OECD Rural Studies

Adapting Regional Policy in Korea

PREPARING REGIONS FOR DEMOGRAPHIC CHANGE

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Foreword

Since the 1950s, OECD countries, including Korea, have experienced three important demographic trends. The first has been a steady increase in the share of the total population living in urban areas, reflecting both internal migration from rural areas, and inflows of migrants from other countries. This has led to the rural share of national populations declining even in those countries where rural populations grew in absolute numbers. A second trend has been the growing sprawl of urban economies to absorb neighbouring rural regions, as part of their functional urban areas. The third trend is an absolute decline in the number of rural people present in a number of OECD countries, reflecting a combination of falling fertility rates and ongoing outmigration and ageing. Until recently, in most OECD countries fertility rates in rural areas exceeded those in urban areas, allowing the rural population to stabilise or increase, despite the high rates of outmigration. More recently, rural fertility rates have shrunk to the same level as in urban areas, and in many OECD countries this level was below the natural replacement rate.

In many OECD rural regions, the key workforce problem had been too few job opportunities for the number of available workers, which in part explained the earlier waves of outmigration in the latter half of the last century, but in recent decades the problem has become instead too few workers for available jobs. For rural regions to attract new workers and mitigate out-migration flows, quality and higher paid jobs will be needed, but so too will be rural attractiveness, including though improved quality and access to services (education, health, childcare) and effective investments in infrastructure and technology (e.g. transport and digitalisation). In addition, higher life expectancy and lower fertility rates have caused a rapid ageing of the population, and in turn an increased demand on public services. With many regions continuing to suffer from shrinkage at some point their local economies may no longer be viable and communities collapse.

While at national level, demographic decline leads to a smaller and older population, the effects and responses will vary greatly across regions. The OECD has shown that rural areas can make effective contributions to national economic objectives, but they need particular types of support that are tailored to their situation and capabilities, which differ considerably from large urban regions. Because new development opportunities have multiple location choices, bottom-up lead initiatives than can mobilise local assets and amenities, foment entrepreneurship and enable effective public and private cooperation can be successful in promoting development pathways.

This report *Assessing Demographic Change: Regional Policy Directions in Korea* analyses Korea's demographic trends and the country's regional and rural development policies in response to demographic and socio-economic changes and identifies effective place-based policy responses to manage demographic pressures in Korea.

The study, which is part of the OECD workstream Preparing Regions for Demographic Change, was carried out as part of the OECD's Regional Development Policy Committee (RDPC) Programme of Work on OECD Rural Studies and was discussed at the 26th meeting of the RDPC's Working Party on Rural Policy. It was approved by the RDPC [CFE/RDPC/RUR(2021)9/REV2] via written procedure on 27 April 2022. The RDPC provides a unique forum for international exchange and debate on regional economies, policies and governance.

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Abbreviations and acronyms

ALMP	Active Labour Market Policies
CAP	Common Agricultural Policy
CDFI	Community Development Finance Institution
CLLD	Community-Led Local Development
CNTP	Comprehensive National Territorial Plan
CRVDP	Comprehensive Rural Village Development Program
DDCA	Demand-Driven Customised Assistance
EMFF	European Maritime and Fisheries Fund
EU	European Union
FUA	Functional Urban Area
GBP	Great Britain Pound
GDP	Gross Domestic Product
GVA	Gross Value Added
ICT	information and Communication Technology
IT	Information Technology
JPC	Japan Policy Council
KRW	Korean won
LAG	Local Action Group
LEADER'	'Links between activities for the development of rural economy''
MAFRA	Ministry of Agriculture, Food and Rural Affairs of Korea
MEP	Manufacturing Extension Partnership program
MOLIT	Ministry of Land, Infrastructure and Transport of Korea
OECD	Organisation for Economic Cooperation and Development
PES	Public Employment Services
RDPC	Regional Development Policy Committee
SEPA	Social Enterprise Promotion Act
SME	Small and Medium-size Enterprises
TL2	Large regions (OECD Regional typology)
TL3	Small regions (OECD Regional typology)
USD	United States Dollar

Executive summary

As in many OECD countries, because of longer life expectancy and low fertility rates, Korea is experiencing population ageing, which is estimated to continue in the long-term. However, demographic change in Korea is so rapid that its population is expected to go from the fourth youngest in the OECD in 2012 to the third oldest by 2050. The elderly dependency ratio is expected to rise from 18% to 120% over the period 2014-2067, the highest growth rate among all OECD countries, with the o population decreasing by 12 million, and the working-age population by 19 million. Population concentration, ageing and decline on such a scale bring significant challenges for Korea, which requires well-designed policy action on several fronts to safeguard the country's economy and ensure social cohesion.

