises and tourism in the border area. Main focus areas: freedom of movement, blue growth (fishing, marine tourism), green growth (forest resources), tourism.	Centre of discussion on regional co-operation solutions, including research on sustainable forest and wood industry, a feasibility study on sustainable tourism in protected areas, report on "Freedom of Movement for Business", and a series of fora regarding "The Future is Blue" project on sustainable marine growth and food production. Since the 1980s, Swedish mothers-to-be have been able to give birth in Norwegian hospitals, which are sometimes closer than Swedish hospitals.
Gothenburg-Oslo partnership (1995)	Area in and around the Oslo-Gothenburg region/Oslo city, Gothenburg city, Akershus County, Østfold County and Västra Götaland region	Status as a non-governmental alliance. Organised with a secretariat and thematic working groups (transportation, business development). Through the annual Gothenburg-Oslo conference, it brings together decision makers, parties in the business sector and non-governmental organisations to jointly discuss common issues. Main focus areas: innovative business and labour, sustainable and efficient transport systems.	The partnership has actively advocated for the expansion of the railway line between Oslo and Gothenburg to full double tracks, which will reduce the journey time from four to two hours if and when implemented.

Table 2.8. **Comparison of existing co-operation bodies in Western Scandinavia** (*continued*)

Name of institution (listed by year of creation)	Geographic perimeter/members	Key competencies	Examples of achievements
STRING network (1999)	Corridor between Hamburg and Skåne: Region Skåne, Capital Region of Denmark, Region Zealand, Schleswig-Holstein, city of Hamburg, city of Copenhagen	Initiated in 1999 as an Interreg A project with a focus on establishing a new fixed link between Denmark and Germany. After the 2008 Treaty between Germany and Denmark on the construction of the Fehmarn Belt link, focus shifted towards promoting regional development and green growth in the corridor stretching from the Öresund Region to Hamburg. A STRING Secretariat was formed in 2011. Five key areas: infrastructure; tourism and culture; science and development; green growth; cross-border barriers. Main actions: develop common political agendas; establish networks among key stakeholders; promote communication and lobbying.	In 2008, Denmark and Germany signed a State Treaty, agreeing on the establishment of the fixed Fehmarn Belt link. In September 2016, top regional politicians approved a joint "STRING Strategy 2040".
Scandinavian Arena (2000)	Oslo-Gothenburg, Halland and Öresund regions/Oslo city, Akershus County, Østfold County, Gothenburg city, Västra Götaland region, Halland region, Helsingborg city, Malmö city, Skåne region, Copenhagen city, the Danish Capital Region, and Zealand region	Status as a non-governmental alliance. Through a political steering group, it encourages discussions on matters of common interest. Main focus areas: rail infrastructure development, better integrated transport planning between Denmark, Norway and Sweden as a means inside a broader development vision.	Implementation of the Scandinavian 8 Million City (COINCO II), an Interreg A project seeking to evaluate the possibilities of linking together the regions along the Oslo-Gothenburg-Copenhagen corridor into a cohesive employment market by modernising and expanding the railway infrastructure.
Greater Copenhagen and Skåne committee (2016)	Southern Sweden and Eastern Denmark/46 Danish municipalities in the Danish Capital Region and Zealand region, and 33 Swedish municipalities in the Skåne region	The committee is responsible for establishing joint growth strategies, including a long-term vision (adopted in September 2017) and yearly action plans (latest edition: 2017). Five objectives: 1. joint marketing of "Greater Copenhagen" 2. a strong international infrastructure 3. attracting investors, tourists, companies and talent 4. an integrated and sustainable growth region, including supporting a coherent job market and work to influence legislation and border barriers that are considered obstacles for growth 5. shared strategic business initiatives.	Traffic Charter (October 2016) to outline a joint vision of mobility planning across the Öresund.

Source: Based on: www.scandria-corridor.eu/index.php/en/alliance; http://svinesundskommitten.com; www.go-regionen.org; www.greatercph.dk; www.transgovernance.eu/media/433209/transgovernance_wp6_scandria-mlg-model_final_w_annexes1-3.pdf; www.norden.org/en; www.lsccgrowthcommission.org.uk/wp-content/uploads/2016/02/CASE_STUDY_Oresund_Copenhagen-Malmo-Scania.pdf.

Collaboration between regions and cities within Western Scandinavia

Several informal alliances were actively founded by regions and cities, with variable geographies and thematic scopes.

- The Svinesund Committee (Svinesundskommittén), created in 1980, is one of 12 Nordic border committees and focuses on cross-border co-operation between Gothenburg and Oslo, connecting the regions of Västra Götaland and Østfold. It works actively to reduce border barriers and offers a forum for discussion to promote regional collaboration in blue growth (fishing, marine tourism), green growth (forest resources) and tourism in the border area. Svinesundskommittén has deliberately chosen not to create its own policies, but rather to co-ordinate existing ones. It runs several networks and helps create connections between firms, universities and different regional organisations. Svinesundskommittén also participates in a 2017-20 working group within the Nordic Council of Ministers focusing on innovation and resilience within Nordic border regions.
- The Gothenburg-Oslo partnership (GO), initiated in 1995, was initially driven by the cities of Oslo and Gothenburg, and later enlarged to the surrounding regions of Akershus, Østfold and Västra Götaland. It works specifically on advocating for joint investment in better and more sustainable transport and logistics between Oslo and Gothenburg as a way to make the area more attractive to people and businesses.
- The Greater Copenhagen and Skåne Committee, formed in 2016, brings together 79 member municipalities (33 Swedish and 46 Danish) and 3 regions (one in Sweden and two in Denmark) in Eastern Denmark and Southern Sweden. Following the abolition of the Öresund Committee (1993-2016), the Greater Copenhagen and Skåne Committee was created in January 2016 with a different structure and a new purpose. A political board and an administrative steering group meet four times a year to discuss cross-border issues. A co-ordination group meets every other week to conduct preparatory work for the steering group. A joint secretariat is responsible for activities related to administration, communication and the organisation of board and steering group meetings.

Interreg programmes and projects

Co-funded by the European Regional Development Fund (ERDF), the five successive series of Interreg have profoundly shaped cross-border collaboration in the EU. To date, the local partners forming Western Scandinavia still participate in a large number of Interreg programmes on various themes (Tables 2.9, 2.10 and 2.11). Two major examples include the Öresund-Kattegat-Skagerrak programme (ÖKS) and the Sweden-Norway programme. The ÖKS was initiated in 2007-13 and renewed in 2014-20 to address themes related to the green economy, innovation, employment and transport (Box 2.10 and Chapter 1). The Sweden-Norway programme focuses on innovative environments, small and medium-sized enterprises, natural and cultural heritage, sustainable transportation, and employment over the 2014-20 period. Within the Sweden-Norway programme, one of the three geographic sub-programmes (*Grenseløst Samarbeid*) covers southern Akershus (Follo), the Østfold interior and Fyrbodal (14 municipalities in the north-western part of Västra Götaland).

Table 2.9. **Participation of Norway and Sweden in Interreg programmes**

Programme	Participating countries	Population in programme area	ERDF (million EUR)	Thematic objectives
Interreg A: Cross-border programmes				
Sweden-Norway	Norway* Sweden	4 million	47	Innovative environments SMEs Natural and cultural heritage Sustainable transportation Employment
South Baltic	Denmark Germany Lithuania Poland **Sweden**	10 million	78	SME development Sustainable tourism Green technologies Sustainable transport Skilled labour force Co-operation capacity
ÖKS	Denmark **Norway*** **Sweden**	9 million	127.6	Innovation Low-carbon economy Transport Employment
Interreg B: Territorial programmes				
Baltic Sea	Belarus* Denmark Estonia Finland Germany Latvia Lithuania **Norway*** Poland Russian Federation* **Sweden**	106 million	263.8	Capacity for innovation Management of natural resources Sustainable transport EU Strategy support
North Sea	Belgium Denmark Germany Netherlands **Norway*** **Sweden** United Kingdom	60 million	167	Thinking growth Eco-innovation Sustainable North Sea Region Green transport and mobility

Table 2.9. **Participation of Norway and Sweden in Interreg programmes** (*continued*)

Programme	Participating countries	Population in programme area	ERDF (million EUR)	Thematic objectives
Interreg C: Interregional programmes				
Interreg Europe	Austria Belgium Bulgaria Croatia Cyprus Czech Republic Denmark Estonia Finland France Germany Greece Hungary Ireland Italy Latvia Lithuania Luxembourg Malta Netherlands Norway Poland Portugal Romania Slovak Republic Slovenia Spain Sweden Switzerland United Kingdom	n.a.	359	Research and innovation SMEs Low-carbon economy Environmental protection and resource efficiency

* Outside the European Union.
Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".
Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
Source: Adapted from Schönning, M. (2017), presentation on "Cross-border integration" given to the OECD team during the first study mission, 16 January 2017, Malmö, unpublished.

In terms of projects, the foundations of a Western Scandinavian megaregion were laid by the "Corridor for Innovation and Cooperation" (COINCO) project family, including the original COINCO project (from Oslo to Berlin) and the COINCO North II project (later renamed the "Scandinavian 8 Million City" project) (Box 2.11). The "Scandinavian 8 Million City project garnered unprecedented local political momentum for a cross-border megaregion connected by high-speed rail, before running out of steam after failing to secure national buy-in. Two major partnerships had emerged earlier:

- The STRING Network, set up in 1999, brings together six partners (Region Skåne in Sweden; the Capital Region of Denmark, Region Zealand and the city of Copenhagen in Denmark; the city of Hamburg and the *Land* of Schleswig-Holstein in Germany). It was initiated as an Interreg A project with a focus on establishing a new fixed link between Denmark and Germany. This aim materialised in 2008 by the signature of a treaty between Denmark and Germany concerning the construction of the Fehmarn Belt link. A permanent STRING Secretariat was established in 2011 and promotes collaboration in the field of infrastructure, tourism and culture, science and development, green growth, and addressing cross-border barriers more generally. The STRING network is currently gaining further momentum and discussions are underway concerning its enlargement.
- The Scandinavian Arena (DSA), formed in 2000, was an initiative of the Swedish Ministry of Foreign Affairs and started as a political collaboration between representatives from Denmark, Norway and Sweden. It later acted as the political steering group for the Interreg "Scandinavian 8 Million City" project, which – as mentioned above – investigated the potential benefits of establishing a high-speed railway connection between Oslo, Gothenburg and Copenhagen (see more detailed discussion of the project in Chapter 1). After the project ended, the DSA has remained but lost much of its initial momentum.

Table 2.10. **Interreg programmes in Western Scandinavia – by theme**

Programme	1. Research and innovation	3. SMEs	4. Low-carbon economy	6. Environmental protection and resource efficiency	7. Sustainable transport	8. Employment	11. Capacity building, etc.
Sweden-Norway	X	X		X	X	X	
South Baltic		X	X		X	X	X
ÖKS	X		X		X	X	
Baltic Sea	X			X	X		X
North Sea	X		X	X	X		
Interreg Europe	X	X	X	X			

Source: Adapted from Schönning, M. (2017), presentation on "Cross-border integration" given to the OECD team during the first study mission, 16 January 2017, Malmö, unpublished.

Table 2.11. **Participation of counties in Interreg programmes in Western Scandinavia**

Programme	Oslo	Akershus	Østfold	Västra Götaland	Halland	Skåne
Sweden-Norway		X	X	X		
South Baltic						X
ÖKS	X	X	X	X	X	X
Baltic Sea	X	X	X	X	X	X
North Sea	X	X	X	X	X	X
Interreg Europe	X	X		X		X

Source: Adapted from Schönning, M. (2017), presentation on "Cross-border integration" given to the OECD team during the first study mission, 16 January 2017, Malmö, unpublished.

Box 2.10. **Interreg Öresund-Kattegat-Skagerrak**

The primary Interreg programme that promotes cross-border collaboration in Western Scandinavia is the Öresund-Kattegat-Skagerrak programme (ÖKS), which includes Western Scandinavia as well as Buskerud, Vestfold, Telemark, Aust-Agder and Vest-Agder in Norway, and the regions of Hovedstaden, Sjælland, Midtjylland and Nordjylland in Denmark. The programme has existed since Interreg IV (2007-13). In the period 2007-13, the ÖKS programme supported about 125 cross-border projects, which brought together around 400 partners from Denmark, Norway and Sweden (mainly universities, regions and large municipalities). The projects were supported with a total budget of EUR 120 million and focused on: 1) increased sustainable economic growth; 2) physical planning and organisational interlinked regions; and 3) increased daily integration. The ÖKS programme has been renewed for the period 2014-20. As of June 2017, more than 250 participants had taken part in one of the 31 projects related with green economy, innovation, employment and transport.

Sources: European Commission (2015), *Territorial Cooperation in Europe: A Historical Perspective*, http://dx.doi.org/10.2776/374386; http://INTERREG-oks.eu.

… but a territory in search of a clear vision

Despite their large variety, existing collaboration bodies in Western Scandinavia face common challenges. On the positive side, they certainly represent an endeavour to find joint solutions to collective problems, ranging from infrastructure to labour market and climate change issues. They have been successful in sharing data, knowledge and policy experiences.[5] At the same time, most of the existing collaboration bodies only command "soft power". Their efforts to remove barriers and build a more internationally competitive territory have often yielded frustrating results against the magnitude of legal, fiscal, regulatory and other differences between Norway and Sweden. Such differences are well-documented in reports of the Nordic Council, Nordregio and the Öresund Institute, for example.

Box 2.11. The "Corridor for Innovation and Cooperation (COINCO)" project family

COINCO III B (2005-07)

COINCO (an acronym for "Corridor for Innovation and Cooperation") originated in Berlin and Copenhagen in 2005 as an Interreg project, financed by the EU and the regional partners between Berlin and Oslo. While innovation, best practice governance and energy were among the major themes envisioned for collaboration, the one that received the most attention was the possibility of building a high-speed rail (HSR) connection between Oslo and Berlin. In 2007, politicians from all participating cities – Berlin, Copenhagen, Malmö, Helsingborg, Gothenburg and Oslo – signed the COINCO Charter, which marked the end of the first Interreg project. The responsibility to continue the process was handed over to the city of Oslo, and further on to the region's public development agency, Oslo Teknopol IKS. Together with its sister organisation, Business Region Göteborg, Oslo Teknopol IKS defined a project plan, an organisational form and a financing framework.

Evolution into COINCO North I (2009-11)

At the same time, a new Interreg programme covering the Scandinavian part of Europe was coming up, and it was considered the most suitable programme to continue COINCO. This meant, however, that the German part was no longer eligible for participation. New political leadership in Copenhagen also took power and turned out to be less interested in international co-operation. The northern Scandinavians – mainly led by the cities of Gothenburg and Oslo – decided to temporarily split the project in two and to focus on the first, northern Scandinavian part of the corridor. It was intended to bring the northern and southern parts together again at a later stage.

After getting rejected once, COINCO North was granted Interreg funding in 2008. Three years of intensive work and studies followed in Oslo Teknopol, in partnership with Business Region Göteborg and the participating cities and regions. A future HSR corridor was considered an effective way to relieve the pressure on fast-growing Oslo and to make it possible to commute between Oslo and Gothenburg. Modern rail was also expected to help significantly reduce emissions, compared to air, road and truck transport. The project generated unprecedented momentum and enthusiasm. It had a significant impact on the HSR debate, especially in Norway. For example, a short animated film about the 8 Million City aired on Norwegian television in June 2008. A poll a few days later showed that 84% of the population was positive towards HSR in Norway.

Box 2.11. **The "Corridor for Innovation and Cooperation (COINCO)" project family** (*continued*)

Follow-up with COINCO North II, renamed "The 8 Million City project" (2011-14)

Meanwhile, Copenhagen's political leadership had changed and was willing to collaborate again as a formal partner. COINCO North II started in 2012 and ran through most of 2014. It continued to provide evidence and documentation to the public and the politicians in Scandinavia. The concept builds on the fact that the regions of Oslo, Gothenburg, Malmö and Copenhagen together form a potential polycentric megaregion of more than 8 million Scandinavians who share a similar language and culture. The project focused on improving transport infrastructure, including through the investigation of high-speed rail, upgrading the InterCity X system (running on double track from Oslo to Copenhagen) and establishing a Green Freight Corridor. In particular, it was anticipated that establishing an HSR infrastructure between Oslo and Copenhagen would cut travel time from the current 8 hours by slow train down to 2.5 hours by HSR. It was hoped that the Norwegian parliament would take a formal decision in 2013 to invest in the first HSR link to Gothenburg. COINCO North II stakeholders tried to convince the Norwegian and Swedish parliaments that Norway and Sweden should co-operate for an HSR link not only to Gothenburg, but all the way to Öresund.

COINCO South

As COINCO North I and II progressed, it became clear that the real benefits, especially for the environment through the reduction in emissions, would not reach their full potential unless the original COINCO idea of connecting Scandinavia to continental Europe via HSR (through Denmark to Hamburg) was implemented. However, growing scepticism in the Danish government towards costly investments, combined with the financial crisis and lack of space for infrastructure in the congested metropolitan area of Copenhagen, led to a scrapping of the idea. There was also the fear that Denmark would become a transit country for fast-growing Swedish and Norwegian truck flows. In order to bring the original COINCO vision back on track, Oslo Teknopol looked closer at the tunnel alternative between Sweden and Germany, taking the shortcut straight to Berlin. However, there will most likely be no fourth Interreg project to finance co-operation (given that a three-time financing is already exceptional in the EU system). COINCO South is therefore a privately financed project at the moment. COINCO GmbH was established as a private organisation with the aim of bringing COINCO North and South back into one co-operation again.

Source: Adapted from the European Commission's Transport Research and Innovation Monitoring and Information System (TRIMIS); "Why build a tunnel from Sweden to Germany" (www.coinco-berlin.de); and other materials provided by the local team.

Most importantly, Western Scandinavia currently lacks a clear vision of what to achieve collectively and over which time frame. It has a weak capacity to speak with one voice and present strong evidence to the two respective national governments, other than claiming that what is good for a given part of its territory is ultimately good for the country. The closest Western Scandinavia has gotten to a form of politically integrated governance body was the "Scandinavian Arena" (DSA), a cross-border political co-operation body, which also initiated the 8 Million City project and served as a steering group for the project (discussed earlier). Although the 8 Million City project allowed for a substantial amount of innovative thinking and data mining, it never managed to put together a full, coherent cost-benefit analysis covering the entire high-speed coastal rail corridor it was advocating for (Chapter 1). Ultimately, this investment did not materialise. In Sweden, following the Swedish government's decision to prioritise high-speed rail connecting Stockholm to Gothenburg and Malmö instead, the Swedish Negotiation for Housing and Infrastructure started investigating concrete co-funding mechanisms for these two planned routes (Box 2.12). After seeing their joint efforts fall short of fulfilling their long-standing goal, local partners in Western Scandinavia, including at the political level, may have experienced a certain level of "collaboration fatigue", which explains the current fragmentation of collaborative platforms and the absence of a tangible, federating project. As a result, Western Scandinavia today remains isolated from national decision-making agendas, both in Norway and Sweden.

This lack of a clear vision bringing all of Western Scandinavia together is compounded by two additional factors: first, an elongated spatial configuration along the coast, which currently lacks a major partner at its southern end (Copenhagen); second, the absence of a modern, efficient (rail) transport infrastructure that could compensate for this spatial disadvantage, but is currently held back by the lack of co-ordinated national transport planning. The following two sections discuss these points more in detail.

A linear spatial configuration currently truncated at the bottom

In addition to these classic challenges of cross-border collaboration, which are typical of cross-border regions in the world, other factors that are more specific to Western Scandinavia have further hampered joint planning and decision making, both from a spatial and a socio-economic point of view. From a spatial point of view, Western Scandinavia's linear configuration and the current lack of high-speed transport implies particularly long travel times from one point to another, which in turn creates longer economic, social and institutional distances, particularly between the two ends of the envisioned megaregion. Most telling is the fact that at the southern end of Western Scandinavia, Skåne generally frames its own development as part of the Copenhagen area as illustrated in the creation of the Greater Copenhagen and Skåne Committee (see earlier description) and the common branding of Skåne under "Greater Copenhagen". From a socio-economic point of view, the exogenous shock of the migration crisis has triggered exceptional policy responses in Denmark and Sweden, such as the re-establishment of border controls and ID checks over the Öresund Strait, a key territory for the competitiveness of Western Scandinavia as discussed in Chapter 1. While the co-ordinated decision of Denmark and Sweden to introduce controls contributed to curbing the migration crisis, evidence suggests that these continuous uncertainties have harmed rail traffic over the Öresund, with damaging consequences to the labour market and the environment (Box 2.13). Paradoxically, this is a case where cross-border governance to better control borders may have addressed one policy issue (migration) but aggravated others (labour market, environment).

Box 2.12. The Swedish Negotiation on Housing and Infrastructure

In 2014, the Swedish government appointed two negotiators to lead a National Negotiation on Housing and Infrastructure (Sverigeförhandlingen) on national local co-financing, with a view to building Sweden's first high-speed train between the country's three largest cities (Stockholm, Gothenburg and Malmö) and boost housing supply in these cities. High-speed train (running at 320 km/hour) was supposed to connect Stockholm with Gothenburg in 2 hours and with Malmö in 2.5 hours by 2035. At least 100 000 new homes are planned to be built throughout Sweden.

The method consists in using negotiation as a way to generate the greatest possible benefit for the funds invested by all parties, increase efficiency and accelerate implementation. The same method was used by the appointed experts in the 2013 Stockholm negotiation, which should eventually lead to the building of 4 new underground lines and 78 000 new homes in Stockholm. As in the Stockholm negotiation, close co-operation with stakeholders to produce common background material for the negotiations and open working methods are important pillars of the National Negotiation on Housing and Infrastructure.

The work of the National Negotiation on Housing and Infrastructure began in mid-2014 with an opinion- and fact-gathering phase involving a wide range of stakeholders to produce common background material. The negotiators and the secretariat held around 100 meetings with municipalities and regions located along the railway's possible routes and in the metropolitan areas, as well as with representatives of business, stakeholder organisations, and other actors in Sweden and internationally. The Swedish Transport Administration was an important collaborator and produced a great deal of the analyses required.

In June 2015, the negotiators presented a first interim report to the Ministry for Infrastructure, containing legislative proposals to clarify how increased land value can serve as the basis for cost-sharing in development contracts. In the second half of 2015, municipalities and regions submitted benefit analyses to the National Negotiation. These analyses outlined the value added that the rail investments would bring locally and regionally in terms of housing, travel times, the labour market, business, the environment, and social benefits in each municipality and region. A second interim report, which was presented in January 2016, contained an analysis of funding for the high-speed railways and the commercial prospects for its operation. Actual negotiations began in early February 2016. The final interim report was presented in June 2016 and provided a progress report on the ongoing metropolitan negotiations and the work to examine the conditions for continued railway expansion in northern Sweden. In July 2016, a status report was also presented to the government and outlined the work on high-speed railways.

Box 2.12. **The Swedish Negotiation on Housing and Infrastructure** (*continued*)

The negotiators were due to present their final report by December 2017, or possibly earlier. An interim report, released in July 2017, concluded that high-speed rail should be financed by loans outside the national budget for infrastructure (it has been estimated that without loans, high-speed rail might be finalised only in the mid-2060s). Another conclusion was that both lines (Stockholm-Gothenburg and Stockholm-Malmö) should be built at the same time; in case this would not be possible, the negotiators have advised that the Stockholm Gothenburg line (via Jönköping, Borås, Landvetter) should be built first because it is estimated to have a slightly stronger total impact and affects a greater number of residents. Regarding new transport connections in Skåne, the national transport plan presented by the National Transport Administration in August 2017 includes a prioritisation of high-speed rail between Lund-Hässleholm in Skåne and Järna-Linköping in the eastern part of Sweden. The National Transport Administration suggests that the speed should be limited to 250 km/h. The government is expected to take a decision regarding financing, speed (320/250 km/h) and schedule issues in the first half of 2018. A report by the National Negotiation on Housing and Infrastructure on new fixed links over the Öresund (including between Helsingborg and Helsingør, and between Malmö and Copenhagen) was also published in June 2017 and will be followed by a three-year investigation on the Helsingborg-Helsingør link focusing on traffic forecasts, traffic options, financing, effect on national economy and other types of value added.

The final report of the negotiators is expected to include a strategy for the development of the new high-speed railways and the agreements with the relevant municipalities and others on related measures in terms of increased accessibility and housing construction, especially in the three metropolitan areas. The agreements must have been concluded with a reservation for subsequent legal actions as well as approval by the government and, where relevant, the parliament.

Source: Based on information from: http://sverigeforhandlingen.se/english.

Box 2.13. **Border controls and ID checks: Continued uncertainties**

Background

As a result of the migrant crisis and the dramatic increase in the number of asylum seekers arriving in Sweden in the autumn of 2015, Sweden introduced internal border checks (separate from the outer, EU checks) on 12 November 2015 for all travellers coming from Denmark to Sweden. On 4 January 2016, ID checks were introduced for all train, bus and boat passengers traveling from Denmark to Sweden. On the same day, the Danish Prime Minister announced that Denmark would introduce temporary border checks for those travelling from Germany to Denmark. ID checks for travellers from Denmark to Sweden were initially announced as temporary but were extended several times until they were finally dropped as of 4 May 2017. Until then, transport companies were responsible for checking the identity of passengers while they were still on Danish soil. Train passengers were therefore required to change trains at Copenhagen Airport and go through the identity checkpoint. Likewise, HH Ferries had introduced ID checks of all passengers travelling to Helsingborg at the ferry port in Helsingør. While ID checks were ended, border controls have been reinforced and the Swedish police has hired an additional 100 passport controllers. Border controls were extended up to 12 November 2017 (Denmark) and 11 November 2017 (Sweden). To date, it is uncertain whether border controls will be maintained in the future.

Selected examples of the impact of border and ID checks

- Longer and more crowded train journeys. According to Skånetrafiken, travel times with the Öresundståg (train from Denmark to Sweden) increased by half an hour on average and the frequency of trains in rush hour traffic was halved (with trains departing every 20 minutes rather than every 10 minutes). The drastic increases in travel time, crowded trains and delays have been further straining the capacity of the train station at Copenhagen Airport, which was already limited because it has only two tracks for passenger trains (compared to the four tracks in Hyllie station). According to Skånetrafiken, the travel time from Copenhagen C to Malmö C was brought back to about 39 minutes from September 2017.
- An increasing number of commuters choose their car over the train, which has an obvious negative environmental impact. The number of train commuters decreased throughout 2016. According to a press release from DSB on 22 December 2016, the number of train passengers across the Öresund decreased by 12% in 2016. At the same time, passenger car traffic across the Öresund Bridge increased by 4.8% between January and November 2016.

Box 2.13. **Border controls and ID checks: Continued uncertainties** (*continued*)

- Many commuters between Denmark and Sweden are considering giving up commuting. A survey of Öresund commuters undertaken by Øresundsinstituttet for the County Administrative Board of Skåne in August-September 2016 shows that 39% of the nearly 400 interviewed are considering seeking employment in their country of residence; 26% are considering moving to their country of employment; and 16% are seeking employment and looking for a new home. Only 18% plan to continue commuting. A previous study of train commuters over the Öresund (carried out by a researcher from the Royal Institute of Technology in Stockholm, with responses from 900 train commuters, and published by Øresundsinstituttet) showed that 64% experienced an increase in stress since the introduction of ID and border checks, and 70% were strongly affected by not knowing when they would arrive.
- Negative effects on the labour market. According to the analysis of the socio-economic effects of the ID and border checks presented by Øresundsinstituttet in June 2016, after the controls were introduced, 322 000 fewer Danish jobs can be reached within a one-hour commute by public transport from Malmö central station. Danish and Swedish employers report concerns about recruiting relevant skills in the future. Four out of eight large Danish companies say that it has become harder to recruit Swedish personnel. Also, there is fear of losing international investment, since the accessibility to Copenhagen is an essential factor for the economic development of Skåne. For example, the European Spallation Source in Lund is highly dependent on the accessibility to the airport and the university facilities on both sides of the sound.
- Massive costs and social equity concerns. A variety of costs have been calculated using different socio-economic models. Train commuters crossing the Öresund spend an aggregated 6 600 additional hours per day commuting, which amounts to an estimated total cost of SEK 152 million (around EUR 15.2 million) for the first six months of controls according to Swedish socio-economic models. The estimated cost for 2016 was SEK 296 million (around EUR 31 million). DSB and Skånetrafiken each report costs of about EUR 580 000 per year, while SJ estimates costs of EUR 1 million per year and HH Ferries EUR 2.4 million per year.

Source: Adapted from the website of the Öresund Institute and materials provided by the local team.

Lack of co-ordinated national transport planning

Regarding more specifically the idea of better integrating Western Scandinavia as a freight corridor (Chapter 1), there is currently little to no co-ordination between Norway and Sweden (and Denmark) in terms of transport infrastructure planning at the national level. Each of these countries operates its own national transport plan, with its own national priorities (Table 2.12). In Sweden and Norway, national transport plans are established over 10- and 12-year periods respectively, overlapping with each other to a large extent. By contrast, Denmark used to have several transport plans (by mode of transport) rather than an integrated approach. In 2009, Denmark initiated a Green Transport Policy, a long-term agreement backed by funding programmes on a number of overall principles and concrete initiatives regarding all transport-related national

investments, which marked an important step towards an integrated view on all transport modes. The lack of integrated transport planning in these three countries reflects lukewarm political interest in deepening cross-border co-operation on infrastructure and transport in the Nordic region. The ambivalent attitude of policy makers was illustrated by a survey recently conducted by the Nordic Council in 2016, where the majority of respondents from Nordic governments answered "small" or medium" when asked about the importance of Nordic co-operation in the sector of transport and infrastructure.

As a consequence, border regions find themselves relatively disadvantaged in terms of transport since there is no established framework to plan and implement cross-border transport infrastructure. Cross-border transport projects tend to fall outside national planning frameworks, often have no reliable or comparable statistics on transport demand, and at best tend to be addressed on an *ad hoc* basis. In this regard, challenges to cross-border collaboration in Western Scandinavia are similar to those of other cross-border regions that were considered in the peer review process for the preparation of the present review (Table 2.13). In contrast, regional and local stakeholders have made continuous efforts to raise awareness and bolster cross-border transport investment. In 2013, business organisations in Denmark, Norway and Sweden also wrote to their respective ministers in charge of transport to point out the urgency to act. In October 2016, the Greater Copenhagen Traffic Charter outlined a joint vision of mobility planning across the Öresund. A promising step towards addressing cross-border transport challenges was finally achieved when the Transport Committee in the Swedish parliament announced that the government should develop a national strategy for cross-border rail traffic to reduce the vulnerability of the transport system (as part of the proposals for the National Plan 2018-2029). The plan is currently submitted for comments and will be decided in the first half of 2018. It should be noted that the national transport plans of Norway and Sweden will then cover the same planning period (2018-29).

Key steps for more effective governance in Western Scandinavia

Strengthening the evidence base: The "why"

A first prerequisite for building more effective governance is to establish a clear understanding of the extent to which Western Scandinavia works as an integrated territory. As demonstrated in Chapter 1, Western Scandinavia – as it stands today – mostly functions around its three large metropolitan areas and linkages mostly take place within them rather than among them. However, as documented earlier, signs of growing interlinkages between the different parts of Western Scandinavia underline the potential for these territories to work closer together as a megaregion. For example, there has been a steady increase in commuting flows between Skåne and West Sweden over the past decade (see Chapter 1). Most importantly, the various parts of Western Scandinavia have a Nordic model of the "Good Life", with a combination of distinct yet shared values, assets and capacities that could offer a natural common ground for stronger co-operation. This joint banner would have a powerful driving force to attract and federate a large number of stakeholders who can take the idea of the megaregion forward.

Table 2.12. **National transport planning frameworks in Norway, Sweden and Denmark**

	Norway	Sweden	Denmark
Ministry in charge	Ministry of Transport and Communications	Ministry of Enterprise and Innovation	Ministry of Transport, Building and Housing
Highest level transport plan and timeline	National Transport Plan 2018-2029 (ten-year period; renewed every four years, most recently in June 2017)	National Transport Plan 2014-2025 (12-year period; renewed every 4 or 6 years; will be decided by the government in the first half of 2018)	The 2009 Agreement on Green Transport Policy (a broad agreement on key principles and initiatives for national transport policies, valid until 2020)
Key priorities in the plan	– Creating a transport system that is safe, enhances value creation and contributes to a low-carbon society – Better mobility for people and goods throughout the country – Reducing accidents in line with the Vision Zero – Reducing climate emissions in line with the transition to a low-carbon society and reducing other negative environmental impacts	– Creating conditions for a transport system with strong capacity, robustness, safety, accessibility and sustainability that caters to businesses' and citizens' needs in all parts of the country – Priorities in research and innovation for transport system renovation – Reinforcement of maintenance and reinvestments, in particular to enhance the reliability and punctuality of the railway networks, and road conditions – Major investments to construct new high-speed railways and expand existing ground and underground railways – Greater investments to increase the efficiency and environmental sustainability of the existing and new infrastructure (noise pollution measures, water catchment protection, measures to encourage cycling in a safe environment)	– Strong international connections to boost Danish trade, including bridges, ports, railways, airports and the road network (e.g. the Fehmarn Belt fixed link project between Denmark and Germany) – An environmentally friendly system with a strong emphasis on public transport and cycling – Increased investments on railways, following the One-Hour Model (travel time of less than one hour by train between the four largest cities) – Better mobility on roads by reducing congestion and improving connections to other modes – Reduction of noise and air pollution caused by the traffic in urban areas – Introduction of a long-term planning framework for selected projects
Total budget over the planning period	NOK 1 064 billion (around EUR 134 billion)	SEK 522 billion (around EUR 56 billion)	DKK 160 billion (around EUR 22 billion)

Source: Based on Avinor et al. (2012), "The proposed Norwegian National Transport Plan 2018-2029", www.ntp.dep.no/English/_attachment/503088/binary/814345?_ts=14010bc1b90; Swedish Transport Administration (2014), "Nationell plan för transportsystemet 2014-2025 – sammanställning och läshänvisning", www.trafikverket.se/contentassets/054db6b15ddc479984b6f0df6e7385c1/slutligt_pm_nationella_transportplanen_2014-2025_170221.pdf; Danish Ministry of Transport (2011), *Danish Infrastructure Investments*, www.trm.dk/en/publications/2011/booklets-on-danish-transport-policy.

Table 2.13. **Comparative overview of selected cross-border regions: Western Scandinavia, Pyrénées-Méditerranée, Centrope, Cascadia**

	Western Scandinavia	Pyrénées-Mediterranean Euroregion	Centrope (Central European Region)	Cascadia
Number of countries concerned and main cities	2 countries (Norway, Sweden) Oslo, Gothenburg, Malmö	2 countries (France, Spain) Toulouse, Montpellier, Barcelona, Andorra	4 countries (Austria, Czech Republic, Hungary, Slovak Republic) Vienna, Bratislava, Györ, Brno	2 countries (Canada, United States) Seattle, Vancouver, Portland
Partners	6 counties (Oslo, Akershus, Østfold; Västra Götaland, Halland, Skåne) and 2 cities (Gothenburg and Helsingborg)	Catalonia, Occitanie, Aragón (no longer participating) and the Balearic Islands	8 provinces/regions/counties (Vienna, Lower Austria, Burgenland; South Moravia; Bratislava, Trnava; Győr-Moson-Sopron, Vas) and 8 cities (Bratislava, Brno, Eisenstadt, Győr, Sopron, St. Pölten, Szombathely and Trnava)	No formal partners
Population	5 million	14 million	7 million	11 million
Governance	No single institution but a large variety of partnerships and alliances (including the Scandinavian Arena – DSA)	European Grouping for Territorial Co-operation (EGTC) established in 2004 Rotating presidency, a secretary-general, a general assembly and a technical team	Voluntary co-operation engaged in 2003 Interreg IIIA projects (2005-07) Annual meeting of regional politicians (Political board) and administrative officers (Steering committee) Rotating presidency (2017 Hungary, 2018 Slovak Republic, 2019 Austria)	No formal cross-border governance arrangement
Key priorities put forward by partners	Faster and more sustainable transport across the coast and within individual metropolitan areas	Innovation, infrastructure, networks of small and medium-sized enterprises, cultural and historical heritage, higher education, sustainable development, mobility and transport, and energy	Centrope Strategy 2013+ (adopted in October 2012 by the provincial governors, county presidents and mayors of Centrope) Knowledge; mobility (Centrope Mobility Management scheme to implement the Infrastructure Needs Assessment Tool [INAT], a catalogue of transport measures developed by a transnational team of transport planners); human capital; culture and tourism	Affordable living (housing, childcare and transportation) Economic diversification (creative services and creative manufacturing) Place-making Investment planning and partnership development

Developing a solid evidence base could help rally forces around this common cause. Measuring connectivity across the entire stretch of Western Scandinavia is, of course, a complex task. In this regard, collecting reliable and comparable cross-border statistics on key indicators could help assess the magnitude of the opportunities and challenges that call for a joint policy response. Many good statistics are currently available on a wide range of topics in Western Scandinavia (including detailed data about the level of "Good Life"), but they are not necessarily exploitable as such because they follow different methodologies or cover different time periods, for example. At a higher level, the issue of improving cross-border statistics has already been discussed in the Nordic Council of Ministers and several countries had offered to provide financial support. However, the proposal failed to gain consensus among all countries (e.g. Finland) and did not lead to any collective action. Likewise, if the idea of developing a sustainable freight corridor across Western Scandinavia was to gain traction, a full cost-benefit analysis for required investments would need to be conducted, preferably across the

wider Oslo-Hamburg corridor in the context of stronger co-operation in an enlarged STRING network.

Lessons from the previous 8 Million City project also caution against only focusing on one policy sector (transport) rather than designing a comprehensive development vision for the megaregion, and without a fully developed quantitative (cost-benefit) analysis. In this respect, developing well-being indicators at the local and regional scale makes it possible to gauge overall quality of life directly where people live, and to alert policy makers of the priorities that require policy attention. For example, three federal bodies in the United States jointly launched a Partnership for Sustainable Communities and gathered a set of nationwide comparable sustainability indicators at different territorial scales. These were made available on line to allow comparison across communities (Box 2.14). While such an initiative would be technically difficult to transpose to Western Scandinavia as such, the overarching principle of measuring the "Good Life" across Western Scandinavia could certainly help identify the area's strengths and weaknesses in its entirety, monitor people's life outcomes in their various dimensions, and guide policy making. In particular, such initiatives could build on recent efforts from the Swedish government to measure development beyond GDP, including indicators on subjective well-being (happiness), subjective health and subjective trust. There have also been efforts to develop well-being indicators at the local and regional levels. Inspired by the OECD Regional Well-being framework, the Swedish Growth Agency (Tillväxtverket) and Reglab have developed "BRP+", a broadened indicator system composed of 16 themes to measure economic, environmental and social development at the municipal and county level.

Box 2.14. **Creating a regional well-being metrics: The example of the Partnership for Sustainable Communities (United States)**

In 2009, three US federal bodies – the Department of Housing and Urban Development, the Department of Transportation and the Environmental Protection Agency – launched the Partnership for Sustainable Communities. The partnership established a series of six "Liveability Principles" as thematic guidelines for building more economically and environmentally sustainable communities:

- Provide more transport choices: Develop safe, reliable and economical transport choices to decrease household transport costs, reduce the nation's dependence on foreign oil, improve air quality, reduce greenhouse gas emissions and promote public health.
- Promote equitable, affordable housing: Expand location- and energy-efficient housing choices for people of all ages, incomes, races and ethnicities, to increase mobility and lower the combined cost of housing and transport.
- Enhance economic competitiveness: Improve economic competitiveness through reliable and timely access to employment centres, educational opportunities, services and other basic needs by workers, as well as expanded business access to markets.

Box 2.14. **Creating a regional well-being metrics: The example of the Partnership for Sustainable Communities (United States)** (*continued*)

- Support existing communities: Target federal funding toward existing communities, through strategies like transit-oriented, mixed-use development and land recycling, to increase community revitalisation and the efficiency of public works investments and to safeguard rural landscapes.
- Co-ordinate and leverage federal policies and investment: Align federal policies and funding to remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth, including making smart energy choices, such as locally generated renewable energy.
- Value communities and neighbourhoods: Enhance the unique characteristics of all communities.

To establish progress measurements for the Liveability Principles, the Partnership for Sustainable Communities worked with the University of Pennsylvania's Penn Institute for Urban Research to build a set of sustainability indicators. Initial research indicated that in the absence of a national sustainable development agenda with associated evaluation mechanisms, a plethora of programmes and assessment models were being developed at the subnational level by governments, civil society and even the private sector. An indicator set for the Partnership for Sustainable Communities' Liveability Principles was thus seen as an opportunity to develop a national level sustainable development indicator system.

The Penn Institute for Urban Research undertook an extensive survey of existing indicator sets, identifying over 60 different indicator initiatives at the regional, municipal and community levels, and almost 500 instances of indicator use. These were then grouped into three thematic areas – housing, land use and transport – and associated with six qualities – access/equity, health, economic competitiveness, affordability, environment and sense of place – using data available from various official statistics. Ultimately, the result was five sustainability dimensions with associated indicators. The Partnership for Sustainable Communities has made these available as HotReport Sustainability Indicators, a nationwide comparable indicator set using data available from the US Census Bureau, the American Community Survey and the Department of Labor (Partnership for Sustainable Communities, n.d.). The results are published on line so that policy makers and communities can compare their performance on the various sustainability dimensions with that of other counties, their home state and the US average performance.

Source: OECD (2014a), *How's Life in Your Region? Measuring Regional and Local Well-being for Policy Making*, http://dx.doi.org/10.1787/9789264217416-en.

Identifying and implementing a shared project: The "what"

As discussed earlier in this chapter, co-operation within Western Scandinavia is characterised by a paradox. On the one hand, numerous networks and platforms aim to co-ordinate policies. On the other hand, such networks partly overlap with each other and do not always lead to concrete results. Even though the consensus-oriented Nordic (and particularly Swedish) political culture generally minimises disruptive disagreements, the oversupply of co-ordination channels may generate inertia and inaction in Western Scandinavia. If Western Scandinavia wants to effect real change, it needs to define clear policy objectives for co-operation (Box 2.15). Structuring objectives into a hierarchy of higher and lower level objectives is a good way to prioritise them and illustrate how they affect each other. A solid assessment of what could realistically be achieved together (with and without national engagement) could help all partners in Western Scandinavia build on their past or present collaboration and redefine a forward-looking, common action plan.

Box 2.15. **Defining policy objectives**

Defining objectives serves several purposes:

First, and most importantly, objectives are necessary to steer and co-ordinate the work of an organisation. Without explicitly defined objectives, there is a risk that efforts are undirected or even that parts of the work have counteracting results. Well-defined and precise objectives can be a tool to streamline the work of an organisation and make it more efficient.

Second, objectives help create transparency. They show external stakeholders what the organisation aims to do and can serve as an important communication tool. Especially when the objectives are agreed by a large group of stakeholders, they can help to rally relevant actors around the jointly agreed goals. In this way, agreeing on objectives can already serve as a first step towards achieving them.

Third, they create accountability by making it possible to judge the success of an organisation. Only when objectives have been defined in advance of policy measures is it possible to judge whether the policy measures are effective in achieving the desired outcomes. Without objectives, what a policy aims to achieve generally remains unclear. The definition of objectives is a prerequisite for the construction of a functioning monitoring and evaluation system. They provide the yardstick along which policies can be monitored and evaluated.

Source: Adapted from OECD (2016c), *OECD Territorial Reviews: The Metropolitan Region of Rotterdam-The Hague, Netherlands*, http://dx.doi.org/10.1787/9789264249387-en.

The basic and obvious premise is that not everything needs to be achieved at the megaregional scale – only what makes sense to be scaled up from an economic, social, environmental and cultural point of view. Although commuting flows indicate that Oslo, Gothenburg and Malmö remain distinct functional urban areas (FUA) according to the OECD classification, early signs suggest that these FUAs also interact in pairs (e.g. between Oslo and Gothenburg; between West Sweden and Skåne) (see Chapter 1).

At the same time, all three sub-regions of Western Scandinavia – Oslo/Akershus/Østfold, West Sweden, and Skåne – display advanced, yet transitioning economies. Fast population growth (accelerated by the recent massive inflow of migrants) and structural change towards knowledge-intensive industries have revealed mismatches in the labour market (i.e. a lack of high-skilled workers and oversupply of low-skilled ones), a severe shortage in housing supply, pressure on urban public transport systems, and signs of social exclusion that even the traditionally strong Nordic welfare system is increasingly challenged to address. In this context, strengthening co-operation towards a shared model of the "Good Life" along the coast holds great potential to make the most of existing assets.

The analysis carried out in the present OECD project has allowed for mapping some key strengths in different parts of Western Scandinavia and identifying promising areas for further collaboration (Table 2.14). This proposal is only intended as a basis and a source of inspiration to start the conversation in Western Scandinavia. Its purpose is to encourage partners to build on it and reshape it while they develop a sense of shared ownership and work closely together on forging a collective roadmap for action. Under the overarching concept of the "Good Life", thematic axes for collaboration could include, among others:

- Liveability, culture and tourism: Western Scandinavia hosts a considerable variety of cultural and tourism amenities, including a full yearly calendar of high-profile artistic and sports events with a rising national and international reach. When considered jointly rather than as separate events occurring in separate spots, these experiences depict a vibrant and lively place with a compelling attractive power, which could be far more visible if a co-ordinated package was developed.
- Climate and sustainable urban futures: all three regions making up Western Scandinavia have developed a climate strategy or identified smart sustainable cities as a smart specialisation priority. Joining forces to develop a network of smart and sustainable cities could help strengthen the vision and capacity of Western Scandinavia as a leader in urban futures.
- Health and well-being: many leading institutions and companies specialised in health and medical technologies are located in different parts of Western Scandinavia. Developing a proactive alliance among them could help facilitate dispersion of knowledge across sectors and reinforce both the competitiveness and the attractiveness of Western Scandinavia.
- Integrated labour markets: building on the Nordic labour market integration, language and cultural barriers are relatively low and many joint initiatives have already been put in place to facilitate labour mobility between Nordic countries. Yet, imbalances and mismatches on the labour market still exist, and more could be done to consolidate labour market integration services and build a megaregion where people want to live and work because it offers a diversified set of employment opportunities.
- Sustainable and green transport corridor: building integrated labour markets is obviously challenging in the absence of adequate transport infrastructure, at least in a wide range of occupations that require daily commuting. Both economic and environmental imperatives also call for alternative solutions to road transport (for passengers and freight). Conducting a full cost-benefit analysis for a fast, modern rail network on the coast (possibly even extending

to the wider Oslo-Hamburg corridor) could help secure a solid grasp of the economic, social and environmental trade-offs at play.

- Marine and maritime industries: considering its geographic location along the coast, Western Scandinavia has developed strong expertise in marine and maritime activities. Going further, the preservation of a competitive and sustainable marine and maritime environment is a broader societal challenge that Western Scandinavia would be well positioned to address collectively.
- Bioeconomy: the transition towards a bioeconomy (applying biological resources and biotechnologies to develop products and processes) is high on the agenda in all parts of Western Scandinavia. Developing a collaborative strategy in this field (notably in biogas) could help build critical mass, promote knowledge sharing and encourage investment.

This initial proposal is a non-exhaustive list of ideas, which partners are welcome to adjust, complement and refine according to their own knowledge and insights (see discussion about the "who").