Recent OECD work at the sub-national level in Korea has focused on topics such as rural and regional development (Garcilazo et al., 2019[1]), rural well-being (OECD, 2020[2]) and decentralisation and rural-urban linkages (OECD, 2021[3]). This study follows-up on those studies with a focus on region-specific impacts of demographic change. The report consists of three chapters. The first chapter depicts and benchmarks demographic trends at a regional scale in Korea, against those in other OECD countries. The second chapter examines a range of policies that can address socio-economic challenges of demographic trends in the OECD and describes Korea's current policy approach to manage these in regions and rural places. Finally, the third chapter draws lessons and conclusions for Korea.

Whilst Korea has experienced strong economic growth over the last sixty years, including in rural regions, some areas are lagging behind. Like many other OECD economies, Korea's economy is highly concentrated in urban regions but, almost uniquely, GDP per capita in Korea is higher in rural regions. Korea's population is also highly concentrated and urbanised. Populations in rural regions close to large cities are growing but other rural areas are shrinking. Migration patterns show that predominantly urban regions are net recipients of migrants from other types of regions within Korea. Data also show that young people disproportionally leave regions with access to a small/medium-sized city compared to other age groups.

Demographic decline is a crucial question which impacts several important public policy dimensions, three of which are key for regions and rural places:

- *Workforce issues.* With demographic decline, the labour force steadily ages and shrinks.
- *Social issues.* Shrinking local populations also alter social relationships within communities.
- *Governance issues.* With economic decline the local tax base falls and local governments become starved of revenue at a time when the demand for new social services may increase as the local demand shifts in response to an ageing population.

Demographic decline calls for a new approach to regional and rural development. Importantly, demographic decline in rural regions has important implications for urban centres too because rural outmigration to cities remains an important source of urban population growth across OECD countries, bringing both positive and negative effects.

Clearly, the scope and complexity of these changes is more than communities can be expected to manage without significant government support at various levels (local, regional, national). Korea's government has accepted these challenges at the highest level. The "Presidential Committee for Balanced National Development", the "Prime Minister's Committee for Quality of Life", the "Presidential Committee on Ageing Society" and the "Population Policy Task Force" are developing the foundation for new strategies to support rural and regional development. A number of these strategies have already been developed and provide a means for improving the co-ordination of policies and programmes introduced by relevant ministries. They include: the "Strategy for Balanced National Development", "the New Deal Strategy", the "Comprehensive National Territorial Plan".

Korea's balanced growth approach seeks to reduce the share of the population in Seoul by fostering the development of a number of new cities and a broadening of the economy. However, Korea's policy approach, as currently conceived, does not explicitly identify rural development as a contributor to balanced growth. Korea must now decide how its rural policy will support general development objectives in this period of demographic decline. It is probable that some rural places will not survive, because the national population is declining and there will be a significant geographic rebalancing of people. However, the number and geographic distribution of remaining rural communities will hinge on policy choices by the government on where investments in increasing productivity and providing public services will occur. This report identifies eight broad recommendations for rural regions that can help address demographic challenges.

Assessment and Recommendations

Assessment

Economic and demographic context

Over the last 60 years, Korea has experienced rapid growth, but benefits have not been spread across the entire territory. Although Korea has recorded one of the fastest GDP growth rates in the OECD and a significant increase in income per capita, areas and territories far away from large metropolitan areas are shrinking, ageing and in turn lagging behind. The national government has pursued development opportunities and well-being outside large cities in its recent national development plan to address these challenges as well as mitigating overconcentration of people and economic activity in Seoul.

The Korean economy has industrialised rapidly over the past 60 years, gradually shifting specialisation from agriculture to industry and then to services, and, in turn, driving the convergence process (OECD, 2021[1]). At USD 30,000 in per capita income, Korea's GDP per capita has grown from 6% of the OECD average in 1970 to 97% in 2019. Capitalising on a well-educated population and an innovative manufacturing sector, Korea's GDP per capita growth has also outperformed the OECD average since the 2008 global financial crisis (OECD, 2021[2]).

Despite the remarkable progress, economic activity in Korea remains highly concentrated geographically; the 7th most concentrated country in the OECD in terms of GDP, with 45% produced by Seoul and its region (Gyeonggi) in 2017. Despite the high level of concentration, Korea is the only OECD country that has higher GDP per capita levels in rural regions than in urban ones, with GDP per capita in rural regions standing 13% higher than the national average in 2017. Korea is also the only OECD country where labour productivity in rural regions is higher than in urban regions (OECD, 2021[1]). This may reflect the fact that, although Korean rural regions are less diversified than urban ones, they are highly specialised in tradable sectors, particularly in manufacturing which is a key driver of regional competitiveness. Manufacturing alone contributes to over two-fifths of rural regions' GVA (OECD, 2021[1]).

However, despite these positive output and productivity figures, well-being standards have not reached all rural regions alike. Korea has large regional disparities in 4 out of 11 OECD dimensions of well-being: in safety, jobs, education and community. While Jeju ranks within the top 25% of OECD regions in jobs, Gyeongnam region is in the bottom 40%. A similar picture exists for Gangwon and Jeju regarding education. In addition, all Korean regions except Jeju rank in the bottom 20% with regards to perceived social support networks (community). Regional disparities in hospital beds are above the OECD average. In 2017, Jeju, the region with the lowest number of hospital beds per inhabitant, had 7 hospital beds per 1 000 inhabitants compared to 22 in Jeolla (the top performer). (OECD, 2020[3]).

In terms of settlement patterns, Korea is also highly concentrated. The share of the rural population has gradually decreased over past decades according to the national definition -- from 60% of the total population (or 18.2 out of 30.8 million) in the 1970s to only 19% of total population (9.7 out of 51.6 million) in 2018. According to the OECD Functional Urban Area (FUA) definition, 83% of Koreans live in cities bigger than 50 000 inhabitants and 76% lives in cities bigger than 500 000 inhabitants. This is higher than

the average share in the OECD (55%). Among OECD countries. s Korea has the second highest share of the population living in FUAs (almost 42 million in 2015) (OECD, 2021[1]).

Korea is facing overall population ageing and demographic decline bringing important challenges to some of its regions, especially in rural areas. Due to increasing life expectancy and low fertility rates, Korea's population is ageing more rapidly than any other OECD country. Since 1970, life expectancy has increased by 20 years, the second largest increase in the OECD. In 2018, life expectancy was 82.7 years, 1.9 years above the OECD average, rising from 80.2 years in 2010 (OECD, 2021[2]). Furthermore, since 2015 Korea has experienced falling birth rates and is projected to consolidate as an aged society by 2025, with the share of elderly exceeding 20% of the entire population (Statistics Korea, 2019[4]). Demographic change in Korea is so fast that its total population is projected to change from the fourth youngest population in the OECD in 2012 to the third oldest by 2050 (OECD, 2021[2]). Due to a combination of declining births and a growing number of elderly, Korea reported the first decline in population in 2020 and is projected to fall by 12 million (current population 51 million) between 2020 and 2067, with the working-age population falling by 19 million (Statistics Korea, 2019[4]). National figures however mask significant regional differences, with higher shares of elderly present in rural regions. Amongst non-metro regions in Korea, the share of elderly population is higher in non-metro regions with access to a small/medium-sized city (33% in 2018), when compared to non-metro regions with access to a metropolitan region (24%).

Policy responses to demographic changes

Demographic decline is a crucial issue impacting several important dimensions of public policy, three of which are critical for regions and rural places: (i) workforce dimension: the labour force steadily ages and shrinks; (ii) social dimension: shrinking local populations may alter social relationships within communities; (iii) governance dimension: with population and economic decline the local tax base falls at the same time as demand for public services rises.

The Korean national government has recognised demographic challenges as a key policy priority at the highest level. Three presidential committees and a task force provide a forum for identifying new policies and programmes to improve conditions across the national territory. To tackle current trends including low population growth, polarisation, low fertility, population ageing and localisation, the government is pursuing sustainable and balanced national development. The government's "Vision and Strategy of Balanced National Development", published in February 2018, sets the goal of "establishing a regional-led independent growth foundation". The vision puts a special emphasis on decentralisation, inclusiveness and innovation, and identifies three major strategies to be developed within a "Five-years Plan for Balanced National Development". The first providing a stable and decent life in all the regions, the second vitalising regional space, and the third increasing regional innovation and job creation.

The policy approach of Korea aims to reduce the concentration of population and economic activities in metropolitan areas. However, as currently conceived, it does not explicitly identify rural development as a contributor to balanced growth. Although it is likely that some rural places will not be able to survive due to demographic decline and the geographical rebalancing of people, the number and geographic distribution of rural communities in Korea will also depend on the government's policy choices on where to invest to increase productivity and provide public services. Strengthening rural policy in Korea should thus be considered as an additional crucial step to support overall development goals and the economic and social cohesion of the country.

Recommendations

Korea now faces a major adjustment as it deals with the twin challenges of demographic decline and ageing whilst also adapting to rapid technological change. Although the adjustment will affect all parts of the country, Korean rural regions, which are home to small settlements, minor cities and remote areas, will likely suffer the most.

This study identifies eight broad policy recommendations for Korea that can help respond to current economic and demographic trends and ensure social cohesion. They also aim to help rural communities in adopting technological change and raising the quality of rural public services.