Improving horizontal and vertical co-ordination of public investment: The "how"

Promoting integrated development in Western Scandinavia requires effective mechanisms for co-ordinating investment across levels of government. Both in Norway and in Sweden, public investment registered one of the strongest increases in the OECD area over the period 2000-14, and subnational governments accounted for less than half of total public investment in 2014. Aligning priorities across levels of government is therefore essential for maximising the impact of public investment in both countries. In this respect, in 2014, the OECD adopted the *Recommendation of the Council for Effective Public Investment across Levels of Government*, which outlines 12 principles for better co-ordination, stronger capacities and sound framework conditions (Figure 2.4). Both Norway and Sweden rank above OECD average in more than half of these principles, but there remains some margin for progress – particularly in terms of implementing vertical co-ordination mechanisms that span several policy sectors and tracking the funds engaged in co-financing arrangements (Figure 2.5 and see Annex 2.A1 for more detailed information). Concerning public investment in infrastructure more specifically, the OECD framework for the governance of infrastructure (2017) could also help guide more integrated infrastructure planning in Western Scandinavia, including at the national level (Box 2.16).

Currently, Norway and Sweden are engaged in co-operation at EU level, notably through their active involvement in the work for developing the ScanMed corridor and the TEN-T framework. Moving forward, initiatives to raise awareness and provide a stable setting for collaboration should be considered and implemented. A possible option could be to establish a permanent working group on cross-border infrastructure under the Nordic Council of Ministers – similar to the Nordic Atlantic Co-operation (NORA), which brings together the Faroe Islands, Greenland, Iceland and coastal Norway. If bringing together all Nordic countries proves to be too ambitious, starting with more targeted, bilateral collaboration could still help advance a co-ordinated approach to transport planning. For example, the creation of a Swedish-Norwegian transport commission and a Swedish-Danish transport commission could be envisaged, following the model of the Danish-German transport commission that worked on the Jutland corridor, a network of cities covering around 7 million people (including cities such as Hamburg, Kiel, Neumünster, Flensburg, Aarhus, Odense, Aalborg and Esbjerg) (Box 2.17).

Table 2.14. **Exploring the potential for common development in Western Scandinavia**

	Possible areas for collaboration (non-exhaustive list of ideas)						
	Liveability, culture and tourism	Climate/sustainable urban futures	Health and well-being	Integrated labour markets	Sustainable/green transport corridor	Marine and maritime industries	Bioeconomy
Examples of existing strengths in different parts of Western Scandinavia							
Oslo/Akershus/ Østfold	Well-established city brand (e.g. work of the Oslo Region Alliance in the Oslo Brand Alliance, see www.oslobrandbox.no)	City of Oslo has developed a climate and energy strategy, and Akershus is in the process of developing a regional plan on the same theme. Large rollout of electric vehicles and charging stations (a quarter of the national total, i.e. one electric vehicle for 330 residents).	Large range of research institutes, including the National Institute for Public Health (Folkehelseinstituttet), the Norwegian Centre of Excellence (NCE) clusters on health technology (200 businesses; companies, hospitals, research institutions and investment companies) and the Oslo Cancer Cluster (OCC) (around Radiumhospitalet in Oslo).	Strong job growth in Oslo and Akershus (which form a single labour market). Oslo-Akershus have developed a regional innovation and entrepreneurship strategy. Østfold faces economic restructuring towards more knowledge-intensive sectors.	The Norwegian National Transport Plan (2018-29), renewed in June 2017, plans rail improvements in the Oslo-Halden corridor. The Port of Oslo has the capacity to handle part of the freight currently transported on road. Shifting freight from sea to rail would require additional investment.	Presence of maritime finance and offshore engineering/supply industries. Maritime industries (shipping, offshore services) include several business networks that territorially encompass all three counties (Oslo, Akershus and Østfold).	City of Oslo and EGE (its Waste-to-Energy Agency) are producing biomethane from food waste and using it as liquid renewable fuel for the city's bus fleet. In a 2010-15 project (Biogass Østfold), the Østfold County Council documented an annual biogas production potential of >120 GWh in Østfold alone. The Østfold study is currently being extended in the Biogas2020 project.

Table 2.14. **Exploring the potential for common development in Western Scandinavia** (*continued*)

	Possible areas for collaboration (non-exhaustive list of ideas)						
	Liveability, culture and tourism	Climate/sustainable urban futures	Health and well-being	Integrated labour markets	Sustainable/ green transport corridor	Marine and maritime industries	Bioeconomy
West Sweden	A very large and diversified offer of event/tourism amenities, a rich cultural life and a high level of participation of civil society in cultural activities. Selected examples: castles and fortresses, museums, animal parks, amusement parks and varied nature with sea, lakes, cliffs and forests; major cultural events (e.g Gothenburg Book Fair, Gothenburg Film Festival, Gothenburg's Culture Festival, Hammarkullen's carnival, etc.); sport events (e.g. Gothenburg Horse Show, Göteborgsvarvet half-marathon, Partille Cup, Gothia Cup, etc.).	Climate Strategy for a fossil-independent Västra Götaland 2030 (includes 80 proposals). Continuous decrease of emissions despite the presence of all Swedish refinery industry in West Sweden. Strong position in ecological food and renewable energy. Innovative initiatives for urban regeneration (e.g. RiverCity) and greener transport in cities (e.g. congestion tax; increasing deployment of electric vehicles in public transport; self-driving cars already being tested by citizens in Gothenburg).	Presence of AstraZeneca. Sahlgrenska Academy (University of Gothenburg), University Hospital and Science Park, Chalmers University of Technology, Wallenberg Centres for Molecular Medicine (involving, among others, University of Gothenburg and Lund University). Health innovation in Halmstad University (Hälsoteknikcentrum Halland). A dedicated unit within Region Västra Götaland for garnering support and resources for clinical research (Gothia Forum).	A booming regional economy and strong trends in job creation, but skill mismatches on the labour market (e.g. expected shortage in some occupations such as teachers, healthcare personnel and engineers) and higher unemployment among foreign-born.	The Port of Gothenburg, the largest port in Scandinavia, handles more than a third of Sweden's goods transport and can reach about 190 million inhabitants in ten Nordic and Baltic countries. The new national transport plan of Sweden (2018-29) includes investment to upgrade the final single-track stretch on the West Coast line.	45% of the maritime industry of Sweden (3 000 maritime companies, some 20 000 employees). The Port of Gothenburg is the largest port in Scandinavia. R&D centre in maritime environments and maritime development (Lighthouse).	Innovatum Science Park, Trollhättan, in West Sweden, is the project owner of the Biogas2020 project (total budget of EUR 12 million, involving 35 Swedish, Norwegian and Danish partners). Biogas West facilititates co-operation among its members from municipalities, energy companies, farmers, vehicle industry and research.

Table 2.14. **Exploring the potential for common development in Western Scandinavia** (*continued*)

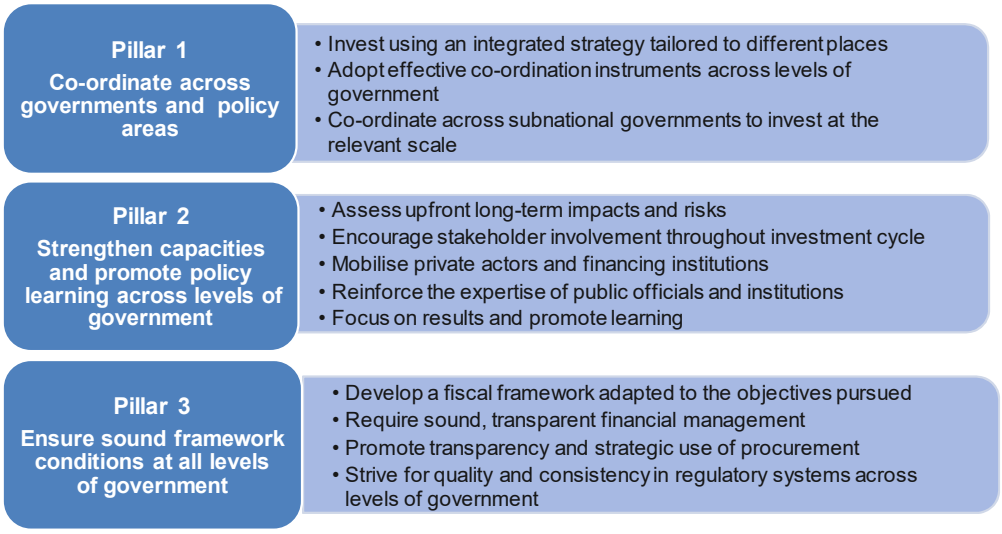
	Possible areas for collaboration (non-exhaustive list of ideas)						
	Liveability, culture and tourism	Climate/sustainable urban futures	Health and well-being	Integrated labour markets	Sustainable/ green transport corridor	Marine and maritime industries	Bioeconomy
Skåne	Attractive climate. Cultural and sports events (e.g. SkiStar Swedish Open, Ericsson Open, Nordea Masters golf tournament). Excellent accessibility (proximity to the airport of Copenhagen)	Sustainable growth is an important priority in Skåne's regional development strategy "The Open Skåne 2030". More specifically, one of the three smart specialisation areas in Skåne is Smart Sustainable Cities with a focus on knowledge, products, services and systems that will help overcome the challenges of sustainability in an increasingly urbanised world.	Experience of promoting projects for healthy ageing at the EU level (e.g. via participation in the European Innovation Partnership on Active and Healthy Ageing).	Large exchange of labour between the western part of Skåne and Copenhagen. The performance of the cross-border "Greater Copenhagen" labour market is subject to uncertainties introduced by the national level, such as the border controls that have had a major negative impact on labour mobility. Limited but increasing labour mobility between Skåne and the rest of Western Scandinavia.	Region Skåne aims to shift more freight transport from road to rail and sea, but it needs to develop the required infrastructure. Skåne is the project owner of GREAT (Green Region for Electrification and Alternative fuels for Transport), which will allow the Oslo-Hamburg transport corridor to be the first to meet the requirements of the EU directive on alternative fuels.	Presence of the World Maritime University in Malmö. One of the largest repair ship yards in northern Europe. Cross-cutting issues that are relevant for maritime industries include: smart materials, nanotechnology, Internet of Things development and competence centre.	10.5% of total turnover in the Skåne business sector comes from the bioeconomy (particularly in agriculture, food production and forestry). Advanced production of materials, chemicals and fuels. Skåne elaborated a roadmap for biogas development in 2015, aiming to become Europe's leading biogas region by 2030. One of Sweden's largest biogas plants is located in north-west Skåne.

Table 2.14. **Exploring the potential for common development in Western Scandinavia** (*continued*)

	Possible areas for collaboration (non-exhaustive list of ideas)						
	Liveability, culture and tourism	Climate/sustainable urban futures	Health and well-being	Integrated labour markets	Sustainable/green transport corridor	Marine and maritime industries	Bioeconomy
Possible collaboration in Western Scandinavia							
Goal	Increase the national and international visibility and attractiveness of "Good Life on the coast".	Promote a network of smart and sustainable cities along the coast.	Capitalise on the accumulated knowledge and experiences related to health and well-being along the coast.	Exploit geographically larger labour markets to better match skills and jobs, building on the advantages of low cultural barriers and similar languages.	Reduce emissions coming from road traffic and promote a more sustainable transport corridor along the coast.	Develop a larger, stronger cluster of marine and maritime industries, building on the individual strengths of cities and regions along the coast.	Turn competition to co-operation in the biogas industry and encourage investment.
Examples of tools to achieve proposed goal	Map the current offer of amenities along the coast and develop a co-ordinated "package" of cultural/event/tourism experiences (e.g. discounts on train tickets and on tickets to main cultural attractions within all of Western Scandinavia, integrated within a single tourism pass).	Develop a common strategy on sustainable urban futures, combining strengths in various aspects (e.g. urban planning, transport, housing, food, etc.).	Develop an alliance of research and education institutions, healthcare providers and governments to benchmark performances, establish exchange programmes of healthcare and social care workers, strengthen cross-fertilisation of knowledge across sectors (e.g. between medicine and health), etc.	Improve the availability and dissemination of information on the opportunities within the larger labour market (e.g. by developing a joint website for job vacancies that could build on existing services for individuals and firms, such as those currently available between Norway and Sweden (www.gransetjansten.com) and between Sweden and Denmark (www.oresunddirekt.com). Improve the frequency, speed and user-friendliness of transport to encourage labour mobility (e.g. including integrated tickets for public transport and intercity connections).	Conduct a full cost-benefit analysis on a high-speed railway connection along the coast, extending from Oslo to Gothenburg and Malmö (linking to the Fehmarn Belt).	Promote knowledge sharing and new business opportunities among companies and research networks specialised in marine and maritime industries.	Facilitate knowledge sharing and partnerships among biogas companies and governments.

Source: OECD elaborations.

Figure 2.4. **OECD Recommendation of the Council for Effective Public Investment across Levels of Government**



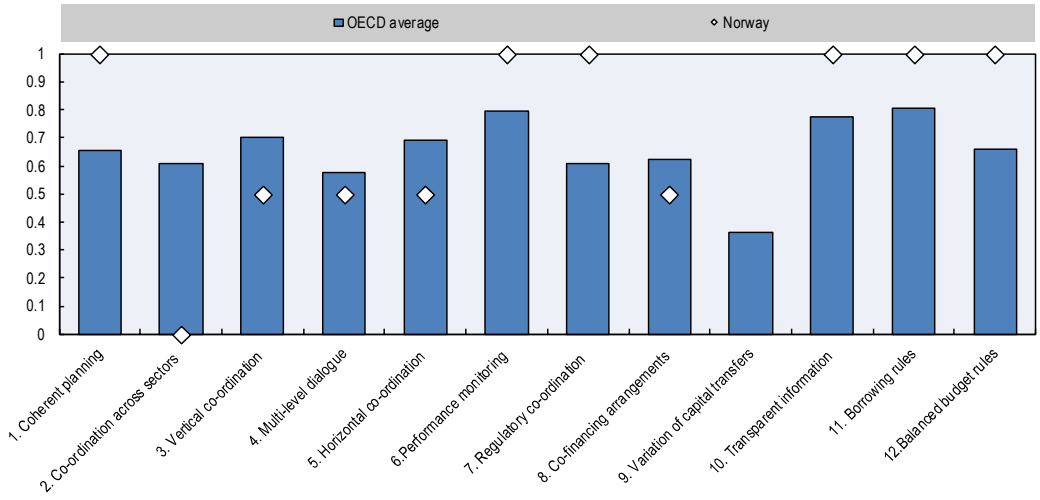
Source: OECD (2014c), *Recommendation of the Council for Effective Public Investment across Levels of Government*, www.oecd.org/regional/regional-policy/Principles-Public-Investment.pdf.

Bringing stakeholders on board: The "who"

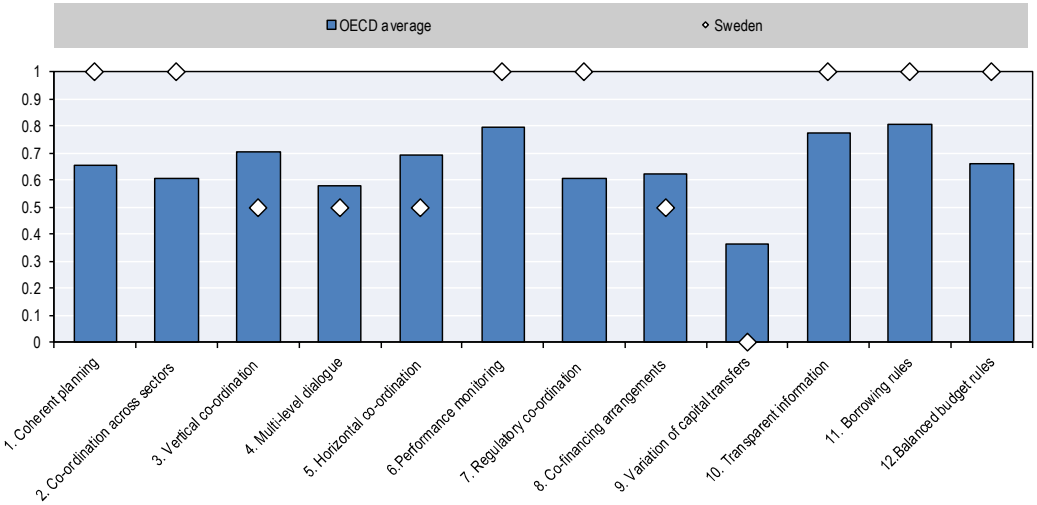
A shared, comprehensive vision needs to be defined using existing networks. A number of key players need to be brought to the table, ranging from public, private and community spheres. In particular, Western Scandinavia has the distinct advantage of hosting several leading research and higher education institutions, such as the University of Lund, the Norwegian University of Life Sciences, Chalmers University of Technology, the Max IV and ESS institutions. These key actors, together with other universities across Western Scandinavia, not only have a major role to play in jointly raising the profile of the potential megaregion, but also to drive further connectivity (e.g. via research partnerships, student exchange programmes, etc.). This is particularly important in a context where the geographic scope of collaboration is evolving and the goal of the megaregion approach is not to form a new administrative layer. The point for Western Scandinavia is not to cover a pre-determined perimeter or to create an additional administrative apparatus. Rather, its success depends on its collective capacity to identify a clear vision for its future, capitalise on existing co-operation mechanisms, develop a menu of concrete projects and implement them effectively. Once the vision has been fleshed out with a clear allocation of roles, a timeline and a financial framework, a series of "quick wins" can help build momentum and credibility. A collaborative approach throughout the process is essential for creating a sense of ownership across the regional society. Regular events and milestones could also provide opportunities to monitor progress and celebrate achievement.

Figure 2.5. **Indicators on the multi-level governance of public investment for regional development in Norway, Sweden and OECD average**

A. Norway



B. Sweden



Note: The possible scores for each indicator are 0, 0.5, and 1. The OECD average by indicator is between 0 and 1. No data available on indicator 9 in Norway.
Source: OECD (2016a), answers to the Regional Outlook Survey and OECD (2016d), "Overview and preliminary proposal on indicators of co-ordination of public investment for regional development".

Box 2.16. Getting infrastructure right: An OECD framework for the governance of infrastructure

Infrastructure is one of the backbones of both productivity and inclusiveness. Firms derive much of their competitive edge from their ability to use modern infrastructures, while societies depend on good infrastructure to ensure equal opportunity and equal access to services for citizens. Nevertheless, infrastructure has always been difficult to get right. Apart from the technical challenges, poor governance of infrastructure is a major reason why infrastructure projects fail to meet their time frame, budget and service delivery objectives.

Substantial benefits can be realised by better governance of public infrastructure. The OECD has developed a Framework for the Governance of Infrastructure that countries can use to assess the adequacy of their infrastructure management systems. The framework covers ten key dimensions relating to how governments prioritise, plan, budget, deliver, regulate and evaluate infrastructure investment:

1. Establish a national long-term strategic vision that addresses infrastructure service needs.
2. Manage the integrity and corruption threats at all stages of the process, from project conception to delivery.
3. Establish clear criteria to guide the choice of delivery mode (public-private partnerships vs. direct public provision, etc.).
4. Ensure good regulatory design and maintain a predictable regulatory framework for investment.
5. Integrate a consultation process early enough so that decisions benefit from real stakeholder engagement.
6. Co-ordinate infrastructure policy across levels of government in such a way that investment decisions by central and subnational governments are coherent.
7. Guard affordability and value for money by using and applying cost-benefit and other methods rigorously and consistently.
8. Generate, analyse and disclose useful data to increase transparency and ensure accountability.
9. Integrate mechanisms to evaluate the performance of assets throughout their lifecycle.
10. Review existing infrastructure resilience in the face of evolving natural and man-made risks and develop guidelines to future proof new infrastructures.

Source: Adapted from OECD (2017b), *Getting Infrastructure Right: A Framework for Better Governance*, http://dx.doi.org/10.1787/9789264272453-en.

Box 2.17. The Danish-German Transport Commission and the Jutland Corridor

The Danish-German Transport Commission was founded in July 2011. Its objective is to identify and analyse challenges and make recommendations with regard to the transport infrastructure in the Jutland Corridor. The commission has 12 permanent members, which are equally divided between Denmark and Germany (Denmark: Danish Ministry of Transport and Building [two members], Region of Southern Denmark, Danish Chamber of Commerce, Confederation of Danish Industry member appointed by the Danish Minister of Transport and Building; Germany: Ministry of Economic Affairs, Employment, Transport and Technology [two members], Federal Ministry of Transport and Digital Infrastructure, Hamburg Chamber of Commerce, Chamber of Commerce and Industry Schleswig-Holstein, WiREG [Business Development Corporation Schleswig-Flensburg]). In addition to the permanent members, the commission has invited experts to participate in the discussions on various subjects. The commission is solely a consultative organ and is thus only capable of making recommendations, which are not politically nor legally binding for the German or Danish governments respectively. However, in November 2015, the commission published a report "Transport infrastructure in the Jutland Corridor", which proposed a list of recommendations that were unanimously decided and put forward short-, medium- and long-term concrete projects.

Source: OECD elaboration drawing on https://www.trm.dk/en/publications/2015/transport-infrastructure-in-the-jutland-corridor.

Engaging all relevant stakeholders in defining a clearly identifiable "brand" is a key factor for Western Scandinavia to become internationally visible and attractive. This is more than a simple question of labelling; it shapes the vision, projects and stakeholders that can be empowered to join forces and act stronger together. The current working name "Western Scandinavia" has its merits; however, it might come across as cryptic or even misleading to some. Based on the model of the Latin Arc Association or the MedCities network, defining a broader, more inclusive "Scandinavian Arc" or "ScanCities" concept could perhaps help encourage co-operation between the relevant territories and raise their collective international visibility (Box 2.18). Likewise, there might be potential to better capitalise on the combined name value of the large cities Oslo, Gothenburg, Malmö – and Copenhagen and even Hamburg. Considering the proliferation of cheap short-haul flights and the rise of "city break" trips, effective co-ordination between nation brands, region brands and city brands has become critical to the success of marketing tourism by distributing tourists in the most efficient manner and ensure that the appropriate structures are in place (OECD, 2017a). Examples of co-ordination tools in OECD countries include legal mechanisms (e.g. Denmark's Law for Tourism) and long-term tourism and/or marketing strategies (e.g. Canada). Soliciting external expertise on a megaregional branding strategy could be beneficial and help better organise the various initiatives that currently aim to boost the attractiveness of this coast.

Box 2.18. **Two examples of Mediterranean city networks: The Latin Arc Association and MedCities** (*continued*)

Latin Arc Association

The Latin Arc Association was set up in 2002, building on territorial co-operation carried out in the 1990s. Covering part of three countries located in the north-western Mediterranean (France, Italy and Spain), Latin Arc aims to provide a platform for technical and political co-operation to territories that share a series of cultural, historical, socio-economic, geographic, climatic and environmental features that make up its identity in the European context. Latin Arc is composed of representatives from local and intermediate governments from the Mediterranean area (Spanish provincial and island councils, French departmental councils, and Italian provinces and metropolises). This area accounts for about 10% of the EU population and territory.

The association offers a platform for collaboration among second-tier administrations to help them articulate a common and coherent discourse so that the European Union can take Mediterranean local perspectives into account in the formulation of its policies. By joining the association, local administrations become partners to enhance their capacity to defend their interests towards national and European levels, by defining joint projects, developing stronger communication and political initiatives, and internationalising their actions.

Medcities

MedCities is a network of Mediterranean cities created in Barcelona in November 1991. Its initial aim was to strengthen awareness of urban environmental problems through technical assistance to municipalities in developing countries. MedCities has gradually expanded its activities to the field of local sustainable urban development as a way to improve living conditions in the Mediterranean region. Today, it brings together more than 50 cities from 16 Mediterranean countries (including Agadir, Alexandria, Ancona, Antalya, Barcelona, Djerba, Dubrovnik, Gaza, Izmir, Málaga, Marseille, Monastir, Oran, Rome, Tangiers, Tripoli, Tunis and many more).

The main purposes of the network are:

- to develop the awareness of interdependence and common responsibility with regard to policies of sustainable development, environmental conservation and social cohesion of the Mediterranean basin
- to reinforce the role, competences and (institutional, financial and technical) resources of local administrations in the adoption and implementation of sustainable local development policies
- to develop citizens' awareness and involvement in the sustainable development of their towns and cities

Box 2.18. **Two examples of Mediterranean city networks: The Latin Arc Association and MedCities** (*continued*)

- to develop policies for direct co-operation and partnership between partners and with other associations.

The managing bodies of the network are:

- General Meeting. It is the supreme governing body of MedCities and is made up of all MedCities members. The sessions of the General Meeting can be ordinary (held once a year) and extraordinary (held when the circumstances make this advisable, in the president's opinion, when the Board of Directors agrees to this or when proposed in writing by one-tenth of the members).
- Board of Directors. MedCities is managed and represented by a Board of Directors made up of seven to nine members: one president, five to seven members plus the general secretary. A vice-president and a treasurer are designated. All the posts forming the Board of Directors are unremunerated. These are appointed and revoked by the Extraordinary General Meeting and their mandate lasts for four years. The Board of Directors meets as often as this is determined by its president and at the initiative or request of three of its members.
- Presidency. The president is the legal representative of MedCities at any kind of public or private body. He/she calls, presides over and concludes any sessions of the General Meeting and the Board of Directors, as well as directs their discussions. The president adopts any urgent measure that the proper running of MedCities makes advisable or that proves necessary or useful in undertaking its activities, with no detriment to rendering account to the Board of Directors thereafter. The vice-president shall stand in for the president in his/her absence, on grounds of illness or for any other reason, and shall have the same attributes as the president.
- General Secretariat. This administrative body assists the president and the Board in their respective tasks. It is in charge of the ordinary running of MedCities; ordering payments and authorising any documents, certificates and correspondence with his/her signature; governing the purely administrative work; issuing certificates; keeping any books that may be legally established and members' files; and shall have custody of legal documents, having the notifications sent as regards the designation of Boards of Directors and other corporate agreements that can be entered in the relevant registries, as well as the presentation of the annual accounts and compliance with documentary obligations in the terms legally applicable.

Box 2.19. **Two examples of Mediterranean city networks: The Latin Arc Association and MedCities**

MedCities has established three knowledge transfer centres in the cities of Málaga (Spain), Al Fayhaa (Lebanon) and Sfax (Tunisia). Knowledge transfer is an important task of the MedCities network in order to disseminate the concept of strategic urban planning; advance the methodological tools existing for the elaboration and implementation of strategic plans; and promote the exchange of experiences between cities that are elaborating or implementing strategies. Knowledge transfer centres are tasked to identify best practices in the implementation of projects so that other cities can learn from them in a peer-to-peer learning approach, and disseminate and promote city strategic thinking in the region. They are responsible for keeping the debates active and for expanding the network of practitioners and experts of the MedCities network.

MedCities also participates in international fora that seek to promote sustainable urban development and strategic planning. For example, MedCities is a partner of the Centre for Mediterranean Integration of Marseilles and actively participates in its Urban Hub together with the World Bank, the German Agency for International Cooperation, the French Agency for Development, the European Investment Bank, and the Caisse des Dépôts et Consignations. It is also a member of the Urban Experts Group of the Secretariat of the Union for the Mediterranean. It participates in the Strategic Planning Commission of United Cities and Local Governments and in its Mediterranean Commission. In addition, MedCities has participated in common projects with the United Nations Development Program – ART Initiative, Cities Alliance and the Inter-Mediterranean Commission of the Conference of Peripheral Maritime Regions, and it participates in the ECOTER commission of the Euro-Mediterranean Local and Regional Assembly.

Source: Adapted from the websites of the Arco Latino Association (http://en.arcolatino.org) and Medcities (www.medcities.org).

Another major aspect to take into account for building a megaregional branding strategy in Western Scandinavia is the growing impact digitalisation has had on the tourism sector. Accommodation, transport, dining and other industries are all evolving to take up new digital technologies and tap potential new funding opportunities. Tourism partnerships, which traditionally used to be formed with hoteliers, airlines and retailers, are therefore integrating new players following this "digital shift". New actors include companies such as Airbnb and Uber, concierge apps, last-minute booking sites, and peer review-based websites. For example, TripAdvisor has moved from being only a review platform to incorporating a booking facility. The rapid rise of digital platforms such as YouTube and Instagram and the sheer size of their online community are opening up new opportunities to make local experiences more accessible to tourists. For example, VisitDenmark has developed partnerships with digital providers such as Airbnb as a tool to develop new routes and new relationships with consumers (Box 2.21). While

co-operation with a non-traditional accommodation provider such as Airbnb could be perceived as controversial, VisitDenmark's mission focuses on creating awareness and encouraging visits to Denmark. It argues that there is a need to be present where the tourists are, and today, an increasing number of international tourists are considering or choosing to use such sharing platforms (OECD, 2017a) – a trend that Western Scandinavia needs to reflect in its own attractiveness strategy.

Box 2.20. **Examples of intergovernmental co-ordination for tourism: Denmark and Portugal**

Denmark

The first Danish law for tourism came into force on 1 January 2015. The legislation was introduced to improve the governance of publicly funded tourism marketing and promotion, and to achieve a greater return on this public investment through better co-ordination at the national, regional and local levels. The process has led to the establishment of the Danish National Tourism Forum, whose main role is to lead and co-ordinate the public promotion of Danish tourism. The members of the Tourism Forum include a chairman from the Ministry of Business and Growth, and the following seven additional members: VisitDenmark's Chairman of the Board; two members from Danish regions, one of which is the Vice Chairman; one member from Local Government Denmark; two representatives of tourism business; and a tourism researcher.

Portugal

In 2003, Portugal established a Strategic Tourism Promotion Council (CEPT) – a partnership agreement between Turismo de Portugal and the private sector to promote regional destinations in international markets. The CEPT meets twice a year to discuss strategic guidelines, plans and budgets for national and regional tourism promotion. It is chaired by the Secretary of State for Tourism and includes representatives of Turismo de Portugal, the Portuguese Tourism Confederation (representing the private sector) and the seven regional agencies for tourism promotion – Porto e Norte, Centro de Portugal, Lisbon, Alentejo, Algarve, Madeira and the Azores. The promotion plans are multiannual, aligned with the national strategy and may be revised annually to reflect changes in tourism policy. They are funded by Turismo de Portugal (two-thirds of the total budget), the regions (one-sixth) and the private sector (one-sixth).

Source: Adapted from OECD (2017a), "A review of the policy framework for tourism marketing and promotion", http://dx.doi.org/10.1787/096d0ace-en.

Box 2.21. **VisitDenmark and Airbnb: "Come & Be part of it"**

VisitDenmark understands that today's tourists want authentic experiences, and to get close to the local population. In line with this perception, its branding of Denmark is based on the brand promise "Come & Be part of it". VisitDenmark is currently working with Airbnb on several initiatives centred around three pillars: 1) specific partnership marketing campaign opportunities; 2) how to equip Danish hosts to become better ambassadors for Denmark when interacting with their guests; 3) an exchange of knowledge and analysis on the "sharing" guests. The first VisitDenmark campaign with Airbnb took place at the beginning of 2016. It was a co-branding campaign centred on the movie "The Danish Girl", and performed over benchmark on all parameters. Another initiative was collaboration on an event for Danish Airbnb hosts. The main purpose of the event was to share knowledge about the tourists using the services in the sharing economy among the partners involved (including SnappCar, Cook With a Local, and selected local Danish brands).

Source: Adapted from OECD (2017a), "A review of the policy framework for tourism marketing and promotion", http://dx.doi.org/10.1787/096d0ace-en.

Notes

1. This concerns only the boundaries of the regions, not those of the intermediate level.
2. Västra Götaland is the result of the merger of three former counties (Älvsborg, Bohus and Skaraborg) and the city of Gothenburg. Skåne was formed by the merger of two counties (Malmöhus and Kristianstad) and the Health Services Authority in the city of Malmö. In both cases, new directly elected regional assemblies took over the responsibility for regional development from the respective county administrative boards for a pilot phase of regionalisation in Sweden, which was later made permanent in 2011.
3. Oslo is not part of any regional council. Akershus hosts four regional councils (Follo, Nedre Romerike, Øvre Romerike and Vest). The Vest Regional Council brings together municipalities from Akershus and Buskerud Counties. Østfold hosts three regional councils (Mosseregionen, Nedre Glomma and Indre Østfold). The border municipality Halden is the only municipality (aside form Oslo) which is not a member of a regional council. Indre Østfold is by far the largest regional council, with ten municipalities.
4. Throughout history, different parts of Western Scandinavia used to be controlled by Danish/Norwegian and Swedish/Norwegian authorities, notably during the Denmark-Norway union (1537-1814) and the Sweden-Norway union (1814-1905).
5. For example, a recent assessment of the added value of Nordic cross-border co-operation finds that at the local and regional level, cross-border co-operation provides several forms of added value. It provides solutions to shared problems (in particular in rural regions) and opportunities to share and exchange knowledge. Co-operation also generates critical mass for social and economic development initiatives, thus improving territorial cohesion (Hörnström, Tepecik Diş and Berlina, 2015).

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Annex 2.A. Indicators on the co-ordination of public investment for regional development

Following the adoption of the OECD *Recommendation of the Council for Effective Public Investment across Levels of Government* in 2014, the OECD has developed matching indicators to assess the degree of co-ordination across levels of government in the field of public investment for regional development. These indicators build largely upon the answers to the 2015 Regional Outlook Survey, which was completed by almost all member countries, including Norway and Sweden. Other sources of information include the country pages developed for the Implementation Toolkit,[1] data from recent surveys conducted by the OECD Network on Fiscal Relations across Levels of Government,[2] and OECD National Accounts. Indicators are national-level data/information and seek to measure the existence of formal co-ordination mechanisms. Most indicators were constructed for 32 countries (31 OECD countries and Colombia), although the number of respondents may slightly vary according to the indicators.

		Norway	Sweden
1. Coherent planning across levels of government			
	The country has regional development policies/strategies to support regional development and local investments.		
a	No explicit national policies to support regional development		
b	Explicit national policies to support regional development in all or parts of the country		
c	Explicit national regional development policies completed by regional investment strategies aligned with it	X	X
2. Co-ordination across sectors in the national planning process			
	The country has mechanisms to co-ordinate across sectors national policies and investment priorities for regional development.		
a	No mechanism		X
b	At least inter-ministerial committee and/or cross-ministerial plan		
c	Inter-ministerial committee and/or plan + other mechanisms	X	
3. Vertical co-ordination instruments			
	The country has mechanisms to ensure co-ordination across levels of governments (regional development agencies, national representatives in subnational governments, and contracts or agreements).		
a	None of these		
b	At least one of these mechanisms	X	X
c	At least one of these mechanisms involving many sectors		
4. Multi-level dialogue to define investment priorities for regional development			
	The country conducts regular dialogue(s) between national and subnational levels on regional development policy, including investment priorities.		
a	No regular dialogue		
b	Formal or *ad hoc* dialogue	X	X
c	The platform has decision-making authority		

5. Horizontal co-ordination across jurisdictions			
	The country has formal horizontal mechanisms/incentives between subnational governments to co-ordinate public investment.		
a	No mechanisms		
b	Formal horizontal co-ordination mechanisms at the municipal level	X	X
c	Formal horizontal co-ordination mechanisms at the municipal level and other subnational levels (state, regions)		
6. Performance monitoring and learning			
	The country has mechanisms in place to monitor and evaluate regional development policy.		
a	No mechanisms		
b	The country has indicators to monitor the effectiveness of regional development policy		
c	The country has conducted evaluations of regional development policy	X	X
7. Regulatory co-ordination across levels of government			
	The country has mechanisms to co-ordinate regulations across levels of government.		
a	No intergovernmental co-ordination mechanisms		
b	Formal co-ordination mechanisms between national/federal and state/regional governments		
c	Requirement of national government to consult subnational governments prior to issuance of new regulations that concern them	X	X
8. Co-financing arrangements across national and subnational levels			
	There are co-financing arrangements for public investment.		
a	No co-financing arrangements		
b	Co-financing arrangements exist but funds are not tracked	X	X
c	Co-financing arrangements exist and funds are tracked		
9. Subnational governments benefit from predictable capital transfers over time			
	Variations in total capital transfer from one year to the next.		
a	Large variation: more than 20%	X	
b	Medium variation: between 10% and 20%		X
c	Little variation: less than 10%		
10. Transparent information across levels of government			
	Subnational fiscal situation is publicly available.		
a	Not available for any type of subnational government		
b	Available for regions/states/some level of subnational government only (on an individual basis)		
c	Available for each subnational government individually	X	X
11. Fiscal stability: rules for subnational governments			
	There are limits on subnational borrowing.		
a	No limits on subnational government borrowing		
b	Non-binding borrowing constraints		
c	Binding borrowing constraints	X	X
12. Safeguarding capital spending at subnational level			
	Balanced budget rules protect subnational capital spending.		
a	No balanced budget rule		
b	Balanced budget rule with no exception for capital spending		
c	Balanced budget rule protecting capital spending (type golden-rule)	X	X

Notes

1. See more detailed information at: https://www.oecd.org/effective-public-investment-toolkit.
2. See more detailed information at: www.oecd.org/tax/federalism.

Part II.
Spotlight on the regions

Chapter 3. Oslo-Akershus-Østfold

The purpose of this chapter is to provide recommendations for the municipal and county administrations of Oslo, Akershus and Østfold to improve economic development outcomes in the context of the broader megaregion collaboration. The chapter is organised in two parts: 1) an overall diagnosis of the region's economic performance; and 2) an assessment of two key priorities for the future development of the region: job creation, innovation and entrepreneurship; and regional skills. Key findings and recommendations are summarised at the beginning of the chapter.

Key findings and recommendations

Oslo-Akershus and Østfold enjoy high levels of well-being in an OECD context, but face strategic policy challenges associated with supporting innovation and economic diversification, skills and inclusive growth, infrastructure and land use. Norway is experiencing structural change due to lower commodity prices, and Oslo, Akershus and Østfold can play a key role in supporting this transition. These counties host over a quarter of the country's population; they are the location of key producer services; and are critical to the national transport infrastructure network. The area consists of three local labour markets with different growth dynamics. On the one hand, Oslo and Akershus form a single labour market; while this is a high-productivity metropolitan region, challenges associated with promoting innovation in high-value producer services, ensuring the supply of housing and provision of sustainable transport for a growing population, and the inclusion of new migrant groups into the economy, will need to be addressed. On the other hand, Østfold encompasses two distinct local labour markets. Compared to Oslo and Akershus, these two labour markets are much smaller in size, register weaker performance and focus on consumer services (public and private) and manufacturing. These two labour markets face the challenge of transitioning to higher value manufacturing and services. This overall diagnosis points to two main strategic policy challenges for Oslo, Akershus and Østfold. The first is how to facilitate the creation of new jobs and business opportunities that are high value and take advantage of the economic transition that Norway is facing. The second is equipping people with the skills, and addressing mismatches in the labour market, to ensure that businesses have the capacity to take advantage of new opportunities and grow. Underpinning both these challenges is the need to supply appropriate land and infrastructure to accommodate future growth and change, and to expand the scale and depth of local labour markets.

The next phase of the innovation and entrepreneurship policies for these regions will need to foster internationalisation of firms, enhance cross-fertilisation between different sectors and capabilities, and strengthen linkages between research institutions and business. Oslo-Akershus has recently developed a strategy to better prioritise and organise support for innovation and entrepreneurship. Oslo-Akershus has emergent strengths in health sciences and renewable energy, together with established strengths in producer services linked to the oil and gas sector. These emergent strengths will need further support in terms of research and development and measures to facilitate commercialisation. The challenge for established activities is to identify how they can be further supported to lift participation in global value chains, and to foster linkages between sectors to support diversification (for example between ICT and health). In the absence of a clear strategy (until recently), the region has developed many small cluster-based activities, which need to be consolidated and strengthened. Østfold faces a different set of challenges, mainly associated with enabling structural transformation in its manufacturing base, and investment in key growth factors (skills, innovation and infrastructure) to improve general business conditions. Combining this place-based strategy with better transport links between Østfold and Oslo-Akershus will also help lift future productivity and inclusive growth outcomes. The key recommendations for innovation and entrepreneurship are: 1) address fragmentation in cluster activities by reprioritising existing efforts and developing common funding platforms (between Oslo, Akershus and Østfold) with national agencies to build scale and better co-ordinate investment; 2) prioritise initiatives in Østfold that support structural transformation in the manufacturing sector toward higher value activities and better transport links with Oslo-Akershus.

The three county administrations are in the early days of developing a more strategic approach to skills development, and further efforts will be needed to strengthen delivery mechanisms for regional competency plans. Oslo-Akershus is a high-skilled region and the proportion of the working-age population with a post-secondary education has been increasing over time. The region has recently absorbed a higher proportion of newly arrived migrants with low skills, and is now focusing on their social and economic integration. Due to relatively strong growth, businesses in this region also face challenges associated with skills mismatches in low- and high-skilled occupations. On the other hand, Østfold has much lower levels of job creation, which means additional challenges for migrants, displaced workers and young people entering the labour market. The workforce of Østfold is also becoming more skilled and progress has been made in reducing the proportion of working-age people with a basic education. Østfold County can make further progress in addressing these challenges because it can organise interventions at the scale of local labour markets, and better co-ordinate labour market, education and skills programmes, and initiatives delivered at national and local levels. Østfold has recently completed a regional competency plan, and Akershus is also developing one. Further strengthening capabilities and mechanisms to deliver these regional competency plans and build credibility and momentum in relation to this new role can be achieved by: 1) investing in generating timely information about local labour market conditions and forecasting to anticipate future skills requirements; 2) utilising clusters to develop and attract specialised skills, strengthening relationships between education and training providers and business; 3) working with civil society organisations to help migrants develop informal social networks.

Overview: The economic performance of Oslo-Akershus-Østfold in Norway and the OECD area

Norway enjoys very high standards of living and a robust economy but challenges lie ahead, and Oslo will play a key role in navigating this transition. Norway has high living standards in the context of the OECD and relatively robust economic performance since the crisis (Table 3.1). The decline in commodity prices since 2014 has been a reminder of external risks and the need for a more flexible and competitive mainland economy (OECD, 2016c). Key national growth challenges include the need to strengthen areas where Norway has a competitive advantage in global markets (such as fisheries and aquaculture, oil and gas services, and tourism), better managing the risks associated with increasing house prices, and strengthening linkages between skills development and the economy (OECD, 2016c; 2017c). Oslo will play a major role in supporting Norway to navigate this transition. This region is the location of a high proportion of the producer services which are linked to the oil and gas sector. It is home to 24% of the country's population and faces issues related to housing choice and affordability, and is an international gateway for the movement of goods and passengers. Counties and municipalities can also help address national growth challenges, for example through improving land-use and infrastructure planning, and better matching skills to local job opportunities.

Table 3.1. **Key economic indicators for Norway compared to OECD averages, 2014**

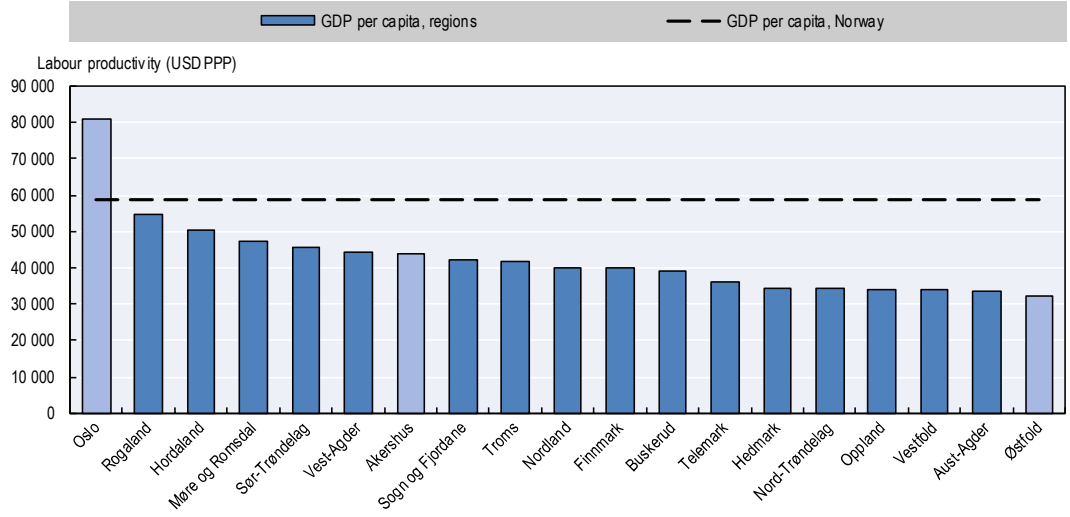
Key indicator	Norway	OECD
GDP per capita	USD 62 075	USD 39 828
Labour productivity (per hour worked)	USD 86.60	USD 50.08
Real GDP growth rate	1.6%	2%
Population growth rate	1.1%	0.5%
Employment rate (15-64)	74.8%	65.6%
Unemployment rate	4.3%	7.3%

Note: Population growth rate for OECD is 2013.
Source: OECD Country Statistical Profiles.

Oslo and Akershus form a functionally integrated capital city region, while Østfold includes two smaller local labour markets with strengths in manufacturing. Oslo is the capital of Norway and is the location of key national institutions, higher education and research organisations, and business and financial services. The county of Akershus, surrounding most of Oslo, is functionally integrated with the city and shares a common labour market. According to Roto (2012), the local labour market of Oslo encompasses 46 municipalities covering Akershus, and the southern areas of Buskerud and Oppland. In 2014, Oslo and Akershus together accounted for 25.5% of the national gross domestic product (GDP). In comparison, Østfold, to the south-east and on the border with Sweden, has a higher proportion of manufacturing activity and a lower level of connectivity in terms of labour market interactions with Oslo and Akershus. In 2014, Østfold accounted for just 3.1% of the national GDP. Østfold is organised into two local labour markets, distinct from Oslo-Akershus, and based around the cities of Halden and Fredrikstad/Sarpsborg (Roto, 2012). Better integrating these local labour markets with Oslo and Akershus will help increase job opportunities for residents in Østfold, and provide future capacity for the growth of Oslo.

Oslo is a very wealthy region both in Norway and the OECD. GDP per capita in Oslo in 2014 was USD 80 873, which is over double the OECD average of USD 39 828. This high GDP per capita is due to the presence of high value-added services and capital city functions. This includes professional, scientific and technical services associated with major tradeable sectors such as petroleum and gas, metals and minerals, and fisheries and aquaculture (OECD, 2016f). In contrast, GDP per capita in Akershus was much lower, at USD 43 702, while in Østfold it was USD 32 323. Akershus serves as a commuter catchment area for central Oslo and displays clusters of high-value services, transport and logistics. Østfold has a different economic structure from the one in Oslo and Akershus. Østfold's economy has historically been based on manufacturing, which has experienced restructuring in recent years. A key challenge for Østfold is the lack of a "catching up" dynamic. The average annual growth rate in GDP per capita has been slightly lower in Østfold (0.14%) than in the much wealthier Oslo (0.15%). This indicates that GDP per capita has not been catching up as expected.