1. Define a clear and coherent national rural development strategy that integrate responses to demographic decline across all aspects of rural policy	The Korean government is engaged in efforts to spread economic activity and population outside Seoul to create more spatially balanced growth and reduce increasing congestion costs in the capital city. Much of this effort involves creating a network of secondary cities. While Korea has a clear urban strategy, it currently lacks a parallel rural strategy that could add to the current focus on achieving a more balanced growth and increased prosperity for all citizens wherever they live. A clear and coherent national rural development strategy with spatially targeted support needs to go beyond the standard set of rural policy instruments to valorise new sources of growth, including the silver economy (the elderly workforce), the white economy (the economic opportunities of healthcare), together with opportunities brought by the green economy.
2. Develop new labour policies specifically tailored to support rural areas within a context of demographic decline	Demographic decline has started to impact the labour force with retirements exceeding new entrants especially in rural regions from Korea. In this environment, it is crucial to increase labour force participation rates, ensure that workers are not "underemployed" and raise the productivity rates of rural firms. These policies should support the components of active labour market policies (ALMP). Examples of possible initiatives include: • Policies to enhance the utilisation of the current labour force largely by increasing participation rates of underutilised workers (e.g. youth, women, disabled) or slowing the rate of retirement. • Policies to enhance worker skills to utilise new technologies and to allow higher productivity to drive future economic growth. Improved workforce training is a key part of this but it is clear that skill development must be tightly coupled to employer needs, which will vary by industry and often by size of firm if they are to be effective. • Policies that try to increase the number of potential workers, either through (i) increasing birth rates, (ii) improving the local quality of life to attract and/or retain people (especially youth), (iii) providing family friendly environments in secondary cities and rural areas, and (iv) encouraging in-migration (both internal and from abroad).
3. Increase the attractiveness of rural areas by supporting the provision of quality services	The cost and quality of local services are sensitive to population shrinking through reductions in the user-base and the number of specialised workers and facilities. To maintain quality services, rural regions facing demographic decline must develop tailored responses to their specificities, make the most of economies of scope and scale, embrace digital and innovation solutions to delivery services and account for long-term forward looking demographic scenarios. The following actions can help improve the delivery of services in Korean regions facing demographic decline: • Increase the place sensitivity of service delivery, especially in relation to education and health care, e.g. by considering the economic and social well-being of each community, their demographics, access to digital infrastructure and digital skills. • Develop innovative approaches to tackle demographic challenges locally, e.g. by expanding the use of digital technologies to deliver quality services through co-location, collaboration and co-production processes across levels of government. • Encourage collaboration with other proximate communities to deliver services on a regional basis to provide services more effectively and reduce costs. • Develop reliable data and estimates of the costs and access to services arising from demographic and geographical differences, e.g. to help adapt the provision of services to different territorial realities and ensure cost efficiency and a sufficient level of access for all territories. • Foster digital education to facilitate the use of telemedicine, teleworking and distance

	learning/education.
4. Enhance and refine labour market matching policies in rural areas	Normally, less effort is placed in formal matching processes in rural areas then in urban locations, also because of the smaller number of rural people which tends to increase the unit cost of a formal matching service. Typically, the combination of long distance, low density and small local economies results in small and poorly connected local labour markets distributed across the rural territory with limited potential for people to identify work opportunities. The cost of commuting in rural regions is also an impediment to work especially for lower wage, lower skilled workers because public transport is scarcely available. Nevertheless, with a small and often a semi-autonomous labour force and an evolving set of job skill requirement, good matching processes in rural labour markets are crucial to the functioning of labour market and ultimately the resilience of the community. The following actions can improve a better matching in the Korean context: • Define and implement a comprehensive strategy at the national scale to reduce the skills mismatch in the medium and long term, involving regional key stakeholders. This may require improving the relevance of education and training for the labour market through strengthened channels of communication between education and workplace actors, as well as public-private partnerships. • Enhance the function of Public Employment Services (PES), which can act as labour market mediators in strengthening the efficiency of the matching process. This may be accomplished through advanced profiling tools and well-trained staff, establishing standards for the type and quality of PES, producing more data and information to help local stakeholders better understand the local context. Digitisation offers a unique opportunity to expand the provision of PES. However, in addition to online offerings, an expansion of PES services, with a core of walk-in offices, can maximise benefits for employers and job seekers. Partnership is also crucial for PES to make the best possible contribution to a global ecosystem with a range of actors providing employment services. • Set up incentives for increasing the co-ordination of players and the synergy of resources to focus on talent-based growth strategies. These may also be inserted in Smart Specialisation Strategies for rural regions. If the community has a chamber of commerce or there is a business retention and expansion programme in place these organisations, or ones playing a similar role, would be well-placed to support a job-matching initiative. • Strengthen the offer of on-the-job training and apprenticeship programmes (especially dedicated to the unemployed and young people), which and make them more consistent with the skills required by the labour market and future needs • Explore opportunities for increasing the opportunity for job-sharing and part-time work to expand the pool of potential workers who may be willing to work, but not full-time. Such a programme could be especially attractive to women and older workers who might otherwise remain out of the labour force. For example: women may have low participation rates because they have major household care responsibilities for children or elderly relatives. Providing quality care at low cost and in close proximity to the home or place of work, extended paid time off for new mothers and fathers, and flexibility in working hours to deal with family emergencies could increase female participation rates. The elderly may not participate because they no longer wish to, or are unable to work full time. By creating part-time jobs or facilitating the sharing of a single job among several individuals it may be possible to increase their participation rates.
5. Adopt a smart specialisation approach at the regional level to support rural SME and the social economy	The underlying rational of smart specialisation is to concentrate efforts and resources focusing only on a few, well-defined priorities to maximise key productivity factors. In the Korean context, clear opportunities exist for agriculture and fisheries, tourism and manufacturing. To take advantage of these opportunities: • Korean rural regions should develop more sophisticated smart specialisation strategies combining industrial, educational and innovation policies to generate unique assets and capabilities stemming from specific industry structures and knowledge bases. To this end public investments for research, technology and innovation should be focused on regional knowledge strengths to mobilise those assets and transform them into higher value-added activities. In addition, Korean rural regions should explore alternatives to traditional firms. The social economy or social enterprise serves as a complementary alternative to either for-profit firms or government as a provider of goods and services. These could include co-operatives, various forms of social enterprise and worker-owned firms. Because these firms have broader objectives,

	they can be viable in rural areas that offer either a too small a profit margin for a conventional business, or a too limited opportunity for growth.
6. Promote rural entrepreneurship and innovation	Technological innovation can be difficult in rural regions because they lack most of the underlying characteristics, such as, formal research and development organisations, pools of investment capital and a core group of scientific and engineering professionals. However, innovation can also include a new product, a new service or a new way of delivering services. Innovation in rural areas relies to a great extent on the action of local entrepreneurs. The key issue for public policy is identifying ways to stimulate latent entrepreneurs to act on their ideas and to develop better support mechanisms for them when they do choose to act. Example to support innovative rural entrepreneurs in Korea may include: • ensuring that existing support for innovation does not discriminate against rural entrepreneurs (e.g. focusing only on formal innovation systems where science-based research and development activity is a prerequisite); • assisting small rural business in moving from identifying an idea to developing a business plan and starting a business; • supporting the creation of community development finance institutions which provide revolving loan funds to local SMEs and start-ups; • favouring senior entrepreneurship and/or incentivising older people to play a role in promoting entrepreneurship by others by becoming business angels or by mentoring younger entrepreneurs.
7. Strengthen support for building local development capacity in rural communities	Rural communities are small places, but must still carry out most of the functions of larger places, although in different ways and with less complex procedures. These include developing a strong civil society and supporting economic development. In smaller places some functions are carried out by paid workers, others by volunteers and others are not provided. With demographic decline, the capacity of smaller local governments to carry out existing responsibilities becomes more challenging. Consolidation of local governments to achieve some minimum efficient scale can help in these cases making national government support for capacity building an important function. Various programs have been introduced across the OECD countries, such as LEADER in the European Union or Community Futures in Canada, with the goal of strengthening local economic development. The hallmark of these programs is they provide financial support for a specific period to allow the recipient places to undertake a development activity that is both community defined and endorsed by a large share of the local population. As a result, not only does the community gain from the specific program, but it also benefits from a strengthened sense of cohesion and a recognition that positive change is possible.
8. Explore new ways to organise how local governments in rural areas carry out their activities	Over time, there has been many innovations in how local governments carry out their responsibilities in rural areas of OECD countries. Korea has provided a number of these examples. However, there is considerable scope for adopting examples from other countries that can enhance the quality of life in rural areas of Korea and provide better support for rural business. Specific area where innovations should be supported include the following areas: • Identify ways to determine which services it is essential to provide by government, and which might be provided by the private or third sector. Considering the possibility of finding alternative providers of public services may bring significant cost savings and opportunities to reallocate scarce public funds to higher priority actions. Equivalent services may be provided by relying on a different mechanism such as local volunteers, a private contractor or a sharing agreement with a number of nearby places in a similar situation. • Allow regions and localities to have a greater autonomy from the national/regional governments to allow more flexibility in how services are provided locally. • Put in place source funding for regions and localities different from standard ear-marked national transfers payments. For example, in the European Union the LEADER programme has provided a new more flexible source of funding to rural areas to undertake local projects that could not be financed from standard public sources.

1 Demographic trends in the OECD and Korea

This chapter provides a discussion of the main demographic changes, characteristics and causes in the OECD and in Korea. Comparisons and benchmarking are undertaken across OECD member countries using OECD standard indicators and the OECD Regional Database.

Introduction

Over the last 60 years, Korea has experienced one of the fastest economic growth rates in the OECD and a significant increase in income per capita and overall living standards. These benefits however have not spread evenly across the territory with gaps emerging in living standards in some areas and territories far away from large metropolitan areas. The national government has pursued development opportunities and well-being outside large cities through its recent national development plan to mitigate overconcentration of people and economic activity in its capital city and address population ageing and decline in localities and territories far from cities.