Figure 3.1. **GDP per capita – Norwegian TL3 regions, 2014**



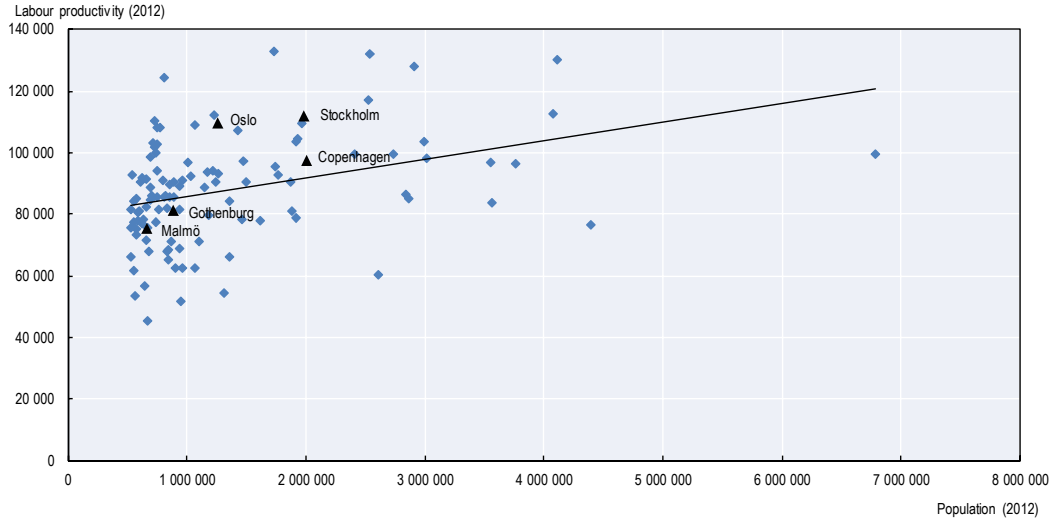
Note: GDP per capita is expressed in constant PPP.
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Oslo is a key growth engine for Norway and productivity levels are relatively high in an OECD context and compared to other Nordic capitals. In 2012 (in USD PPP terms), labour productivity in Oslo was USD 109 542, between USD 111 799 for Stockholm and USD 97 214 for Copenhagen (Figure 3.2). Considering that larger cities in the OECD tend to have higher levels of labour productivity, and given its relatively smaller population size, Oslo is a strong performer in a European context (OECD, 2014b). In comparison, the labour productivity of Østfold was significantly lower, at USD 73 897 in 2012.

Labour market performance of Oslo and Akershus is strong in an OECD context. Post-crisis the labour market of Oslo and Akershus has shown resilience compared to other OECD regions, and reflects the overall strength of the Norwegian economy despite the fall in oil prices in 2014. Labour force participation of 15-64 year olds is 80.3%, which is above national and OECD averages. The unemployment rate is low (4.9%) but rising at a faster rate, which most likely reflects the downstream impacts of lower

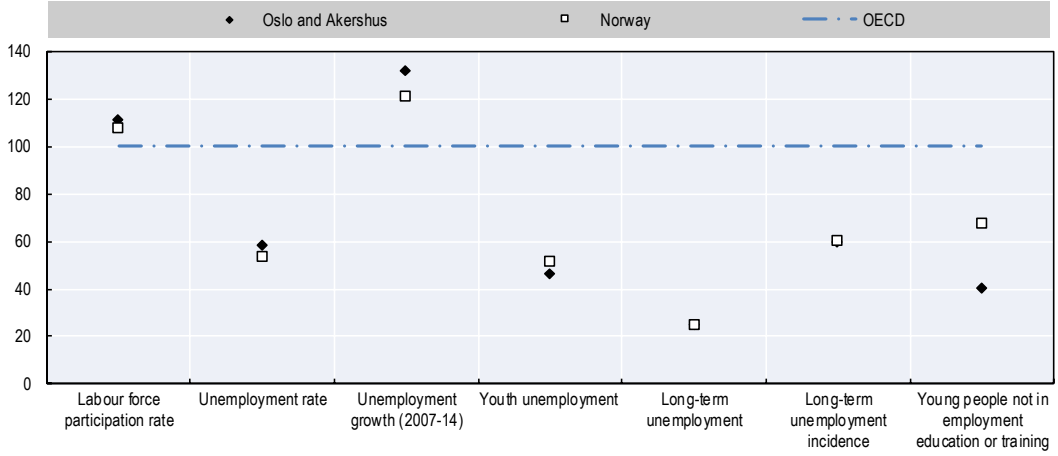
commodity prices. Oslo and Akershus perform strongly in relation to key indicators such as long-term unemployment, youth unemployment, and young people not in education, employment and training compared to the average of OECD TL2 regions (OECD, 2016d).

Figure 3.2. **GDP and labour productivity, European metropolitan areas**



Note: Labour productivity is measured as GDP/labour force and is expressed in USD PPP terms. The chart excludes London and Paris because they are outliers.
Source: *OECD Metropolitan Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 3.3. **Benchmarking labour market performance: Oslo/Akershus and OECD TL2 average, 2015**

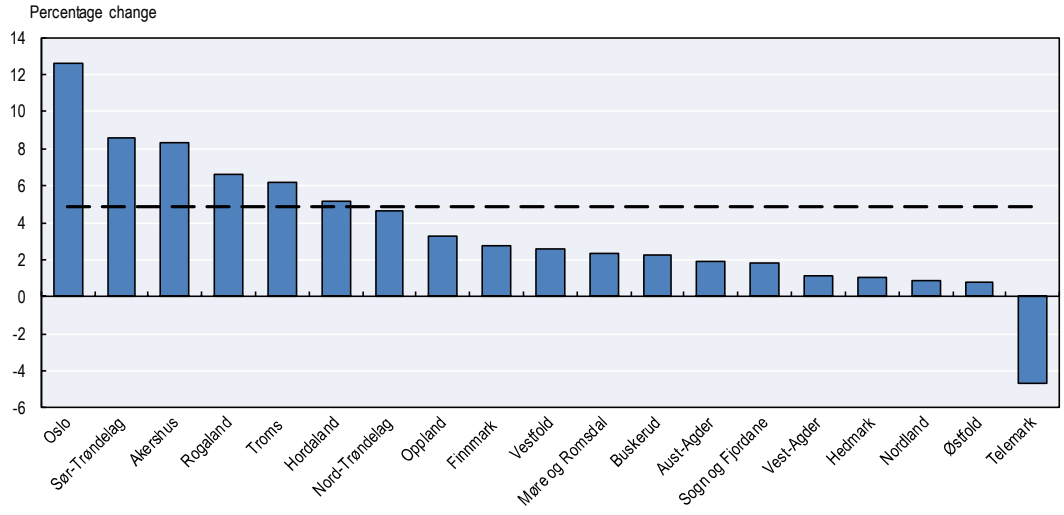


Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

The county of Østfold faces challenges related to job creation, which are largely linked to its small labour markets. Østfold is relatively small, with a population of 292 893, which is 5.6% of Norway's population. In comparison, Oslo-Akershus has a population of 1.3 million, which is 24% of the national population. In the OECD regional typology, Østfold is defined as an "intermediate region", which means the share of the regional population living in rural municipalities (below 150 inhabitants per square kilometre) is

between 15% and 50%. The cities of Halden and Fredrikstad/Sarpsborg, around which the two labour markets of Østfold are organised, have a concentration of activity in the manufacturing sector, while rural areas in the county have traditionally relied upon forestry and agriculture. The rate of job creation in Østfold has been the second lowest out of Norway's 19 counties (Figure 3.4). The crisis had a stronger impact on the labour markets of the county. In the period 2008-16, the labour force participation rate (for those aged 15-74 years) declined by 7% in Østfold, compared to 5% for all counties in Norway (Statistics Norway, 2017).

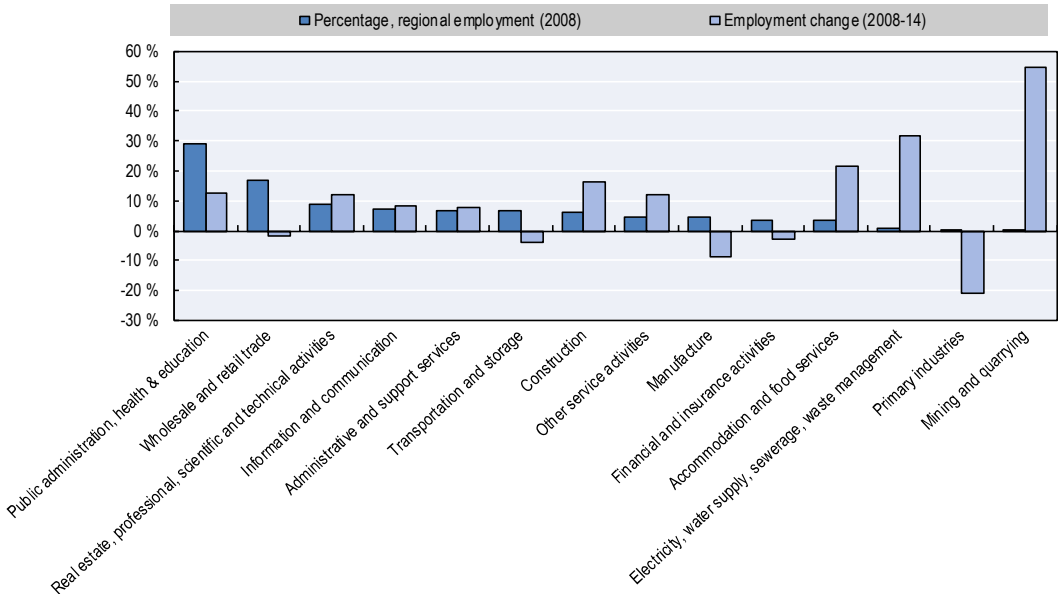
Figure 3.4. **Percentage change in employment, by county (compared to the national average), 2008-16**



Source: Statistics Norway, Persons in the labour force and employed persons, by region, sex, labour force status, time and contents.

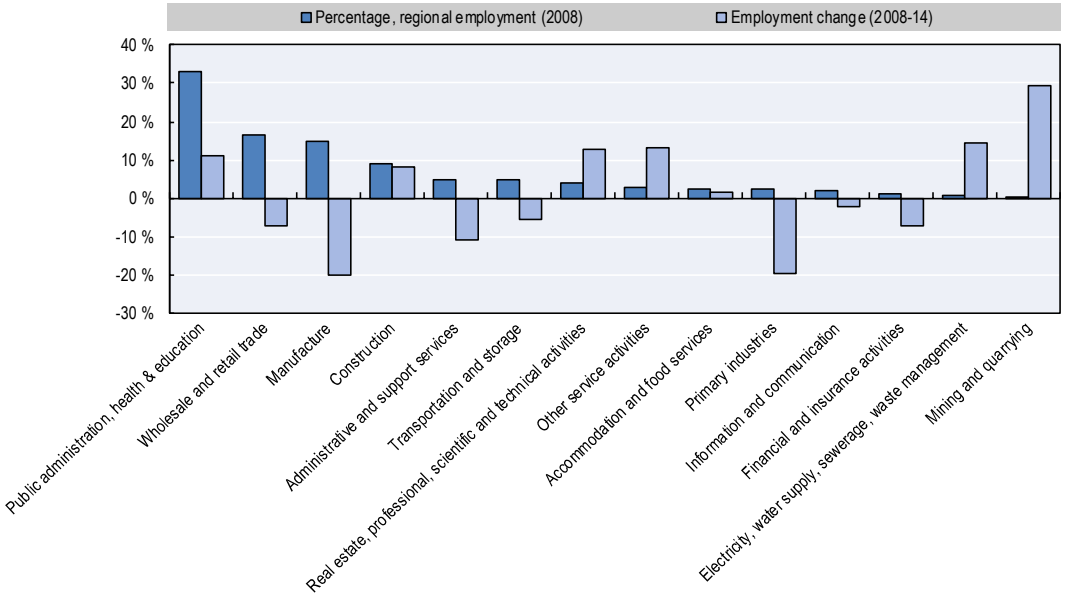
The relative strength of the economy of Oslo-Akershus lies in producer and tourism-related services, while the comparative weaker performance in Østfold is mainly due to the manufacturing sector. Public sector employment plays a major role in both local economies and has been growing since the crisis, although proportionally it is more important in Østfold's economy (29.1% vs. 33.1%). Labour market performance has been particularly strong for tourism-related activities in Oslo. Employment in the accommodation and food services sector grew by 21.5% in the period 2008-14. High-value producer services (ICT, finance and insurance, and professional and scientific services) are also growing relatively strongly and are important to the economy of Oslo and Akershus. This indicates a relatively healthy and robust tradeable sector, which is a key for driving future economic growth and productivity. In comparison, manufacturing plays a relatively more important role in the economy of Østfold (14.9% of total employment in 2014), and employment in this sector declined by 19.8% in the period 2008-14. Services are becoming more important to the economy of Østfold, particularly public administration, health and education, producer services, and construction.

Figure 3.5. **Employment by sector, and change – Oslo and Akershus**



Source: Statistics Norway, Regional accounts, by region, industry, time and content.

Figure 3.6. **Employment by sector, and change – Østfold**

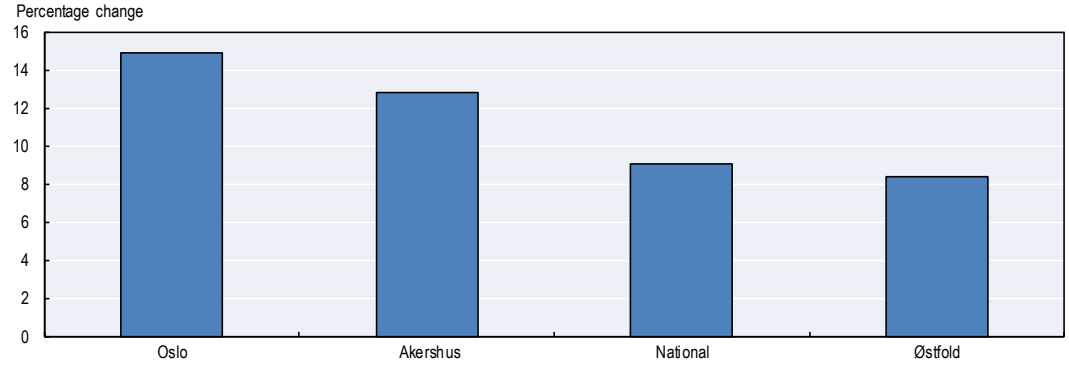


Source: Statistics Norway, Regional accounts, by region, industry, time and content.

Population growth has been relatively strong across Oslo, Akershus and Østfold and is mainly driven by migration. The average annual growth rate in population was in line or above the national average of 1.2% in the period 2008-14. The population of Oslo County in 2014 was 14.9% larger than in 2008, while the respective figure for Akershus was 12.8% and for Østfold 8.4%. This has been an important factor in driving the growth of employment in public services and construction in these counties since the crisis. The

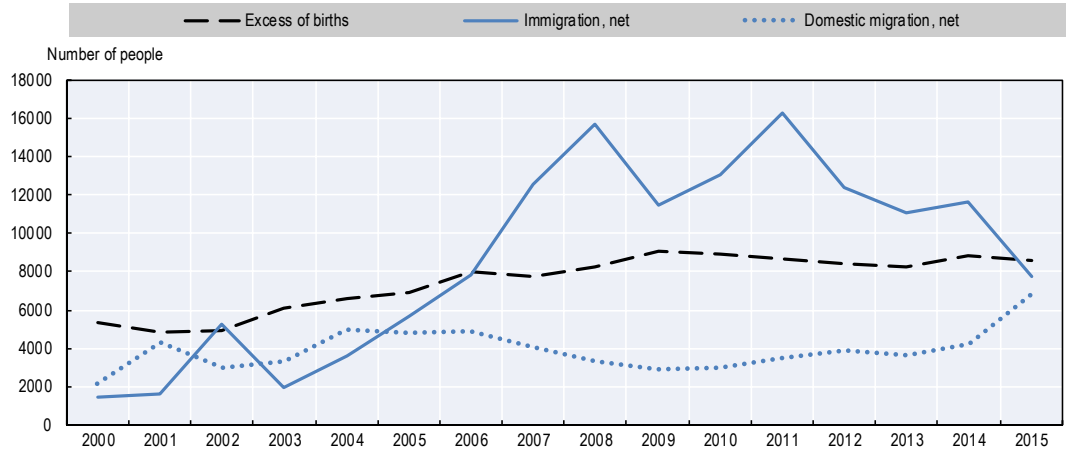
main contributor to the growth of the population in this period was the increase in the number of international migrants. Maximising the benefits of this "demographic dividend" by increasing employment and business opportunities for newly arrived migrants, particularly refugees and asylum seekers, is a key policy issue for the region.

Figure 3.7. **Percentage change in population, 2008-14**



Source: Statistics Norway, Population and area, by region, time and content.

Figure 3.8. **Components of population change, counties of Oslo, Akershus and Østfold**



Source: Statistics Norway, Excess of births, net domestic migration and net immigration, by county and national level in Norway.

This strong population growth is projected to continue, which reflects the attractiveness of the area, but will also place new pressures on housing supply, public infrastructure and services. A continuation of these trends will lead to substantial increases in population between now and 2040 under the main and high-growth scenarios developed by Statistics Norway (Table 3.2). Under the high-growth scenario, Oslo-Akershus is projected to grow from 1.3 million to 1.8 million in this period. In the context of an ageing population and smaller household size, this will generate increasing needs in terms of the housing market and urban mobility.

Table 3.2. **Percentage projected increase in population and annual growth rates, 2016-40 (main and high-growth scenarios)**

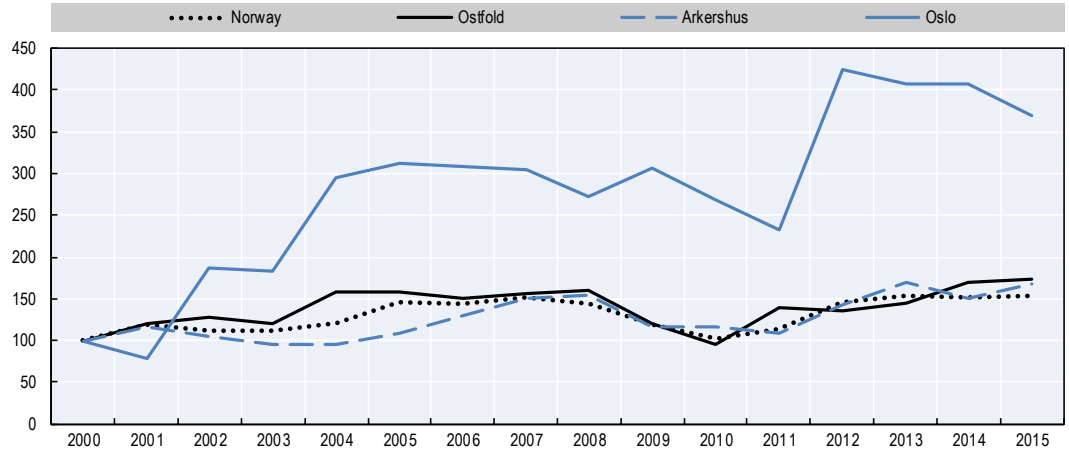
	Main scenario		High-growth scenario	
	Percentage increase to 2040	Average annual growth rate to 2040	Percentage increase to 2040	Average annual growth rate to 2040
Akershus	22.2	0.9	34.2	1.4
Oslo	29.3	1.2	43.0	1.8
Østfold	29.7	1.2	44.3	1.8
National	21.4	0.9	34.4	1.4

Source: Statistics Norway, Population projections by age. Two alternative scenarios. Counties and national level.

Housing supply will need to be more responsive to accommodate this growth. Since 2000, there has been a substantial increase in the number of new dwellings completed within the city of Oslo, while the number of new completions has been relatively stagnant in Akershus. This pattern of housing supply will need to change to achieve long-term land-use objectives to develop more compact settlements across the wider metropolitan region that have sufficient levels of population density which allow them to be connected by public transport services. One factor contributing to this pattern of housing supply may be the number of municipalities within Akershus and Østfold (43) compared to Oslo, which is a single municipality. Previous OECD research has found that increased administrative fragmentation is associated with lower productivity in cities (Ahrend et al., 2014). Administrative fragmentation in Norwegian cities can directly impact upon housing supply because land-use planning is predominantly administered at the local level. This increases the risk of constraints to housing supply, which may match local preferences but are contrary to wider metropolitan interests (OECD, 2017f). In Norway, municipalities tend to control decisions about land use. Under the Norwegian Planning and Building Act (2008), counties can issue legally binding regional planning provisions; however, this is not commonly used. If the county or other municipality objects to a planning decision, then the county governor can also adjudicate it. The exception to this rule 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 new housing, industry, and infrastructure developments (OECD, 2016c).

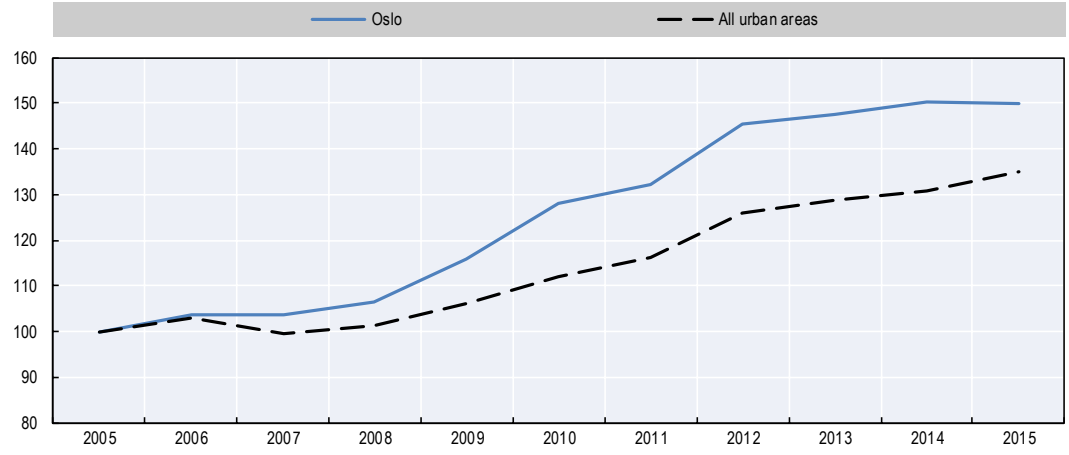
Another future challenge will be how to improve public transport, walking and cycling to accommodate future growth in a sustainable way. The projected increase in population will also increase mobility requirements of the population in terms of journeys to work, accessing public services, shopping, and accessing social and recreational opportunities. Infrastructure has been built and adapted to make it more pedestrian and bike friendly. There has also been significant (and planned) new investment in public transport infrastructure and services to improve bus and train services in the metropolitan region. Since 2000, there has been a 50% increase in the use of bus services in Oslo, offering a relatively flexible and low-cost solution to meeting transport needs into the future (Figure 3.10).

Figure 3.9. **Dwellings completed**



Note: 2005 value=100.
Source: Statistics Norway, Building completed, dwellings. Counties and national level in Norway.

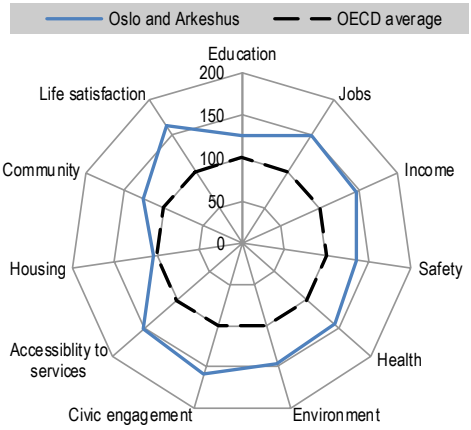
Figure 3.10. **Public transport trips by bus, Oslo compared to all urban areas in Norway**



Note: 2005 value=100.
Source: Statistics Norway, Public transport by bus, by region, time and content.

Residents in Oslo and Akershus enjoy high levels of well-being in an OECD context. The OECD Regional Well-being framework can help assess the well-being outcomes in Oslo and Akershus relative to other OECD regions. This multi-dimensional framework covers both material and non-material factors. It provides an overall picture about how economic, social and environmental progress affects people where they live, i.e. at a regional level. Oslo-Akershus ranks well above the OECD average in most key areas: jobs, income, safety, health, environment, civic engagement, accessibility to services, community, life satisfaction and education.

Figure 3.11. **Comparing well-being outcomes between Oslo and Akershus and the OECD average, 2015**



Note: Oslo and Akershus form a single TL2 region under the OECD classification.
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Spotlight on key priorities

Job creation, innovation and entrepreneurship

Oslo is specialised in high value-added financial, professional and technical services, and hosts major political, administrative and educational institutions. In the context of significantly lower commodity prices since 2014, it is important that the country continues to diversify its economy. The capital region has an important role in this supporting diversification effort, as it is specialised in high-value tradeable activities such as health and environmental technologies, and services provided to the oil and gas sector. In contrast, as underlined earlier, Østfold has a lower level of integration with this metropolitan economy and has historically specialised in the manufacturing sector. It is important to identify how Østfold can build on these existing strengths to facilitate the creation of new economic activities, which complement the growth of Oslo-Akershus. The objective of this section is to demonstrate how Oslo-Akershus and Østfold can boost competitiveness and job creation by better supporting innovation and entrepreneurship.

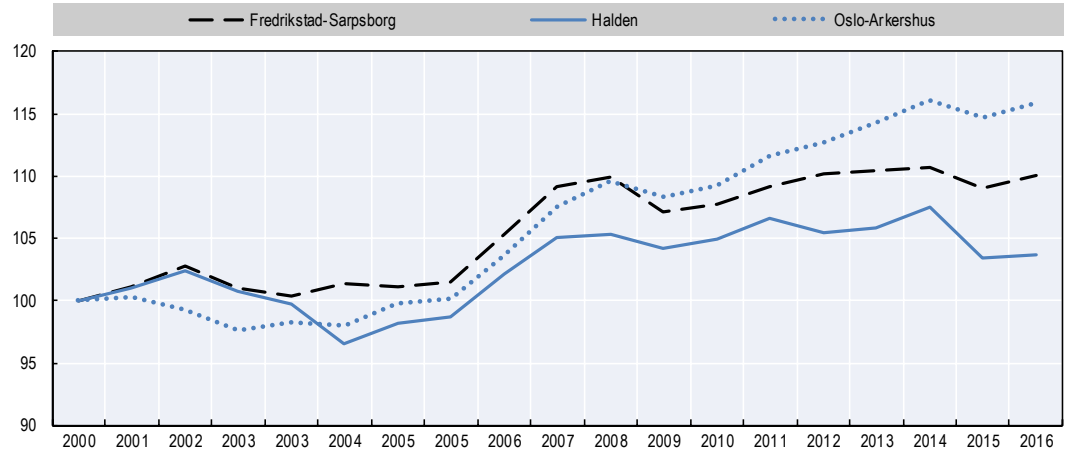
Strengths and challenges

There is a clear asymmetry between Oslo-Akershus and Østfold in terms of the performance and conditions of local labour markets (LLMs). In 2016, Oslo-Akershus contained 92% of all jobs in the region; Fredrikstad-Sarpsborg had 7% and Halden 1%. While job creation trends tended to be similar in the period leading up to the financial crisis, there has been a divergence in labour market performance since (Figure 3.12). In the period 2000-16, employment in Oslo-Akershus increased by 16% compared to 10% in Fredrikstad-Sarpsborg and 4% in Halden. The impact of the drop in commodity prices can be seen in all three LLMs in 2014-15.

The similarities and differences between the economic structures of Oslo, Akershus and Østfold can be measured through locational quotients, a technique that can be used to reveal which sectors regions are specialised in a national context (Table 3.3). All three counties share relatively high level of specialisation in the transport sector. This reflects the important role these areas play in the national transport network with the presence of

the main international airport, the entry point for flows of goods into the country, and the key hub for storage and intermodal facilities. On the one hand, the strengths of Oslo and Akershus lie in the services sector, particularly in terms of high value-added financial and insurance, information technology, and professional services. This includes services provided to the oil and gas and maritime sectors, which also face increasing competition in global markets. Tourism-related activities also play a key role and reflect the role of Oslo as a gateway to the country and in terms of business-related visits. On the other hand, the strength of Østfold lies in the manufacturing sector. Table 3.4 provides a more detailed breakdown of the manufacturing sector in Østfold and reveals higher levels of specialisation in manufacturing related to wood, plastics and minerals, chemicals and pharmaceuticals, and food products.

Figure 3.12. **Employment growth in local labour markets**



Notes: Nordregio has developed local labour markets (LLMs) for Nordic countries to enable comparative analysis at the scale of functional economic regions (Roto, 2012). The 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, 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.
Source: Statistics Norway, Employed persons per 4th quarter, by municipality of work, time and content.

Another key factor of regional competitiveness in Oslo, Akershus and Østfold, as in other OECD regions, is the level of productivity within the tradeable sector. The tradeable sector includes goods and services that are mainly produced for sale to buyers other than local ones (OECD, 2016d). Oslo and Akershus (as a single functional urban area) are specialised in the services sector, some of which serves the broader domestic and international market. Two such activities are financial and insurance services and information and communications technologies. Compared to the other Scandinavian capitals, Copenhagen (USD 15 696) and Stockholm (USD 19 005), Oslo and Akershus (USD 26 942) has a significantly higher level of labour productivity in the financial and insurance sector. This reflects the integration of these sectors with the oil and gas sector in Norway, and their penetration in international markets linked to this specialisation. Oslo and Akershus also have similar levels of labour productivity in services related to information and communications technologies to Copenhagen and Stockholm. This indicates relatively high levels of competitiveness in these services when taken together with the relatively high level of labour productivity in the Oslo metropolitan area in a European context (Figure 3.13).

Table 3.3. **Locational quotient, employment, 2014**

Sector	Akershus	Oslo	Østfold
Agriculture and forestry	0.5	0.0	1.1
Fishing and aquaculture	0.0	0.0	0.1
Mining and quarrying	0.4	0.0	0.0
Manufacturing	0.6	0.3	1.4
Electricity gas and steam	0.2	0.7	0.5
Sewerage and water supply	1.0	0.7	1.2
Construction	0.9	0.8	1.3
Wholesale and retail trade, repair of motor vehicles	1.4	1.0	1.1
Transport via pipelines	0.0	0.0	0.0
Ocean transport	0.9	1.2	0.1
Transport activities excluding ocean transport	1.3	0.8	0.9
Postal and courier activities	1.8	1.3	1.1
Accommodation and food service activities	1.0	1.2	0.8
Information and communication	1.5	2.4	0.5
Financial and insurance activities	0.7	2.8	0.5
Real estate activities	0.9	1.3	1.1
Professional, scientific and technical activities	1.3	1.6	0.7
Administrative and support service activities	1.1	1.6	0.8
Public administration and defence	0.8	1.5	0.9
Education	0.9	0.9	0.9
Health and social work	1.0	0.6	1.1
Arts, entertainment and other service activities	0.8	1.9	0.8

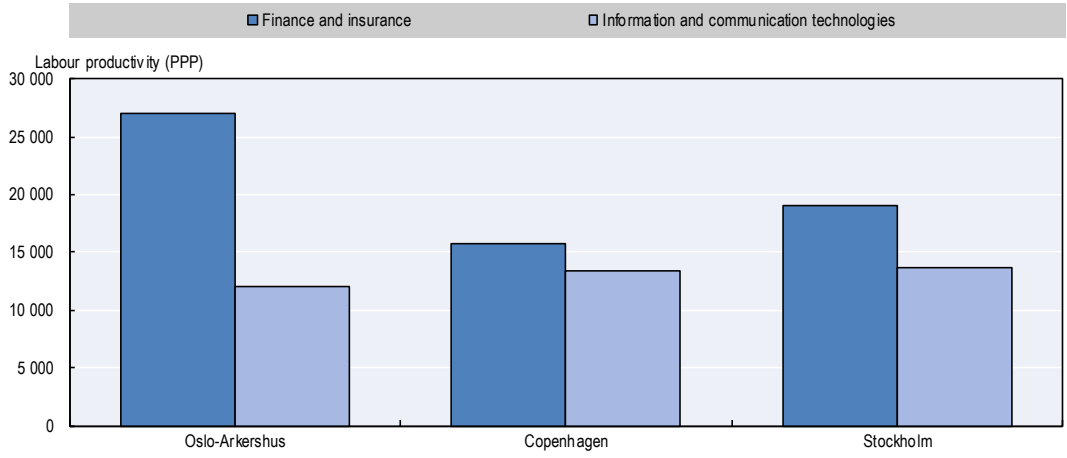
Notes: The locational quotient for each sector is the ratio between the sector weight in the regional gross value added/employment, and the weight of the same sector in the national gross value added/employment. A value above 1 implies that the region is more specialised in that sector than the rest of the economy.
Source: Statistics Norway, Regional and National Accounts.

Table 3.4. **Locational quotient: Østfold, manufacturing sub-sectors, employment, 2014**

Manufacturing sub-sectors	Locational quotient
Refined petroleum, chemical and pharmaceutical products	3.0
Wood, wood products and paper products	2.5
Rubber, plastic and mineral products	2.2
Textiles, wearing apparel, leather	1.8
Food products, beverages and tobacco	1.7
Printing and reproduction of recorded media	1.6
Machinery and other equipment	1.5
Furniture and other manufacturing	0.7
Repair and installation of machinery and equipment	0.7
Basic metals	0.2
Building of ships, oil platforms and modules and other transport equipment	0.1

Source: Statistics Norway, Regional and National Accounts.

Figure 3.13. **Labour productivity of key producer sectors (2014): Oslo-Akershus, Copenhagen and Stockholm**

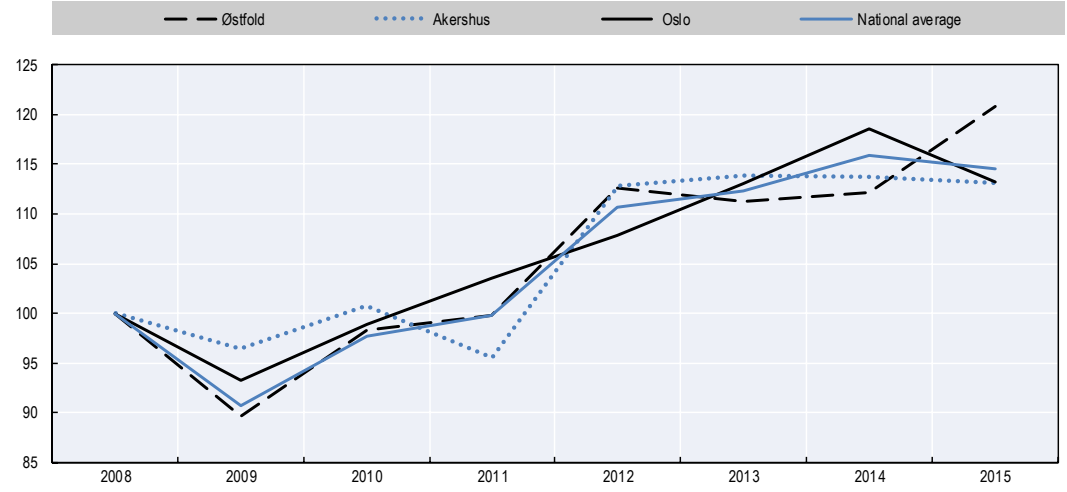


Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Since 2008, the rate of new firm establishments in the three counties has been broadly in line with the national average. The growth rate of new firm establishments was hit relatively hard by the crisis until 2010-11, but has consistently recovered since then. This trend in the aftermath of the financial crisis was common to many OECD countries due to deteriorating economic conditions and the lack of access to finance (OECD, 2017a).

Figure 3.14. **New establishments**

2008 value=100

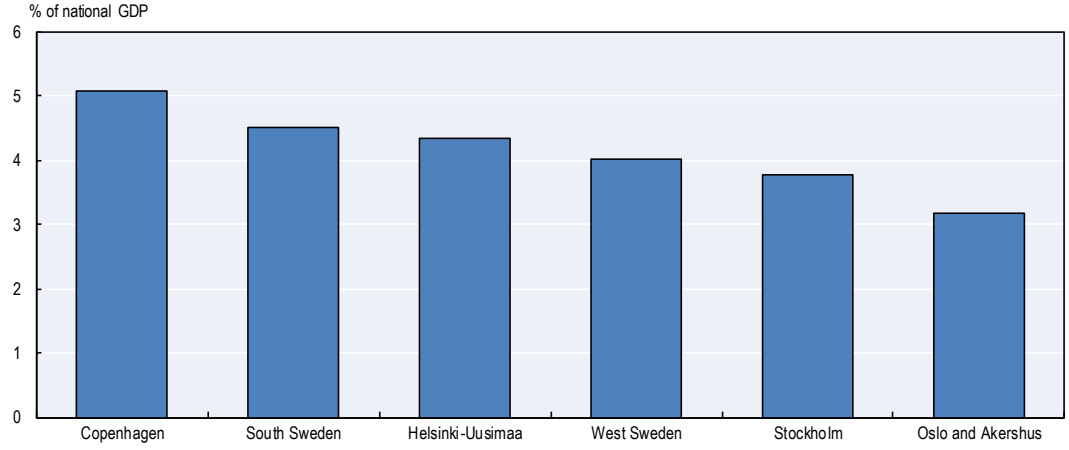


Source: Statistics Norway, Establishments.

Compared to other OECD countries, Norway displays high levels of public R&D funding, with a strong focus on health (OECD, 2016a). A strong comparative asset of Norway's innovation system is in environment-related technologies (OECD, 2017e). At the same time, Norway generally underperforms against conventional innovation indicators (overall R&D expenditure and patents) despite its persistently high economic performance (OECD, 2008). Low business sector R&D expenditure in Norway is the

result of having a smaller share of R&D-intensive industries than the OECD average. It also indicates that non-R&D-based innovation (such as in the organisation and the business model of enterprises) is also important in explaining the strong productivity performance of the private services sector (OECD, 2008). Reflecting the national trends compared to a selection of other Nordic regions, Oslo-Akershus has a lower level of R&D expenditure (Figure 3.15).

Figure 3.15. **R&D expenditure: Oslo and selected Nordic TL3 regions, 2011**



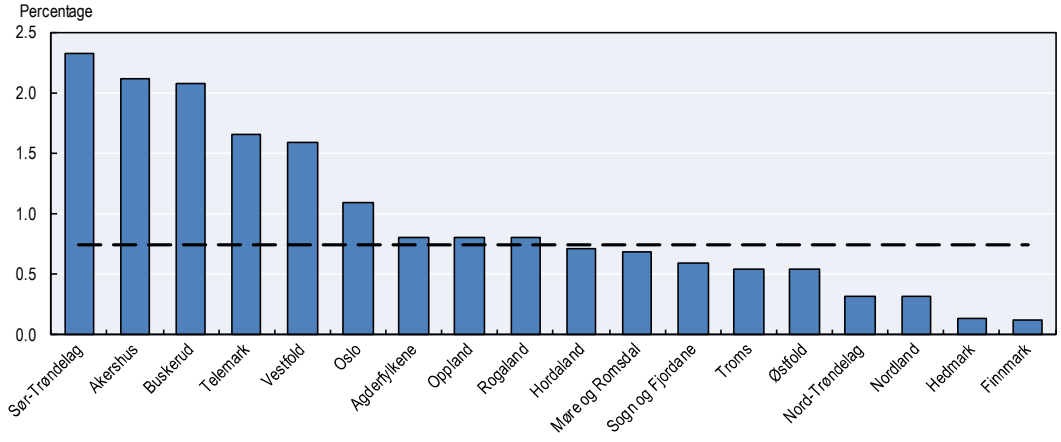
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Unsurprisingly, Østfold has a lower level of business sector R&D expenditure than most other Norwegian regions and the national average, both in absolute and relative terms (Figure 3.16). In Norway there is a significantly lower level of R&D expenditure in the manufacturing sector as a proportion of GDP compared to other Nordic countries, which reflects a structural weakness in Norway's innovation system and is a challenge for the future competitiveness of the manufacturing sector in Østfold (OECD, 2008) (Figure 3.17).

Current policies to promote innovation and entrepreneurship

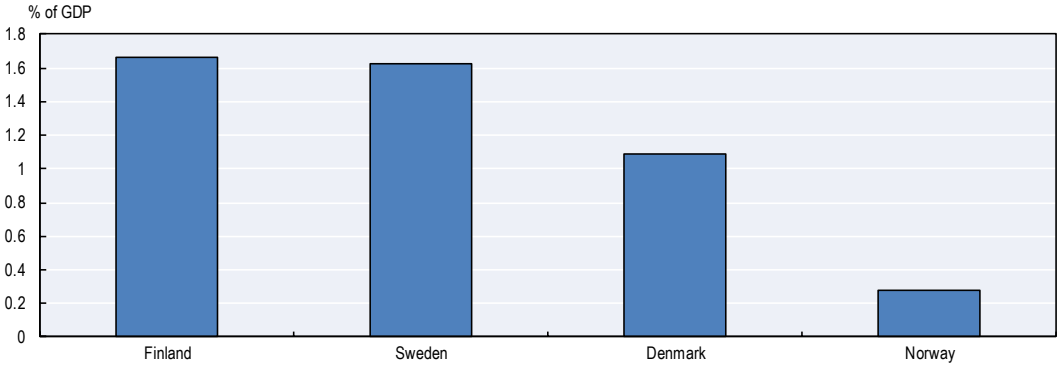
Regions are seen as increasingly important to the delivery of innovation policy outcomes, particularly in terms of the idea of "smart specialisation" which has emerged from the European Union and the work of the OECD (OECD, 2014a; 2014c). This is based on the idea that regional economic policy is most effective when focused on supporting a limited number of sectors with global innovation potential that also draw on existing regional economic strengths. Economic indicators, technology foresight and other priority-setting tools are used to help entrepreneurs and firms strengthen existing competencies and strengths while also identifying and encouraging the emergence of new domains of economic and technological activity (OECD, 2014c). The aim is to create a dynamic process of self-discovery facilitated through networks between different private and public sector actors. In turn, this depends upon forms of collaborative governance at a regional and local level which can set agreed priorities and operationalise this approach.

Figure 3.16. **R&D expenditure as a proportion of regional gross value-added: Akershus, Oslo and Østfold compared to the national average, 2014**



Source: Statistics Norway, Research and development in the business enterprise sector.

Figure 3.17. **R&D in the manufacturing sector, percentage of GDP: Norway compared to Finland, Sweden and Denmark, 2013**



Source: *OECD Research and Development Statistics*, Business Enterprise R&D Expenditure, by industry. http://dx.doi.org/10.1787/strd-data-en.

There are a number of key design principles which have been developed by the OECD for regional innovation strategies (OECD, 2011). The first is the importance of an agreed vision and strategic framework to encourage innovation, which is based on regional assets and integrates relevant sectoral policies. The strategic framework for a high-performing region like Oslo can include a mix of strategies which promote "science push" (through research and development), or "demand-pull" (orientated to a particular market need) (OECD, 2011). The second is open and networked governance structures that engage a broad range of non-government actors (including SMEs, academics, and higher education and training institutions) with leaders that can demonstrate long-term political commitment to the vision and priorities. The third is structures which facilitate ongoing dialogue and feedback which is supported by clear metrics, evaluation and scope for experimentation. Within this policy and governance framework, there are a number of strategies and instruments that can be deployed to improve innovation policy outcomes.

Table 3.5. **Key policy strategies and policy instruments to implement regional innovation policies**

Key policy strategies	Policy instruments
Supporting entrepreneurship	Science and technology parks
Linking knowledge providers and local businesses	Systemic initiatives: clusters, networks, competitiveness poles and competence centres, and innovation advisory services for existing SMEs
Providing spaces to promote interaction	Support to innovative start-ups
Fostering outward (global) linkages	Innovation vouchers
	Schemes for talent attraction and retention
	Funding for research infrastructure

Source: Adapted from OECD (2011), *Regions and Innovation Policy*, http://dx.doi.org/10.1787/9789264097803-en.

Norway has a history of strong public sector commitment to investment in R&D. As Norway's oil and gas sector expanded from the 1970s, it has driven significant structural change in the economy and innovation policy has been seen as a way to help diversify the economy (Smith, Dietrichs and Nås, 1996). Part of the national innovation policy has been public 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 innovation and sustainable Norway", sets the framework and direction for innovation policy (Ministry of Industry and Trade, 2009). It is focused on areas where Norway can build global leadership, such as environmental technologies, maritime industries and tourism. Two main national bodies support this policy. First, the Industrial Development Corporation of Norway (SIVA) provides funding for infrastructure and networks to facilitate clusters formation. Second, Innovation Norway is owned by the national government (51%) and the counties (49%) and 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. Each county establishes a regional development framework that sets the vision and priorities for investing in economic development and innovation initiatives.

Promoting innovation and realising agglomeration economies

Although Oslo is a relatively small city in global and even in a European context, it enjoys a comparatively high productivity and strong growth performance. Oslo has developed a number of specialisations where it is demonstrating global leadership (health and biotechnology, and environmental technologies), and others where it plays a key national role (ICT and financial services). Within these globally integrated industries, it is important that local, regional and national authorities continue to build international linkages and help firms to attract capital and talent and access new markets. Cross-pollination between different sectors should also be incentivised (for example between health sciences and maritime activities, or ICT and financial services). The growth, productivity and diversification of these high-value service industries can also be boosted by increasing the scale and depth of local labour markets, and creating urban environments that facilitate knowledge spillovers (Glaeser, 2010). In this sense, infrastructure and land-use planning are key levers for improving regional competitiveness.

In recent years, Oslo and Akershus have deepened their co-operation in terms of economic development. Oslo and Akershus now share a common regional plan for innovation and entrepreneurship, which was released in 2015. The regional plan prioritises five areas to

improve framework conditions for innovation and entrepreneurship and to improve the international competitiveness of local enterprises:

- cluster and network development
- entrepreneurship and growth companies
- supplier development and service innovation
- early-phase finance and funding of new ventures
- commercialisation of research findings.

A key challenge now for the region is to operationalise this strategy, for example, by developing joint ventures and funding proposals, and examining opportunities to scale-up existing clusters across the two counties. This should build upon and extend good practices occurring within the two counties, such as the Akershus Technology Fund (Box 3.1).

Oslo has already pioneered this collaborative approach with surrounding municipalities and clusters. The city already has a well-established strategy for city marketing and promotion based on the idea of a "knowledge-city", which is used for attracting investment and branding events and activities. A core component of the strategy is the development of a shared set of values and criteria that the 60 different municipalities in adjacent areas can use to brand and promote local events. These values and criteria were developed through a collaborative approach with local businesses, university and education providers, and municipalities.

Further productivity growth can be realised in a number of key areas for Oslo, which include: maritime and sub-sea, health, education technologies, renewable energy, creative industries and gaming, and financial technologies. These reflect areas of past investment by national agencies and subnational governments, including in research infrastructure, clusters and through public procurement. The city has historical strengths in regards to services and manufacturing related to maritime activities and energy, which gives Oslo and Norway a global comparative advantage in emerging environmental technologies (OECD, 2016a). In areas where Norway does not necessarily have global comparative advantage, government and business actors have combined public investment and cluster initiatives to develop niche specialisations. For example, significant public investment in health sciences has focused on cancer research and testing new pharmaceuticals products. Oslo and Akershus also have a national specialisation in ICT with cross-pollination into other sectors (e.g. education and financial technologies).

Operationalising this regional strategy for innovation and entrepreneurship will require a more coherent approach to implementation at a regional level. One area where this is most apparent is in relation to clusters. Over time, project-based funding has led to the development of a larger number of local clusters in the region and there is a lack of co-operation and also competition between them. Better co-ordinating these clusters will help increase their scale and enable them to further specialise and develop a stronger international focus, which is currently lacking. Increased scale also enables firms to pool resources to attract public and private investment, and collaborate on strategies to develop and attract specialised competencies. Another area is in the co-ordination of public investment. Although there is a joint regional plan for innovation and entrepreneurship in Oslo and Akerhus, established in 2015 (see Chapter 2), this has not yet been translated into the pooling of resources and joint projects. Developing common platforms for accessing funding from SIVA and Innovation Norway, regional and local funding of research infrastructure and public procurement would also assist in building scale within innovation and entrepreneurship initiatives.

Box 3.1. **Akershus Technology Fund**

A large research literature shows that innovation (improvements in technical processes and products that result in productivity gains and new markets) is generated through the collaborative effort of firms, governments, industrial research, and development and universities (MacKinnon, Cumbers and Chapman, 2002). These innovation systems are organised internationally through institutional collaborations and global value chains, at a national and regional levels. A key part of strengthening these regional innovation systems is creating a supportive environment for start-ups. This includes providing access to finance, training and capability building, informal networks, and physical space to support business growth. Over the past decade, Akershus County has led the implementation of an approach that brings together research institutions with private and public actors to improve the local environment for start-ups.

Akershus Technology Fund LDT (ATF) was established in 2008, and is co-owned by Akershus County Council (57%), Kjeller Innovasjon (37%) and SIVA (6%). The ATF is an investment company that invests in technology- and knowledge-based start-ups in Akershus in their pre-seed funding phase, in order to create value added by developing and selling such enterprises. The ATF invests primarily in individual companies, as well as in other investment funds (funds-in-funds). In 2010, the ATF established the Norwegian Innovation Capital Fund (Norsk Innovasjonskapital, NIK) in co-operation with the NIK fund managers, Televenture Management (www.televenture.no). Kjeller Innovasjon is a business incubator and technology transfer organisation located at Kjeller Research Park in Skedsmo, while Siva is an innovation infrastructure developer and facilitator owned by the Norwegian Ministry of Trade and Fisheries.

Akershus County Council, Kjeller Innovasjon and Siva constitute a unique business eco-system in the Kjeller Research Park, combining research with public and private financing. Kjeller Innovation assists in commercialising research-based innovations, while the ATF brings the new enterprises one step further in the critical start-up phase. Part of the portfolio is the acquired by a NIK investment fund, which contributes to additional value added by accelerating the company growth. In the final phase, the companies are sold out of the NIK portfolio, and the profits are reinvested into the business eco-system, be it into new companies or into new investment funds.

The investments made by the NIK funds since 2010 total NOK 490 million, of which more than half (NOK 275 million) has been made in companies located in Oslo or Akershus.

Source: Akershus County Council (2017), "Megaregion Western Scandinavia: Thematic case studies", unpublished.

Østfold has a different economic profile and set of innovation drivers compared to Oslo and Akershus. In the context of Norway, Østfold is a relatively lagging region with lower levels of income, employment and growth. Apart from the cities (Moss, Fredrikstad-Sarpsborg and Halden) on the coast, the interior of the Østfold is predominantly forest land with two minor towns (Askim and Mysen), small settlements and agricultural production. Recent work by the OECD has indicated the importance of the tradeable sector and connectivity to cities to the productivity growth and performance of these lagging regions (OECD, 2016d). The tradeable sector in Østfold is focused on manufacturing, mainly related to food processing and biorefineries with a small number of larger firms that are integrated in global value chains. Since June 2017, Østfold County has a regional plan for economic development, research and innovation. The following areas are to be prioritised:

- regional attractiveness and regional branding
- industry clusters and business networks
- entrepreneurship
- research, development and innovation
- regional skills and competencies.

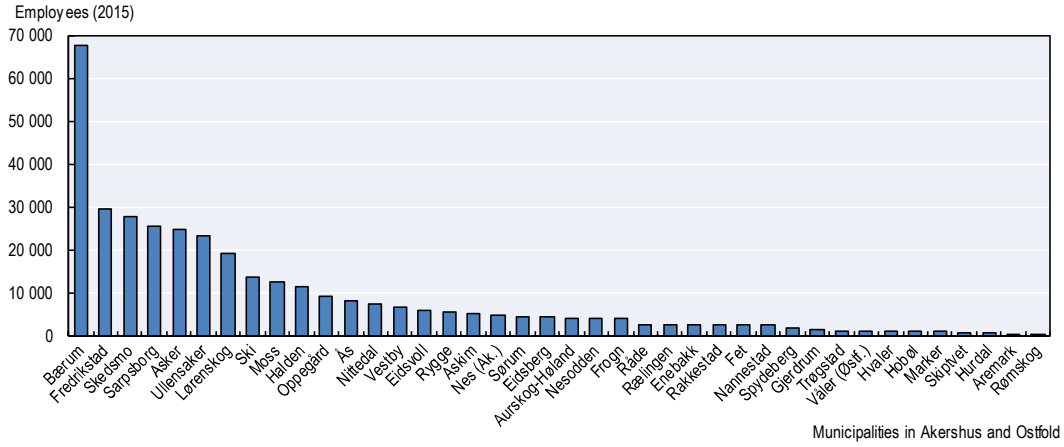
OECD research suggests two main priorities to support innovation in Østfold: 1) supporting sector transformation (targeted to manufacturing to support firms in reconverting or seeking new specialisations, training, attracting and retaining human capital); 2) catching up (general strategies to lift skills and create knowledge-based capability, and upgrading or expanding strategic infrastructure in the region) (OECD, 2011). Østfold is also taking steps to integrate its economic development priorities with its regional skills strategy, which is important to lift the human capital of the region. These priorities should also be co-ordinated with the efforts of Oslo-Akershus, particularly in terms of public investment in innovation infrastructure and supporting the participation of firms in Østfold in larger scale cluster initiatives.

Another key source of productivity growth for Oslo-Akershus and Østfold is the realisation of agglomeration economies. Productivity tends to increase with the size of a city's labour market, which enables a broader range of firms to compete and specialise, thereby raising overall efficiency (OECD, 2006; Ahrend et al., 2014). But city size is not the only determining factor; productivity also depends on the relative accessibility of firms to each other and the labour force, sector-specific effects (e.g. cities with a higher proportion of financial services tend to have higher productivity), and the level of skills (Ahrend et al., 2014). These findings emphasise the importance of infrastructure and land-use strategies, which increase accessibility to employment, and provide high-amenity urban environments that are attractive to highly skilled labour. Oslo-Akershus is already in a strong position compared to other OECD regions in relation to well-being and liveability. Improvements could be achieved in terms of housing supply and choice, particularly in areas with access to employment clusters.

Many cities across the OECD have pursued "compact city" policies to deliver economic and environmental benefits by increasing densities and co-ordinating this with improvements to transport infrastructure (OECD, 2012a). Oslo and Akershus have developed a common land-use vision for the metropolitan region based on the idea of a polycentric development model, which links employment and housing nodes with high-capacity transport corridors. This strategy should enable the city to grow while improving accessibility, housing choice and amenity. Realising this vision will depend upon co-ordinating strategic planning with other surrounding counties which are integrated with the city (including Østfold), integrating investment between counties and municipalities in public infrastructure

and services, and ensuring that metropolitan-wide interests are better balanced with local considerations in decisions about land use.

Figure 3.18. **Employment by municipality in Akershus and Østfold, 2015**



Source: Statistics Norway, Employment – register based – Employees per 4th quarter, by place of work, and industry division (17 groups, SIC2007) (unadjusted numbers).

Recommendations related to job creation, entrepreneurship and innovation

The key recommendations for innovation and entrepreneurship are:

- address fragmentation in cluster activities by reprioritising existing efforts and developing common funding platforms (between Oslo, Akershus and Østfold) with national agencies to build scale and better co-ordinate investment
- prioritise initiatives in Østfold that support structural transformation in the manufacturing sector toward higher value activities and better transport links with Oslo-Akershus.

Regional skills

The skills and labour force of the integrated functional urban area (FUA) encompassing Oslo and Akershus is critical for Norway's future growth and development. Oslo-Akershus is the location of national headquarters of key multinational companies, financial and other professional services, and national political and educational institutions. These businesses and institutions require a supply of highly skilled labour to grow and remain competitive. As such, Østfold's skills profile differs from the one of Oslo-Akershus. The objective of this section is to identify the main challenges and opportunities related to skills development in the region, and assess how effective current policies are at addressing them.

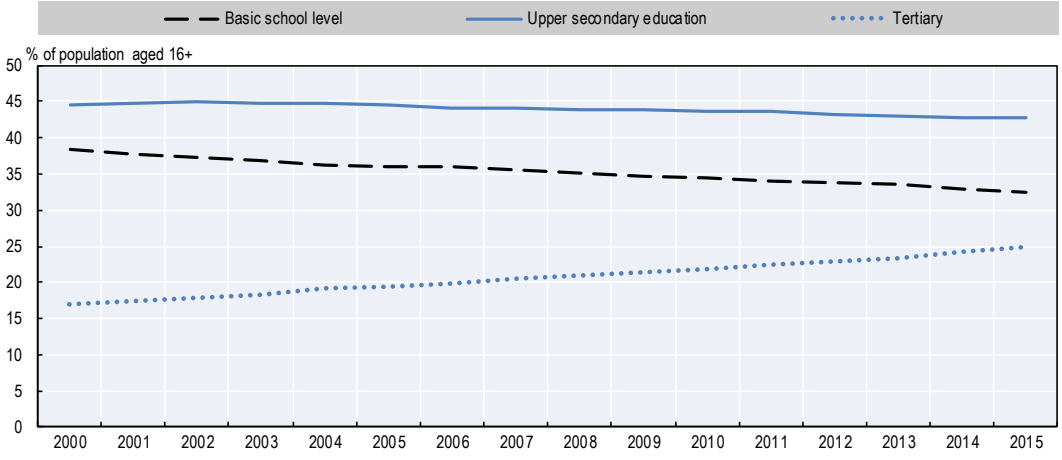
Strengths and challenges

According to OECD research, local economies can fall into four different categories in relation to skills dynamics: high skills equilibrium, skills deficit, skills surplus or low skills trap (OECD, 2016b). The supply of skills is measured in terms of the percentage of

the working-age population with a post-secondary education, while demand for skills is measured by the percentage of the population holding medium- and high-skilled occupations and gross value added (GVA) or GDP per worker, or wages. Regions are ranked in terms of their relationship to the median of the distribution (e.g. within a country, across similar regions, across metropolitan areas). Oslo-Akershus is ranked in the highest category and defined as in high skills equilibrium, whereas Østfold is in the lowest ranked category, low-skilled equilibrium (OECD, 2016b).

These differences in skills are best understood by examining the educational attainment of the population. In Oslo-Akershus, 43% of the population over 16 has a tertiary education compared with 25% in Østfold. Oslo-Akershus also increased the level of tertiary attainment in the period 2000-15 at a higher level than Østfold (11% compared to an 8% improvement in this period). Importantly, Østfold has reduced the proportion of the population that has not completed secondary school education. In the 2000-15 period this was reduced by 6 percentge points (or a 16% decrease), from 38.4% to 32.4%. Reducing the proportion of the working-age population with lower skills is associated with improving economic performance for lagging regions (OECD, 2009; 2012b).

Figure 3.19. **Educational attainment of population aged 16 and over, Østfold**



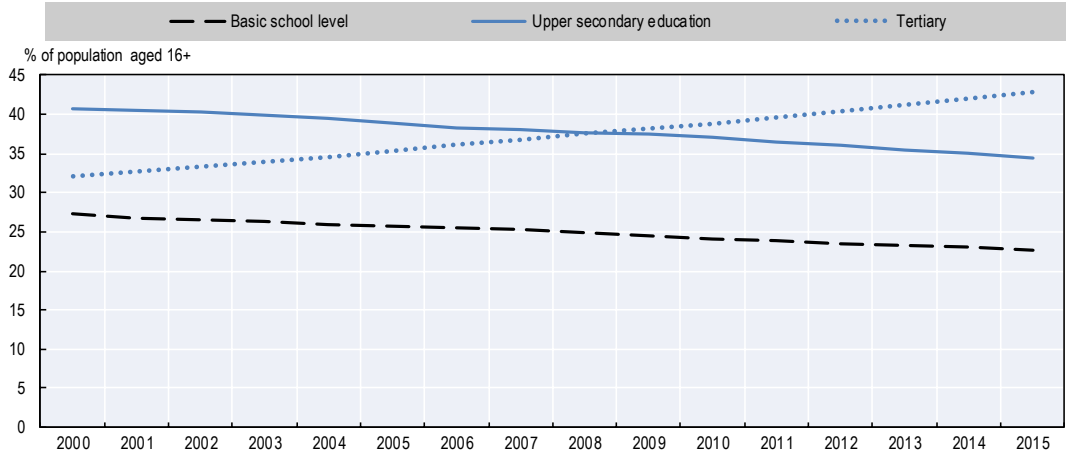
Source: Statistics Norway, Level of education.

There are also employment challenges associated with people with lower skills. Although Oslo-Akershus is in a high-skilled equilibrium characterised by higher skilled service industry jobs and increasing educational attainment, there are still challenges associated with the lower skilled cohort. The proportion of the population aged over 16 in Oslo-Akershus with a basic level of school education is close to 23%. There is a lack of low-skilled jobs being generated in this region, which means this cohort has a lower level of attachment to the workforce. The challenge in Østfold is compounded by the lower level of overall jobs growth, which further disadvantages low-skilled people.

These problems can be more challenging for newly arrived migrants, particularly refugees and asylum seekers. Refugees and asylum seekers face additional barriers to workforce participation, including lack of language skills, social networks and recognition of prior qualifications (OECD, 2016h). Employment rates for migrants from Europe (outside of the EU/EFTA), Asia, Turkey, Africa, and South and Central America are significantly lower than the Norwegian average of 66.1%. The current employment rate for this group is 58% in Akershus, 53% for Oslo and 46% for Østfold (compared to the national average

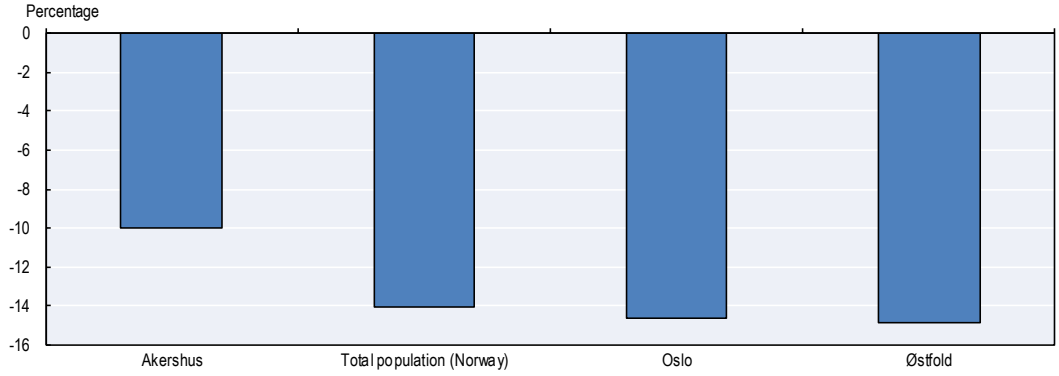
for this migrant group of 53%). These employment rates are significantly different from the respective regional and national levels.

Figure 3.20. **Educational attainment of population aged 16 and over, Oslo and Akershus**



Source: Statistics Norway, Level of education.

Figure 3.21. **Difference in the employment rate of immigrants compared with total Norwegian-born population, Norway, Akershus, Oslo and Østfold, 2015**



Note: Includes immigrants from Europe (outside of the EU/EFTA), Asia, Turkey, Africa, and South and Central America.
Source: Statistics Norway – Employment among immigrants – registered based.

Skills mismatches are also a challenge for Oslo, Akershus and Østfold. Skills mismatches emerge as economies evolve and change for a variety of reasons. These can include incomplete information, the time lag between the decision to enter education or a worker training programme and that of entering the labour market, and rapid changes in local and regional economies (OECD, 2016f; Freshwater, Simms and Ward, 2014). In the case of Oslo-Akershus, skills mismatches tend to be generated in industries and occupations with lower wages and higher jobs growth, particularly in the transport and logistics and construction sectors. In all three counties there is a persistent shortage of social service and education professionals in the public sector. There is also increasing demand for highly skilled workers (at a Masters or PhD level). This relates to firms and institutions primarily engaged in scientific and technical services, which includes access to appropriate skills in mathematics and science, and engineering skills for infrastructure and environmental

technologies. The latter has increased as an issue because of adjustment in the oil and gas sector due to lower commodity prices. There have also been efforts to support the transition of engineers from the oil and gas sector to meet these skills demands in growing infrastructure and environmental technologies sectors. Skilled migration has been important in terms of addressing some of these mismatches, and emphasises the importance of continuing to provide a high quality of life and housing choices which can attract and retain these highly skilled more mobile workers and entrepreneurs.

Current policy and governance arrangements for skills development and the labour market

Addressing challenges associated with the integration of low-skilled people and migrants into the workforce, and skills mismatches requires a co-ordinated approach to skills and employment policies. These policies encompass the development of skills from childhood to adulthood, how these skills are activated in the labour market, and policy collaboration and coherence across relevant policy areas and levels of government (OECD, 2016e). The regional dimension is also important to the effectiveness of these policies because the supply of labour is generally bounded by how far people are willing to travel to a particular set of employment opportunities (Freshwater, Simms and Ward, 2014). There is an increasing focus on the importance of these functional economic areas to the effectiveness of skills and regional development policies (OECD, 2016b; 2016d).

Responsibility for skills and regional development policies is shared across different national ministries and levels of government in Norway as in many other OECD countries. At a national level, the Ministry of Local Government and Modernisation is responsible for developing, co-ordinating and overseeing policy related to regional and rural development. The Ministry of Labour and Social Affairs has responsibility for labour immigration and workforce participation, pensions and welfare policy, while the Ministry of Education and Research is responsible for schools, vocational and higher education, and research. The delivery of these different services is also shared across different levels of government, which emphasises the importance of effective horizontal and vertical co-ordination mechanisms in designing and implementing skills and regional development policies (OECD, 2016c; 2017c) (Table 3.6).

Table 3.6. **Responsibilities for skills, employment and regional development policies across levels of government in Norway**

	Municipal government (428 jurisdictions)	County government (19 jurisdictions)	National government
Education	Primary and lower secondary school	– Upper secondary school – Vocational training colleges	University sector
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
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: Adapted from OECD (2016c), *OECD Economic Surveys: Norway 2016*, http://dx.doi.org/10.1787/eco_surveys-nor-2016-en.

Developing a more strategic approach to lifting skills and addressing mismatches

In 2015, the OECD completed a national skills strategy diagnostic for Norway (OECD, 2015). This included a number of recommendations for the national level, including developing a whole-of-government "Skills Strategy for Norway", strengthening the links between skills development and economic growth, building a comprehensive career guidance system, and strengthening incentives to address skills mismatches. The review also recognised the importance of strong co-ordination mechanisms for implementation between levels of government across the three pillars of developing, activating and using skills (OECD, 2015). This included a number of recommendations to strengthen the role of the county and municipal levels: increasing flexibility in programmes and services, disseminating good practice and peer learning between regions and municipalities, and building capacity for effective skills for co-ordinated implementation of education, training, career guidance and employment policies. In February 2017, the Norwegian government issued a National Skills Strategy for Norway to a large part in line with the OECD recommendations.

The County of Østfold has put in place a number of measures to develop a more strategic approach to skills and employment policies (Box 3.2). Østfold realised its regional competence plan in 2015, and has developed a committee and working groups involving local service providers and businesses to operationalise it. The competence plan has been perceived as a way to develop a shared understanding of labour market and skills trends, and to strengthen relationships between different public and private sector actors to aid the transmission of information. Some initial funding was provided by the national government for the county to establish a network of employers, public employment agencies and schools to develop employment and training pathways for young people. This initiative is organised around different industry sectors and is designed to generate apprenticeships and workplaces for young people in a variety of occupations. Akershus is currently in the process of developing a regional competency plan.

There have been a number of challenges associated with designing and implementing this approach to skills and employment at a regional level. The first is the quality of information about future skills requirements, which could be addressed through regional forecasting of employment and skills. Another is how to better engage and build partnerships between employers and educational institutions, particularly at a post-secondary level, as there is a lack of this tradition in the region. This includes engaging employers in the design of the curriculum and expanding their involvement in course delivery. Developing these relationships and linking students with employment opportunities is a way of improving incentives for young people to undertake training linked to local and regional job opportunities. Smaller firms also lack the scale to work with educational providers in delivering tailored training programmes. Clusters can be used as a way to attract specialised skills and develop shared training opportunities. However, this approach has not been widely utilised. There is also a lack of systemic co-operation in the skills and employment area between Oslo-Akershus and Østfold, and in the case of Østfold with employment and training organisations in Sweden.

Box 3.2. **Forum for Competencies Development in Østfold**

Labour market conditions and skills supply and demand are shaped by a number of factors which are not specific to regions. This includes technological change, macroeconomic and structural policies which shape overall labour market conditions including the institutional framework for the labour market, and services for employment and skills which are regulated and funded at a national level (OECD, 2017b). However, regions are also important for labour market and skills policies for a number of reasons. First, there is significant variation in the comparative advantages and growth performance, and the geography and relative accessibility of different regions across OECD countries which shape the supply and demand for skills (OECD, 2016d). Second, the impacts of these macroeconomic and structural policies are uneven across national territories, and require other policies to ameliorate or address these effects (OECD, 2016d). Third, subnational governments are important players in employment and skills policies because they can help adapt and tailor policies to these spatial variations across national territories (OECD, 2016b). Effectively responding to these regional variations and supporting a collaborative approach to regional employment and skills policies requires new forms of governance and working, which has been developed in the case of County of Østfold.

In 2015-16, the Østfold County Council began the implementation of a pilot project, the Østfold Competence Forum Network (Kompetanseforum Østfold), co-funded by the Norwegian Ministries of Education and Research and Local Government and Modernisation to improve the matching of skills supply and demand at a regional level. The role of the Østfold Competence Forum Network is to provide a platform for systemic and co-ordinated dialogue between local actors to improve information flows and reduce mismatches between supply and demand. The work is organised around competency groups which include public, private and non-governmental actors based on the economic structure and knowledge fields which exist in the region. The network is led by the county's business development section in strong collaboration with the County Council's Department of Education and Training. The initiative also includes local municipalities and a number of social partners (the Confederation of Norwegian Enterprise – Østfold, the Norwegian Confederation of Trade Unions – Østfold, and the Norwegian Labour and Welfare Administration – Østfold and Østfold University College).

Source: Akershus County Council (2017), "Megaregion Western Scandinavia: Thematic case studies", unpublished.

Supporting skills formation and the integration of migrants

Refugees and asylum seekers face unique and complex challenges associated with their economic and social integration in OECD countries. These challenges can increase for people who are low skilled, have poor language skills, and also with immigrant youth who arrive at the end of their compulsory schooling (OECD, 2016h). There are a number of factors which need to be in place to facilitate the integration of these migrants into the labour market. A key pre-condition is favourable labour market conditions which enables the absorption of new migrants, which is evident in the Oslo-Akershus area, and to a lesser extent in Østfold (when comparing the labour force participation rates of groups

born overseas in these regions with the national average). Another is the development of informal networks, and recent arrivals tend to have few of these contacts. Public agencies can help fill this gap, which in turn depends on the quality and depth of their relationships with local employers and the resources and capabilities of staff in these agencies (OECD, 2016h). Initiatives developed by civil society organisations are also important, including mentorship programmes, and support for language training and social participation.

County and municipal authorities not only have an important role in delivering and funding these services and activities, but also in co-ordinating efforts across different service systems, civil society and the private sector. Support for newly arrived migrants cut across numerous policy areas and levels of government, including housing, children's child care or schooling arrangements, social and civic training, language instruction, and support to find employment (OECD, 2016h; 2016f). The integration of newly arrived migrants into labour markets can be facilitated by streamlining the validation of qualifications and matching this with information and intelligence about local labour market needs. This is dependent upon different agencies working together at the regional and local levels. Effective delivery, which is tailored to the needs and circumstances of individuals, families and communities, requires the strong co-ordination across these different policy domains and administrative levels (OECD, 2016f).

Oslo has recognised the challenge of integrating refugees and asylum seekers into the labour market and has put in place a number of innovative programmes to address it. The public employment agency, employers and the city collaborate on delivering a proactive approach based on training and placement in the labour market from when people arrive, flexible training which is also combined with employee subsidy. The city assists by buying houses for refugees and asylum seekers across difference parts of the city. The city is also working with education institutions and employers in other ways to address barriers to participation. Two good examples of this approach include: Diversity in Focus in Academia, which is devoted to increasing the number of students from minority groups at Oslo University and transforming it into a multicultural study environment; and Diversity in the Workplace, which aims to get more people of migrant background into mainstream workplaces and to change the culture of Norwegian business (OECD, 2016f).

Recommendations related to regional skills

Further strengthening capabilities and mechanisms to deliver regional competency plans and build credibility and momentum in relation to this new role can be achieved by:

- investing in generating timely information about local labour market conditions and forecasting to anticipate future skills requirements
- utilising clusters to develop and attract specialised skills, strengthening relationships between education and training providers and business
- working with civil society organisations to help migrants develop informal social networks.

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Chapter 4. West Sweden

This chapter provides recommendations for the county administrations of Halland and Västra Götaland and the city of Gothenburg to improve economic development outcomes for West Sweden in the context of the broader megaregion collaboration. The chapter is organised in two parts: first it gives an overall diagnosis of the region's economic performance, then it gives an assessment of two key priorities for the future development of the region: urban economy and connectivity, and regional attractiveness.

Key findings and recommendations

West Sweden has made a successful transition towards a knowledge-based economy, but faces strategic challenges related to the structural transformation in the manufacturing sector, fostering agglomeration economies, and continuing to increase the attractiveness of the region. Sweden's recent economic performance has been strong, but it is struggling with low productivity growth and increasing inequalities, linked with the ageing of the population, integration of migrants, housing supply and skills development. With 20% of the country's population and economy, the capacity of regional and local actors in West Sweden to craft effective responses will make an important contribution to addressing these national challenges. The economic performance of West Sweden (in terms of per capita and labour productivity growth) has been strong. The restructuring of the manufacturing sector since the crisis in 2008-09 impacted upon the economic performance of the region. However, there has been a rapid recovery underpinned by a longer term structural shift to higher value activities. Actions that can support the local business environment for manufacturing and related services (skills, infrastructure, and support for entrepreneurship and small and medium-sized enterprises) should continue to be a key priority for improving regional productivity performance. West Sweden has continued to adapt to this structural change through growth in knowledge-intensive services, lower productivity tourism-related services, transport and distribution. Growth has increasingly concentrated in Gothenburg and along the coast, while rural areas in the interior have experienced slower growth and population decline. Increasing the size and scale of local labour markets could help boost the productivity and growth performance of key tradeable sectors. This includes continuing to develop better connections between Gothenburg and other urban settlements in the region, and to the higher productivity cities of Oslo, Copenhagen and Stockholm. The competitiveness of knowledge-intensive and tourism-related services are supported by urban and rural environments that are attractive to skilled workers and visitors, which is a major asset for the region to nurture in an increasingly competitive global market for tourism and skills.

A key determinant of future productivity performance will be continuing to develop an urban environment that enables better connectivity between firms, facilitates technological transfers and spillovers, and increases accessibility to a wider and deeper pool of labour. Agglomeration economies influence the productivity of the services sector, which has become more important due to structural change in the economy toward higher value manufacturing, and producer and consumer services. These agglomeration economies can be fostered by increasing access to jobs and densities to promote interaction among firms and workers. County and municipal authorities in West Sweden have pursued a collaborative strategy to foster agglomeration economies by regenerating the central area of Gothenburg and better connecting the city to surrounding urban settlements and rural areas. This has been complemented by investment in innovation and research infrastructure, and in particular science parks, to create urban environments that help facilitate knowledge spillovers. However, there are three main challenges to delivering on urban development and innovation objectives over the medium to long term in the face of increasing population and economic growth and global competition for talent and investment. The first is the challenge of administrative fragmentation, due to the number of municipalities that have a lead responsibility for land-use and development planning within the functional urban area (FUA) of Gothenburg. Research by the OECD demonstrates that there is a productivity penalty associated with this administrative fragmentation in cities because it reduces the scope to make difficult trade-offs and to

prioritise, finance and deliver infrastructure at an FUA scale, and co-ordinate this with decisions about land use and housing. The second is addressing key constraints in the transport network, including the capacity of the port, public transport linkages to the airport and Borås, and inter-city connections (to Oslo and Malmö/Copenhagen). The third is how to better align national innovation policies with the science parks and regional innovation system that has been developed in the region. Region Västra Götaland and Region Halland can, together with the municipalities in the area, increase long-term urban productivity by: 1) working with the national government to develop an integrated spatial planning (land use and transport infrastructure) model for the FUA of Gothenburg and the appropriate administrative mechanism to support its implementation (e.g. expanded regional planning authority, municipal mergers); 2) developing a priority infrastructure project list for West Sweden in partnership with national transport agencies (Denmark, Norway, Sweden), municipalities, transport operators (port, rail, airport), which includes the identification of options for public-private partnerships to finance these priorities (the effectiveness of this arrangement would depend upon the active participation and commitment of all parties, and its integration with transport planning and resource allocation mechanisms); 3) implementing a pilot model that gives Region Västra Götaland and Region Halland a joint mandate in planning, prioritising and co-ordinating investment in innovation at the regional scale.

Increasing regional attractiveness – through measures such as investment in cultural facilities and hosting major events – is a main priority of the development strategies of Gothenburg, Västra Götaland and Halland. Attractiveness can be broadly defined as the factors that people generally value about their local neighbourhood, town or city, such as accessible and reliable public transport, high-quality open space, and good schools. These factors are generally immobile or place-based, thus important to regional growth and competitiveness. The OECD Regional Well-being framework captures many of these elements, and compared to other OECD regions, West Sweden has high levels of multi-dimensional well-being – the only area of relative underperformance being housing. Regional attractiveness and well-being is an essential determinant of the economic performance of West Sweden because there is an increasingly globally competitive market for skilled labour and tourism. Highly skilled labour (particularly engineers and IT professionals) is important to the economy of West Sweden, while tourism is also a key sector. The visitor economy is performing strongly in West Sweden relative to other regions in the country. The region is particularly attractive to international students, visitors who come for business purposes and owners of secondary homes (especially from Norway). Continuing effort needs to be put into diversifying the tourism offer and incentivising people to stay for longer in the region. Västra Götaland has been a leader in a Swedish and European context in developing a distinct cultural strategy that provides a framework to promote civic participation, invest in artistic and cultural activities, and facilitate creativity and innovation. Region Västra Götaland and Region Halland can build on these strengths by: 1) linking the programmes and networks developed through the cultural strategy with initiatives to support entrepreneurship and labour market integration of disadvantaged communities (e.g. newly arrived foreign migrants, rural places affected by restructuring); 2) developing an integrated tourism strategy for West Sweden to provide a common platform for prioritising markets, common branding and promotional activities, articulating the linkages between tourism and land use, innovation, and infrastructure policies at the local and regional level, and strengthening cross-border linkages; 3) developing a collaborative platform with higher education institutions in the region to increase the number of international students in West Sweden,

including the identification of barriers to international education at a national level, and providing better on- and off-campus support at a local and regional level.

The findings and assessment in this chapter are informed by, and support, the 2017* OECD Territorial Review: Sweden: Monitoring Progress in Multi-Level Governance and Rural Policy*, and implementing them will require national policy changes that continue to strengthen the role of the regional level. As noted above, West Sweden has performed strongly since the global financial crisis and continuing this strong contribution to the Swedish economy is dependent on addressing a number of key challenges associated with housing supply, the integration of migrants, skills development and population ageing. Effectively addressing these challenges requires policy responses that are tailored to the socio-economic, environmental and institutional conditions in West Sweden, and strengthens co-ordination across portfolios and between levels of government. The key difference with West Sweden is the scale of the FUA of Gothenburg, which has a significant part of Sweden's manufacturing capacity and its main port. Greater autonomy in decision making at a regional level would enable policies to be better tailored to these conditions. As with other parts of Sweden, this outcome can be achieved by gradually increasing the roles and responsibilities of county councils, and improved coherence among representatives of national agencies at the regional level that builds upon and strengthens existing local and regional collaborations. Västra Götaland was one of the first county councils to take on responsibility for regional development, and there is scope for it to take on additional responsibilities over time. In addition to spatial planning, and infrastructure financing and delivery, this includes giving the county councils of Västra Götaland and Halland a clear mandate and role by the national government to jointly plan and co-ordinate employment and skills policies at the regional level (along with Skåne).

Overview: The economic performance of West Sweden in Sweden and in the OECD

Sweden enjoys very high standards of living and a resilient economy. Sweden is a high-income country in the context of the OECD, with relatively high levels of productivity and robust economic performance since the crisis. The country has been able to exploit comparative advantages in global value chains and shift toward high-value manufacturing and services. In addition, Sweden registers the lowest levels of inter-regional inequality in the OECD and ranks high in terms of multi-dimensional well-being (OECD, 2016a) (Table 4.1).

Table 4.1. **Key economic indicators for Sweden, compared to OECD averages, 2014**

Key indicator	Sweden	OECD
GDP per capita	USD 46 446	USD 39 828
Labour productivity (per hour worked)	USD 59.1	USD 50.08
Real GDP growth rate	2.6%	2%
Population growth rate	0.9%	0.5%
Employment rate (15-64)	74.9%	65.6%
Unemployment rate	8.2%	7.3%

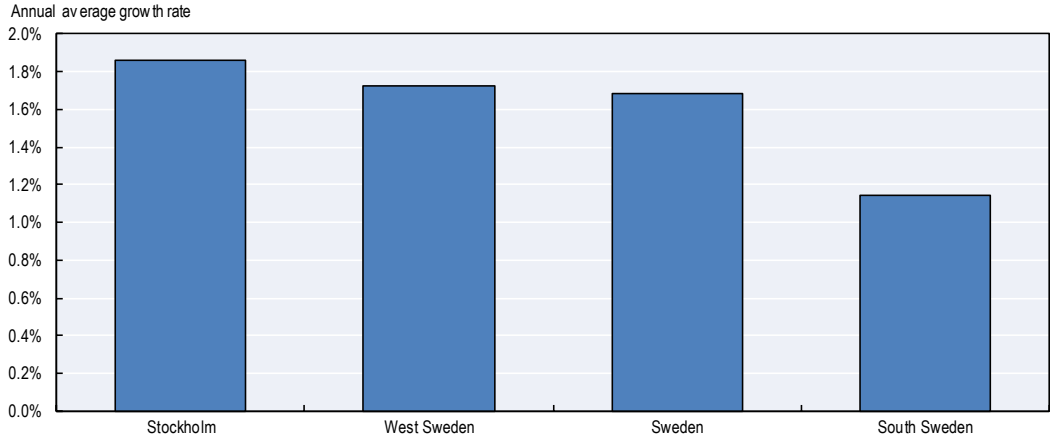
Note: Population growth rate for OECD is 2013.
Source: OECD Country Statistical Profiles, http://dx.doi.org/10.1787/20752288.

In the context of this strong performance, like many OECD member countries, Sweden faces the challenge of slowing productivity and increasing inequalities. Some of the key policy issues related to this challenge include: spatial segregation of low-income and migrant groups, housing shortages and rising costs, regulatory barriers including occupational licensing and land use, and declining levels of education performance for young people and adults (OECD, 2015; 2017a). Some of these challenges (inequalities, housing and skills) have also been impacted by the increasing number of refugees and asylum seekers arriving in Sweden. 2015 was a record year with the arrival of 163 000 asylum seekers, which was the highest per capita inflow ever registered in an OECD country (OECD, 2016e). Considering that Västra Götaland and Halland are home to close to 20% of the country's population and its second-largest city, they will play a key role in addressing these challenges. This includes improving land-use planning and infrastructure delivery to increase urban productivity, and better matching skills to local job opportunities.

West Sweden is a relatively wealthy region in an OECD context, and is keeping pace with the national level and Stockholm in terms of gross domestic product (GDP) per capita. Between 2001 and 2015, GDP per capita in West Sweden increased by 22%, from USD 35 311 to USD 43 238, to a position higher than the OECD average of USD 39 828 (Figure 4.1). In terms of GDP growth performance West Sweden has had an impressive rate of recovery since the global financial crisis, and is now outpacing the national level (Figure 4.2). In terms of GDP growth performance West Sweden is close to Stockholm and above the national level, indicating the relative strength of the regional economy and its recovery since the crisis.

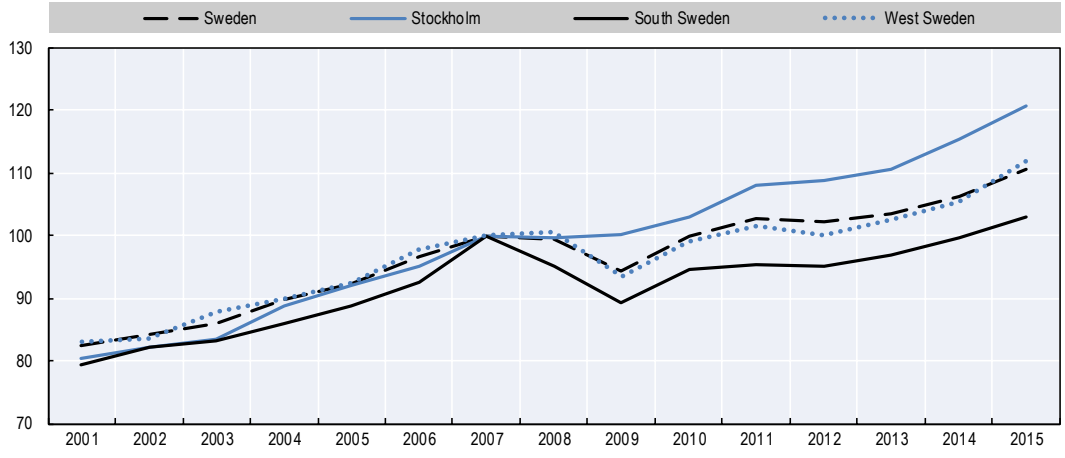
Labour productivity is converging to the national level; increasing the scale of Gothenburg's labour market and better connecting it to other cities will be important to driving future growth. Between 2008 and 2015, labour productivity in West Sweden decreased the gap with the national productivity level, from 4% to -3.2% (Figure 4.3).

Figure 4.1. **Average annual growth in GDP per capita for Swedish regions (TL2), compared to the national average, 2001-15**



Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

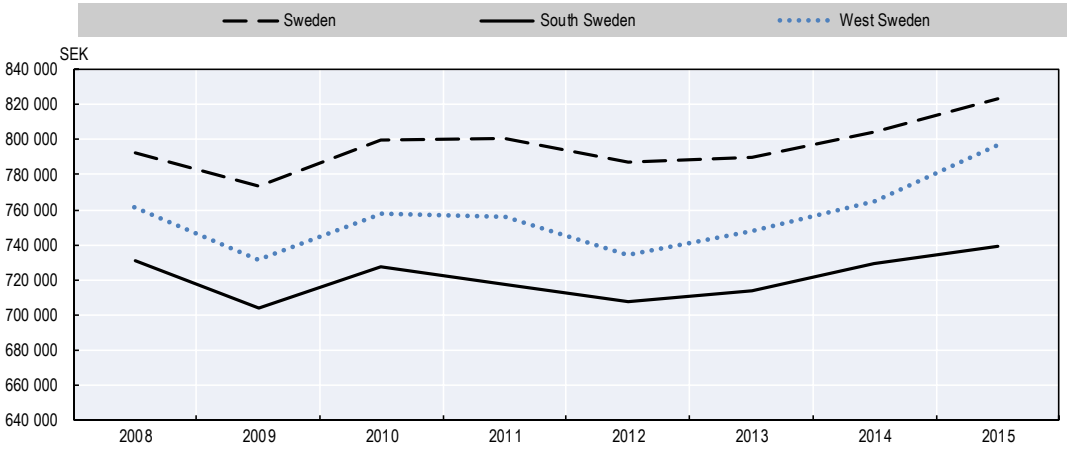
Figure 4.2. **GDP growth index, West Sweden compared to national average, Stockholm and South Sweden**



Note: 2007 = 100.
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

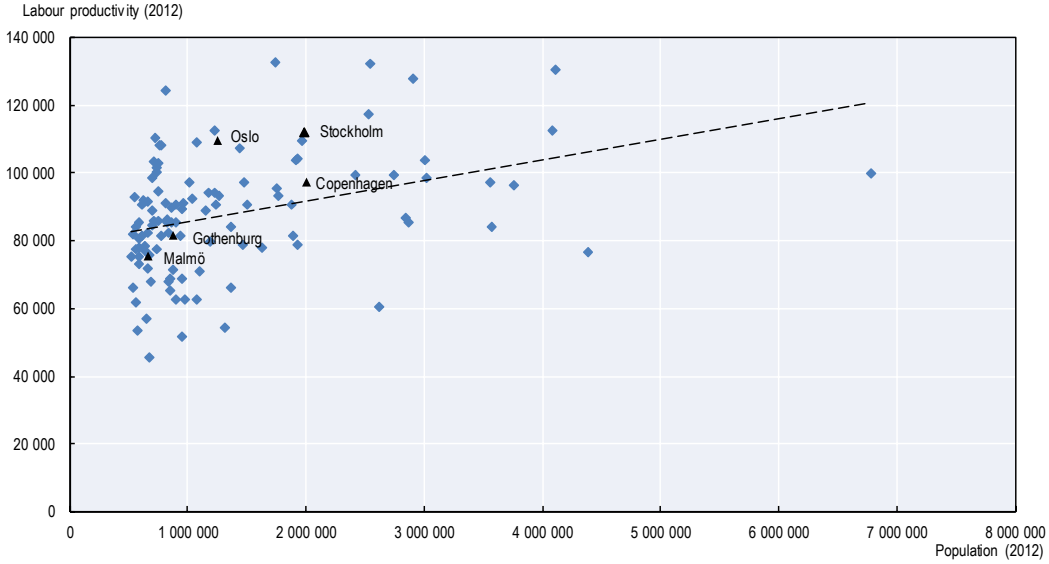
This indicates strong recovery from the crisis which affected some parts of the trade-exposed manufacturing sector in Västra Götaland as in other regions in southern Sweden (OECD, 2017d). Gothenburg is a key driver of productivity and growth for West Sweden. The population of the functional urban area (FUA) of Gothenburg concentrates 46.6% of the population of West Sweden (887 773 residents), but remains slightly smaller than the median population of European FUAs (898 347). At the FUA scale, labour productivity in Gothenburg is 5.6% below the median of European cities (USD 81 153 and USD 87 706, respectively) but remains in relatively close proximity to the higher productivity cities of Oslo, Stockholm and Copenhagen (Figure 4.4). Over time, improved infrastructure linkages with these cities could also help deliver spillover benefits for Gothenburg.

Figure 4.3. **Labour productivity (GVA per worker), West Sweden compared with the national level and South Sweden**



Notes: Gainfully employed 16+ years by region of residence (RAMS), by region, industry SNI2007 and sex. Year 2008-15 and gross regional domestic product (GRDP, ESA2010), current prices, million SEK by region and year, and World Bank deflator for Sweden.
Source: Statistics Sweden.

Figure 4.4. **Labour productivity (GVA per worker) and population size, European functional urban areas**

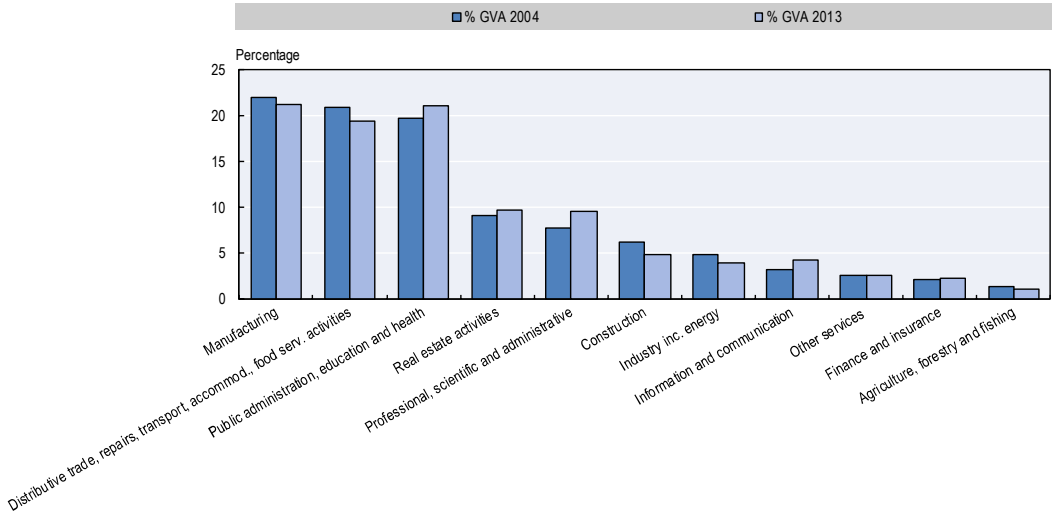


Note: Excludes London and Paris because they are outliers.
Source: *OECD Metropolitan Database*, http://dx.doi.org/10.1787/region-data-en.

West Sweden benefits from a "multipronged" tradeable sector, with a main role for large firms that participate in global value chains related to the manufacturing sector. The performance of the tradeable sector is a main driver of regional growth and productivity across OECD regions (OECD, 2016a). Firms involved in the tradeable sector are exposed to international competition, and often participate in global value chains. Participation in global value chains increases the scope for regions to access new technologies, exposes them to greater competition, and can result in positive spillover effects for local

economies. The relative importance of manufacturing, distributive trade, transport, accommodation and food in the region's tradeable sector can be seen when evaluating their contribution to regional gross value added (GVA) (Figure 4.5). High-value producer services are also gaining traction in the regional economy, particularly professional and scientific services and ICT. This suggests that the region is both moving up global value chains and diversifying its economic base. Large manufacturers such as Volvo, Geely, Ericsson, AstraZeneca, Borealis and SKF Sweden are major players in the regional economy (Table 4.2). The region has been proactive at strengthening linkages between these large firms, universities, small and medium-sized enterprises, and entrepreneurs in the region, which includes work on cluster development and investment in science parks. These initiatives have the dual benefit of increasing the productivity and competitiveness of these large firms, and facilitating spillover benefits for local economies across West Sweden.

Figure 4.5. **Change in contribution of sectors to regional GVA, West Sweden**



Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Table 4.2. **Establishment size and contribution to regional value added**

	Establishments (%)	Value added (%)
0 employees	69.3	8.2
1-9 employees	25.2	21.7
10-49 employees	4.6	32.0
50-199 employees	0.5	11.1
200+ employees	0.3	27.0

Source: Statistics Sweden.

In a national context, West Sweden has specialisations in transport and tourism-related services, and manufacturing. There are some slight variations in specialisations between Halland and Västra Götaland. The main difference in Halland is its relative specialisation in agriculture and forestry, which indicates the importance of rural areas to the performance of its tradeable sector. Both counties share specialisations in tourism and transport-related services, as well as in manufacturing. Manufacturing has historically

played a major role as a growth driver for the economy of West Sweden. The Port of Gothenburg is a key asset for the region and provides an anchor for related activity in the transport and distributive trade sectors (see Chapter 1). West Sweden has a lower level of employment specialisation in higher value producer services (ICT, finance and insurance and professional services). However, Västra Götaland has a relatively high level of specialisation (0.9) in professional, scientific and administrative services, which is strongly associated with the manufacturing activity in the region. These high value-added producer services tend to cluster in the Stockholm region, which is reflected in the productivity differential relative to other regions in Sweden.