Recent OECD work at the sub-national level in Korea has already focused on related topics including decentralisation and rural-urban linkages (OECD, 2021[1]), rural well-being (OECD, 2020[2]), rural and regional development (Garcilazo et al., 2019[3]), housing and smart cities (OECD, 2018[4]), urban policy (OECD, 2017[5]), land use planning (OECD, 2017[6]), urban transport governance (OECD, 2017[7]) and road Infrastructure and development (OECD, 2016[8]).

This study follows-up on some policy areas and focuses on addressing region-specific impacts of demographic changes. This global megatrend, along with digitalisation and climate change, will not affect countries uniformly but differ from region to region, thus calling for tailored made place-based policy responses that can adapt to varying regional conditions.

The overall study consists of three chapters. This first chapter focuses on demographic trends at regional scale for Korea, which depends both from natural evolution of population (e.g. migration, mortality, etc.) and economic performance of regions (e.g. to attract people) and provides a diagnosis of the performance and demographic dynamics of Korean regions as compared to OECD trends. The chapter first examines socio-economic trends in Korea focusing on growth, inequalities and territorial disparities. It also outlines the performance of Korean regions, examining trends in gross domestic product (GDP) per capita and productivity. The chapter then benchmarks demographic patterns in the OECD and Korea, focusing on population levels and elderly dependency ratios, and how these influence overall settlement structures. To draw international comparisons, this chapter makes use of the OECD regional typology, the OECD regional definition based on access to cities and the OECD functional urban areas definition (FUAs), as these apply a consistent definition across OECD countries.

Socio-economic trends in Korean regions

Korea has experienced strong growth, yet gaps remain in areas far from large cities

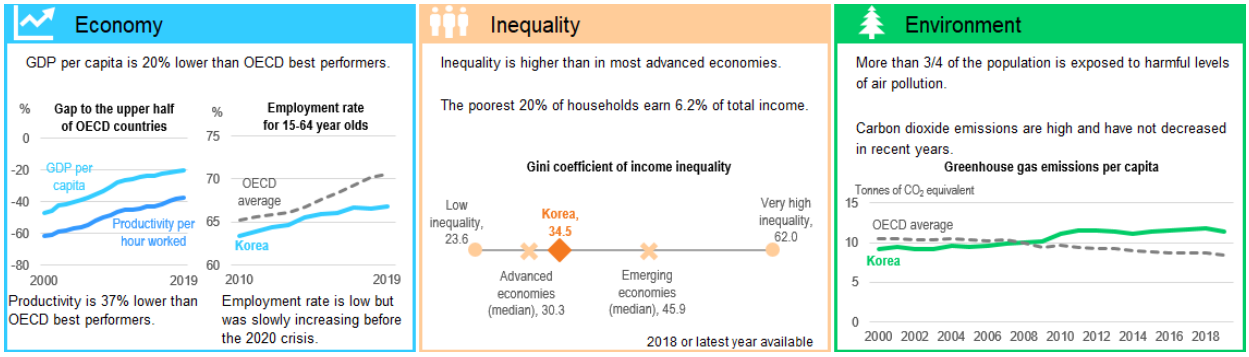
Korea's steady economic expansion over the past decades has made the country one of the most successful stories of productivity catch up in the OECD. The Korean economy, which has industrialised over time, has gradually specialised from agriculture to industry and then to services. These changes in specialization have been primarily responsible for the convergence of the country (OECD, 2021[1]). Recently, with more than USD 30,000 in per capita income, Korea's GDP per capita has grown from 6% of the OECD average in 1970 to 97% in 2019. Since the 2008 global financial crisis, GDP per capita in Korea has grown more than the OECD average thanks to a well-educated population and an innovative manufacturing sector (OECD, 2021[9]).

Despite over the last sixty years Korea has experienced strong economic growth, including in rural regions, some gaps remain in areas far from large cities and in places that have not benefitted from targeted development initiatives set up by the government. At the same time, growth has come with high pollution and resource consumption in Korea where high population density exacerbated environmental challenges (OECD, 2017[10]).

Figure 1.1 provides a snapshot of Korea in terms of economy, inequality and environment. When looking at all population groups, income inequality has remained stable and above the OECD average: between 2015 and 2017 the gap between the top and bottom 20% income earners increased from 6.9 to 7 in Korea, and from 4 to 5 in the OECD on average. Non-material well-being has improved in some areas. Life expectancy in Korea has increased by 20 years since 1970 (the second largest rise in the OECD). In 2010, life expectancy had already risen to 80.2 years, to reach 82.7 years in 2018, about 1.9 years above the OECD average. Nevertheless, poverty, despite a decline in recent years, remains above the OECD average, and is especially high among the elderly: with 45.7% of people above 65 living in relative poverty, being 12.9% the OECD average (OECD, 2021[9]).

Nowadays, in the context of the COVID-19 pandemic, effective measures to contain the spread of COVID-19 have limited the estimated fall in GDP to just over 1% in 2020, the smallest decline in the OECD. Global GDP was projected to contract by 4.2% in 2020 and grow by 4.2% in 2021 and 3.7% in 2022. Growth is expected to pick up to about 3% in 2021 and 2022 (OECD, 2020[11]). .