Table 4.3. **Locational quotient, regional employment by industry, 2013**

	Halland	Västra Götaland
Agriculture, forestry and fishing	1.6	0.7
Manufacturing	1.1	1.2
Industry (excluding manufacturing)	2.1	0.7
Construction	1.1	1.0
Distributive trade, transport, accommodation and food	1.1	1.1
Information and communication	0.4	0.8
Financial and insurance	0.7	0.6
Real estate activities	1.4	1.0
Professional, scientific and administrative services	0.7	0.9
Public administration, education and health	1.0	1.0
Other services	0.9	0.9

Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

The specific areas of specialisation in West Sweden are reflected in the prioritised areas for business and innovation support for Västra Götaland and Halland. Västra Götaland has national strengths in transport manufacturing and logistics, life sciences and chemical manufacturing. The region has been relatively successful in the manufacturing sector at moving up the value chain into activities such as marketing, research and development, and engineering and design. Halland has prioritised areas related to green growth (forestry, food production and renewable energy), tourism (food, recreation and sport, and creative industries), and health innovation. A clear advantage for West Sweden is the clustering of skills and competencies related to engineering and design that are integrated into global value chains, and the capacity to leverage links between transport and machinery manufacturing, chemicals, energy, forestry and food production at a regional and local level to promote sustainable "green growth". The specific areas of specialisation and prioritised effort for the region are reflected in the activities undertaken by different science parks in Västra Götaland.

West Sweden has experienced significant structural change in its labour market in recent years as it continues to transition to a knowledge-based economy, and overall labour market conditions are strong. Compared to other OECD regions, in West Sweden, labour force participation is high while unemployment rates are low. West Sweden also compares favourably to the national and OECD averages in relation to key measures of labour market inclusion – youth unemployment, long-term unemployment and share of young people not in employment, education and training (NEET). There have been some significant shifts recently in the labour market of the region. The most significant decline in employment has been in the manufacturing sector, which is an indicator of structural

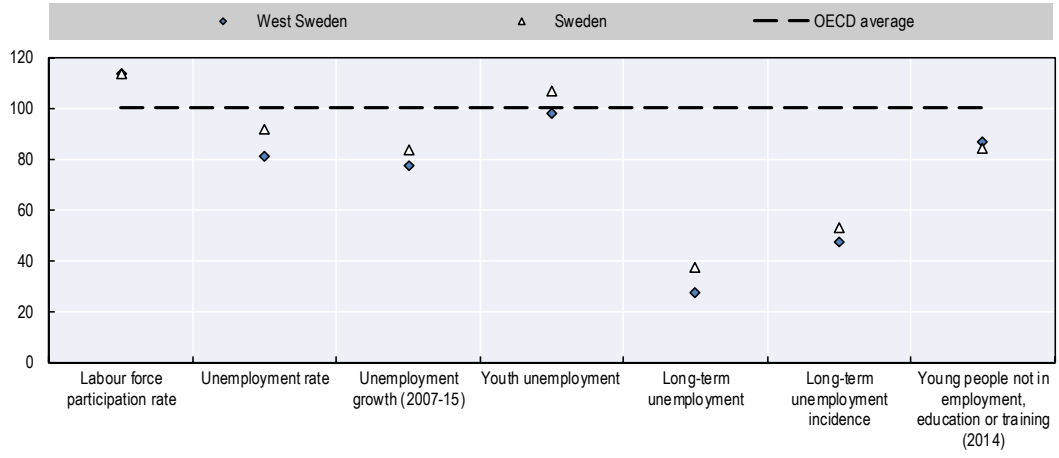
change due to declining conditions in external markets, increasing competition and technological change. The manufacturing sector in West Sweden was remarkably more resilient than the country as a whole between 2004 and 2013. Employment mostly grew in different types of services: public administration, health and education; distributed trade, transport and accommodation and food services; and professional, scientific and administrative services – indicating the continued shift of West Sweden toward a knowledge-based and more urbanised economy.

Table 4.4. **Science parks in Västra Götaland**

Science park	Areas of specialisation
Lindholmen Science Park (Göteborg)	Intelligent vehicles and transport systems; information and communication technology; and modern media and design
Gothia Science Park (Skövde)	IT profile with a specific focus on computer games technology
Innovatum Science Park (Trollhättan)	Production engineering, creative industry and audio-visual technology; and energy technology and environmental engineering
Johanneberg Science Park (Göteborg)	Urban development, energy, and material and nanotechnology
Sahlgrenska Science Park (Göteborg)	Pharmaceutical, medical technology and medicine
Science Park Borås	Textile; trade and logistics; and society development
Science Park Halmstad	Incubator with focus on business coaching

Source: Region Västra Götaland, Towards a Mega-Region of Western Scandinavia, West Sweden – key facts and policy challenges, report prepared by the local team of West Sweden (unpublished).

Figure 4.6. **Benchmarking West Sweden's labour market performance, 2015**

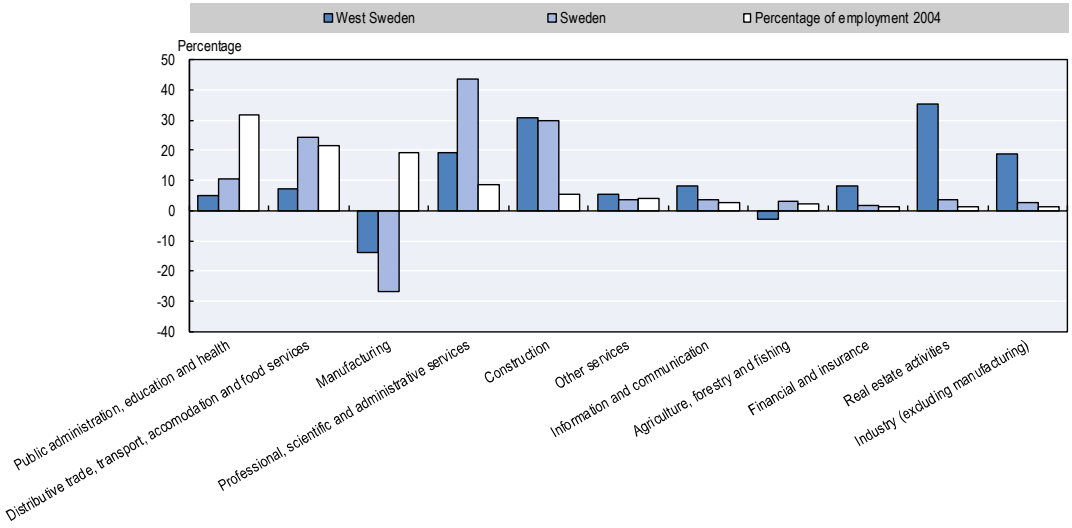


Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

The transition to a knowledge economy has been facilitated by upgrading skills in the workforce, and relatively high levels of R&D expenditure. Two factors can support this shift to a knowledge economy: skills and innovation. Previous OECD research has shown that increasing the proportion of workers with high skills and reducing the share of those with low skills can contribute to enhancing regional growth and productivity (OECD, 2009; 2012b). West Sweden is making this shift: there has been an increasing proportion of the working-age population with high skills (post-secondary level), and a decline in the proportion of this population with low skills (who have not finished secondary school). This trend is consistent with the national average. Innovation is particularly important for firms and regions as they reach the productivity frontier (OECD, 2009). In the case of

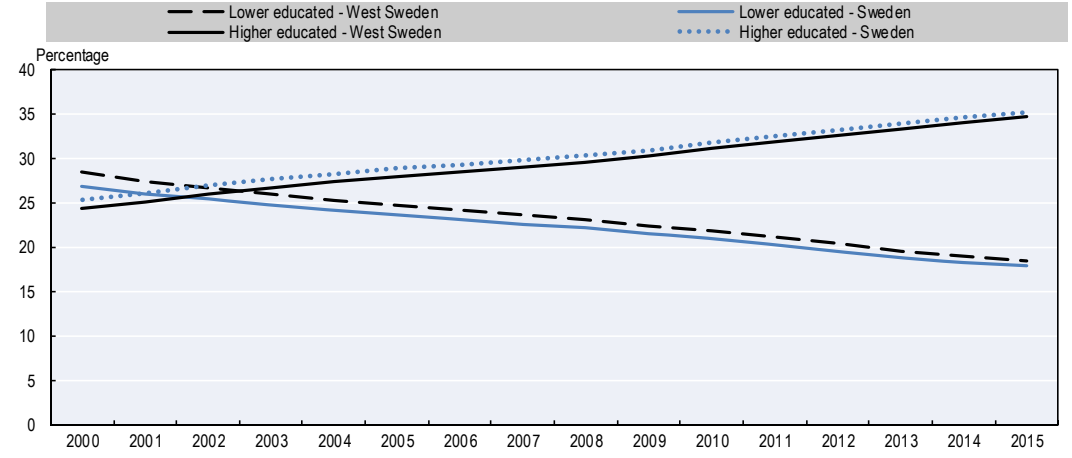
West Sweden, this is a key factor for leading manufacturing firms. In terms of expenditure on R&D as a proportion of GDP, West Sweden spent more (3.7%) than both the national (3.3%) and OECD averages (1.6%) in 2013. However, this marks a decline (from 5.5%) since 2003 (Figure 4.9). West Sweden is currently ranked as the 22nd regional innovation performer in the European Union (out of 221 regions) with particularly high scores for tertiary education and life-long learning, publications (European Commission, 2017).

Figure 4.7. **Change in employment by sector, 2004-12, West Sweden compared to Sweden**



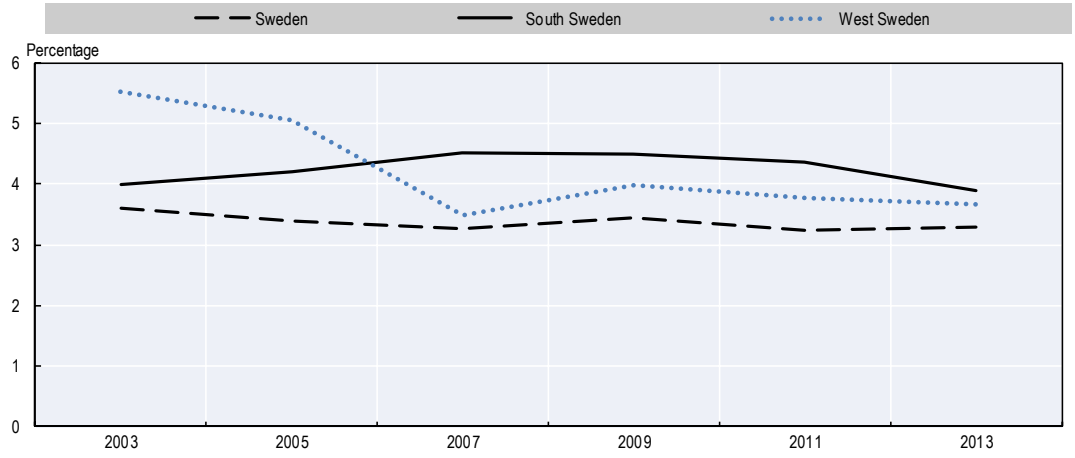
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 4.8. **Share of population aged 15-74 with lower and higher education, Sweden and West Sweden**



Note: Lower education refers to the categories "primary and secondary education less than 9 years (ISCED97 1)" and "primary and secondary education 9-10 years (ISCED97 2)"; higher education refers to the categories "post-secondary education, less than 3 years (ISCED97 4+5B)", "post-secondary education 3 years or more (ISCED97 5A)" and "post-graduate education (ISCED97 6)".
Source: Statistics Sweden, Population by region, level of education, sex and year.

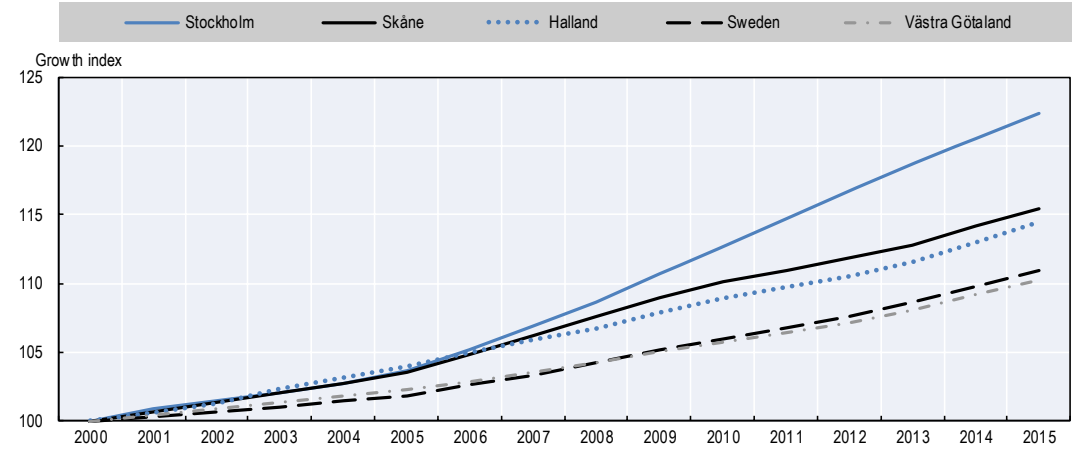
Figure 4.9. **R&D expenditure as a percentage of GDP, West Sweden and South Sweden (TL2) compared to the national level**



Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

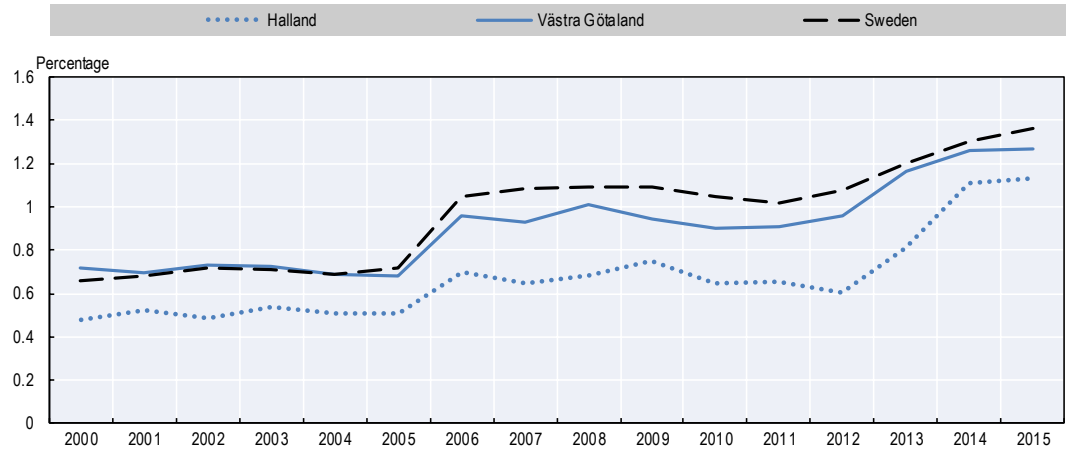
Migration plays an important role in supporting the development of West Sweden and fulfilling labour requirements in sectors such as tourism-related services, transport and professional services. Population growth in Sweden is relatively strong in an OECD context, which has been driven by high levels of migration and by high birth rates because of policies that support work-life balance and female workforce participation (e.g. paid maternity and paternity leave and the availability of early childhood education). Migration has come from within the EU (particularly after the Eastern European countries joined in 2004), and higher numbers of asylum seekers and refugees since 2014-15. Population growth and immigration in Västra Götaland broadly reflect the national average. Halland has experienced even stronger population growth and immigration, which are at levels similar to those of Skåne. The population of West Sweden is projected to continue to grow at just over 1% per annum between 2015 and 2025. Based on current trends most of this future growth is likely to concentrate within the functional area of Gothenburg and along the coast.

Figure 4.10. **Population growth index**



Source: Statistics Sweden, Population by region, marital status, age and sex. Year 1968-2015.

Figure 4.11. **Immigrants by year (as a proportion of total population)**



Source: Statistics Sweden, Migration by region, age and sex. Year 1997-2015.

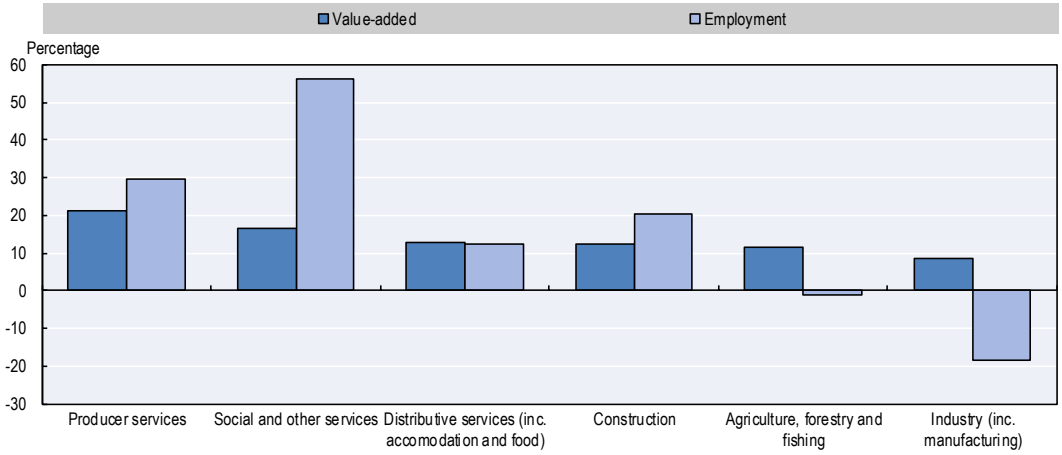
Spotlight on key priorities

Urban economy and connectivity

Since the 1970s, West Sweden, and particularly Gothenburg, has been restructuring its manufacturing sector and shifting to a knowledge-based economy. This section focuses on two key issues associated with this transition. The first issue is a sectoral shift and its consequences on the demand for skills in the region. Key determinants of demand for skills in West Sweden include automation and more complex activities requiring higher levels of R&D and skills within the manufacturing sector; the increasing importance of high-value producer services; and growth in social, tourism, construction and transport-related services. The second issue is the spatial impact of these sectoral changes within the region. There has been a change in the geography of employment including the growth of producer services and functions related to the manufacturing sector in the centre of Gothenburg, and the growth of services employment and decline of manufacturing employment in other urban centres. These two issues are interlinked, as the productivity of the services sector and the capacity for people to move into new jobs is shaped by their relative accessibility to other firms and employment opportunities.

An important factor in Sweden's robust macroeconomic performance over the past two decades has been its ability to successfully exploit its comparative advantages to participate in global value chains (OECD, 2015). Historically, this has especially been the case in the manufacturing sector, but also increasingly in high value-added services, towards which the country's export composition has shifted (OECD, 2015). These national trends are also apparent in West Sweden. Lower cost production has moved offshore, as in the case of shipbuilding and other "traditional" forms of manufacturing. Activities related to more complex tasks within the manufacturing value-chain (R&D, design and marketing) have grown significantly. In the period 2004-11, the contribution of producer services (higher value, knowledge-based services) to regional value added and employment soared by 21.3% and 29.6%, respectively. This stands in stark contrast to the contribution of industry, which increased by only 8.6% and plummeted by 18.4%, respectively (Figure 4.12).

Figure 4.12. **Percentage change in value added and employment, by sector, 2004-11, West Sweden**

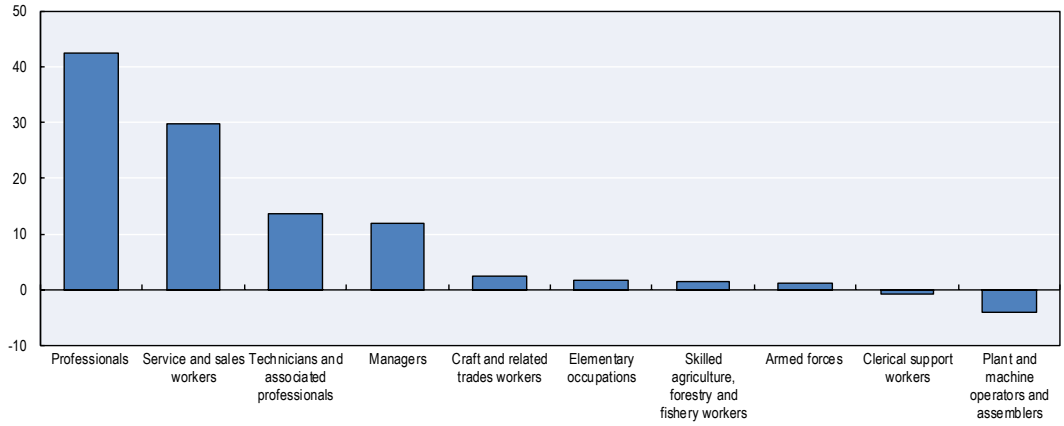


Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Many parts of the services sector are non-traded and these activities have experienced rapid employment growth in recent times. Personal and social services are growing across OECD countries due to the ageing of populations, changes in lifestyles, growing incomes and resulting demands for quality, as well as the spread of health-improving technologies (OECD, 2005). Productivity is lower and employment tends to grow faster in these sectors because they are less exposed to international competition, and there is less scope for labour-saving technologies. Factors that are also peculiar to the Swedish context have led to the growth in social services, construction and transport-related services. Sweden has one of the highest levels of employment in the general government sector among OECD countries and is facing an ageing population and in recent years has experienced increasing migration (OECD, 2016e). These migration flows increased rapidly in 2015-16. Gothenburg also plays an important role in the transport and logistics system of the country due to the port. In the period 2004-11, public administration, education, personal and health services contributed to over half of employment growth in West Sweden, while construction contributed to just over 20%.

These structural economic shifts have also affected the demand for labour in the regional economy. These changes are apparent in the industrial, agricultural and forestry sectors. Across the OECD and in particular Sweden, lower cost production activities in the manufacturing value chain have been off-shored, which has seen a reduction in the demand for lower skilled labour involved in routine production processes (OECD, 2015; 2015b). The most significant shift, however, has been automation, which has seen capital substituting labour and a transformation in the nature of work. Rather than assembling or operating relatively simple machinery, there has been a shift to higher skilled technical occupations involved in assembly, operations and maintenance. The increasing importance of the services sector has implications in terms of both higher and lower skilled labour. At the higher end, there is increased demand for professional employment requiring tertiary qualifications. Lower skilled services employment is also increasing, for example in the area of personal and retail services, construction, and tourism-related services.

Figure 4.13. **Change in occupations by category (as a percentage of total change), West Sweden, 2001-13**



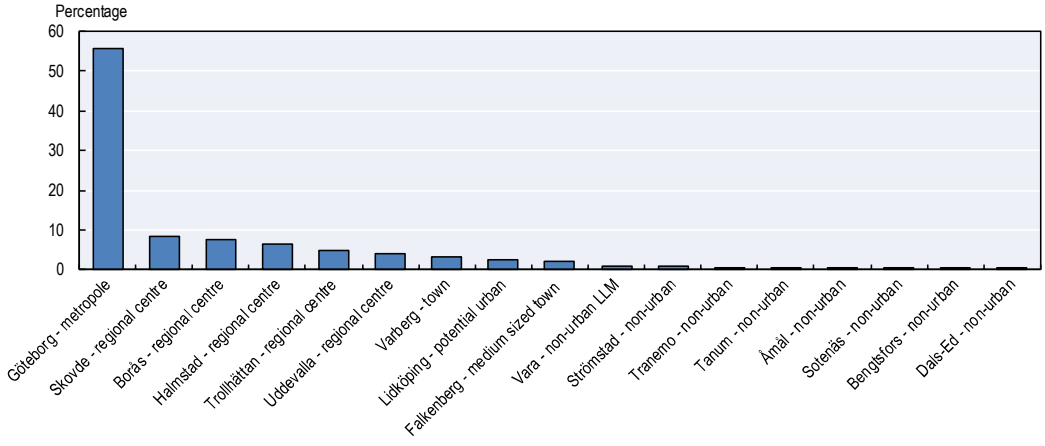
Note: Employees 16-64 years old by region of work, occupation and year.
Source: Statistics Sweden.

This shift to a higher skilled, more service-based economy has two key spatial implications within the region. The first is the role of concentration, scale and connectivity in fostering productivity and growth. Activities in the services sector, particularly higher value producer services, can benefit from so-called agglomeration economies. According to Rosenthal and Strange (2004), Duranton and Puga (2004), and Puga (2004), these benefits emerge due to three reasons: 1) sharing of facilities, inputs and gains from specialisation which leads to lower costs; 2) thicker labour markets arising due to labour pooling and better matching; 3) knowledge spillovers as density increases the intensity of interactions. These dynamics are apparent in the functional urban area of Gothenburg, which concentrates 55.6% of employment in West Sweden. As highlighted earlier, Gothenburg was close to the median of European cities in terms of population size and productivity levels and in the period 2008-15 labour productivity converged to the national level. Increasing internal connectivity and better fostering agglomeration economies can help further boost productivity performance, particularly in higher value producer services. These strategies may include increasing employment densities and accessibility within the local labour market (LLM) and with surrounding centres, and improving connectivity to higher productivity cities in proximity to Gothenburg (Copenhagen, Stockholm and Oslo).

The second implication is how sectoral shifts have affected different urban and rural areas within West Sweden. In Gothenburg, the growth of higher value producer services is more likely to concentrate in the metropolitan area, which is performing strongly. Outside of Gothenburg, a number of regional centres (including Borås, Skovde and Trollhättan) act as service hubs for their surrounding area and are the location of higher education facilities, science parks and different manufacturing activities. Halmstad also plays a number of higher level functions, due to the presence of a university and its role as the administrative centre for the County of Halland. Some of these centres are relatively close to the metropolitan area of Gothenburg, within a one-hour commuting distance (Halmstad, Borås, Trollhättan, Uddevalla and Varberg), and most of them are being increasingly integrated into the metropolitan labour market. The impacts of these sectoral shifts can be observed when examining the growth performance of different LLMs within West Sweden. Interestingly, size is not a sufficient condition for stronger performance.

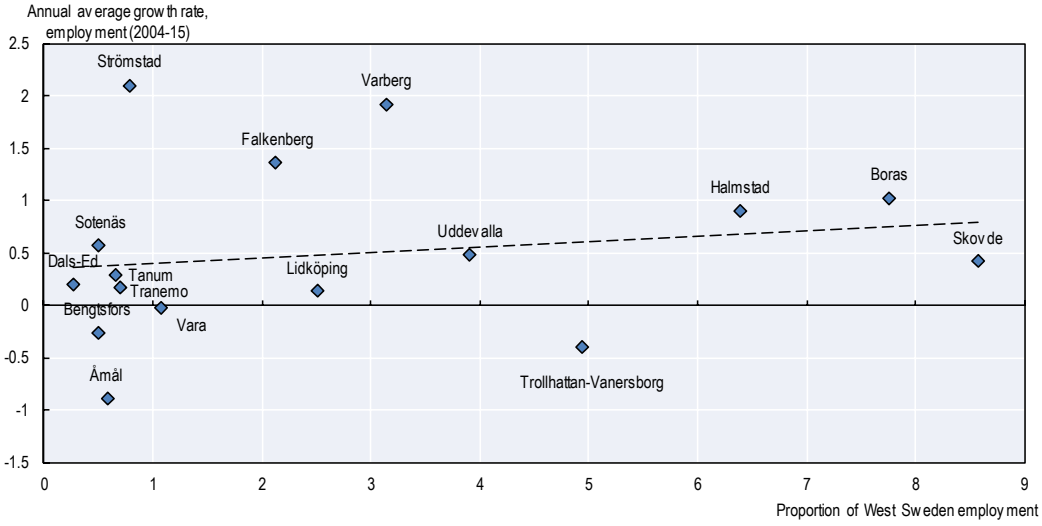
Some larger centres that have been restructuring their manufacturing sector demonstrate poorer performance (in particular Skovde and Trollhättan). On the other hand, some smaller LLMs have performed strongly. This is the case of Falkenburg, Varberg and Stromstad, which have benefited from coastal amenity and integration into Gothenburg's labour market (in the case of Stromstad it benefits from the proximity to Norway and cross-border growth dynamics).

Figure 4.14. **Proportion of employment, by local labour market, Västra Götaland, 2015**



Notes: Nordregio has developed local labour markets (LLMs) for Nordic countries to enable comparative analysis at the scale of functional economic regions (Roto, 2012). The 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..
Source: Statistics Sweden, Gainfully employed 16+ years by region (RAMS) by region and year.

Figure 4.15. **Growth in employment and number of employees (place of work), by local labour market, West Sweden (excluding Gothenburg)**



Note: Gainfully employed 16+ years by region of work (RAMS by region and year).
Source: Statistics Sweden.

Importance of increasing accessibility and connectivity

Increasing connectivity within cities and between different urban and rural areas is one mechanism for increasing regional productivity and competitiveness. Better connectivity results in the reduction of transport and communication costs for local firms, thereby resulting in faster and cheaper access to markets (Mokyr, 2003). Agglomeration benefits tend to increase with city size when other conditions are met, including accessibility to employment, a skilled workforce, effective governance arrangements, and research and innovation (OECD, 2009; Ahrend et al., 2014). Such conditions can help mitigate some of the costs associated with urbanisation (e.g. congestion, pollution and social problems). Agglomeration benefits (and costs) are essentially realised through proximity and the sharing of physical spaces, which enables increased scale and frequency of economic interactions. However, these benefits have also been found to spillover from larger metropolitan areas to smaller cities that are beyond commuting reach (Ahrend et al., 2014; OECD, 2014; Meijers and Burger, 2017). Benefits can then be "borrowed" through other forms of interaction, particularly producer networks.

A key policy direction for Gothenburg and West Sweden more generally has been to invest in infrastructure and facilitate land-use outcomes that increase the effective size of the local labour market. This has been achieved through investment in public transport and a long-term strategy to revitalise the inner area of the city (including the old port). Mechanisms such as the Committee for Sustainable Development in Västra Götaland have been important in supporting the co-ordination of planning and investment between regional and local levels. As a result of these joint efforts, density and accessibility of employment in the city have increased, thereby creating the conditions for realising agglomeration economies.

This urban development strategy has been complemented by an innovation strategy focused on adding value to traditional strengths in areas such as transport, chemicals, textiles, health and the maritime sector. Västra Götaland has one of only two large, "three-star" internationally significant clusters in the country (OECD, 2016h). Västra Götaland is focused on the automotive sector while the other in Stockholm is related to ICT. One of the most important features of the regional innovation system are six science and innovation parks that Region Västra Götaland has invested in together with the cities, universities and companies in the area, as part of its regional strategy for growth within the objective to develop a leading knowledge region. They have been used as a vehicle to create the conditions for localised innovation and investment in specialised and technical services related to these sectors. Science parks in Västra Götaland differ from many traditional science parks in Europe in the sense that they have a much broader scope. The parks have developed into dynamic hubs for co-operation, offering a neutral arena for major research and innovation projects. They also support small and medium-sized enterprises and offer an incubation environment for start-up companies and entrepreneurs. The six science parks in Västra Götaland are connected in a regional network ensuring efficiency and synergies between them. The parks have their own focus areas, which contribute to the regional smart specialisation strategy as well as societal challenges such as the region's climate strategy. Together the science parks in Västra Götaland form a regional innovation system with a global impact. A good example is the Lindholmen Science Park in the old port area of Gothenburg (Box 1.1). Previous assessments of innovation policy in Sweden have identified problems in the governance of regional innovation systems, and weak links between universities and small and medium-sized enterprises (OECD, 2016h). However, Västra Götaland has been able to overcome these

challenges. More effective co-ordination of national innovation policies with this regional strategy will help support better innovation performance in West Sweden.

Box 4.1. **Lindholmen Science Park**

Two key success factors for regional innovation strategies are a shared strategic focus on priorities for action based on regional assets, and governance structures that enable collaboration between different actors to deliver on this vision (OECD, 2011). These design features are apparent in Västra Götaland, where there has been a shared focus by regional political leaders and social partners on supporting innovation activities to help facilitate the transition of the regional economy over the past three decades. Several science parks have been developed with universities and the private sector. They combine physical spaces for innovation with "soft" measures to support business start-ups and technology transfer.

Lindholmen Science Park in central Gothenburg is a good example of this approach. Lindholmen Science Park provides a collaborative environment for research, innovation and education. This science park runs a large number of national and regional research and innovation programmes, where collaborative projects between industry, the public sector and academia are implemented. The transport and IT industries are major owners of the science park. With their support and trust, the park has been able to develop synergies between these sectors, for example in terms of automation and vehicle ICT.

The regeneration of the Lindholmen area began during the 1990s as part of a broader regional strategy to facilitate the shift to a knowledge-based economy. The city of Gothenburg bought the old shipyard area where most of the industry had been shut down in the 1970s, when thousands of people lost their jobs, for the symbolic price of SEK 1. Thanks to joint efforts by public and private partners, the area began to develop and the science park was established to spur innovation and job creation. The area is now a major hub for the knowledge economy of the region, with approximately 22 000 people working, studying or living at Lindholmen.

Source: Business Region Gothenburg, Region Västra Götaland and Region Halland (2017), "West Sweden – cases of best practice", unpublished.

Beyond the dominant metropolitan area of Gothenburg, the region is characterised by a number of regional centres and sparsely populated rural areas. There is potential to increase productivity and generate more inclusive growth outcomes by better connecting these urban centres with each other. The economy and labour market of the Gothenburg metropolitan area is growing strongly and is increasing its relative contribution to the regional economy over time. Improving connectivity to surrounding areas will enable workers and firms in these regional centres to access these opportunities, and will increase the effective size of the Gothenburg labour market. These benefits can extend beyond the commuting area of the metropolitan area. Regional centres along the coast are

performing strongly and will also benefit from improved connectivity as it will facilitate the access of firms in these areas to Gothenburg, as well as to Oslo and Malmo/Copenhagen.

Urban and rural areas enjoy different and often complementary assets, and better integration between urban and rural areas is important for socio-economic performance. OECD evidence shows that, on average, places where "urban" and "rural" are closer, and where institutions are more inclusive, perform better than others in terms of growth of population and GDP per capita (OECD, 2013b; 2016a). Urban and rural territories are interconnected through different types of linkages that often cross traditional administrative boundaries. These can include demographic linkages (population movements, human capital, commuting), economic transactions (e.g. local supply-chain linkages), the delivery of public services, and exchanges in amenities and environmental goods (OECD, 2013b). Policies and institutions that foster urban-rural partnerships can help make the most of the complementary assets in urban and rural places (Table 4.5).

Table 4.5. **Complementary assets in rural and urban places**

Rural assets	Urban assets
– Small and medium-sized enterprises linked to natural resources and amenities – Natural resources (land, fresh water, forests, minerals and metals) – Amenities/landscape – Eco-system services (environmental goods) – Greenfields	– Advanced education and skills – Capital (financial and physical) – Scale allowing for higher capacity of administration – Large markets – Advanced business and public services

Source: OECD (2013b), *Rural-Urban Partnerships: An Integrated Approach to Economic Development*, http://dx.doi.org/10.1787/9789264204812-en.

Rural areas also make an important contribution to West Sweden, particularly through natural amenities and landscapes (supporting the tourism sector), food production, and renewable energy. Some smaller rural places have been affected by the restructuring of the manufacturing sector over the past two decades as some functions have been off-shored. The interior of West Sweden is growing more slowly and better connecting rural areas to regional centres such as Skövde, and in turn these centres to the coastal areas, will help support more inclusive growth outcomes. In the case of Halland, rural-based industries are an important part of its overall growth strategy, which is focused on fostering innovation and entrepreneurship in the key areas of tourism, food and forestry resources. Considering the small size of the home market in Halland, growth is dependent upon identifying and supporting niche areas and supporting firms to access external markets. Halland is in a strong position to do this, due to its central location in relation to the metropolitan areas of Copenhagen and Gothenburg within the wider megaregion.

Policies and governance arrangements to increase accessibility and connectivity

A policy priority for West Sweden is to improve accessibility to employment within Gothenburg, and between urban centres within the region. This will help generate a productivity benefit by increasing the scale and density of the LLMs, and more inclusive growth by improving access to employment for people across the region in other urban centres and rural areas. Achieving this outcome will require continuing to develop an integrated approach to physical or spatial planning at the regional and LLM scales, which is already supported by the Committee for Sustainable Development in Region Västra Götaland and its counterpart in Halland. Spatial planning provides a long-term

framework to plan land uses and infrastructure connections (OECD, 2016b). Economic change generates new land-use and infrastructure requirements. The productivity of high-value producer services tends to be enhanced in more dense urban settings that have access to a wide and deep pool of labour. Increasing imports of manufactured goods requires large spaces to enable storage and the efficient movement of these goods between different transport modes. Changing spatial patterns of employment also shift demand in the housing market, which can generate housing supply problems in both inner-city and peri-urban locations. In rural areas, 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).

Land-use planning is an important policy lever for managing these issues, and the efficacy of governance arrangements for land use is a key factor in shaping land-use outcomes (OECD, 2016b). This includes at what scale land-use decisions are taken, how well they are co-ordinated with other sectoral policies, and to what extent communities are engaged in the planning process. Questions of geographic scale matter because economic interactions that shape the performance of cities, particularly the LLMs, often spread beyond administrative boundaries. This can create co-ordination problems in decision making about land use, public services and infrastructure. Analysis by Ahrend et al. (2014) shows that there is a productivity penalty associated with fragmented governance within FUAs (as measured by larger numbers of municipalities per population). In Sweden, land-use planning is the responsibility of municipalities. All municipalities in Sweden must have a current comprehensive land-use plan that covers the entire municipality. This comprehensive plan sets the strategic framework for the detailed development plan, which is a legally binding instrument setting out rights and obligations regarding the use of land. Municipalities also have the right of veto in planning matters, and there are only a few exceptions where the national government can override or have exemptions to this veto power. Numerous studies have pointed to the challenges generated by the planning system in Sweden, including capture by local interests, and delays in planning approval, which in turn hamper the supply of housing (World Bank, 2014; OECD, 2015, 2017a).

In the case of the LLM of Gothenburg (as defined by Nordregio), this results in 17 separate detailed development plans covering this area, which raises obvious challenges in terms of co-ordinating decision making about land use. To address this issue, the Swedish planning legislation makes provision for municipalities to jointly agree for the national government to set up a regional planning body to develop a regional plan. Such planning bodies currently exist in Stockholm and Gothenburg. The regional planning body in Gothenburg is called the Gothenburg Region (GR), which is an association of 13 municipalities. The municipalities have agreed that increasing development in the core of the city, and better connecting it with suburban areas and other urban centres via public transport, is essential for the development of the region as a whole. Urban growth and development shall therefore be concentrated in hubs along public transport corridors (preferably fixed rail). The main corridors, which extend beyond the contiguous urban area of the city, are seen as the “spines” of the region. The regional planning authority goes some way to addressing the problem of administrative fragmentation. However, it does not include all the municipalities that constitute the functional area of Gothenburg, and there isn’t a clear governance mechanism to co-ordinate land-use and infrastructure decisions with other urban centres in the region. The regional planning body also depends

on the consent of local municipalities, which limits its capacity to make difficult trade-offs and decisions at a metropolitan scale.

West Sweden also faces four main challenges related to the capacity to move people and goods around the region, and achieve these policy goals. The first relates to the capacity of the Port of Gothenburg, which is significant to the efficiency of trade and supply chains in Sweden and surrounding countries. The capacity of the port is constrained by the depth of the channel outside the port, which does not enable the docking of fully loaded "megaships" (OECD, 2017e). Future growth of the port will also require further enhancements to the transport network, particularly the rail shuttle service that facilitates the movement of shipping containers across Sweden, and to Norway. The second challenge is to improve the transport connectivity of suburban locations to access employment in central Gothenburg. This requires further enhancements to the existing tram and bus networks within Gothenburg. The third challenge is to increase connectivity between Gothenburg and other urban centres in the region. This includes the transport corridor to the east toward the airport and Borås, which is currently only accessible via car and bus in about 30 minutes and 1 hour respectively. Rail connectivity would deliver significant benefits for West Sweden by creating a faster, safer and more reliable access for visitors and residents to the airport, and better integrating Borås (with a population of over 100 000) with the labour market of Gothenburg. A fourth priority is to improve links to Oslo, which would help facilitate the movement of people and goods (see discussion in Chapter 1).

Realising the full benefits of these infrastructure investments will also require more effective co-ordination of transport and land-use policies at the regional and functional urban area scales. As discussed in Chapter 2, the main actor in national transport planning is the Swedish Transport Administration, which prepares the national transport plan. This plan provides the framework for detailed action plans for different transport modes and projects at a regional level. Strategic planning and investment in other types of infrastructure (communications, water and energy) are undertaken by different agencies at the national and local levels. As a result, land-use and infrastructure planning are not effectively integrated with each other, or with regional and rural development policies (OECD, 2017d). In August 2013, the government directed a committee to further investigate the need for regional spatial planning, as well as increased co-ordination between various types of planning at the regional level. For the moment, the committee's final report, which was presented in June 2015, is being considered in the Government Offices (the government has not made a statement about the suggestions of the committee report).

Recommendations related to the urban economy and connectivity

Region Västra Götaland and Region Halland can, together with the municipalities in the area, increase long-term urban productivity by:

- working with the national government to develop an integrated spatial planning (land use and transport infrastructure) model for the functional urban area of Gothenburg and the appropriate administrative mechanism to support its implementation (e.g. expanded regional planning authority, municipal mergers)
- developing a priority infrastructure project list for West Sweden with national transport agencies (Denmark, Norway, Sweden), municipalities, transport operators (port, rail, airport), which includes the identification of options for public-private partnerships to finance these priorities (the effectiveness of this arrangement would depend upon the active participation and commitment of all parties, and its integration with transport planning and resource allocation mechanisms)
- implementing a pilot model that gives Region Västra Götaland and Region Halland a joint mandate in planning, prioritising and co-ordinating investment in innovation at the regional scale.

City and regional attractiveness

Municipalities and county administrations in West Sweden have been proactive at promoting and investing in amenities and lifestyle opportunities that align with economic development and inclusive growth objectives. This strategy includes three key elements, which are interlinked. The first is creating an environment that helps attract and retain highly skilled labour, against the backdrop of the transition and restructuring of the regional economy over the past 30 years. This includes a significant urban regeneration in the old port area and investment in artistic and cultural amenities such as the Gothenburg Opera House. The second element of the strategy is attracting major sporting, artistic and cultural events and improving the region's positioning, particularly in Gothenburg, as a visitor destination. The third is a strong focus on cultural development, which supports the other two elements, as well as the inclusion of marginalised and disadvantaged groups in the community. The objective of this section is to assess this strategy and identify future policy directions for the region. The section begins by defining regional attractiveness, then moves on to building a picture about the performance of West Sweden (including levels of well-being, the housing market and the tourism sector).

Regional attractiveness or liveability has gained attention as a policy concept because it captures a number of factors that are important to city and regional competiveness and can be influenced by public policies. Competitiveness is the capacity for regions and cities to attract and retain mobile factors of production and use resources more effectively. The factors captured by regional attractiveness include those that people generally like about their local neighbourhood, town or city – such as accessible and reliable public transport, high-quality open space, feelings of safety, sports clubs, and good schools and community facilities (Victorian Competition and Efficiency Commission, 2008). It also relates to natural amenities that are located in rural areas – such as attractive landscapes,

coastal areas, forests and lakes (OECD, 2016a). Finally, culture and identity (in terms of shared norms, attitudes, values and beliefs) are seen as increasingly important in consumption and recreational opportunities, place marketing, and inclusion strategies (James, Martin and Sunley, 2006). There is also no silver bullet to enhance city and regional attractiveness: it requires a long-term vision for future development which is supported by governance arrangements that engage communities and informs investment decision making (Box 4.2).

Box 4.2. **Planning for liveability: The city of Vancouver**

The city of Vancouver, Canada has a vision for metropolitan development based on the concept of liveability. Vancouver demonstrates the importance of a clear and consistent vision for city development, which is based on broad consensus and engagement among different stakeholders. The city of Vancouver's approach to planning focuses land use and infrastructure decision making on creating walkable and safe local environments for people to work, shop and engage in community and civic life. The city has developed a consistent approach to planning and development which is based on the following principles:

- creating communities that prioritise sustainable modes of transportation, minimising dependence on cars
- facilitating high-quality urban design that contributes to an attractive, functional, memorable and safe city
- incorporating parks and open spaces, sidewalks and walkways, bodies of water, trees, landscaping and lighting into the urban fabric
- protecting the beauty of the city and its surroundings, while allowing for density and growth.

This approach to urban planning has its origins in the late 1960s when community activists led protest movements against the construction of new freeways and urban regeneration schemes in Vancouver. This movement created the conditions for a more consultative approach to urban planning based at the neighbourhood level. In the mid-1970s, the city of Vancouver approved the creation of a programme of local area planning to facilitate local community involvement in planning decisions.

The local area planning was important in engaging communities in neighbourhood-scale planning, although it was recognised that a broader framework would be needed to respond to growth pressures experienced by the city. In the early 1990s, the city of Vancouver began a comprehensive planning initiative called CityPlan. It was the first comprehensive city-wide planning initiative since the 1920s. *CityPlan: Directions for Vancouver* was approved in 1995 and affirmed Vancouver as "a city of neighbourhoods". CityPlan set out eight directions for the future development of Vancouver:

Box 4.2. **Planning for liveability: The city of Vancouver** (*continued*)

- strengthen neighbourhood centres
- improve safety and ensure appropriate community services
- reduce reliance on the car
- improve environmental sustainability
- increase the variety and affordability of housing
- define neighbourhood character
- diversify parks and public places
- involve people in decisions affecting their neighbourhood.

The main instrument now for planning at the local level in Vancouver is community plans. These plans have a 20-30 year time frame and consider short- to long-term development goals within broader objectives established at the city, regional and provincial levels. They provide guidance and direction on a variety of topics, from land use and urban design to housing, transportation and community facilities. Community plans are developed in close consultation with local communities.

Source: City of Vancouver (2017), "Planning a liveable, sustainable city", http://vancouver.ca/home-property-development/urban-planning.aspx (accessed 13 October 2017).

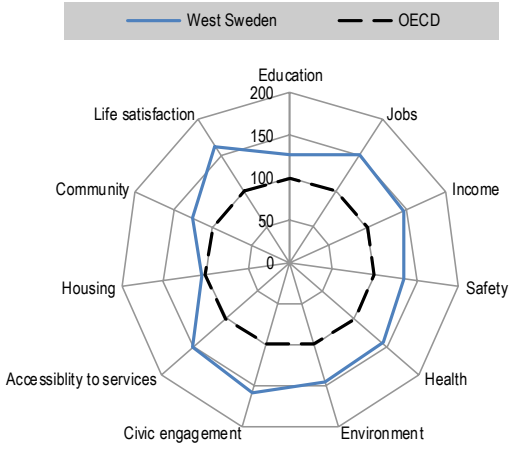
Some of these factors are incorporated into indices released by The Economist and Mercer, which rank cities according to their relative attractiveness, particularly to highly skilled workers, managers and entrepreneurs. These assets are also immobile or place-based, forming part of the absolute and comparative advantage of a region, and therefore a factor in explaining differences in productivity and growth performance between regions (OECD, 2016a). However, these differences in regional performance are explained by multiple factors (e.g. agglomeration, innovation, human capital, and infrastructure and accessibility), and how they interact within different types of regions at different levels of development (OECD, 2009; 2012b). Therefore, regional attractiveness should be seen as part of this mix rather than on its own, and its relative importance needs to be understood within a specific regional or city context.

West Sweden is in a strong position in terms of the key factors that shape people's well-being. The relative attractiveness of West Sweden can be assessed through the OECD Regional Well-being framework. This framework is multi-dimensional, covers both material and non-material factors, and considers what people value about where they live and work. West Sweden is well above the OECD average in a number of key areas: life satisfaction, community, civic engagement and the environment. However, it scores slightly below the OECD average in terms of housing, which is a key factor in attracting people to the region. West Sweden is also the lowest ranked Swedish region in terms of safety (homicide rate per 100 000 people), although it remains above the OECD average.

Housing choice and availability is a major factor in attracting and retaining workers, and for overall city and regional attractiveness and well-being. As shown in Figure 4.17, this is a factor where West Sweden is below the OECD average. Housing constitutes a key macroeconomic issue for Sweden more generally, where real housing price increases have been among the strongest in the OECD since 2000 (OECD, 2015; 2017a). Housing

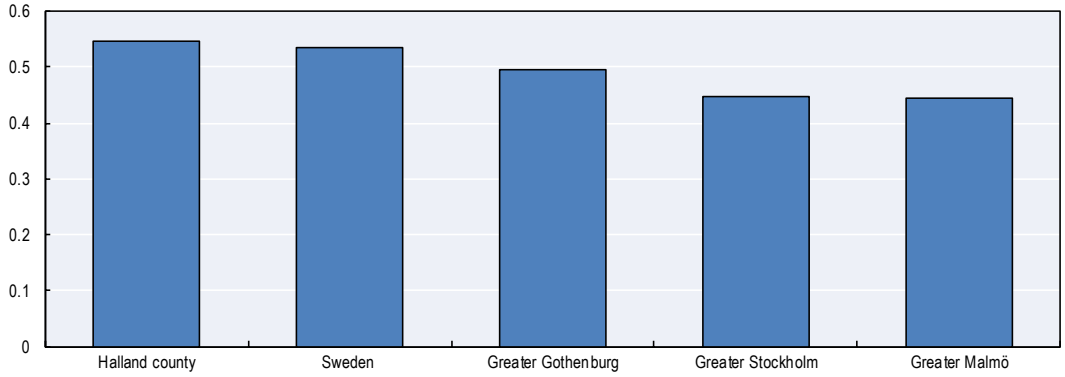
supply has failed to keep up with population growth at a national level, which is due to a number of factors including tax policies, stringent planning and zoning regulations, and rental controls (World Bank, 2014; OECD, 2017a). In particular, rental controls, the tight regulation of the rental market and reductions in the provision of public housing have reduced the supply of housing that is affordable for people on lower incomes. Reforms in these areas would help foster competition in the construction and materials industry, contain the cost of construction, and provide greater incentives for new housing that is more affordable. There is a clear geographical variability related to this, as problems related to housing price increases and supply tend to be more acute in the larger cities. The ratio of new dwellings to the growth of the population is higher in Halland and Sweden as a whole than in the metropolitan areas of Stockholm, Gothenburg and Malmö. Gothenburg is, in the long term, performing better in this respect than the metropolitan areas of Stockholm or Malmö (Figure 4.17).

Figure 4.16. **OECD Regional Well-being framework, West Sweden compared to the OECD average, 2015**



Source: *OECD Regional Well-being Database*, http://dx.doi.org/10.1787/region-data-en.

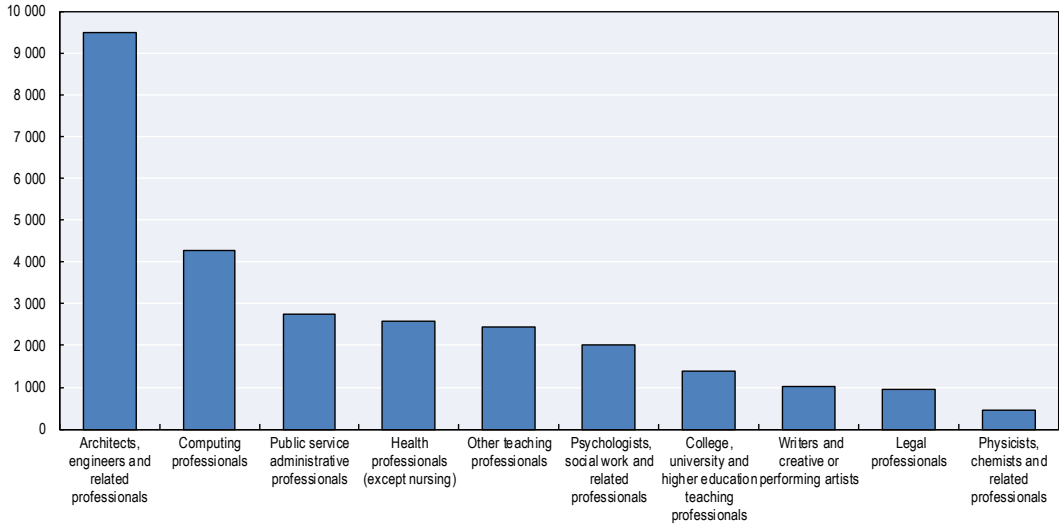
Figure 4.17. **Ratio of new dwellings to growth of the population aged 25+, 2000-15**



Note: Completed dwellings in newly constructed buildings by region, size of dwelling and type of building. Year 1975-2015.
Source: Statistics Sweden.

Housing, life satisfaction and accessibility to services are important assets for businesses in West Sweden to compete in a global market for skills (OECD, 2011). As discussed earlier in this chapter, manufacturing and services are increasingly higher skilled and more integrated into global value chains. This trend is changing the demand for skills within the regional economy, with the growth in professional and managerial occupations, and higher employment growth in professional services. Some of these occupations and industries are becoming globally mobile. It is the case of science and technology (including scientists, engineers and IT experts), which is particularly applicable to the economic structure of West Sweden (OECD, 2008). Engineers and computing professionals were the two highest areas of growth within professional occupations in the region between 2001 and 2013 (Figure 4.18). Quality of life (such as local amenities and culture) is a major factor in attracting and retaining such highly skilled workers (Florida, 2002).

Figure 4.18. **Growth in professional occupations, 2001-13, West Sweden**



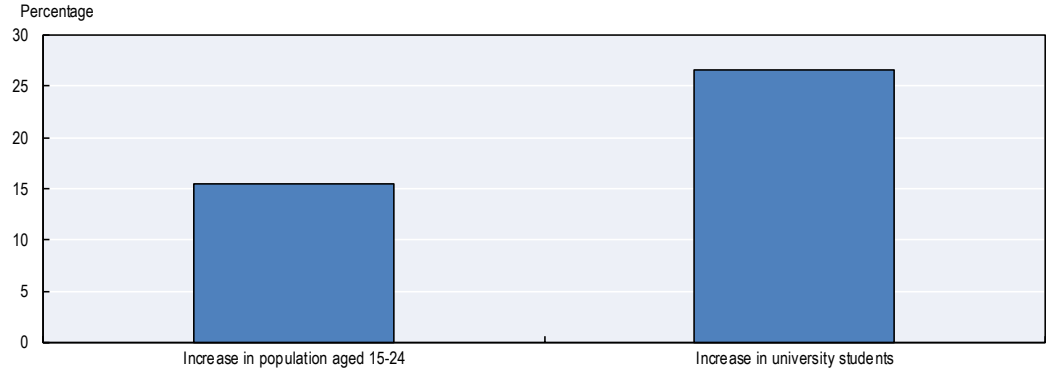
Note: Employees 16-64 years old by region of work, occupation and year.
Source: Statistics Sweden.

West Sweden is home to a number of high-quality tertiary institutions, particularly the University of Gothenburg and the Chalmers University of Technology. In the period 2000-15, the number of students in tertiary education increased almost twice as fast as the population aged 15-24 (Figure 4.19). However, the level of internationalisation among students in tertiary education remains relatively modest in West Sweden and in Sweden more generally. While the global market for tertiary education encompasses 4.5 million students, Sweden only attracts a small proportion of this market, with about 6% of tertiary students coming from overseas (lower than the OECD average of 9%), although the share increases for PhD students (32%, compared to the OECD average of 24%) (OECD,2015a). There are a number of strategies that national and regional governments can develop to internationalise higher education, which include:

- developing an international education strategy with higher education partners (or including higher education in existing export and international engagement frameworks)
- reducing barriers for international students to study and work in the country (primarily visa and labour market regulations)

- support on-campus initiatives to enhance the inclusion of international students (programmes in foreign languages and support services)
- work with universities and local authorities to support the provision of housing, amenities and community engagement for international students (OECD, 2012c).

Figure 4.19. **Percentage increase in youth population and university students, West Sweden, 2000-15**



Note: Population by region, age and year, and background report.
Source: Statistics Sweden.

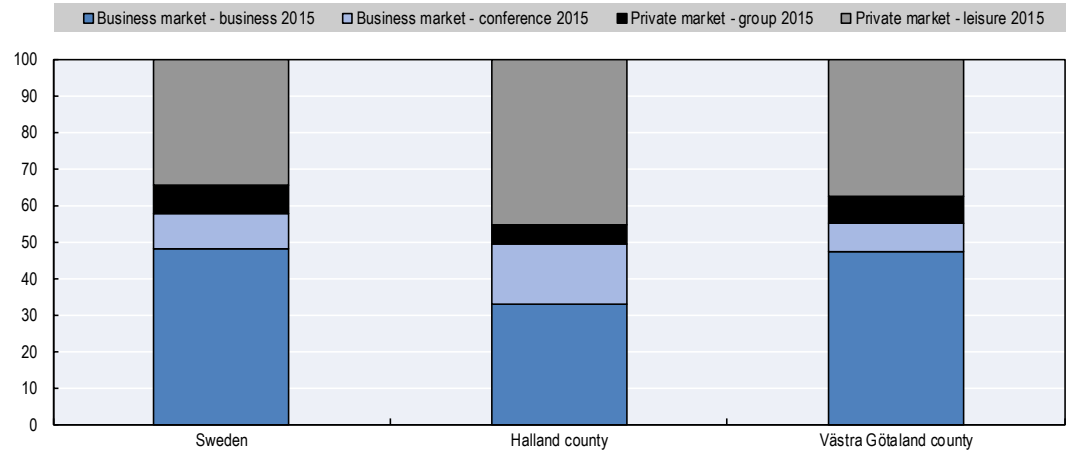
Another indicator of regional attractiveness, and an economic spin-off from it, is the tourism industry. Tourism contributes on average 4.1% of GDP, 5.9% of employment and 21.3% of service exports across OECD countries (OECD, 2016d). In Sweden, tourism accounts for 2.8% of GDP and employs close to 150 000 people, which represents an employment growth of 22% in the sector since 2000 (well above the overall employment growth of 10%) (OECD, 2016d). In this national context, West Sweden has a key role to play, particularly in terms of major events, cultural experiences and recreational opportunities in the coastal areas. West Sweden generally performs in line with the national average, and registers even higher performance in terms of the number of foreign visitors and the level and growth of guest nights (Figure 4.21). However, it is marginally below the national averages for employment and employment growth. This may imply increasing productivity, which is positive because it provides the basis for higher wages and future growth in tourism employment. It may also indicate a need to provide a more diverse visitor experience that encourages people to stay longer in the region. A comparative advantage of West Sweden is to be able to provide both urban- and rural-based experiences, and there may be opportunities to strengthen regional diffusion going forwards. In terms of market segments, Västra Götaland and Halland both perform better than the national average in terms of the private leisure market. Since 2008, the share of this market segment in terms of occupied hotel rooms has increased by 10%, which has offset drops in the market share of business to business (4.9%) and the business conference segments (4.1%), which is broadly consistent with national trends (Statistics Sweden, 2016).

Figure 4.20. **Benchmarking West Sweden's tourism performance**

Note: Number of occupied rooms at hotels by region, observations and year.
Source: Statistics Sweden.

Figure 4.21. **Share of different visitor markets**

Number of occupied rooms at hotels by region, observations and year

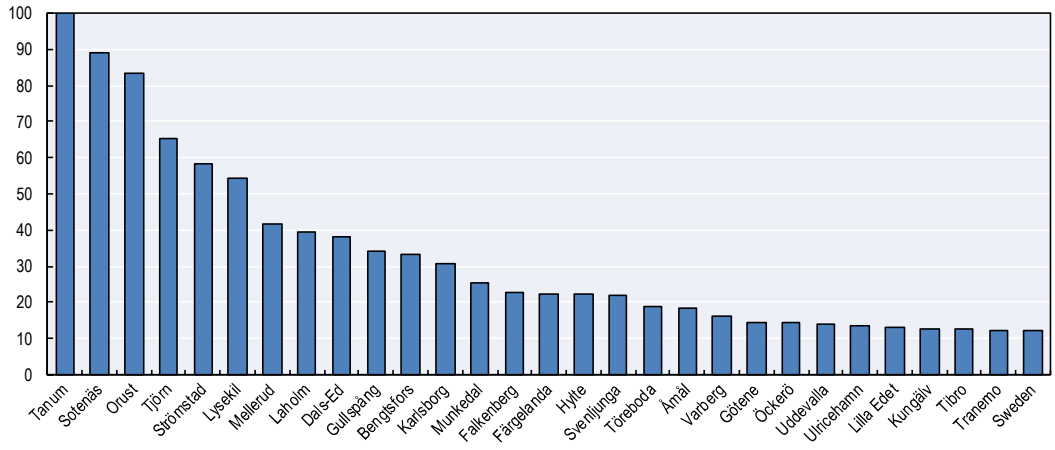


Source: Statistics Sweden.

Another key attraction for the region is the high levels of amenity and proximity to large metropolitan areas, which have led to the growth of a secondary homes market. Figure 4.22 shows the municipalities in Västra Götaland and Halland where the proportion of secondary homes in the total dwelling stock is above the national average of 12.2%. A focus on the top 10 municipalities (which turn out to have a share over 33%) gives an indication of where the amenity areas are within the region. Seven of these municipalities are located on the coast, particularly between Gothenburg and the Norwegian border. The remaining three are located in the lakes areas in the northern part of the region, also close to the border with Norway. While secondary homes are associated with some challenges (e.g. seasonality, impacts on services and land use), they also indicate the important role of tourism in rural economies within West Sweden.

Figure 4.22. **Secondary homes as a percentage of total dwelling stock, select municipalities in Västra Götaland and Halland, 2015**

Number of dwellings by region and year

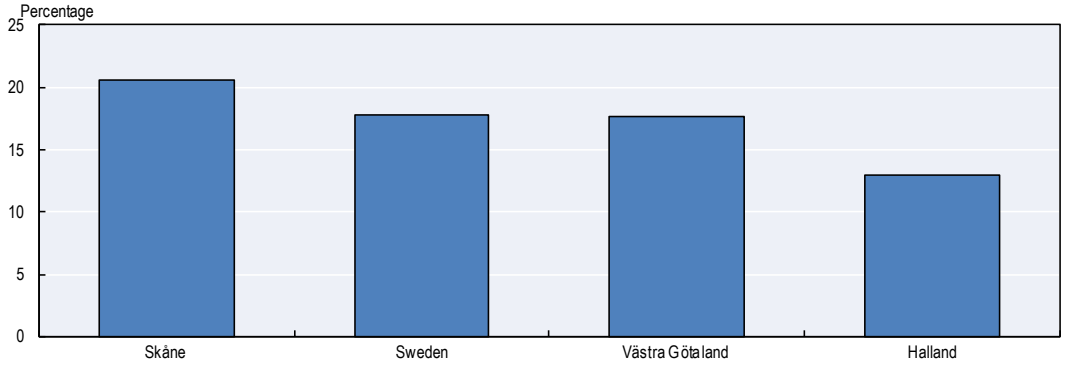


Source: Statistics Sweden.

Finally, international migration offers another indicator of relative attractiveness, openness and labour mobility. The percentage of foreign-born residents in the County of Västra Götaland is 17.6%, which is slightly lower than the national average of 17.9%. This figure is even lower in the County of Halland (13%). Over the past decade, the share of the foreign-born population in total population has increased at a slower rate in Västra Götaland than in Sweden as a whole, whereas it has been faster in Halland (accelerating in the period 2013-16) and converged to the country average. For Halland this accelerated growth probably indicates the absorption of higher numbers of refugees and asylum seekers.

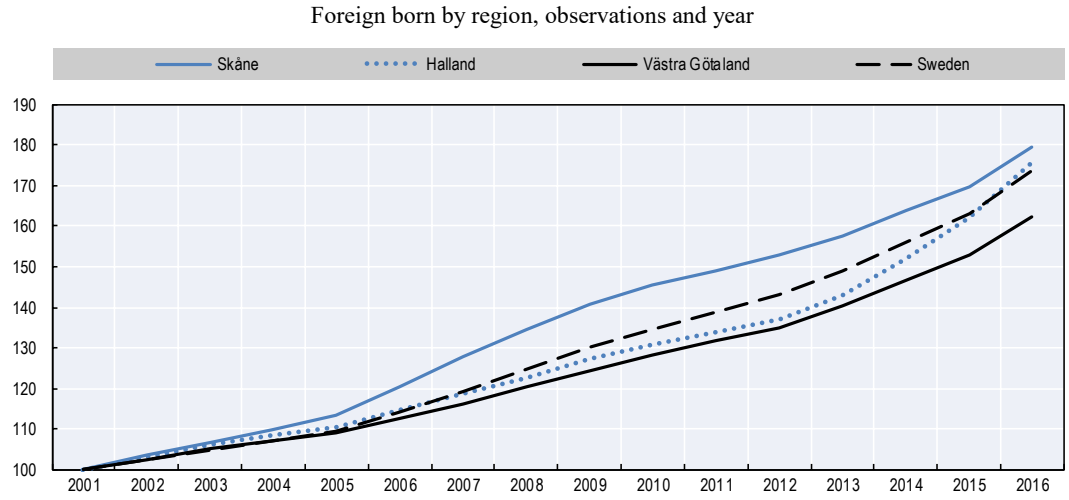
Figure 4.23. **Percentage of foreign born in total population, 2016**

Foreign born by region, observations and year



Source: Statistics Sweden.

Figure 4.24. **Change in share of foreign-born population**



Source: Statistics Sweden.

Policies to enhance regional attractiveness

Regional attractiveness has been an important factor in the economic transition of West Sweden over the past three decades. As already outlined, this period has seen a restructuring of the heavy manufacturing sector toward higher value manufacturing activities and services. This shift has also had a particular locational dimension. The region has pursued an urban regeneration strategy by facilitating significant mixed-use residential and commercial development opportunities in central Gothenburg, which has been possible because of the relocation of the port. This land-use strategy has been combined with sizeable investment in cultural and social infrastructure in the central area of Gothenburg, such as the Opera House. This strategy has helped create the preconditions for the growth of higher value activities, primarily for two reasons. The first is that it enables a greater density of development in a location that is accessible to a wide pool of labour, thereby fostering agglomeration economies (Puga, 2010). The second is that it invested in a critical mass of amenities and consumption opportunities that are attractive to highly skilled workers (Florida, 2002). This has helped to stimulate the development of higher value manufacturing related activities and services, by creating a high amenity and accessible location where to live, work and start a business in the central area of the city.

Tourism and cultural development has also been a central part of this strategy to support the transition of the regional economy. Gothenburg has positioned itself as a city for major events through the development of major venues which are in close proximity to each other in the city centre. This includes the development and upgrading of the Sweden Exhibition and Congress Centre, which is now one of the largest integrated conference facilities in Europe. Culture is also seen by the region as a key driver of economic development. The region's cultural development strategy focuses on five key achievement areas: democratic openness, artistic quality, social relevance, economic potential and regional profiling (Region Västra Götaland, 2012). This has translated into investment in cultural and artistic facilities in Gothenburg and other regional centres (such as the centre for film production in Trollhätan), the region's approach to developing and attracting major events and festivals (cultural, artistic, musical, performing arts and sports), and smaller scale cultural initiatives that are designed to promote social inclusion for young

people, Roma and recently arrived migrants. Another defining aspect of the tourism offer in Gothenburg is that the city is "close to nature", particularly along the high-amenity coastal areas. This is an area which is a strength for Halland with attractions based around food, cycling, hiking, camping and coastal recreation.

Box 4.3. **Collaborative approach to place-marketing and destination management**

Over the past two decades, West Sweden has developed a broad portfolio of events across different times of the year to attract high-yield visitor segments. Sporting and cultural infrastructure has been developed in central Gothenburg which is in close proximity to each other, and the city's restaurants, accommodation and transport infrastructure. This includes the "Svenska Mässan Fairs and Convention Center". The events strategy is underpinned by large world-class cultural, sports and industrial events that are held on a regular basis (e.g. Goteborg Film Festival, the largest youth tournaments in the world in football and handball with players from more than 80 countries and 40 000 participants for the football tournament and from 40 countries for the handball one, the largest half marathon in the world Göteborgsvarvet). In addition, the region also attracts high-profile international events (e.g. the Equestrian European Championships 2017 with more than 100 000 tickets sold and Redbull Flugtag in 2015). Regional diffusion activities are also supported to help spread these events and visitors to other parts of the region.

The city of Gothenburg, together with the private industry, cultural and academic institutions, and the Region of Västra Götaland, has developed a collaborative approach to events and destination management. These actors participate in a "collaboration-platform" which co-ordinates the bidding, creation, development and communication of events in the region. The main actors within this platform also meet regularly to discuss and formulate the long-term strategic vision, goals, financing and operative tools, to achieve the aims of the destinations of Gothenburg and West Sweden. This includes highlighting Gothenburg as a sustainable and socially progressive destination to live, work and visit. The overall strategic aim for these actors is to fulfil the vision to develop one of the most liveable city regions in the world: Gothenburg and West Sweden.

Source: Business Region Gothenburg, Region Västra Götaland and Region Halland (2017), "West Sweden – cases of best practice", unpublished.

Gothenburg has been able to develop a portfolio of events and invested in tourism infrastructure (conference centre, arts and cultural facilities) that attracts leisure and business visitors. West Sweden also has a range of visitor experiences in rural areas linked to nature, food and culture. While this provides an advantage, it also means that Gothenburg is competing with other European cities of similar size that combine urban and natural tourism experiences (e.g. Oslo, Helsinki, Rotterdam and Valencia). OECD analysis of global tourism trends indicates there are three key areas of good practice for

the development of tourism development policies: 1) clarity about the niche offer in a global market; 2) linking different visitor experiences (e.g. nature-based, culture and food); 3) integrating tourism policies with other sectoral policies that are designed to improve the business environment and well-being (OECD, 2016d). Table 4.6 provides a summary assessment of West Sweden in relation to these key areas.

Table 4.6. **Assessing tourism development policies in West Sweden**

OECD good practice	West Sweden – strengths	Gaps/options for future development
Clarity about comparative advantage	Combination of food, cultural events experiences close to city centre (with proximity to nature-based tourism)	Developing a single tourism brand and promotion strategy for West Sweden
Linking different visitor experiences	Link with Gothenburg archipelago	Joint marketing of the coastal area of West Sweden, and lake/wilderness experiences in the interior
Integration of tourism policies	Establishment of destination management company to promote and integrate visitor experiences	Development of an integrated tourism strategy for West Sweden (which also develops stronger links with Oslo)

West Sweden is a relatively small destination in a European and global context. However, at the moment there are different tourism branding and promotional activities for Gothenburg, the County of Halland and West Sweden. Although initiatives such as the "collaboration-platform" support integration, this fragmentation reduces the capacity to clearly communicate a niche offer to the global market. This niche offer is the combination of food, culture and nature-based activities which is accessible through the city of Gothenburg. Nature-based and rural experiences also extend beyond the Gothenburg archipelago and future tourism promotion and destination development should also prioritise other experiences in the wider region (e.g. coastal Halland and Lake Vanern), and develop stronger linkages to Oslo which can also package a similar set of experiences. Strengthening these cross-border linkages also provides another rationale for improving transport linkages between Oslo and Gothenburg. Currently, tourism policy and decision making in West Sweden occurs across a number of different public and private bodies. There is an opportunity to consolidate tourism development policies, and branding and promotional activities within a common framework of an integrated tourism development strategy for West Sweden. This strategy can provide a common platform for prioritising markets, common branding and promotional activities, articulating the linkages between tourism and land use, innovation, and infrastructure policies at the local and regional level, and strengthening cross-border linkages.

Policies to improve regional attractiveness can also enhance inclusion

Key challenges moving forwards in terms of developing a more attractive region is how to adapt these strategies to deliver more inclusive growth. Compared to other OECD countries, inequalities in terms of prosperity and well-being – both between people and between regions – are relatively low in Sweden (OECD, 2016c; 2017a). However, socio-economic disadvantage in West Sweden is concentrated in particular places. Some of the suburbs of Gothenburg tend to concentrate people with low levels of education, workforce participation and income. This includes people who grew up in poorer households and recently arrived migrants. Civic participation of recently arrived migrants is also generally lower. Civic and workforce participation is particularly weak among young people who have arrived in the country aged over 10 or 11 years old. This lack of civic and economic participation reinforces a cycle of disadvantage and exclusion in these

urban communities. Likewise, socio-economic disadvantage is concentrated in smaller rural places in the interior of the region. These communities have been affected by past restructuring in agriculture, forestry and manufacturing, which has resulted in a long-term trend of reduced employment opportunities and, in some cases, population losses.

Policies to enhance regional attractiveness can be applied to address social exclusion and disadvantage. For rural areas in particular, the development of the tourism sector can generate local employment opportunities and attract investment in infrastructure and services that can be used by existing residents. Rural tourism is also important in terms of how regions and nations diversify their tourism offer into areas such as food, nature-based activities and cultural activities (OECD, 2016d). At the same time, supporting the growth of tourism activities in rural areas should be integrated with wider rural and regional development efforts (OECD, 2016a; 2017c). This approach enables the development of mechanisms to better incorporate tourism considerations into other policy areas (such as land use and transport infrastructure), leverage policy complementarities, and ensure start-ups and small and medium-sized enterprises have appropriate support services to facilitate their growth and innovation (OECD, 2016d).

Disadvantage can also be addressed through initiatives that are designed to build social norms and networks. Additional initiatives can help develop the capacity of local communities to influence decision making and participate in social activities, service delivery and economic development initiatives. Networks that link people across different social groups and to resources and decision-making authority are particularly important in a range of social and economic outcomes, but are often lacking in disadvantaged areas (Productivity Commission, 2003; Department of Planning and Community Development, 2011). Social networks have been shown to contribute to improved educational achievement, health outcomes and labour force participation (Department of Planning and Community Development, 2011). This is relevant in the case of labour force participation in Sweden, where the lack of social networks and discrimination plays a key role in poor workforce outcomes for people from a migrant background (OECD, 2016e). Regional and local authorities have already developed initiatives to involve migrant communities in local decision making, and support cultural initiatives focused on migrants and young people. However, they primarily have a focus on social development and inclusion. There is scope to further expand these initiatives and better link them to vocational training and education programmes, and support for entrepreneurship.

Recommendations related to city and regional attractiveness

Västra Götaland has been a leader in a Swedish and European context in developing a distinct cultural strategy that provides a framework to promote civic participation, invest in artistic and cultural activities, and facilitate creativity and innovation. Region Västra Götaland and Region Halland can build on these strengths by:

- linking the programmes and networks developed through the cultural strategy with initiatives to support entrepreneurship and labour market integration of disadvantaged communities (e.g. newly arrived foreign migrants, rural places affected by restructuring)
- developing an integrated tourism strategy for West Sweden provides a common platform for prioritising markets, common branding and promotional activities; articulating the linkages between tourism and land use, innovation, and infrastructure policies at the local and regional level; and strengthening cross-border linkages
- developing a collaborative platform with higher education institutions in the region to increase the number of international students in West Sweden, including the identification of barriers to international education at a national level, and providing better on- and off-campus support at a local and regional level.

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Chapter 5. Skåne

This chapter provides recommendations for the Skåne Regional Council and the municipality of Helsingborg to improve economic development outcomes in the context of the broader megaregion collaboration. It builds on the 2012 OECD Territorial Review of Skåne *to monitor the implementation of previous recommendations and identify new priorities. The chapter is organised in two parts: 1) an overall diagnosis of the region's economic performance; 2) an assessment of two key priorities for the future development of the region: inclusive growth, and infrastructure and accessibility. Key findings and recommendations are summarised at the beginning of the chapter.*

Key findings and recommendations

- ***The productivity growth of Skåne has been relatively weak compared to the national level. Addressing this productivity challenge requires a focus on increasing connectivity and access to jobs coupled with strategies to develop a more inclusive labour market.*** The economic performance of Skåne (in terms of per capita and productivity growth) has been lower than the national average over the past decade. Productivity levels in Malmö are significantly lower than in capital cities such as Stockholm and Copenhagen, and this gap has been increasing over time. However, labour market performance has been relatively strong compared with other regions in Sweden. Low productivity and a strong labour market can be partly explained by the comparatively higher levels of population growth experienced in Skåne, particularly from newly arrived foreign migrants and (to a lesser extent) students. These newly arrived migrants are primarily asylum seekers and refugees (and associated family reunions). This group has lower levels of entrepreneurship and labour force participation than native-born Swedes (due to factors such as language barriers, lack of social networks and discrimination) and their labour productivity could be low. However, these groups also increase demand for non-traded private and public services (retail, health and education) that generates demand for labour. Another factor explaining the current growth dynamics is the significant structural economic change since the early 2000s. The manufacturing sector in Skåne has restructured toward areas of comparative advantage (e.g. in food and beverage); however, there has been an absolute loss in terms of output and employment in this sector over this period. Skåne has also successfully moved up the value chain, with a focus on professional and scientific services in areas such as ICT, life sciences and clean technologies. Job creation has been strong in the main cities of Malmö-Lund and Helsingborg. Although this shift toward a knowledge-based economy is a positive trend, the regional economy is still experiencing the impacts of restructuring in the manufacturing sector and its flow-on impacts. Enhancing the productivity of Skåne will require a key focus on the following two issues: 1) developing a more inclusive and efficient labour market, particularly for foreign migrants; 2) investing in infrastructure that better links people to jobs, and reinforces the role of Skåne as Sweden's gateway to Europe.
- ***A more inclusive and efficient labour market in Skåne can be achieved by better targeting and co-ordinating efforts with national agencies and social partners on population groups and places experiencing higher levels of inequality and socio-economic disadvantage.*** Inclusive growth policies refer to initiatives that help improve living standards while delivering a more even share of the benefits among population groups and places. This concept is relevant for Skåne because of the dual impacts of the restructuring of the labour market and high levels of migration. The latter has become more important since the 2012 *OECD Territorial Review of Skåne* due to the high levels of migration in 2015-16. The impacts of these trends are revealed in a number of ways. The first is the higher levels of unemployment and youth unemployment in Skåne relative to the national average. The second is levels of inequality between municipalities within the functional urban area (FUA) of Malmö, and increased disparities between Malmö-Lund and other areas within Skåne. These place-based outcomes are associated with the proportion of people who are foreign born and lower levels of education for migrants and native-born Swedes in these places. A lack of

flexibility in the provision of employment, migrant integration and education and training services, and differences between municipalities in terms of competencies and resources are affecting the effectiveness of policies to address these issues. Given the scope of the challenges in the region, the Skåne Regional Council should be given a clear mandate by the national government to plan and co-ordinate employment and skills policies at the regional level. This can be achieved by strengthening the role of the Competence Cooperation Skåne (KOSS) to facilitate joint planning and co-ordination efforts between municipalities, national agencies and other social partners and prioritises: 1) expansion of pilot projects that promote parental participation of migrants in schools; 2) improvements in targeted educational, mentoring, and social and civic participation support for migrants who arrive at the age 15-19; 3) addressing resource constraints of small municipalities in relation to education and social services (for example by facilitating shared services arrangements between smaller and larger municipalities); 4) development of tailored pathways for vulnerable youth at risk of leaving school in disadvantaged communities, for example, by strengthening local platforms that bring together schools, local employers and vocational training providers that link mentoring and peer support, social services, work placements and training opportunities.

- ***The long-term performance of the transport network can be improved through more effective integration of national transport planning between Sweden and Denmark, and further strengthening strategic land-use planning decision-making responsibilities at an FUA or regional scale.*** Investing in transport infrastructure can help boost regional growth because it reduces transport and communications costs (fostering agglomeration economies), and improves access to external markets and supply chain performance. Fostering agglomeration economies is becoming more important to the productivity and growth performance of Skåne because of the long-term shift to a knowledge-based economy. Higher value producer services (e.g. ICT and research) benefit from accessing wide and deep labour markets, competition and complementarities between related firms, and knowledge spillovers. These firms are concentrated in the functional urban area of Malmö, which hosts the largest city and acts as a growth engine for the region. Increasing the effective size of this labour market and better linking other urban settlements to it will improve overall regional growth performance and accessibility to employment. Infrastructure improvements can also help meet the challenge of promoting growth in rural areas and facilitating the movement of goods in and out of Skåne to other parts of Sweden and Europe. Skåne has a framework in place for planning, prioritising and sequencing infrastructure through its integrated approach to spatial planning (the Structural Picture of Skåne), and the development of a priority list of transport projects (Skånebilden). This framework aims to address these strategic challenges by reinforcing a polycentric development pattern through improved linkages between urban centres and enhanced cross-border connectivity. Delivering on this framework and making the most of infrastructure investments will require focusing on three key areas: 1) establishing a mechanism to ensure more effective integration of national transport planning in Sweden and Denmark that can facilitate joint long-term planning, prioritisation, sequencing and financing of transport infrastructure (discussed further in Chapter 2); 2) giving the Skåne Regional Council the mandate to prepare a strategic spatial planning and validate local comprehensive land-use plans, and to be the planning authority for major development projects

(making the Skåne Regional Council a national pilot for a county council to strengthen its role in strategic spatial planning);3) ensure that large-scale infrastructure investment that improves accessibility for regional centers (Ystad, Trelleborg, Landskrona, Hässleholm and Kristianstad) and surrounding rural areas are integrated with initiatives to lift skills and promote innovation among local firms.

- ***The findings and assessment in this chapter are informed by, and support, the 2017* OECD Territorial Review – Sweden: Monitoring Progress in Multi-Level Governance and Rural Policy*, and implementing them will require national policy changes that continue to strengthen the role of the regional level.*** The performance of Skåne matters for Sweden's economic performance. Skåne constitutes 11.3% of Sweden's economy, has Sweden's third-largest city, Malmö, is the physical gateway to Europe, and has key industries related to food production (agricultural production, processing and packaging), ICT and life sciences. However, labour productivity is diverging from the national level and there are challenges associated with housing supply, congestion, the integration of migrants and skills development, which will need to be addressed to maintain and improve regional well-being. There is variation in how these challenges impact different regions and cities within Sweden, and addressing them effectively requires policy responses that are tailored to these differences, and strengthens co-ordination across portfolios and between levels of government. Greater autonomy in decision making at a regional level would enable policies to be better tailored to these conditions. As with other parts of Sweden, this outcome can be achieved by gradually increasing the roles and responsibilities of county councils, and improved coherence among representatives of national agencies at the regional level. Skåne's was one of the first county councils to take on responsibility for regional development, and there is scope for it to take on additional responsibilities over time, particularly in relation to spatial planning, and employment and skills policies. The 2017 *OECD Territorial Review of Sweden* supports this reform direction and recommends a stronger role of the regional level in co-ordinating employment and skills policies, those related to land use and spatial planning, and incentivising a more strategic approach to public procurement and an expanded role for public-private partnerships. Realising the recommendations in this chapter will require a stronger role for the Skåne Regional Council, and effective mechanisms to support a more co-ordinated approach to policies and investment across levels of government.

Overview: The economic performance of Skåne in Sweden and in the OECD area

Sweden enjoys very high standards of living and a resilient economy, but faces challenges related to increasing inequalities, housing supply and affordability, skills, and migrant integration. Sweden is a high-income country in the context of the OECD, with relatively high levels of productivity and robust economic performance since the crisis. The country has been able to exploit comparative advantages in global value chains and shift toward high-value manufacturing and services. In addition, Sweden registers the lowest levels of inter-regional inequality in the OECD and ranks high in terms of multi-dimensional well-being (OECD, 2016c). Within the context of this strong performance, like many OECD member countries, Sweden faces slowing productivity and increasing inequalities, and some of the key policy issues related to these trends include: spatial segregation of low-income and migrant groups, housing shortages and rising costs, regulatory barriers including occupational licensing and land use, and declining levels of education performance for young people and adults (OECD, 2015a; 2017b). Some of these challenges (inequalities, housing and skills) have also been affected by the increasing number of refugees and asylum seekers arriving in Sweden. 2015 was a record year with the arrival of 163 000 asylum seekers in Sweden, which was the highest per capita inflow ever registered in an OECD country (OECD, 2016e). With a significantly higher proportion of foreign born than the national average, Skåne is at the forefront of addressing this challenge. Skåne also provides a physical connection for Sweden to the rest of Europe. The quality of major infrastructure linkages to Copenhagen, and in the future via the Fehmarn Belt, is critical for the overall performance of Sweden's transport system.

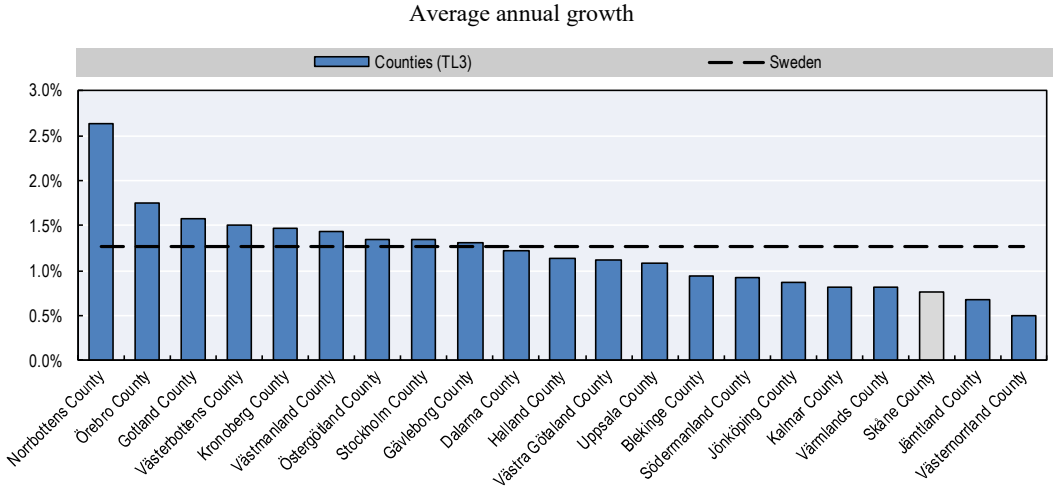
Table 5.1. **Key economic indicators for Sweden, compared to OECD averages, 2014**

Key indicator	Sweden	OECD
GDP per capita	USD 46 446	USD 39 828
Labour productivity (per hour worked)	USD 59.1	USD 50.08
Real GDP growth rate	2.6%	2%
Population growth rate	0.9%	0.5%
Employment rate (15-64 year olds)	74.9%	65.6%
Unemployment rate	8.2%	7.3%

Note: Population growth rate for OECD is 2013.
Source: OECD Country Statistical Profiles, http://dx.doi.org/10.1787/20752288.

Skåne is close to the OECD average in terms of gross domestic product (GDP) per capita, but has the third-lowest GDP per capita of Sweden's 18 counties, and is losing ground on this measure, in relative terms, to Stockholm over time. Between 2002 and 2013, GDP per capita in Skåne increased only by 10.1% (from USD 32 728 to USD 36 023, just under the OECD average of USD 36 230), compared to 14.5% for the Swedish average over the same period (from USD 36 853 to 42 185). The divergence in GDP per capita between Skåne and the national average therefore widened from -9.7% to -14.8%. The lower GDP per capita is partly a function of the relatively higher population growth rate in Skåne, particularly from young people and students moving to study in the region and the relatively higher levels of international migration (see Chapter 1).

Figure 5.1. **GDP per capita growth, 2001-13**

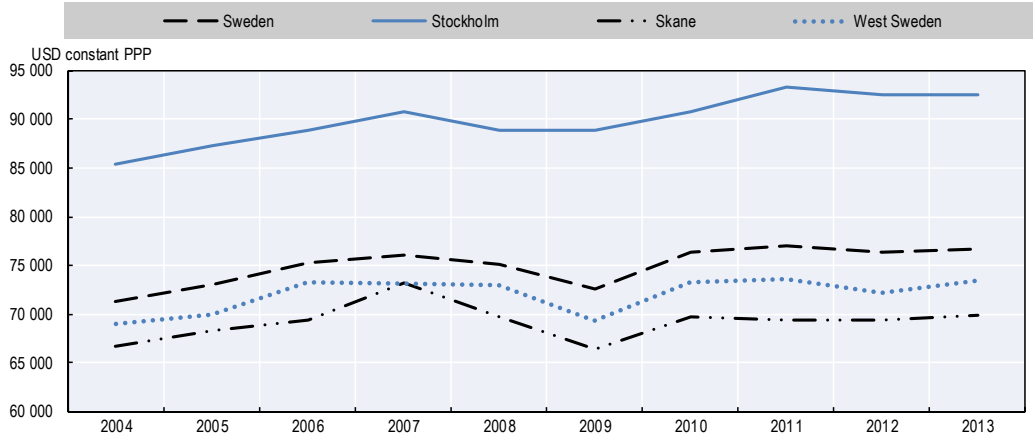


Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Compared to Sweden and other cities in the megaregion, Skåne and Malmö have lower levels of labour productivity and this gap is increasing over time. Skåne has a level of labour productivity of USD (PPP) 69 880, which is 9.7% below the national level of USD (PPP) 76 624. The gap in labour productivity between the national level and Skåne increased from -6.9% in 2004 to -9.7% in 2013. The gap in labour productivity between the County of Stockholm and Skåne also increased, from 27.8% in 2004 to 32.3% in 2013. The gap between Malmö and Stockholm is increasing over time, which provides a greater incentive for capital investment and higher skilled labour to locate in the capital. At the scale of the functional urban area, Malmö is smaller and has a lower level of productivity than Gothenburg, and the capital cities of Oslo, Copenhagen and Stockholm. This is partly due to the relative size of Malmö compared to these cities (Figure 5.2). The graph shows that there is a positive linear relationship between population size and levels of labour productivity for functional urban areas in Europe (correlation value 0.37 and R^2 of 0.6). This is consistent with OECD analysis about the relationship between city size and productivity, which shows that population size is an important factor in shaping urban productivity performance alongside governance, sectoral mix and proximity to other cities.

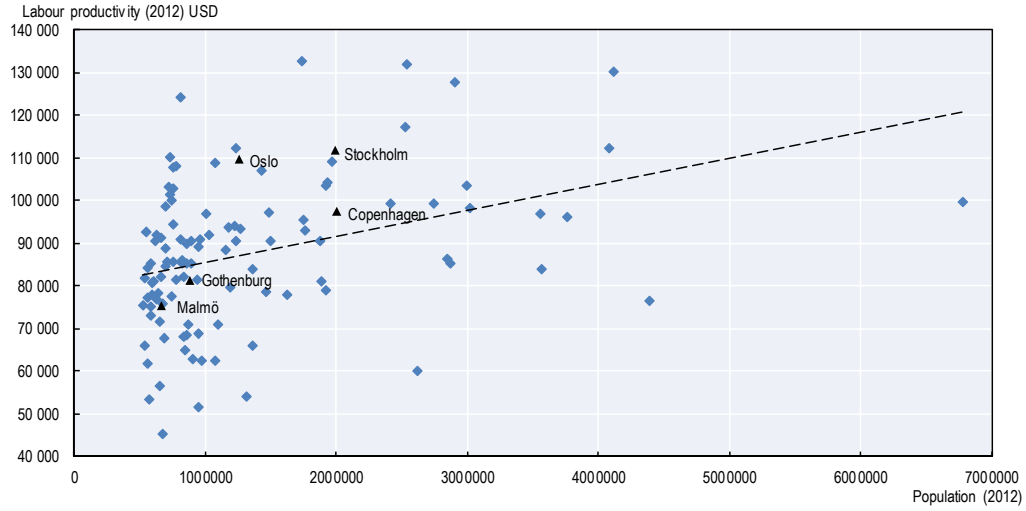
Skåne and Malmö also benefit from proximity to Copenhagen. This includes being able to attract investment and visitors under the brand of "Greater Copenhagen", and to provide work opportunities for local residents (approximately 6% of the labour force of Malmö works in Denmark; see Box 1.8 in Chapter 1). However, the significantly lower levels of productivity in Skåne compared to Copenhagen may be due to a number of factors. This includes levels of skills in the labour force, restructuring in the manufacturing sector and the influence of an "agglomeration shadow", whereby it is more attractive for higher productivity firms to locate in the larger city of Copenhagen and service the market in southern Sweden (Meijers and Burger, 2017).

Figure 5.2. **Labour productivity (GVA per worker) – Skåne compared with Sweden, West Sweden and Stockholm**



Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 5.3. **Labour productivity (GVA per worker) and population, European functional urban areas**



Note: Excludes London and Paris because they are outliers.
Source: *OECD Metropolitan Database*, http://dx.doi.org/10.1787/region-data-en.

In a national context, Skåne has relative specialisations in agriculture, distributive trade and tourism-related services, and professional and scientific services. Locational quotients are a way of identifying relative specialisations in a regional economy in relation to the national level. The analysis for Skåne reveals specialisations in agriculture; distributive trade; transport; accommodation and food; and professional, scientific and administrative services. Skåne has traditionally been a major contributor to food production in Sweden and has developed related activity in food and beverage manufacturing and packaging. Skåne's physical location as the connecting point for Sweden with continental Europe is reflected in the important role of distributive trade and transport services in the regional economy. A fast-growing sector for the future development of Skåne is professional and scientific services, in which the region is specialised and Sweden has a comparative advantage in international markets.

Table 5.2. **Locational quotient, employment and gross value added, Skåne, 2013**

	Employment	Gross value added
Agriculture, forestry and fishing	1.3	0.9
Manufacturing	0.8	0.8
Industry (excluding manufacturing)	0.9	0.8
Construction	1.0	1.1
Distributive trade, transport, accommodation and food	1.1	1.2
Information and communication	0.8	0.8
Financial and insurance	0.7	0.6
Real estate activities	1.1	1.1
Professional, scientific and administrative services	1.1	1.2
Public administration, education and health	1.0	1.0
Other services	1.0	0.9

Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

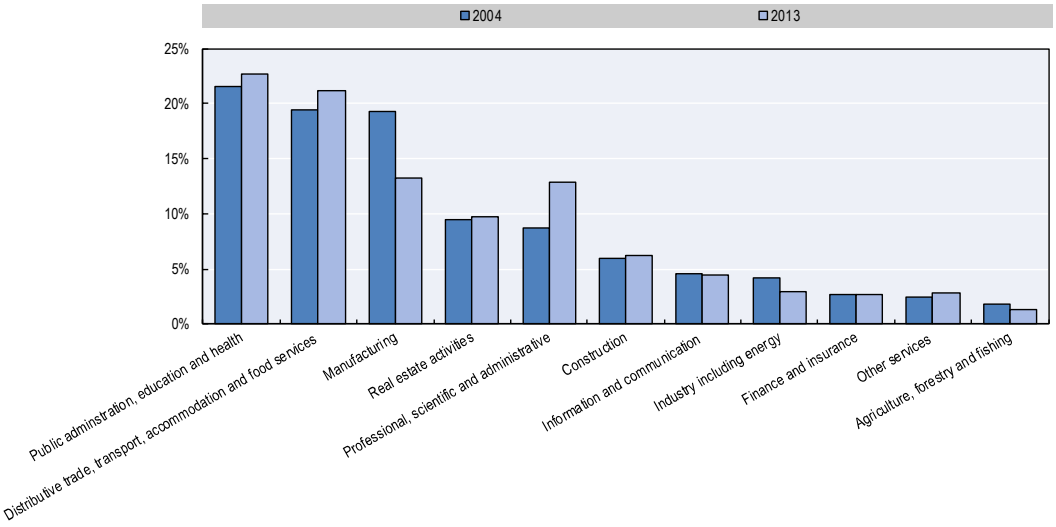
Skåne has shifted toward a more knowledge-based economy, with the manufacturing sector restructuring around core areas of comparative advantage. Over the past decade there have been some important shifts in the regional economy, which is apparent in relation to the manufacturing sector. Manufacturing has maintained a strong presence in the Swedish economy by moving up the value chain in response to competition from lower cost countries (OECD, 2015c). This trend is apparent in Skåne, where low-technology manufacturing has declined faster than any other sector while value added in professional, scientific and technical services has increased at a comparable level. Public services and services related to tourism, wholesale trade and transport have also increased in relative importance. Skåne has a relatively mild climate and good soil quality compared to other areas of the country and contributes about half of Sweden's food production and slightly more than a fifth of the country's employment in the food industry. The key for Skåne's food industry is linking it with the life sciences and manufacturing expertise in the region to create high-value niche products, and also continuing to strengthen linkages with the region's tourism offer.