Figure 1.1. A snapshot of Korea



Source: (OECD, 2021[12]) OECD 2021, Economic Policy Reforms 2021, Country notes - Korea.

Korea's economy is geographically concentrated in metro areas, but Korean rural regions have contributed much to national prosperity,

Korea's economic geography has some characteristics in the OECD. The country is highly economically concentrated. In terms of geographic concentration of GDP, it ranks 7th in the OECD (Korea's GDP concentration index was 51.2 in 2017). (Figure 1.2). In 2017, 45% of the whole country's GDP was produced in just two large Metropolitan areas, namely, the capital Seoul and its region, Gyeonggi.

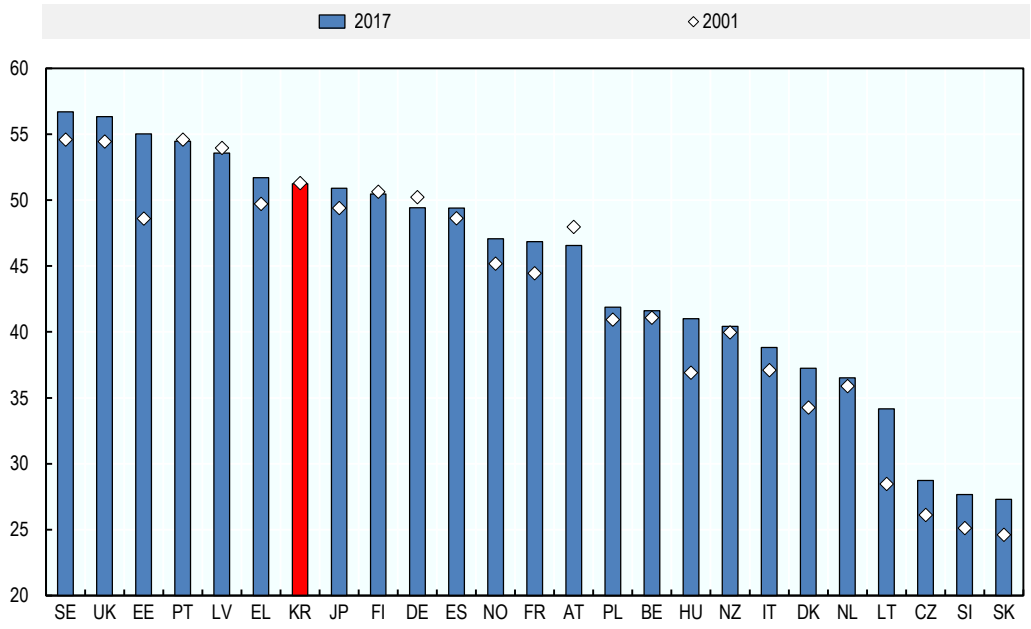
Moreover, exceptionally in the OECD, GDP per capita in urban areas is lower than GDP per capita in rural areas (Figure 1.3). In 2017 their GDP per capita was on average 13% higher than the national average. Korea is also the only OECD country where labour productivity in rural regions is higher than in urban regions (Figure 1.4) (OECD, 2021[1]). This may be also driven by the fact that, although Korean rural regions are less diversified than urban ones, they are highly specialised in tradable sectors, particularly in manufacturing, which is a key driver of regional competitiveness. Manufacturing alone contributes to over two-fifths of rural regions' GVA (OECD, 2021[1]).

However, manufacturing tends to concentrate in specific places within a given region, being often a result of a government's policy intervention. For example, in Jeollanam-do, there is significant activity around the Gwangyang Bay Free Economic Zone, but less manufacturing activity elsewhere in the province. This means that the relatively high output of rural regions is not necessarily experienced by the whole region.

The strong performance of Korea's rural regions may also result from the effects of geography and their close proximity to cities. In fact, residents and businesses can gain benefits from the surrounding