Performance of the regional labour market has been relatively strong and is driven by growth in knowledge-intensive, transport and tourism-related services. Since the crisis, the performance of Skåne's labour market has been relatively strong (Figure 5.4). The employment growth rate since 2007 at 0.8% is close to the national average (0.9%) but lower than that of Stockholm (1.7%) and Uppsala (1.6%). In terms of sectoral changes, the most significant areas of employment growth (and above the national level) have been in establishments engaged in trade, education, and arts and entertainment (Figure 5.5). The most significant decline (and at a faster pace than the national level) has been in the manufacturing sector.

Skåne performs comparatively well in an OECD context in relation to research and development (R&D), particularly in the area of life sciences. Skåne is focused on positioning itself as an innovative region with a knowledge-based industry structure. South Sweden (encompassing the counties of Skåne and Blekinge) has a higher level of R&D expenditure as a proportion of GDP (3.9%) than Sweden (3.3%) or West Sweden (3.7%). This is also significantly higher than the OECD average of 2.4% (OECD, 2017d). South Sweden is ranked 14th regional innovation performer in the European Union (out of 221 regions) with particularly high scores on components related to tertiary education and life-long learning, publications, R&D and patents (European Commission, 2017).

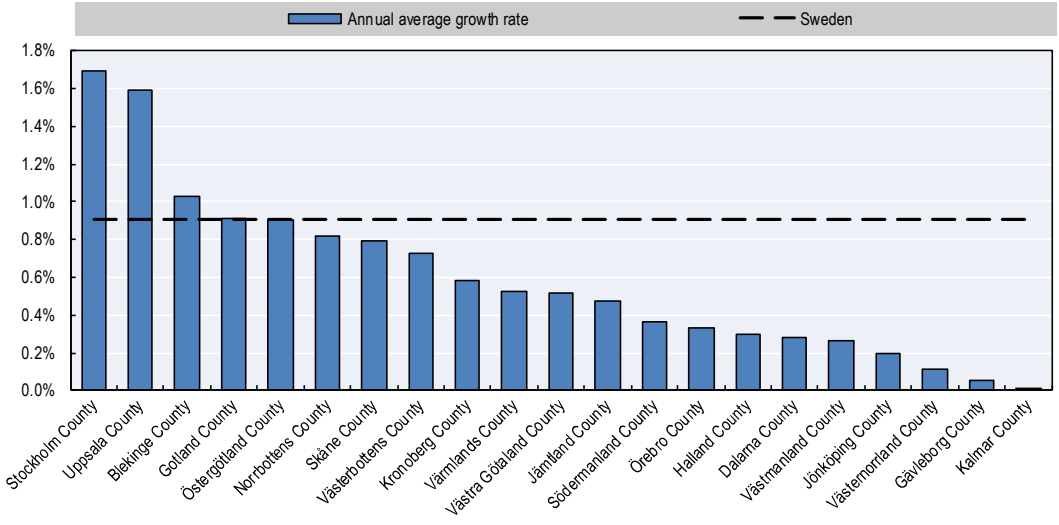
R&D expenditure is concentrated in the private business sector and clusters have been an important way of building linkages between businesses and also with higher education institutions. The main clusters in Skåne are in the following areas: life science, logistics and packaging, ICT, new media and the creative industries, the food industries, maritime technology and CleanTech. Most of the clusters are located in the south-western part of Skåne and have close ties with research at the University of Lund (inclusive Campus Helsingborg), Malmö University and Swedish University of Agricultural Sciences. Food industries also have strong connections to a development node in the north-eastern area of Skåne connected to Kristianstad University.

Figure 5.4. **Change in contribution of sectors to regional gross value added, Skåne**



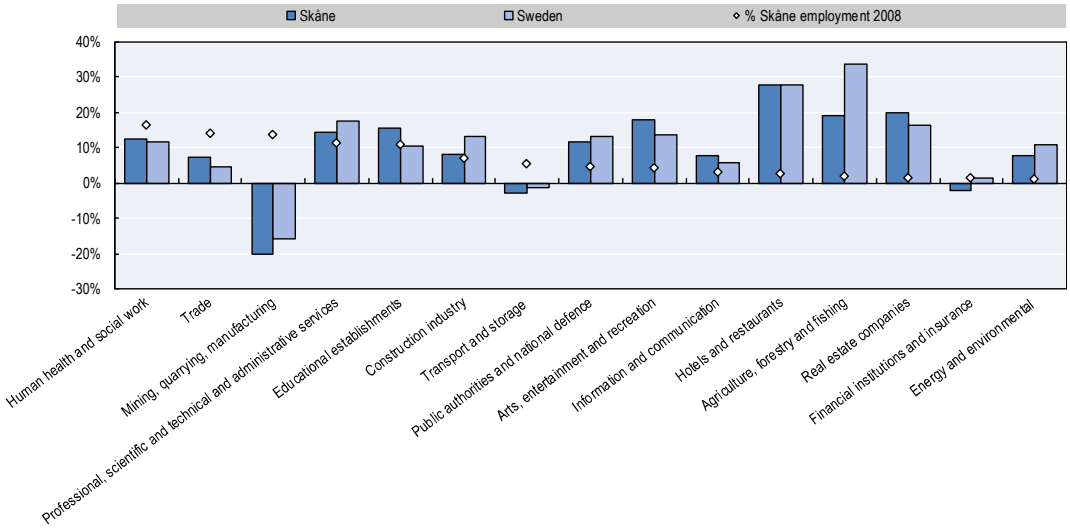
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 5.5. **Annual average growth rate in employment, 2008-15, Swedish counties**



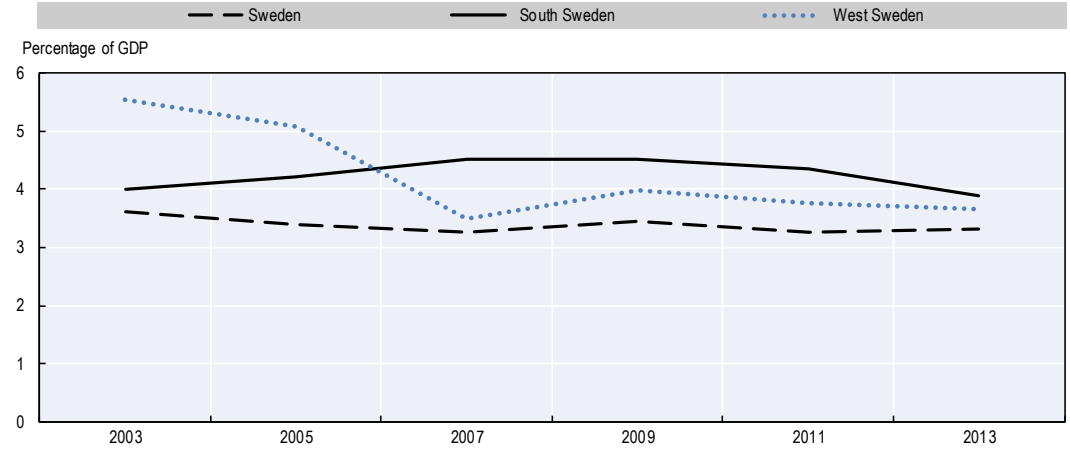
Source: Statistics Sweden, Gainfully employed 16+ years by region of work (RAMS) by region and year.

Figure 5.6. **Change in employment by sector, Skåne compared to Sweden, 2008-15**



Source: Statistics Sweden.

Figure 5.7. **R&D as a percentage of GDP, West Sweden and South Sweden (TL2) compared to national level**

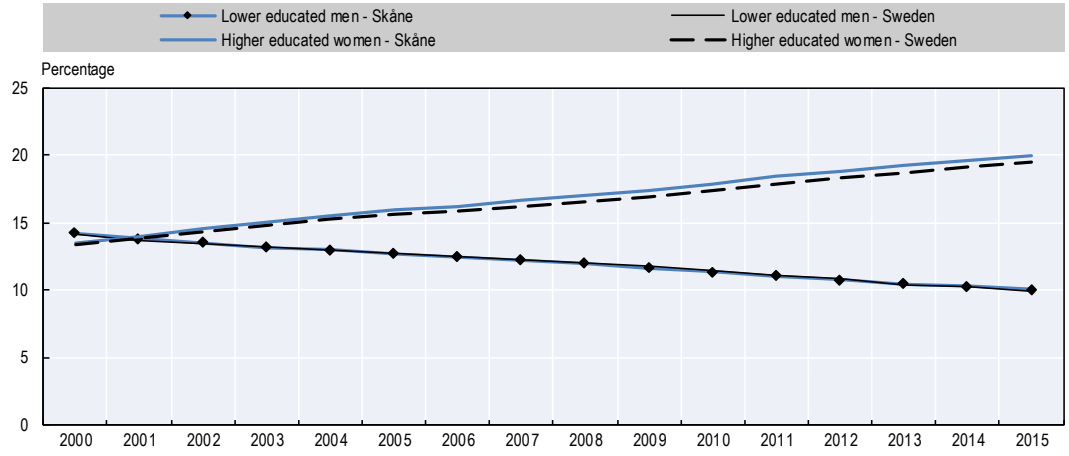


Note: South Sweden includes the counties of Skåne and Blekinge.
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

As in the rest of Sweden, this shift toward a knowledge-based economy is facilitated by increasing skills in the workforce; however, there are challenges related to low skills and labour market matching. Reflecting the compositional shift in the regional economy toward the service sector and higher skilled activities, the general skill level of the population in Skåne has increased over time. The proportion of the working-age population with low skills declined from 27.6% in 2000 to 17.9% in 2015, and those with high skills increased from 25.4% to 36.3% over the same period (Figure 5.8). Within this context, there are still challenges related to low levels of skills and matching skills with the labour market. The labour force participation of the foreign-born population is lower, with this group facing a number of barriers to employment, including lack of appropriate skills, social networks and discrimination (OECD, 2016a; 2016e). According to the

education prognosis 2016-25 for Skåne (made by Region Skåne), skills shortages will be experienced in healthcare (medical doctors, nurses), care for elderly people, teachers, and personnel with technical skills in both blue and white collar jobs and personnel in the construction industry. Lower demand is projected for people with only a primary education and people with a degree in journalism or the humanities.

Figure 5.8. **Share of population aged 15-74 with lower and higher education, Sweden and Skåne**



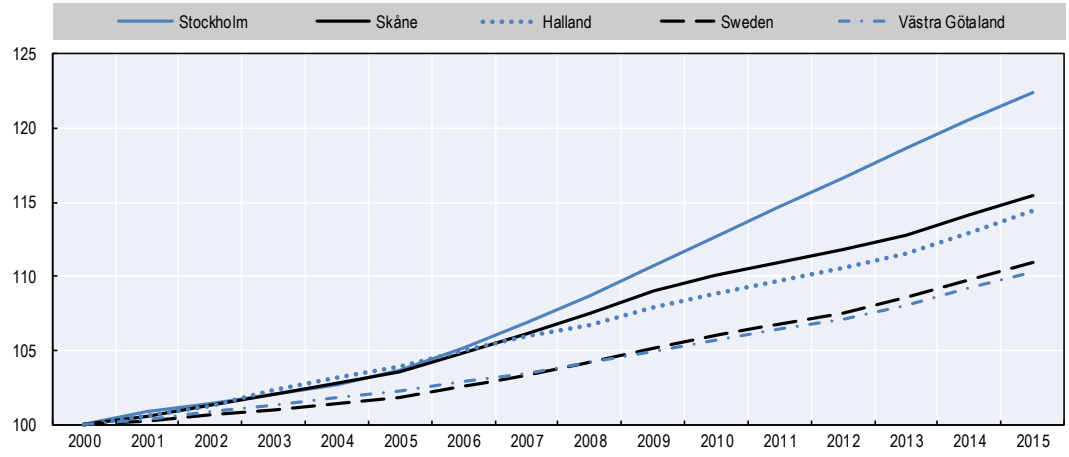
Notes: Lower education refers to the categories "primary and secondary education less than 9 years (ISCED97 1)" and "primary and secondary education 9-10 years (ISCED97 2)"; higher education refers to the categories "post-secondary education, less than 3 years (ISCED97 4+5B)", "post-secondary education 3 years or more (ISCED97 5A)" and "post-graduate education (ISCED97 6)".
Source: Statistics Sweden, Population by region, level of education, sex and year.

Over the past decade, Skåne has registered the strongest increase in population among the counties in southern and western Sweden. Population growth has mainly come from overseas migration, particularly from asylum seekers and refugees. In the period 2001-16, the proportion of foreign-born population in Skåne increased from 13.4% to 20.7%. Population growth is concentrated in the larger cities in Skåne, and particularly in the west and south-west. Regional centres and rural areas (outside of Malmö, Lund and Helsingborg) have experienced only small population increases, and in some cases declines. As in many OECD regions, the population of Skåne is ageing (although to a lesser degree due to high levels of migration) and this challenge is amplified in the smaller municipalities in the eastern part of the region.

South Sweden is in a relatively strong position regarding factors that shape people's well-being. The relative attractiveness of South Sweden can be assessed through the OECD Regional Well-being framework. This framework is multi-dimensional, covers both material and non-material factors, and considers what people value about where they live and work. South Sweden is well-above the OECD average in a number of key areas: life satisfaction, community, civic engagement, health and the environment (Figure 5.11). However, South Sweden is slightly below the OECD average in relation to income and housing (and in terms of employment compared with West Sweden), which are critical in attracting people to the region.

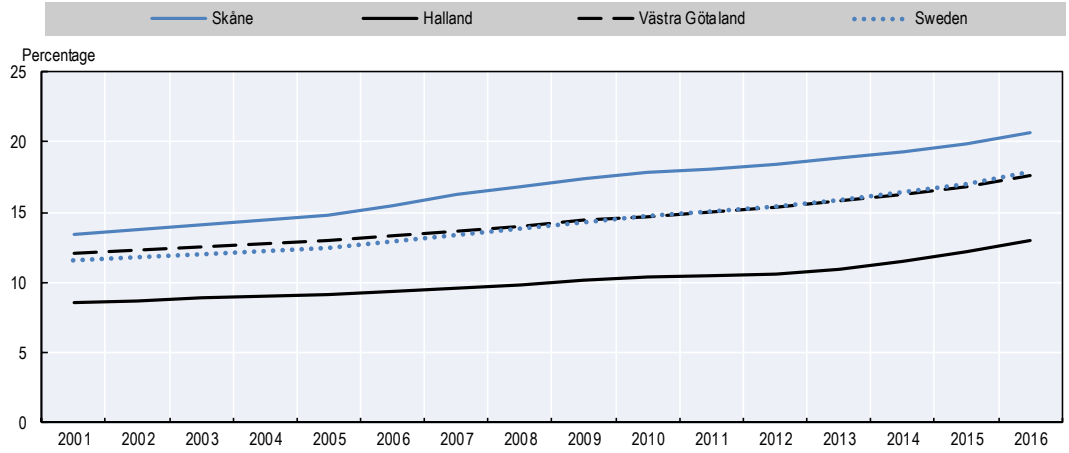
Figure 5.9. **Population growth index**

100 = year 2000



Source: Statistics Sweden, Population by region, marital status, age and sex. Year 1968-2015.

Figure 5.10. **Foreign born as a percentage of total population**



Source: Statistics Sweden.

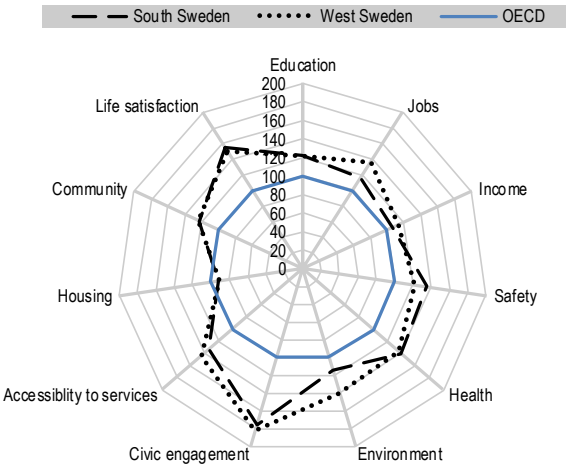
Spotlight on key priorities

Inclusive growth in Skåne

As illustrated earlier, people living in Skåne generally experience high levels of well-being compared to residents of other OECD regions. Skåne has also transitioned to a knowledge-based economy with relatively high levels of formal R&D-based innovation. However, Skåne has one of the lowest levels of GDP per capita in Sweden with significant structural adjustment in the manufacturing sector, and relatively high levels of youth unemployment. There is a higher rate of arrivals of asylum seekers and refugees (and family reunifications) than in many other regions in Sweden, which has accelerated in recent years. These issues point toward a challenge related to inclusive growth, particularly for newly arrived migrants and people affected by restructuring in the economy, which were also identified in the 2012 *OECD Territorial Review of Skåne*. This

section assesses some of the evidence in relation to inclusive growth in Skåne (with a focus on education, skills and the labour market), identifies why addressing this issue is important and how other OECD regions have approached this issue, and sets out some key policy recommendations for Skåne.

Figure 5.11. **Regional well-being indicators, comparing South Sweden, West Sweden and the OECD average**



Notes: Subnational data only available at the TL2 level. South Sweden includes the counties of Skåne and Blekinge.
Source: *OECD Regional Wellbeing Database*, http://dx.doi.org/10.1787/region-data-en.

The 2012 *OECD Territorial Review of Skåne* identified two key challenges related to inclusive growth (OECD, 2012b). The first was high unemployment, particularly among younger people who were not engaged in education and training. The second was segregation in education, employment and housing, and the need to create better entrepreneurship and training pathways for isolated groups. The 2012 *OECD Territorial Review of Skåne* identified a number of policy directions and good practices to address these challenges (Table 5.3). Assessment of the evidence, including discussions with policy makers in Skåne, indicates two key challenges that will need to be addressed in order to advance these recommendations:

1. The first challenge is supporting the labour market integration of newly arrived migrants, and in particular, the problems related to lack of skills, over-qualification, segregation, discrimination and the lack of social networks.
2. The second challenge relates to supporting the human capital development of working-age people with low skills levels (including low levels of education and aspiration among some young native-born people, which is concentrated spatially in the region).

A positive outcome of higher levels of migration for Skåne is the potential to reap a "demographic dividend" relative to other OECD regions. This potential can only be realised if the complexities and barriers to integration experienced by refugees and asylum seekers and their family members can be addressed. Higher levels of migration have led to faster growth of the working-age population relative to Sweden and other OECD regions over the past decade (Figure 5.12). Compared to Sweden, Skåne has a higher proportion of people in all age categories below 44 years old (besides a marginal difference in the proportion of 15-24 year olds relative to the national average) (Figure 5.13).

These differences in the age distribution reflect the impact of overseas migration to Skåne over this period. Many OECD regions are now managing, and will increasingly have to manage, the impacts of an ageing population (OECD, 2016d). This includes how to provide social services with potentially reduced taxation revenues, and lifting productivity to compensate for a smaller working-age population. However, these challenges will not be as acute in the region of Skåne if migrant integration into the workforce can be effectively managed.

Table 5.3. **Challenges and recommendations for developing a more efficient and cohesive labour market from the 2012 *OECD Territorial Review of Skåne***

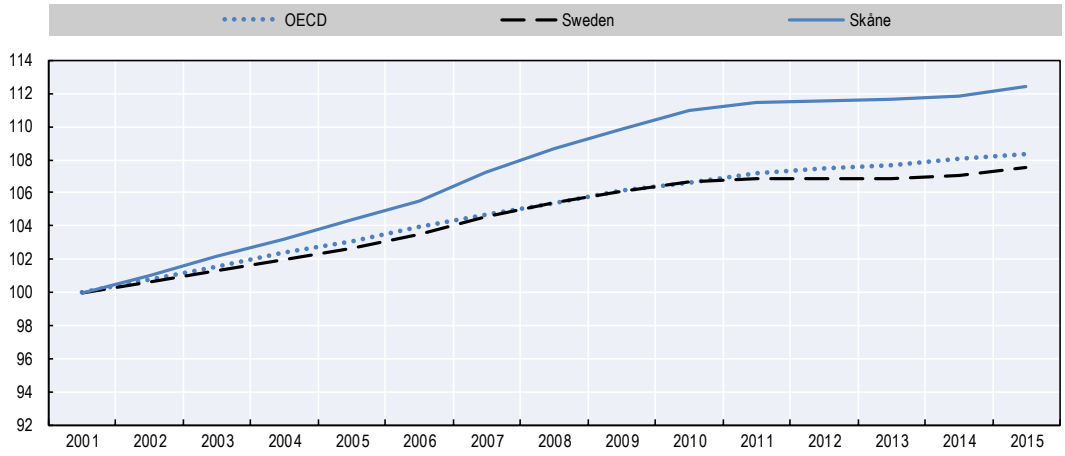
Challenge	Recommendations and good practices
Skilled foreign-born workers in low-qualified jobs	Accelerate labour market integration through targeted language training, work placements, job-matching services, and support with skills assessment and accreditation
Segregation in education	Facilitate parental participation in schooling to build understanding and support language training
Low demand for migrant labour and discrimination among potential employers	Better information for employers regarding migrants' skills, training and job programmes targeted to refugees and asylum seekers, and active work with employers on initiatives such as diversity plans
Lack of informal networks for newly arrived migrants	Addressing school and neighbourhood segregation, mentoring programmes, establishing partnerships between migrant organisations, unions, government and business
Higher rates of youth not in employment, education or training, which is concentrated spatially	Community-based programmes that can provide after school tutoring, mentoring and financial assistance for at-risk youth, and increasing private sector involvement in the vocational education and training system (e.g. apprenticeship training)
Low levels of education and employment aspiration among some youth	Better co-ordination of regional labour market information between municipalities and the Public Employment Service, and improving information about career pathways and labour market outcomes of vocational education and training programmes
Smallest proportion of firms in Sweden created by those holding just a compulsory education	Develop specific partnerships with financial and not-for-profit organisations to increase access to finance for migrant entrepreneurs, mentoring and support services to encourage youth and female entrepreneurs
Differences in Sweden's and Denmark's legal, fiscal and regulatory frameworks which constrain labour mobility	Continue to support initiatives such as the Öresund Committee's Cross-border Obstacles Group, and the provision of cross-border information to employers and commuters through initiatives such as Øresund Direkt

Source: Adapted from OECD (2012b), *OECD Territorial Reviews: Skåne, Sweden 2012*, http://dx.doi.org/10.1787/9789264177741-en.

Relative to the national and OECD averages, South Sweden faces some challenges in relation to labour market performance. The regional unemployment rate in 2015 was 9.8%, which is above the level of Sweden and the OECD regional average – although it has increased at a slower rate than the OECD average since the crisis. Youth unemployment is still a challenge (as identified in the 2012 *OECD Territorial Review of Skåne*) with the rate currently at 23.1%, which is above the Swedish and OECD regional averages (noting that data about the proportion of young people studying suggests youth unemployment is lower than this figure). Within this cohort, the rate of youth unemployment for the foreign-born population is increasing while that for the native-born population is decreasing. The proportion of young people not in education, employment and training (NEET) is the same as the national level, and below the OECD average. In terms of long-term unemployment, South Sweden ranks well relative to other OECD

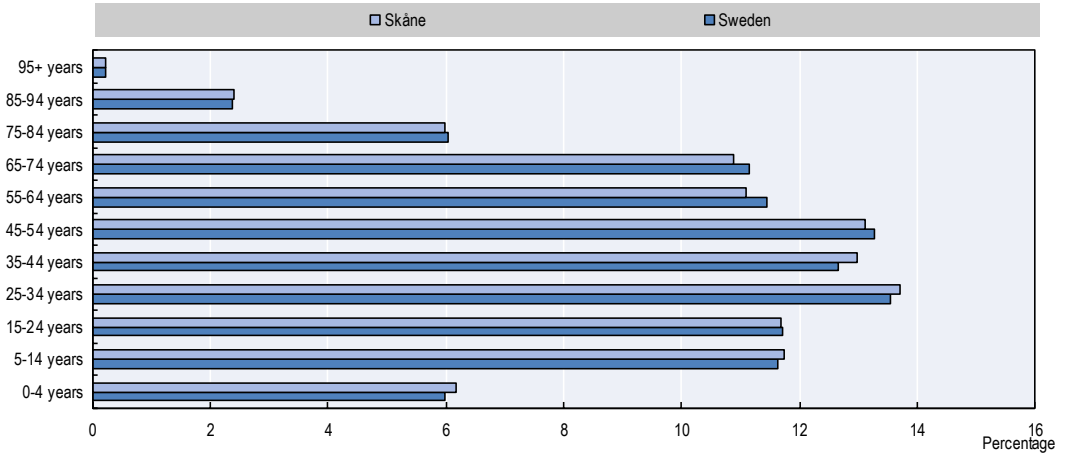
regions. However, its performance is worse relative to Sweden as a whole, which likely reflects the impacts of restructuring in the manufacturing sector.

Figure 5.12. **Growth of the working-age population (aged 15-64) – Skåne compared to the OECD and Sweden**



Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 5.13. **Population by age, Skåne and Sweden, 2016**

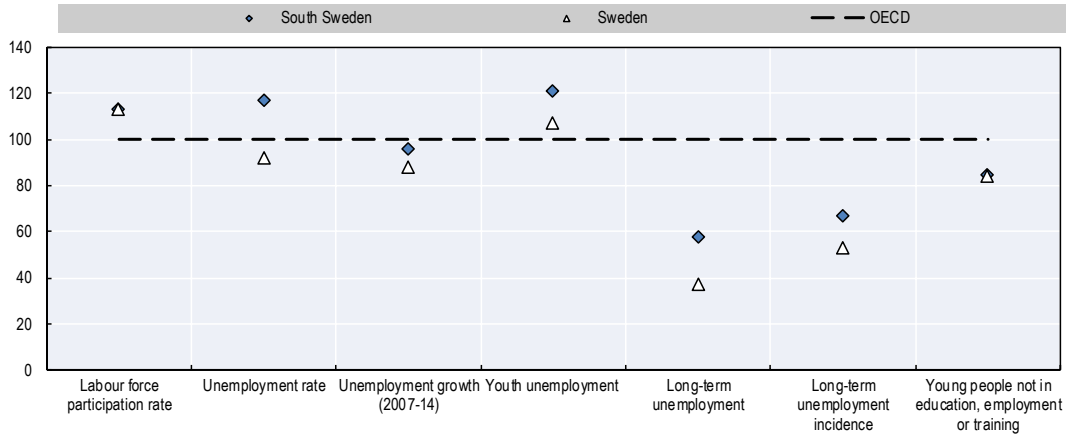


Source: Statistics Sweden, Population by region, marital status, age and sex. Year 1968-2016.

In all OECD countries, humanitarian migrants and their families face higher barriers to integrate into the labour market than other groups. Employment rates reach 78% among native-born Swedes, one of the highest in the OECD. Alongside the Netherlands, Sweden registers the largest gap in employment between native- and foreign-born population (OECD, 2016c). This is partially explained by the high share of immigrants who arrived for humanitarian reasons. Refugees, asylum seekers and their families face challenges such as lack of appropriate qualifications and recognition of them, and not having sufficient proficiency in the Swedish language. Skåne has a higher concentration of newly arrived migrants relative to the country as a whole. Migrants in Skåne are also spatially concentrated, especially in Malmö (Figure 5.15). There is also an association between the levels of labour force participation of residents in these municipalities and the proportion

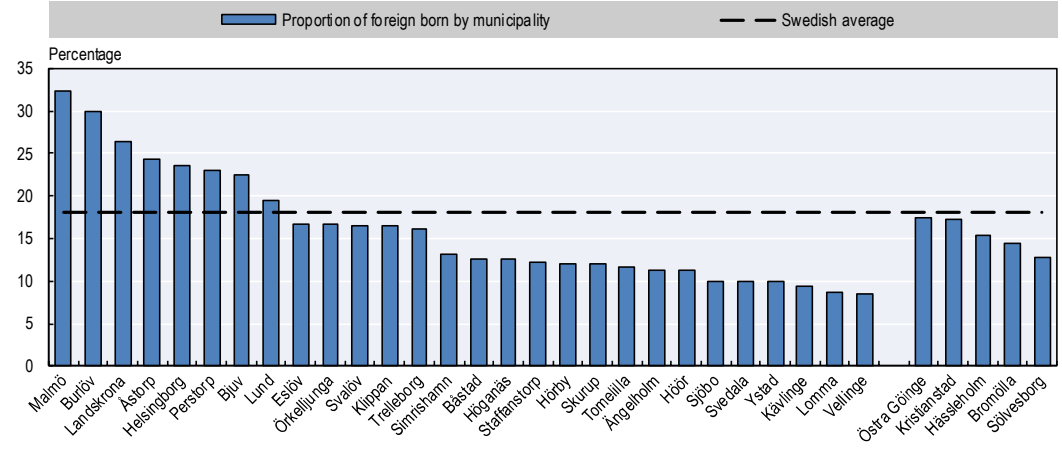
of the population which is foreign born – the higher the share of foreign born, the lower the participation rate (Figure 5.16). Challenges related to migrant integration, labour market performance and inclusive growth have an important local dimension. These local factors include participation in local community networks, the quality and integration of support services, and access to employment and training opportunities.

Figure 5.14. **Benchmarking labour market performance in South Sweden, 2015**



Note: South Sweden includes the counties of Skåne and Blekinge.
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Figure 5.15. **Foreign born by municipality (organised by local labour markets), 2016**

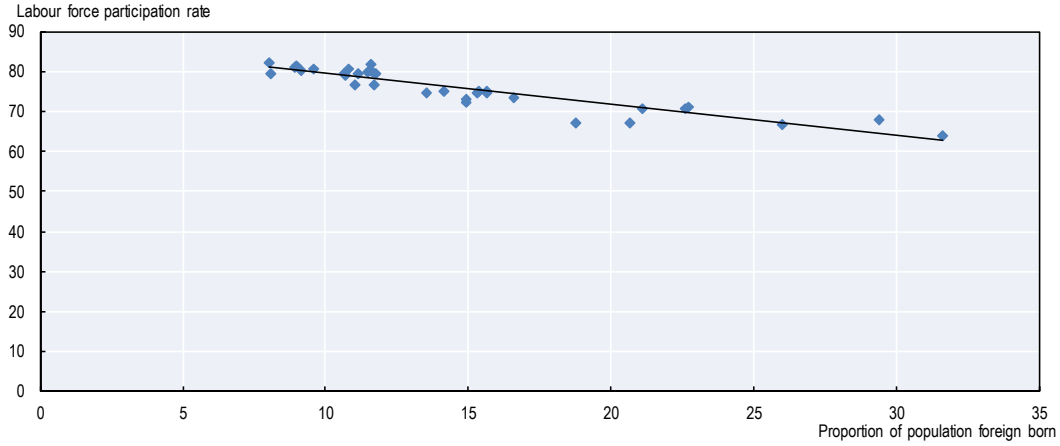


Source: Statistics Sweden, Foreign born by region, observations and year.

In the OECD regional typology, Skåne is classified as an "intermediate region", which indicates that 15-50% of the population lives in rural municipalities (defined as those below 150 inhabitants per square kilometre) (OECD, 2017c). When looking at these municipalities as part of their respective local labour markets (as defined by Statistics Sweden), the difference between Malmö-Lund and the regional centre of Kristianstad can be observed. The areas outside of the influence of Malmö-Lund and Helsingborg suffered a greater negative impact from the crisis. For example, in 2015, employment in Hässleholm, in the northern-central area of Skåne, had not recovered to its pre-crisis levels from 2007. This trend is also visible in other rural areas of southern Sweden that

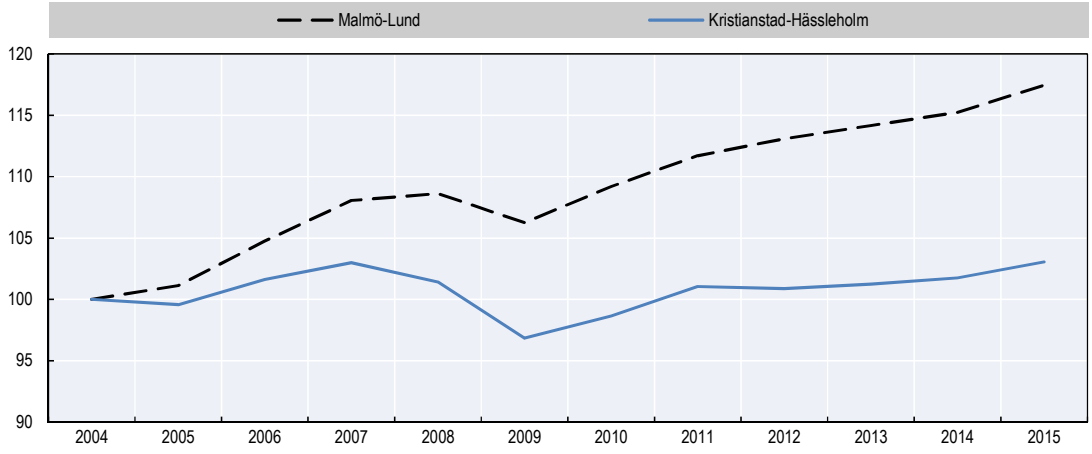
are specialised in manufacturing, agriculture and forestry, and tourism (OECD, 2017c). The sectors that have grown the most over the past decade, particularly professional, scientific and administrative services, are more likely to locate in urban areas. As a result, job creation in the urban areas within the local labour market of Malmö-Lund has been stronger.

Figure 5.16. **Relationship between labour force participation and proportion of the population which are foreign born, municipalities in Skåne, 2015**



Note: The labour force participation rate has been calculated by dividing the total which are gainfully employed in the municipality over the population aged 15-64 in that location.
Sources: Statistics Sweden, Population by region age and year, foreign born by region, observations and year; and Gainfully employed 16+ years by region of residence (RAMS) by region and year.

Figure 5.17. **Employment growth by local labour market, Skåne**



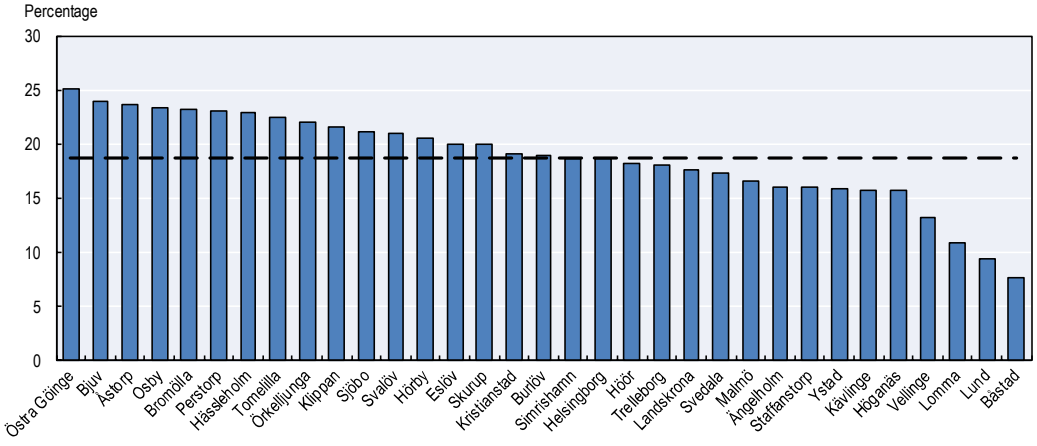
Source: Statistics Sweden, Gainfully employed 16+ years by region and year (place of work).

A key foundation for economic participation and inclusive growth is education and skills (OECD, 2012b). This is particularly important for Sweden because of the structure of its economy. In response to increasing global competition Swedish businesses in the tradeable sector have shifted toward high-value manufacturing and service activities. A high level of skills is required to access these higher wage jobs. Higher education and advanced vocational training is also a requirement in many parts of the non-traded sector

(health and social work, education, and public administration). The proportion of the workforce with low skills also has an important impact on regional productivity performance and catching-up dynamics (OECD, 2009; 2012b). In Skåne, 18.7% of the population aged 15-74 has a low education (defined as primary and secondary education up to 9-10 years). However, there are significant differences between municipalities within the region (Figure 5.18). The municipalities with the highest proportion of lower educated people are located in areas close to Helsingborg, regional centres and rural areas. For example, a number of municipalities close to Helsingborg (Åstorp, Klippan, Örkelljunga and Bjuv) are all above the regional average. A number of smaller, more isolated municipalities have a higher level of people with a low education (Perstorp, Tomelilla and Osby), and those which are regional centres or in close to proximity to them (Hässleholm and Östra Göinge). These findings demonstrate the importance of a place-based approach to initiatives designed to address low skills and increase participation in the labour market.

Figure 5.18. **Proportion of people aged 15-74 with lower education in Skåne**

By municipality, 2015



Note: Defined as primary and secondary education less than 9 years (ISCED97 1), and primary and secondary education 9-10 years (ISCED97 2) as a proportion of the population aged 15-74.
Source: Statistics Sweden, Population by region, level of education, sex and year.

The importance of developing a more inclusive labour market in Skåne

Inclusive growth policies refer to policies that can deliver improvements in living standards while delivering a more even share of the benefits among population groups and places (OECD, 2015a). One of the major factors for improving regional incomes and job creation over the long term is to increase productivity (OECD, 2016c). In the long run, productivity increases (e.g. driven by new technologies, human capital development and agglomeration) enables the expansion of production and therefore employment opportunities to meet changing market needs. The main sources of productivity growth for Skåne will be fostering agglomeration economies (including linkages within Greater Copenhagen), and moving up the value chain, particularly in relation to the manufacturing sector.

Infrastructure, skills and innovation initiatives, which can enhance the growth potential of Skåne, will also need to be accompanied by measures that address inequalities. Inequalities are widening in Skåne, in particular for groups such as newly arrived migrants and their children, people previously employed in the manufacturing sector and affected by

structural change, and young people with low skills. Such disadvantaged groups are concentrated in particular places, which may be located in high-density areas in Malmö, regional centres and in rural areas. Inequality comes at a cost because the social polarisation that results from it can become entrenched between generations, leading to lower growth and higher levels of dependency on welfare systems and public services. Effectively addressing this challenge requires policies that address the multi-dimensional nature of disadvantage at the local level (e.g. housing, school education and training, transport, and civic participation). This includes effective co-ordination across portfolios and between levels of government (OECD, 2017c).

A number of conditions need to be in place for the success of local and regional development policies that address segregation and disadvantage. The first, as outlined above, are policies that enhance productivity, and therefore the demand for labour. This is dependent upon a mix of complementary policies (skills, infrastructure and innovation), which need to be matched to regional and local conditions (OECD, 2009; 2012b). In turn, this is dependent upon the effectiveness of mechanisms to deliver investment and services across levels of government, which includes co-ordination between different actors, capacities at a subnational level and robust framework conditions (OECD, 2014b). Quality of government is a key factor in addressing complex challenges associated with lagging regions, such as poor labour market performance and low skills (OECD, 2009; 2012b). People with low skills and low levels of attachment to the labour market often face multiple barriers, including belonging to low-income households, personal characteristics such as disability and refugee status, and location (e.g. rural remote and inner city) (OECD, 2016b). The local and regional levels play a key role in addressing these challenges (Table 5.4).

Table 5.4. **Role of subnational governments in implementing inclusive labour market and skills policies**

Policy area	Role of subnational governments
Employment and economic development	Facilitating access to intelligence about local labour markets; co-ordinating labour market, skills and economic development policies and initiatives
Vocational education and training	Linking with employers in the delivery of training services; developing local training strategies that can respond to short-term demands in local labour markets; facilitating a shift to higher value-added activities
Apprenticeships	Boosting local employer engagement in the apprenticeship system through both "soft" mechanisms such as employer leadership awards, and measures with more "teeth", such as procurement; tailoring apprenticeship programmes for local conditions, particularly small and medium-sized enterprises and disadvantaged populations
Small and medium-sized enterprises	Providing information to national and supranational authorities about local framework conditions for business and economic development priorities; mechanisms to facilitate co-operation with national agencies (e.g. co-funding and co-location of services)
Entrepreneurship	Facilitating partnerships with organisations that already have established relationships with disadvantaged groups; providing integrated packages of support; using hands-on learning methods; involving entrepreneurs in programme delivery, particularly for young people

Source: Adapted from OECD (2016b), *Job Creation and Local Economic Development 2016*, http://dx.doi.org/10.1787/9789264261976-en.

Region Skåne has a strong policy focus on inclusive growth as part of its regional growth and development strategies. Skåne's Regional Growth Programme includes commitments to lowering regional unemployment, raising employment rates and increasing the proportion of 20-year-olds in Skåne who have completed secondary education to 85%

(Region Skåne, 2014). Region Skåne has also adopted a Regional Strategy for Sustainable Competence, which aims to establish a common view about labour market and skills challenges facing the region and set priorities for addressing them (Region Skåne, 2016). This strategy focuses on improving labour market matching and the provision of a wide-ranging and flexible education system at a regional level. Three key actions areas have been identified to deliver on these objectives: 1) promoting learning and skills development in the workplace; 2) improving interaction between educational institutions and labour market stakeholder; 3) widening employers' views on people's different skills. The delivery of this strategy is underpinned by a collaborative approach through the Competence Cooperation Skåne (KOSS). The KOSS is not a decision-making body, but meets national requirements to establish a competency platform to promote dialogue among key actors in the skills system and carry out research and analysis.

Addressing inclusive growth policy challenges in Skåne

Two main policy challenges need to be addressed to achieve more inclusive growth in Skåne. The first policy challenge is supporting the labour market integration of newly arrived migrants, and in particular, the problems related to lack of skills, over-qualification, segregation, discrimination and lacking social networks, which were identified in the 2012 *OECD Territorial Review of Skåne* (Table 5.3). Such issues have resulted in poor socio-economic outcomes for newly arrived migrant groups, including low attachment to the labour market, welfare dependency and increasing local segregation (in terms of housing and schools). Discussions with key policy makers and service providers in the region for this study indicated that these challenges had intensified due to the mounting flow of refugees and asylum seekers into the country. The composition of these asylum seekers created new complexities in dealing with individuals and families. For example, people arriving from the Syrian Arab Republic tended to be better educated than those arriving from Afghanistan or Iraq, and there was a rise in unaccompanied minors (among those who arrived in 2015, 35 000 came to Sweden without parents or a guardian) (OECD, 2016e). Unaccompanied minors and youth arriving in their later teens, particularly young women, tend to experience poorer socio-economic outcomes after support for education finishes at age 21 (Celikaksoy and Wadensjo, 2015)

Discussions with local agencies also indicated that the increasing number of asylum seekers and their changing composition put further pressure on public service systems. Despite the unprecedented numbers, the initial emergency response worked effectively, but problems have emerged in the process of supporting migrant integration. If an asylum seeker is granted refugee status, he or she is offered an establishment plan by the Public Employment Service, which includes language and competency training, and job search assistance. However, individuals and families require a number of services besides training and employment to support integration, including housing, early childhood education and schooling, and community activities. Service needs also differ within households; for example, the needs of parents are different from the needs of youth and children. A national policy framework and clear incentives to co-ordinate these various support services for migrant integration are lacking at the moment. At the local level, this has contributed to a fragmentation of services for individuals and families, and it is difficult for newly arrived migrants to navigate different service systems. There is also a lack of flexibility at the local level to adapt services and shift resources in response to these problems and changing needs.

The second policy challenge relates to working-age people with low skills levels. The 2012 *OECD Territorial Review of Skåne* underlined low levels of education and aspiration among some young people and NEETs, which were concentrated spatially in the region. Discussions with local and regional actors for this review shed light on structural unemployment and socio-economic disadvantage in rural areas and in some neighbourhoods in Malmö. Although this partially relates to the migrant issue, it was particularly problematic in the case of Swedish-born, low-skilled people. These communities were disproportionally affected by the crisis and the ongoing restructuring of the manufacturing sector. In the period 2004-15, manufacturing employment declined significantly in Skåne and at a higher level than for Sweden (Figure 5.8). Analysis of worker displacement in Sweden shows that restructuring has a higher impact upon men and younger workers, and older workers with low skills tend to have persistently lower wages after losing long-term employment (OECD, 2015b). In addition, within rural municipalities and local labour markets, it is more difficult to find other employment opportunities and there are lower levels of mobility due to cost, housing and transport barriers (OECD, 2016d).

Policies to achieve more inclusive growth

Sweden's national strategy for sustainable regional growth and attractiveness, which was released in 2015, recognises a regional role in labour market and skills (Government of Sweden, 2015). This strategy aims to develop all regions in Sweden by investing in enabling factors for growth (infrastructure, innovation and skills) through a place-based approach. Compared to the previous strategy, this strategy marks a change in terms of responsibilities for the labour market and skills (OECD, 2017b). The national government has identified the following focus areas in terms of skills and competencies: 1) regional co-ordination between different actors that provide education and training services (particularly secondary and vocational education); 2) collaboration between education and training providers and employers; 3) regional analysis and forecasting of labour market needs; 4) local and regional co-ordination related to youth unemployment, lay-offs and the integration of newly arrived migrants (Government of Sweden, 2015). These focus areas are broadly consistent with the roles outlined for subnational government in inclusive labour and skills policies.

The 2012 *OECD Territorial Review of Skåne* identified a number of policy directions to improve labour market matching and reduce segregation in the education system for newly arrived migrants. In terms of labour market matching, recommendations included accelerating labour market integration through work placements and support with skills accreditation, addressing employer discrimination, and increasing social networks through initiatives such as mentoring. Since the 2012 Review, the rapid increase in the number of newly arrived refugees and asylum seekers has placed additional pressure on governance and service systems. The provision of additional resources and support mechanisms by the national government has improved support to newly arrived migrants. However, new migration rules introduced in July 2016 have made it more difficult to get a permanent residency permit and therefore permission to work. This increases the time and uncertainty for newly arrived migrants to enter the workforce, and has hampered progress in improving labour market outcomes for newly arrived migrants. Migrant children are particularly vulnerable, especially non-accompanied minors and late adolescents. The 2012 Review suggested increased efforts to facilitate parental participation in schooling to build understanding and support language training. However, progress has remained limited on this issue, except for some small-scale innovative pilot projects (Box 5.1).

Box 5.1. **All Activities Centre, Malmö**

Parental participation is considered to have a positive effect on educational outcomes, including reducing differences in performance across different socio-economic groups. Parental participation in schooling also enables newly arrived families from diverse backgrounds to build social networks, and understand and familiarise themselves with local institutions. The city of Malmö has introduced initiatives to support parental participation from newly arrived migrant families to assist in the integration process.

All activities centres (AACs) have been operating since 2011 in the outlying areas of Hermodsdal and Lindängen in Malmö. The AACs are open to all ages, seven days a week and the activities offered there are both free and decided entirely by the centers' users. All the activities take place in the school's teaching facilities, and most directly after school hours. Activities from baking for boys, song-writing, language lessons and dance classes have all been requested by the participants, who are either school pupils or local residents. The age range for activities is 5-80 and nearly 50% of participants are women and girls. Many of the activities which run at the weekend are held by volunteers, most of whom are highly educated immigrants whose qualifications are not recognised in Sweden.

The AACs also act as an entry point for newly arrived migrant children. AAC staff contact parents and children to introduce them to activities. Even if a child cannot yet speak Swedish, they can still join in football or music or baking. The AACs have contributed to making the participating schools among the most successful in Malmö, as regards both academic results and pupil ratings and this in two of the city's most economically and socially deprived areas. Since their inception, the AACs have won numerous accolades and prizes for children's rights, equality and diversity. Even more importantly, they are highly valued and well-frequented centres for democratic participation and integration at neighbourhood level. The AACs are currently organised within the city of Malmö's Department of Culture.

Source: Region Skåne (n.d.), "Local and regional cases in Skåne".

The policy levers at a regional level to address these labour market and skills challenges are comparatively less than those which exist at the national or municipal level (OECD 2015a). A key role for the regional level in labour market and skills policies is overcoming fragmentation, and linking the national and local levels, by better co-ordinating service providers, municipalities and civil society actors. It is important that these skills and labour market initiatives are linked to a coherent regional growth strategy which is supported by a broad range of stakeholders (OECD, 2015b; 2016d). Recent OECD reviews in Sweden suggest policy directions to further strengthen this role for Region Skåne. In terms of the challenge of migrant integration, there is a particular risk associated with young migrants who arrive over the age of 15, and who require targeted counselling and mentoring, and greater flexibility in terms of workforce integration (for

example, encouraging municipalities to offer language training on a part-time basis so it can be combined with Job Guarantee for Youth activities) (OECD, 2016c). Another key issue for migrants at school is ensuring the provision of sufficient resources in the classroom to support the integration process, which can be a burden for smaller and less-resourced municipalities (OECD, 2016c). The region can play a role here in terms of fostering education and skills partnerships that increase the scope for co-operation between municipalities and for them to access national and European programme funding (OECD, 2016c; 2016a). These initiatives can also aid people with lower skills. For example, this can be done by setting up a platform for schools to work closer with the public employment service and vocational training and education providers to create clearer, simpler and more recognised pathways into vocational education and training (OECD, 2015e).

Recommendations for Skåne related to inclusive growth

The Skåne Regional Council should be given a clear mandate by the national government to plan and co-ordinate employment and skills policies at the regional level. This can be achieved by strengthening the role of the Competence Cooperation Skåne (KOSS) to facilitate joint planning and co-ordination between municipalities, national agencies and other social partners and prioritises:

- expanding pilot projects that promote parental participation of migrants in schools
- improving targeted educational, mentoring, and social and civic participation support for migrants who arrive at the age 15-19
- addressing resource constraints of small municipalities in relation to education and social services (for example by facilitating shared services arrangements between smaller and larger municipalities
- developing tailored pathways for vulnerable youth at risk of leaving school in disadvantaged communities, for example, by strengthening local platforms that bring together schools, local employers and vocational training providers that link mentoring and peer support, social services, work placements and training opportunities.

Infrastructure and regional development

High-quality infrastructure reduces transport and communications costs, which can foster agglomeration economies, and leads to faster and improved access to external markets and improved supply chain performance (Mokyr, 003). Factors such as relatively high levels of migration and population growth, cross-border dynamics, and growth in trade will generate new infrastructure pressures and demands for Skåne. Achieving the dual objectives of increasing productivity and enhancing inclusiveness should be the main consideration for new infrastructure investment. This includes expanding the effective size of local labour markets (within Skåne and with Copenhagen), and helping to link disadvantaged population groups and places to employment opportunities. Future priorities for infrastructure will also need to consider the changing nature of the regional economy

and the geographical implications of the shift from manufacturing to services. The objective of this section is to assess the evidence related to some of these shifts and identify their implications for future prioritisation of infrastructure in the region.

The 2012 *OECD Territorial Review of Skåne* included a focus on how future improvements to infrastructure and accessibility could enable the region to increase productivity and environmental sustainability. This included addressing a number of key capacity constraints in the transport network, the need to increase the efficiency and sustainability of the transport system, and identifying new ways to finance infrastructure projects (Table 5.5). These infrastructure issues reflect long-term trends in the region related to population growth and urbanisation, and increases in trade and the movement of goods across borders.

Table 5.5. **Challenges and recommendations for improving infrastructure and accessibility from the 2012 *OECD Territorial Review of Skåne***

Challenge	Recommendations and good practices
Land-use and infrastructure constraints may constrain port expansion and supply chain performance	Enhance land-use efficiency and capacity for freight handling, and connections between the region's ports and hinterland
Capacity constraints in cross-border passenger traffic	Consider a new permanent link over Öresund, including supporting freight on rail, and better link north-west Skåne with Copenhagen
Capacity constraints in south-west Skåne, particularly on key motorways and main rail lines linking to West Sweden and Stockholm	Invest in improving fixed rail infrastructure to Stockholm and along the coast to West Sweden (pending further analysis on productivity, dynamic growth, environmental and equity impacts)
Comparatively low use of public transport and public health problems in main population centres due to air pollution	Adopt a network approach to transport planning that improves links between different transport modes, prioritise improvements to the rail network and utilise green procurement approaches
Increasing gaps between infrastructure needs and national funding for transport infrastructure priorities	Design new funding and financing frameworks for regional infrastructure (e.g. regional and municipal co-financing, user fees and public-private partnerships), and improve performance monitoring and accountability to build public trust and track progress

Source: Adapted from OECD (2012b), *OECD Territorial Reviews: Skåne, Sweden 2012*, http://dx.doi.org/10.1787/9789264177741-en.

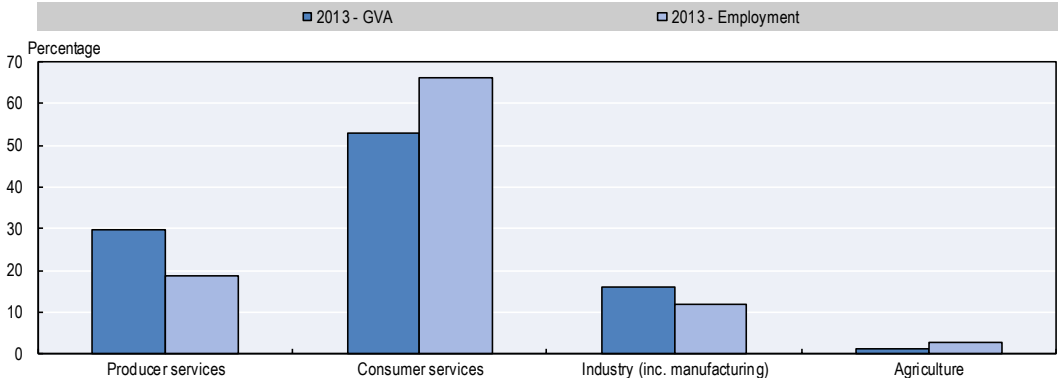
Since the 2012 Review, population growth has further increased, while housing supply and employment has not kept pace. Structural change in the regional economy has also been apparent, with increased employment growth in the urban centres of the region. Pressures in relation to freight and passenger transport have become more acute in recent years. Progress has been made in relation to public transport use, particularly fixed rail, which has increased consistently over the past ten years. This has led to capacity constraints and competition between freight, long-distance and commuter rail. In addition, road freight has also increased and is placing pressure on key motorway links to West Sweden and towards Stockholm. Traffic movements through the region are expected to increase further, particularly when the Fehmarn Belt fixed link between Denmark and Germany opens later next decade (the latest estimate is 2028). The national government is also proposing to build a high-speed rail link between Malmö and Stockholm. Engagement with regional and local actors during the missions for this review in January and April 2017 indicated interest in exploring how regional infrastructure priorities might address these long-term trends and emerging challenges. Assessment of the evidence, including discussions with policy makers in Skåne, indicates two key

challenges that will need to be addressed in order to advance infrastructure and accessibility recommendations from the 2012 Review:

1. closing the increasing gap between infrastructure needs and the capacity for public funds and private financing to address them (including cross-border links and improvements to the regional rail network)
2. addressing land-use constraints, including those which will emerge if significant infrastructure improvements are delivered.

The changing nature and location of employment is a key factor to consider in terms of future infrastructure requirements. Sweden and Skåne have experienced a long-term trend of decreasing employment in agriculture, forestry and manufacturing, and increasing employment in services. The contribution of services to the GDP of Sweden and Skåne has also increased over time, although at a lesser rate because of higher levels of productivity in trade-exposed sectors such as manufacturing. Manufacturing is still critical to the economy of Sweden, but it is changing in its composition. Lower cost production has moved offshore and activities related to more complex tasks within the manufacturing value chain related to R&D, design and marketing has grown (OECD, 2015c). As a result of these historical trends, Skåne's economy today is dominated by services, while industry and agriculture play a lesser role (Figure 5.19). Linkages between these sectors need to be taken into account and have major implications for infrastructure and transport networks (e.g. the linkages between agriculture and manufacturing, or between manufacturing and producer services).

Figure 5.19. **Industry contribution to regional gross value added and employment, Skåne**



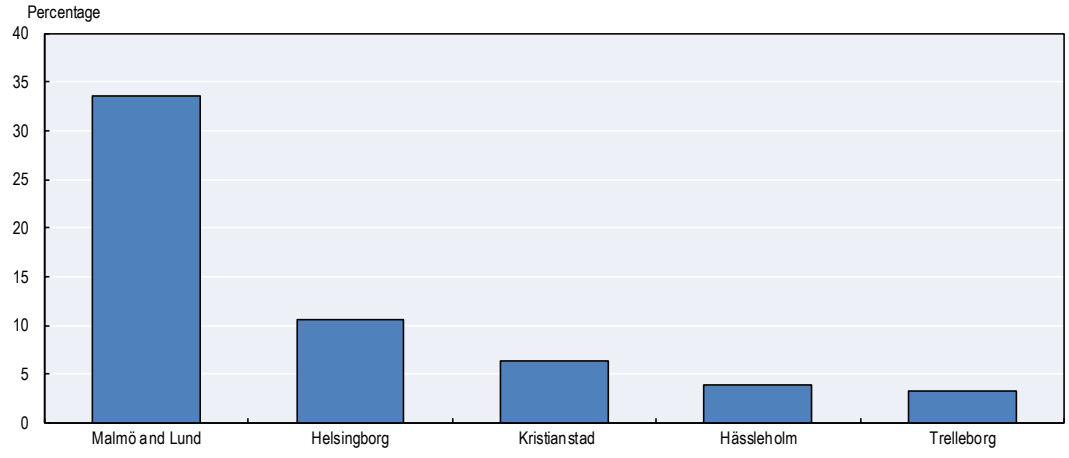
Source: *OECD Regional Database*, http://dx.doi.org/10.1787/region-data-en.

Each of these sectors has different and sometimes competing infrastructure requirements, which change over time and influence how the transport network is utilised and performs. Producer services (e.g. finance and insurance and ICT) benefit from accessing wide and deep labour markets, competition and complementarities between related firms, and knowledge spillovers (so-called "agglomeration economies). As such, they tend to cluster in high-amenity urban locations with good transport accessibility and close to knowledge-economy infrastructure such as universities and research institutions. In the case of Skåne, central Malmö and Lund fulfil these functions, and these economic activities have become increasingly important to the regional economy. Consumer services such as retail grow due to demand from households, predominantly within a labour market catchment area. Many of these firms require an efficient transport network which enables households to easily access services within a local or sub-regional catchment. The growth of these

services will be mainly associated with population increase and the location of strategic infrastructure (e.g. ports and airports). It is likely that the vast majority of growth in these categories is occurring in the local labour market (LLM) of Malmö-Lund. Industrial firms tend to not rely on such close proximity to consumer markets and clusters of related economic activity. For these firms, proximity to airports and ports, resource inputs, and connecting infrastructure are vital in terms of supply chain efficiency. As such, they can be located within industrial districts of Malmö-Lund and Helsingborg, and smaller settlements across the region. Enhancing these linkages will be essential in ensuring the future competitiveness of these sectors in Skåne.

Journey-to-work flows provide another revealing lens when assessing future infrastructure requirements. These flows help understand where economic activity is concentrated and where the work opportunities are available for local people. Daily commuting flows are also a useful proxy for understanding other forms of interconnections such as retail trade and the use of public services (Freshwater, Simms and Ward, 2014). There are two LLMs in Skåne: one encompassing Malmö-Lund and Helsingborg with 86.4% of all regional jobs in 28 municipalities that are linked by labour commuting; the other is organised around Kristianstad and Hassleholm in north-east Skåne that contains the remaining 13.6% of jobs across 5 municipalities. Within these LLMs, jobs are concentrated in particular urban centres, which is important to understand in relation to journey-to-work flows. Figure 5.20 illustrates the relative concentration of jobs within Skåne in the municipalities of Malmö, Lund and Helsingborg.

Figure 5.20. **Proportion of Skåne's labour force in select municipalities, 2015**

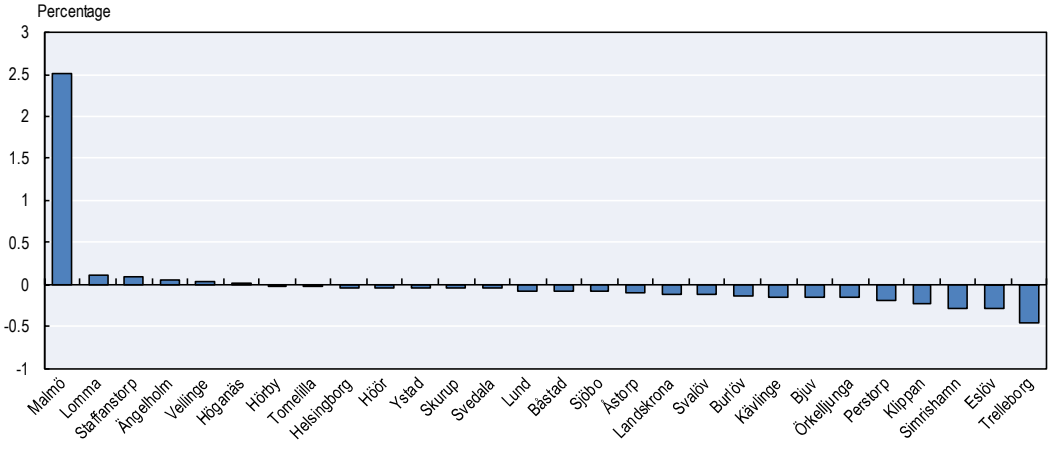


Source: Statistics Sweden, Gainfully employed 16+ years by region and year (place of work).

Jobs in Skåne are highly concentrated in two urban centres: Malmö-Lund and Helsingborg. Growth in these high-density urban economies is led by producer services and high-technology manufacturing. The central area of Malmö, with its clustering of producer services, is becoming increasingly important to job creation for the region (Figure 5.21). These urban centres draw in commuters from surrounding rural areas, and also have connections with the metropolitan area of Copenhagen, which had a population of 2.03 million in 2014 (OECD, 2017a). Further increasing the size and depth of these LLMs through infrastructure investment and transport network improvements will be a source of future productivity growth. The size of an LLM is important when considering agglomeration economies because it determines the scale and scope of labour market

pooling, and these agglomeration benefits tend to increase with population size (Puga, 2010; OECD, 2014a). These areas already suffer from congestion in the transport network, which constrains the capacity of the region to realise these benefits (OECD, 2012b). The economies of the two smaller low-density LLMs – Kristianstad and Hässleholm – are more rural in nature. Growth in these places is driven by external factors and characterised by established manufacturing firms, lower levels of skills and youth out-migration, and low levels of formal R&D (OECD, 2016c). Infrastructure challenges in these areas relate to the quality of infrastructure and transport services (OECD, 2012b). Infrastructure and transport network improvements to increase supply chain efficiency and improve accessibility to employment opportunities in urban centres will support future growth in these places.

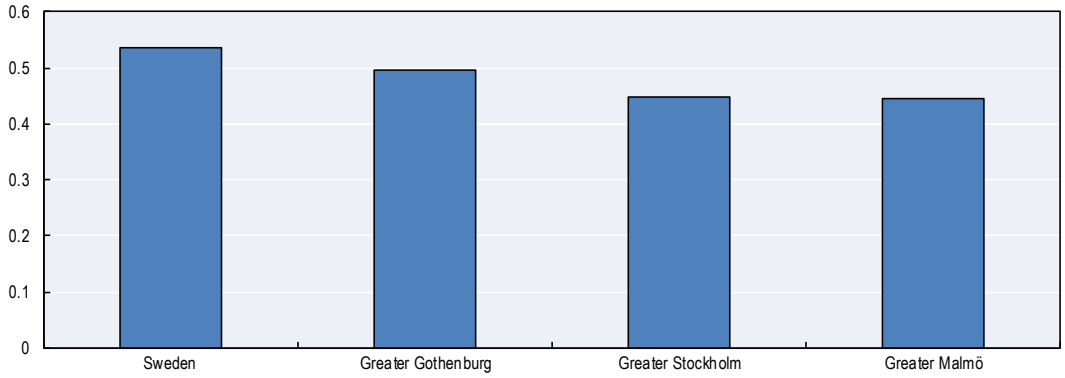
Figure 5.21. **Change in the proportion of jobs in the local labour market of Malmö-Lund, by municipality, 2004-15**



Source: Statistics Sweden, Gainfully employed 16+ years by region (place of work).

New infrastructure investments induce changes to land use by increasing relative accessibility and therefore demand for land. The benefits of new infrastructure can only be fully realised if it is integrated with land-use planning instruments (OECD, 2017d). Land-use planning is one factor in the failure of housing supply to keep up with population growth in Sweden (World Bank, 2014; OECD, 2017b). Housing is a key macroeconomic issue for Sweden where real housing price increases have been among the strongest in the OECD since 2000 (OECD, 2015a; 2017b). Risks are generated because of the increasing levels of household debt, and its impacts on productivity and labour force participation by reducing labour mobility. It also impacts on equity as rental controls, the tight regulation of the rental market and reductions in provision of public housing have also reduced the supply of housing which is affordable for people on lower incomes. There is a clear geographical issue as problems tend to be more acute in the larger cities. Figure 5.22 shows the ratio of new dwellings to the growth of the population for Malmö, Stockholm and Gothenburg compared to the national level. The ratio for Malmö is 0.45, which is the same as Stockholm and lower than Gothenburg (0.50) and the national level (0.54). To make the most of infrastructure investment, the performance of the land-use planning system will need to improve.

Figure 5.22. **Ratio of new dwellings to growth of the population aged 25+, 2000-15**



Source: Statistics Sweden, Completed dwellings in newly constructed buildings by region, size of dwelling and type of building. Year 1975-2015.

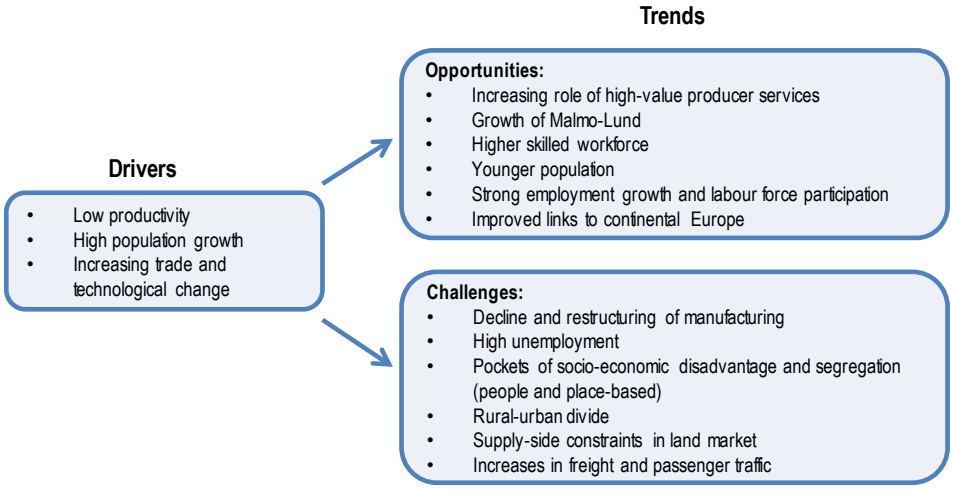
Skåne's infrastructure strategy: Assessment and challenges

The analysis presented in this chapter has identified drivers and key trends that will shape future infrastructure needs in Skåne. Four drivers can be identified: 1) addressing low productivity growth; 2) accommodating population growth due to international migration; 3) improved accessibility to continental Europe via the Fehmarn Belt fixed link; 4) structural change in the economy due to global competition and technological innovation. These drivers generate a number of development trends for the region, which present both challenges and opportunities, and will influence future demand for infrastructure (Figure 5.23). A key growth engine for the economy will be further facilitating the clustering of high-value producer services in Malmö-Lund and enhancing accessibility for workers to this location. Infrastructure investment will play a role in enabling this growth. The region is also located strategically as a physical link to continental Europe for Sweden and Norway. Another growth engine for the economy, and where it plays a key role in the national economy, is through the storage and transportation of goods. Infrastructure investments will need to ensure the efficient movements of goods in a way which is sustainable and reduces impacts on the transport network and the environment. A number of key challenges will also need to be addressed: 1) addressing barriers to accessing employment and training opportunities for people living in areas affected by socio-economic disadvantage and segregation; 2) supporting growth and accessibility to jobs for people living in rural areas, particularly those affected by restructuring in the manufacturing sector. This is where transport infrastructure can play an important role in terms of enhancing labour mobility and increasing supply chain efficiency for rural industries.

Responsibilities for competencies related to infrastructure and land use sit with different municipal, regional and national bodies. Land-use planning is the direct responsibility of each municipality, which includes setting a strategic spatial planning framework, and the regulation of land use. Trafikverket (the Swedish Transport Administration) has overall responsibility for the national transport network and works with regions and municipalities to identify priorities for investment through the national transport planning process. Region Skåne has responsibility for regional level co-ordination of transport infrastructure planning, and public transport planning, together with the municipalities and the Swedish Transport Administration. Since 2005, Region Skåne, together with the municipalities in Skåne, has been working on the "Structural Picture of Skåne". This work is a spatial planning initiative at the regional level to connect regional development

efforts with the planning responsibilities of the municipalities. The Structural Picture of Skåne sets a spatial planning framework based on encouraging a polycentric development pattern whereby urban centres in the region are better connected and reinforce each other's development.

Figure 5.23. **Drivers and trends shaping future infrastructure considerations for Skåne**



Region Skåne has also produced a set of transport infrastructure priorities – Skånebilden – designed to support this polycentric development pattern and position the region to maximise opportunities associated with the Fehmarn Belt fixed link and the potential investment in high-speed rail to Stockholm (Region Skåne, 2017). The Fehmarn Belt fixed link will contribute to increasing traffic volumes through Skåne. As such, it will be important to address bottlenecks in the transport network. A key priority will be addressing constraints in cross-border movements. The current proposal to address this constraint is to construct two new fixed links: Helsingborg-Helsingör and Malmö-Copenhagen. Another priority will be easing bottlenecks in the main arterial roads and rail lines that facilitate the movement of goods between Skåne and the continent, which will support labour mobility within the region, and in particular key motorways and main rail lines linking to West Sweden and Stockholm (an issue identified in the 2012 Review). Skånebilden identifies a number of key priorities in this regard, including building two new tracks between Lund and Hässleholm, duplicating the Helsingborg-Maria on Västkustbanan/west coast mainline and duplicating the rail between Helsingborg and Kristianstad. The cumulative effect of these planned investments is to increase accessibility to, and therefore reinforce, the primary functional roles of Malmö-Lund and Helsingborg in the economy of the region. In turn, this will create "spillover" growth opportunities for rural areas, for example, in relation to labour commuting, the relocation of firms and tourism.

Box 5.2. **Structural Picture of Skåne**

Spatial planning is important for regional development because it provides a long-term framework to plan land uses and infrastructure connections. In Sweden, there is a lack of a clear framework or incentives to facilitate the development of strategic spatial plans at a regional scale. Since 2005, the Skåne Regional Council has taken a leadership role in developing a collaborative regional approach to spatial planning in partnership with local municipalities in the region.

The Structural Picture of Skåne – a spatial planning initiative at the regional scale – was initiated as a project in 2005 and formalised as part of the operations of the region and Skåne's 33 municipalities in 2011. The aim is to link the region's regional development strategy with the municipalities' land-use planning. This has provided a platform for information sharing and dialogue between the regional and local level, including a Skåne knowledge base on physical planning across municipal boundaries. In 2014 the Strategy for a Polycentric Skåne was introduced. It consists of five strategic areas which are important for regional development: polycentric structure, accessibility and transportation, land use, attractive environments, and Skåne's relations to its surroundings. The Structural Picture of Skåne has been underpinned by a significant amount of dialogue and joint work. This has created a common knowledge base between the region and the 33 municipalities, which includes common data and spatial analysis.

The Structural Picture of Skåne is a good practice example of taking a regional approach to strategic land use and infrastructure planning. Questions of geographic scale are important for land-use planning because economic interactions which shape the economic performance of cities, particularly functional urban areas, often spread beyond administrative boundaries. This can create co-ordination problems in decision making about land use, public services and infrastructure where responsibilities lie with local municipalities.

Analysis by Ahrend et al. (2017) shows that there is a productivity penalty associated with fragmented governance, characterised by larger numbers of municipalities, within functional urban areas. In Sweden, land-use planning is the responsibility of municipalities. All municipalities in Sweden must have a current comprehensive land-use plan that covers the entire municipality. This comprehensive plan sets the strategic framework for the detailed development plan, which is a legally binding instrument setting out rights and obligations regarding the use of land. Municipalities also have the right of veto in planning matters, and there are only a few exceptions where the national government can over-ride or have exemptions to this veto power. Numerous studies have pointed to the challenges generated by the planning system in Sweden including capture by local interests and delays in planning approval, which in turn impacts on the supply of housing (World Bank, 2014; OECD, 2015a, 2017c). The Structural Picture of Skåne has been developed as a mechanism to help address this challenge of administrative fragmentation.

Source: Region Skåne (2017), "Local and regional cases in Skåne", unpublished and "The Polycentric Skåne", https://utveckling.skane.se/publikationer/strategier-och-planer/strategies-for-the-polycentric-skane.

The region is also seeking to leverage the local and regional benefits of the proposed high-speed rail between Stockholm and Malmö by locating stations in Hässleholm and Lund, and advocating for an extension of the link to Copenhagen Airport. Maximising the benefits of this opportunity will require an integrated policy response. The overall goal of this high-speed proposal is to make it possible to travel between Stockholm and Malmö in 2.5 hours (Swedish Transport Administration, 2017). The long-term impacts of these types of investment are difficult to predict (see Chapter 2) (OECD, 2016d). There is a tendency for a disproportionate amount of the benefits to accrue to the larger city, as it increases accessibility for more productive firms in these locations to a larger market (Tomaney, 2010; OECD, 2016d). Smaller settlements can benefit, particularly through commuting to the larger centre. However, other policies must be supportive to ensure that regions maximise the benefits of improved accessibility, particularly those in regards to human capital development, innovation and entrepreneurship (OECD, 2009). This means ensuring that integrated development strategies are in place for Hässleholm and Kristianstad and support smart specialisation, human capital development and innovation. Complementary transport network investments also need to be made to ensure that the regions surrounding the high-speed rail stations have access to the stations.

Issues related to land-use planning will also need to be addressed to maximise the benefit of new infrastructure developments. Increased flexibility will be required in the land-use system to help smooth adjustments in factor and product markets, which result from these transformative investments. For example, there will be increased demand for land in close proximity to these stations and the efficiency and benefits from this investment will be increased by facilitating higher residential and commercial densities. Increased densities will help the region achieve its environmental sustainability objectives due to higher levels of public transport use, lower energy consumption and less carbon emissions (OECD, 2012a). Changes in freight and logistics systems also have land-use impacts. Plans to shift freight from road to rail will generate demand for inter-modal facilities where freight moved by rail can be transferred to trucks and smaller vehicles and vice versa. As identified in the 2012 *OECD Territorial Review of Skåne*, increasing the efficiency and competitiveness of local ports will also depend on addressing land-use constraints related to the freight and logistics system. These land-use changes will require the resolution of some difficult trade-offs related to economic competitiveness, environmental sustainability, amenity and attractiveness, and social inclusion. Further strengthening spatial planning arrangements at the scale of the region and functional urban areas and integrating land-use and infrastructure planning will help the region address these challenges (OECD, 2017d).

Another key challenge for Skåne relates to cross-border planning and prioritisation of transport infrastructure, which was discussed in further depth in Chapters 1 and 2. Across the OECD, and in particular in Europe, cross-border policy efforts have traditionally tackled planning, transport and environmental considerations (OECD, 2013). Several rationales for these collaborations apply in the case of the Öresund. This includes labour market integration, sharing the use of strategic facilities (e.g. Copenhagen Airport and research facilities such as the MAX IV), place marketing and tourism, and increasing visibility in national and supranational fora. Collaboration at the regional and local levels between Skåne and Copenhagen has traditionally been strong because of the benefits generated by enhancing collaboration. However, interest and commitment to cross-border collaboration facilitated by national and supranational institutions has not been as strong and systemic co-ordination in national transport planning between Sweden and Denmark is limited. There are a number of factors influencing this situation, including differences

of: investment priorities between countries; the timing and approach to national transport planning; responsibilities between levels of government in terms of transport in the two countries; and how transport administration is organised (for example, in Sweden, there are large statutory authorities and small ministries, whereas the opposite exists in Denmark). Developing mechanisms to strengthen this co-ordination at a strategic and operational level will help ensure a more efficient and high-quality transport network for Skåne in the long term.

Recommendations for Skåne related to infrastructure and regional development

Delivering on the Structural Picture of Skåne and Skånebilden framework and making the most of infrastructure investments for regional development will require focusing on three key areas:

- establishing a mechanism to ensure more effective integration of national transport planning in Sweden and Denmark that can facilitate joint long-term planning, prioritisation, sequencing and financing of transport infrastructure (see Chapter 2)
- giving the Skåne Regional Council the mandate to prepare a strategic spatial planning and validate local comprehensive land-use plans, and to be the planning authority for major development projects (making the Skåne Regional Council a national pilot for a county council to strengthen its role in strategic spatial planning)
- ensuring that large-scale infrastructure investment that improves accessibility for regional centers (Ystad, Trelleborg, Landskrona, Hässleholm and Kristianstad) and surrounding rural areas is integrated with initiatives to lift skills and promote innovation among local firms.

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Annex A.
List of people met during OECD study missions

Table A.1. **List of people met during OECD study missions**

Organisation	Name	Designation
AGA AS	John Melby	Manager, Clean Energy
Akershus Council for Music Organizations	Jon G. Olsen	Head of Secretariat
Akershus County Council	Lars Salvesen	Deputy County Mayor
Akershus County Council	Rune Bakkevoll	Co-ordinator of International Activities
Akershus County Council	Benedicte Bruun-Lie	Advisor
Akershus County Council	Jon Moxnes Steineke	Senior Advisor
Akershus County Council	Kristin Marie Felde	County Director for Culture and Sports
Akershus County Council	Torgeir Berg	Senior Advisor
Akershus County Council	Inger Johanne Strand	Public Health Co-ordinator
Akershus County Council	Øyvind Michelsen	County Director of Planning, Economic Development and Environment
Akershus County Council	Erik Dahl	Co-ordinator, Regional Plan for Land Use and Transportation
Akershus High School Student4s Council	Haakon Snortheim	Member
Almi Halland	Magdalena Johansson	Advisory and financing of enterprises
Arbetsförmedlingen, Swedish work board	Jens Sandahl	Senior Director Analyst
Astra Zeneca	Jenny Sundqvist	Site Director Astra Zeneca Mölndal
Avinor	Jon Inge Lian	Senior Advisor
Bjuv municipality	Göran Skoog	Architect
Blekinge Institute of Technology	Martin Andersson	Professor
Board of Tourism	Marie Linde	CEO
Borregaard ASA	Kristin Misund	Research Director
Business Region Göteborg	Henrik Einarsson	Head of Establishment and Investment Services
Business Region Göteborg	Lars Bern	Director Energy Systems
Business Region Göteborg	Patrik Andersson	CEO
Business Region Göteborg	Peter Warda	Senior Analyst
Capital Region of Denmark	Claus Billehøj	Director of Regional Development
Chalmers University of Technology	John Holmberg	Professor Physical Resource Theory
Chamber of Commerce and Industry of Southern Sweden	Pernilla Johansson	Chief Economist
Chamber of Commerce and Industry of Southern Sweden	Per Tryding	Vice President
City of Cothenburg	Michael Ivarsson	Director Social Affairs
City of Gothenburg	Magnus Sigfusson	Director of Urban Development
City of Gothenburg	Pia Borg	Head Migration and Integration
City of Gothenburg	Ylva Löf	Head of Urban Development
City of Trollhättan	Annica Wennerblom	City Director
COINCO	Knut Halvorsen	
Copenhagen Airport	Henrik Peter Jørgensen	Vice President External Relations
Gothenburg City Mission	Tomas Carlström	Director of Communications

Table A.1. **List of people met during OECD study missions** (*continued*)

Organisation	Name	Designation
County Administration Board of Skåne	Peter Cavala	Head of Department of Urban Development
County Administration Board of Skåne	Hanna Savola	Growth Strategist
County Administrative Board of Halland	Jörgen Peters	County Director
County Administrative Board of Halland	Lena Sommestad	County Mayor
County Administrative Board of Västra Götaland	Mikael Cullberg	Project Manager Mistra Urban Futures
Dals-Ed Municipality	Martin Carling	Mayor
Enterprise Federation of Norway (Virke)	Jarle Hammerstad	President of Industrial Policy
European Spallation Source ESS AB	Pia Kinhult	Strategic Advisor
Flowchange	Erling Sæther	Consultant
Folkteatern Göteborg	Lotta Lekvall	Director
Foreningen Norden	Rune Mørck Wergeland	Head of Secretariat, Oslo
Framtiden AB City of Gothenbrug	Staffan Claesson	Strategist
Gothenburg City Mission	Lotta Säfström	CEO
Gothenburg City Theater	Björn Sandmark	Director
Gothenburg Region	Per Kristersson	Senior Planner
Gothenburg/Oslo-cooperation	Sara Schütt	Head of Secretariat
Greater Copenhagen and Skåne Committee	Sara Pezzalo Ibsen	Leader for the Co-ordination Group
Göteborg & Co	Camilla Nyman	CEO
Göteborg & Co	Ossian Stiernstrand	R&D
Halmstad municipality	Carl-Fredrik Graf	Mayor
Halmstad municipality	Catharina Lilja	Assistant Municipal Director
Halmstad University	Anne-Christine Hertz	Head of Health Innovations
Halmstad University	Stephen Hwang	Vice-Chancellor
Halmstad University	Tommy Svensson	Interaction Strategist
Helsingborg city	Angelica Nilsson	Head of Infrastructure
Helsingborg city	Christian Orsing	Chairperson of the City Planning Committee
Helsingborg city	Renée Mohlkert	Director of Urban Development
Helsingborg city	Jesper Theander	Director of Employment and Adult Education
Helsingborg city	Peter Karlin	Analyst
Helsingborg city	Anders Landsbo	Project Manager
Helsingborg city	Håkan Lindström	Project Manager
Hässleholm municipality	Mikael Kipowski	Head of the Department of Economic Growth
Incentive	Kristian Kolstrup	Economist
Industrial Development Corporation of Norway (Siva)	Ann Kristin Hageløkken	Senior Advisor
Innovation Norway	Per Annar Lilleng	Regional Director, Oslo/Akershus/Østfold
Innovatum	Martin Wänblom	CEO
Knausgård Ventures	Anne Karin Knausgård	Partner
Krinova	Charlotte Lorentz Hjorth	CEO
Kristianstad municipality	Martin Risberg	Planner Strategist
Kristianstad University	Thomas Achen	Advisor to the Vice-Chancellor
Lillestrøm Centre of Expertise (Kunnskapsbyen Lillestrøm)	Anita Orlund	Managing Director
Lindholmen Science Park	Niklas Wahlberg	CEO
Lund University	Eva Wiberg	Deputy Vice-Chancellor
Malmö city	Fiona Margaret Winders	Co-ordinator
Malmö city	Arian Ratkoceri	Political Advisor
Malmö University	Charlotte Ahlgren Moritz	Vice Chancellor
Moss Frivillighetssentral	Torill Sørenssen	Service Centre Manager

Table A.1. **List of people met during OECD study missions** (*continued*)

Organisation	Name	Designation
Movia transport	Sten Hansen	Project Manager
Mölnlycke Health Care	Bodil Czarnecki	Global Manager Corporate Communications
National Rail Infrastructure Agency (Bane NOR)	Bjørn Egede-Nissen	Chief Engineer
NCE Oslo Cancer Cluster	Ketil Wildeberg	General Manager
NCE Smart	Ole Gabrielsen	CEO
Nordic Institute for Studies in Innovation, Research and Education (NIFU)	Sveinung Skule	Director
Norwegian Federation of Enterprises (NHO)	Ingvild Eriksen Stehl	Senior Advisor
Norwegian Institute of Social Research	Tanja Storsul	Director
Norwegian Institute of Transportation Research (TØI)	Frants Gundersen	Senior Research Engineer
Norwegian Institute of Transportation Research (TØI)	Rolf Hagman	Senior Research Engineer
Norwegian Labour and Welfare Administration (NAV)	Hege Aatangen	Head of Labour Market Division, Østfold
Norwegian Labour and Welfare Administration (NAV)	Lise Westly	Head of Division/EURES Line Manager, Akershus
Norwegian Labour and Welfare Administration (NAV)	Hege Farnes Hildrum	Regional Director, Oslo
Norwegian Public Roads Administration	Tom-Alex hagen	Head of Urban and Public Transport Planning
Norwegian Rail Directorate	Stein Batalden	Manager of Long-Term Planning
Norwegian Research Council	Svein Olav Nås	Senior Advisor
Norwegian State Railways	Henning Myckland	Advisor
Norwegian University of Life Sciences	Colin Murphy	Senior Advisor
Norwegian-Swedish Chamber of Commerce	Anders Ruud Sørli	Manager, Oslo office
OREEC	Mali Skogen	Director
OREEC	Daniel Bügel	Project Manager
OREEC	Marianne Reime	Project Manager
Oslo municipality	Jan Fredrik Lockert	Head of Business Development Unit
Oslo municipality	Peter Austin	Planning Advisor
Oslo Package 3	Terje Rognlien	Head of Secretariat
Oslotech AS	Marius Øgaard	Director of Innovation
Port of Gothenburg	Jens Larsson	Senior Manager Public Affairs
Port of Gothenburg	Viktor Allgurén	Senior Manager Market Intelligence
Ragn-Sells AS	Odd Are Austrheim	CFO
Region Halland	Ann-Charlotte Ericsson	Tourism development
Region Halland	Ann-Marie Bartholdsson	Head of Business Development
Region Halland	Boel Abelson Crossley	Head of Social Sustainability
Region Halland	Dag Hultefors	Chairman Regional Development Committee
Region Halland	Eva Nyhammar	Head of Cultural Affairs
Region Halland	Gun-Marie Stenström	Politician
Region Halland	Henric Bengtsson	Analyst
Region Halland	Johan Lindberg	Senior Development Manager Skills and Education
Region Halland	Jörgen Preuss	Director of Regional Development
Region Halland	Per Persson	Politician
Region Halland	Stefan Bengtsson	Politician
Region Halland	Therese Stoltz	Politician
Region Halland	Ulrika Bertilsson	Head of Analyst Division

Table A.1. **List of people met during OECD study missions** (*continued*)

Organisation	Name	Designation
Region Halland	Åsa Vaarala	Communication Strategist
Region Halland	Åsa Allberg	Head of Infrastructure and Community Planning
Region Skåne	Anna Bjärenlöv	Head of Analysis
Region Skåne	Maria Korner-Westin	Head of EU and International Relations
Region Skåne	Madeleine Nilsson	Analyst, Project Leader Skåne
Region Skåne	Thomas Nilsson	Communications Officer
Region Skåne	Eskil Mårtensson	Project Manager
Region Skåne	Therese Andersson	Head of Urban Planning Unit
Region Skåne	Tobias Schölin	Co-ordinator Enterprise Development
Region Skåne	Mikael Stamming	Director Regional Development
Region Skåne	Anders Axelsson	Analyst
Region Skåne	Sandra Lindeskog	Co-ordinator Enterprise Development
Region Skåne	Moa Åhnberg	Planner Strategist
Region Västra Götaland	Agneta Mårdsjö	Head of Business Development
Region Västra Götaland	Annika Strömberg	Deputy Director of Cultural Affairs
Region Västra Götaland	Fredrik Adolfsson	Former Director of Regional Development
Region Västra Götaland	Hanna Blomdahl	Regional development
Region Västra Götaland	Joakim Boström	Analyst
Region Västra Götaland	Johnny Magnusson	President of Regional Executive Board
Region Västra Götaland	Kristina Jonäng	Chairman Regional Committee on Environment
Region Västra Götaland	Mats Graner	Head of Analyst Division
Region Västra Götaland	Politicians in the Committee	Regional Development Committee
Region Västra Götaland	Staffan Rydén	Head of Cultural Affairs
Region Västra Götaland	Tomas Ekberg	Chief Analyst
Region Västra Götaland	Anders Carlberg	Head of R&D and Education
Region Västra Götaland	Anna Malmsten	Regional Developer
Region Västra Götaland	Birgitta Losman	Chair Regional Development Committee
Region Västra Götaland	Charlotte Beijer	Regional Developer, Project Leader West Sweden
Region Västra Götaland	Helena Nilsson	Director of Regional Development
Region Västra Götaland	Max Falk	Infrastructure Strategist
Region Västra Götaland	Ulrika Bokeberg	Head of Public Transport Authority and Regional Infrastructure Planning
RISE	John Rune Nielsen	Director Business Development
Ruter AS	Hanne Bertnes Nordli	Vice President of Strategy and Development
Samfunnsøkonomisk Analyse AS	Fernanda Winger Eggen	Economist
Save the Children International	Alexandra Fritszon	Project Manager
Scania's Association of Local Authorities	Jenny Strand	Integration Strategist
SEB	Jibril Jallow	Area Director SEB Gothenburg
Sensus adult education	Kay Rönn	Director
SISU	Sture Gustafsson	Strategist
Skanska	Richard Hultin	President of Skanska Rental
Skedsmo municipality	Andreas Bjørnnes	Planning and Business Development Manager
Skåne Association of Local Authorities	Monica Holmqvist	Director
Student Parliament at University of Oslo	Hans Christian Paulsen	Leader
Subsea Valley	Preben Strøm	Managing Director
Sustainable Business Hub	Per Simonsson	Managing Director
Swedish Agency for Economic and Regional Growth	Magnus Schönning	Head of Secretariat at Interreg Öresund-Kattegat-Skagerrak

Table A.1. **List of people met during OECD study missions** (*continued*)

Organisation	Name	Designation
Swedish Public Employment Service	Malin Dahl	Co-ordinator
Swedish Public Employment Service	Josef Lannemyr	Analyst
Swedish Public Employment Service	Christina Koch	Division Manager
Swedish Public Employment Service	Paul Andersson	Co-ordinator
Swedish Public Employment Service	Sofie Carlsson	Deputy Area Manager
Swedish Transport Administration	Lennart Andersson	Head of Region South
Swedish Transport Administration	Björn Hasselgren	Senior Adviser
Swedish Transport Administration	Jens Möller	Deputy Head of Region South
Swedish Union Confederation	Krister Andersson	Regional Manager
Swedish-Norwegian Chamber of Commerce	Jan Andeasson	Consul
Svinesund Committee	Elsie Hellström	CEO
Svinesund Committee	Louise Robertsson	Tourism development
Svinesund Committee	Peter Daftery	President
Swedish Trade Union Confederation	Leif Andersson	Ombudsman
University of Borås	Björn Brorström	Vice-Chancellor
University of Borås	Jenny Johannisson	Deputy Vice Chancellor
University of Gothenburg	Helena Lindholm	Professor Social Sciences
University of Gothenburg	Ingrid Elam	Professor Literature and Writer
University of Skövde	Lena Mårtensson	Deputy Vice Chancellor
University West	Jan Theliander	Vice Chancellor
West Swedish Chamber of Commerce	Stefan Gustavsson	Head of Business Policy
Öresundsinstituttet	Britt Andresen	Head of Analysis
Østfold County Council	Siv Henriette Jacobsen	Deputy County Mayor
Østfold County Council	Liss Mirjam Stray Rambo	Advisor
Østfold County Council	Tore Hansen	Advisor
Østfold County Council	Håkon Bjarne Johnsen	County Director of Regional Development
Østfold County Council	Linda Duffy	Planning Advisor
Østfold Youth Assembly	Emma Louise Hansen	Member
Analysts		
Akershus County Council	Cathrine Bergjordet	Analysts
Business Region Göteborg	Peter Warda	Analyst
Helsingborg city	Henrik Persson	Analyst
Oslo municipality	Morten Fraas	Advisor
Østfold County Council	Kjell Rennesund	Analyst
Østfold County Council	Steinar Normann	Advisor
Region Halland	Henrik Bengtsson	Analyst
Region Halland	Jessica Berntsson	Analyst
Region Skåne	Christian Lindell	Analyst
Region Skåne	Daniel Svärd	Analyst
Region Västra Götaland	Barbara Rubinstein	Analyst
Region Västra Götaland	Cecilia Olbin Gard	Analyst
Region Västra Götaland	Hans Fogelberg	Regional Development Strategist (PhD)
Region Västra Götaland	Irma Ganibegovic	Regional Development Strategist
Region Västra Götaland	Joakim Boström	Analyst
Region Västra Götaland	Karin Althoff	Analyst
Region Västra Götaland	Lisa Belfrage	Regional Development Strategist
Region Västra Götaland	Mari Nilsson	Analyst
Region Västra Götaland	Maria Larsson	Analyst
Region Västra Götaland	Mats Graner	Head of Analysis
Region Västra Götaland	Sophia Litsne	Regional Development Strategist

Table A.1. **List of people met during OECD study missions** (*continued*)

Organisation	Name	Designation
Political reference group		
Akershus County Council	Anette Solli	County Mayor
Akershus County Council	Nikki Schei	Member, County Council
City of Gothenburg	Ann-Sofi Hermansson	Mayor
City of Gothenburg	Jonas Ransgård	Second Deputy Chair of the City Council
Helsingborg city	Peter Danielsson	Mayor of Helsingborg
Helsingborg city	Jan Björklund	2nd Deputy Chair City Executive Board
Oslo municipality	Anders Røberg-Larsen	Political Secretary, Urban Development
Oslo municipality	Raymond Johansen	Mayor
Region Halland	Dag Hultefors	Chair Regional Development Committee
Region Halland	Per Stané Persson	Deputy Chair Regional Development Committee
Region Skåne	Mätta Ivarsson	Chair Regional Development Committee
Region Skåne	Pontus Lindberg	2nd Deputy Chair Regional Development Committee
Region Västra Götaland	Birgitta Losman	Chair Regional Development Committee
Region Västra Götaland	Patrik Karlsson	Member of the Regional Council
Østfold County Council	Simen Nord	Member, County Council
Østfold County Council	Siv Henriette Jacobsen	Deputy County Mayor

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OECD PUBLISHING, 2, rue André-Pascal, 75775 PARIS CEDEX 16
(04 2018 02 1 P) ISBN 978-92-64-29066-2 – 2018

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2018

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ISBN 978-92-64-29066-2
04 2018 02 1 P