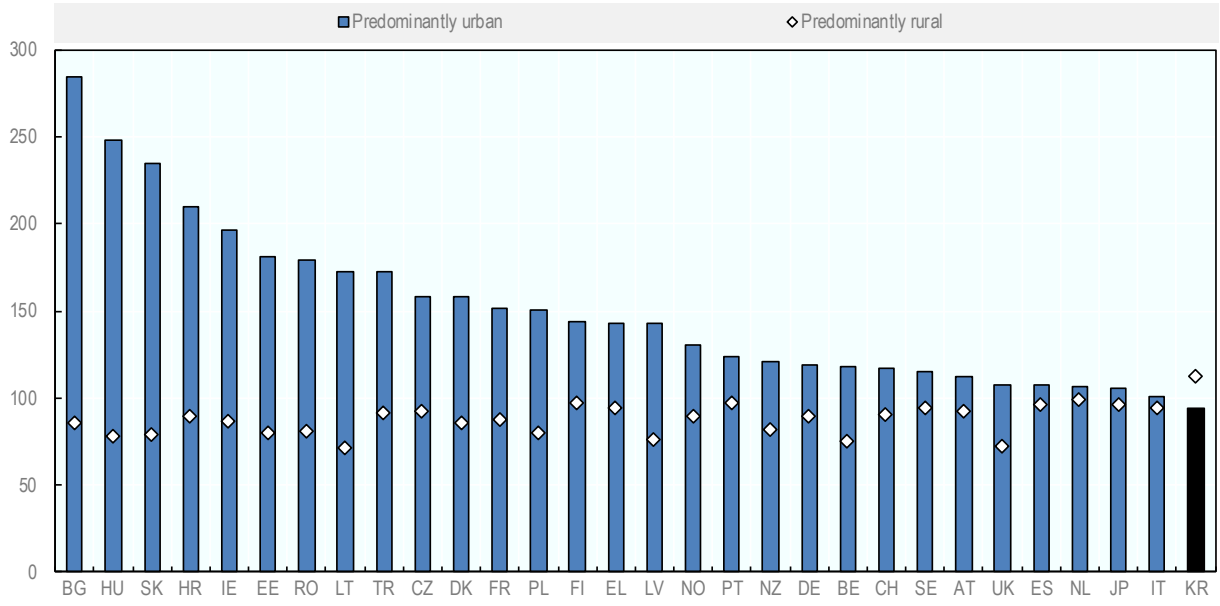
agglomerations as they have a strong interaction with cities even in low density regions. In this respect, OECD research suggests that surrounding regions can "borrow" agglomeration from neighbouring cities (e.g. for a doubling of the population of a given city, the productivity of its urban areas may increase by 1%-1.5% within a radious of about 300 km) (OECD, 2021[1]).

Figure 1.2. Geographic concentration index of GDP (TL3 regions), 2017



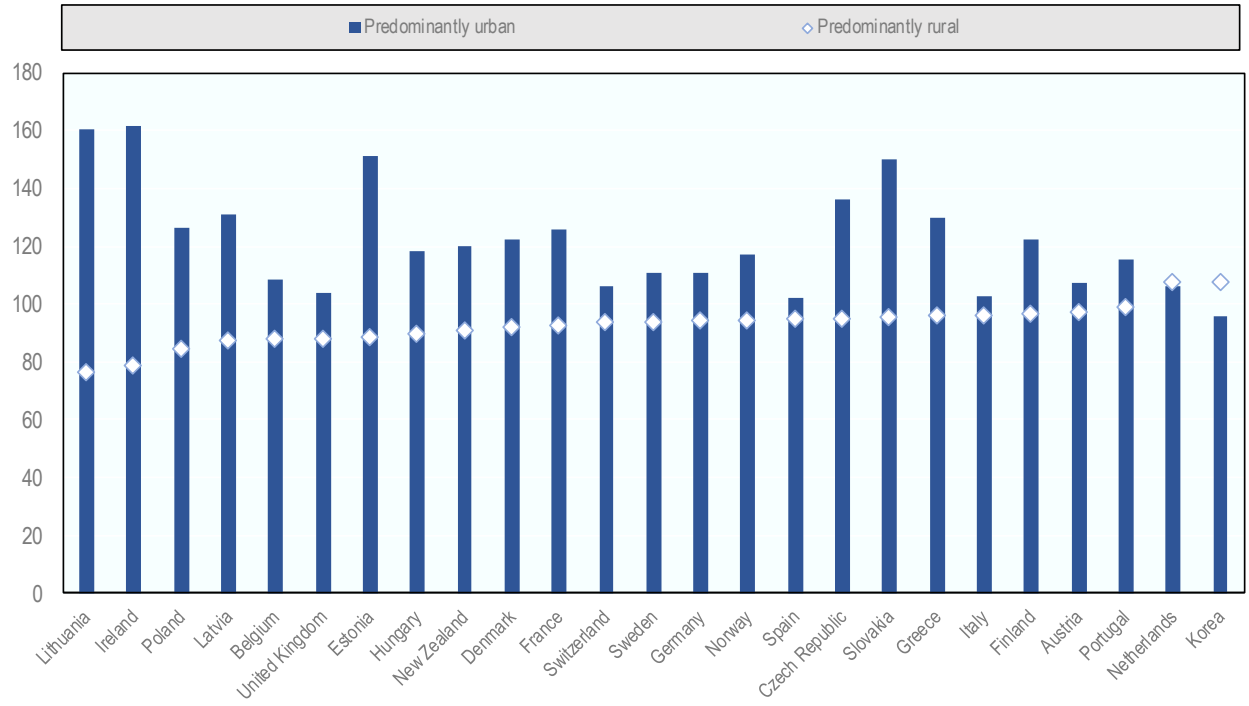
Source: (OECD, 2021[1]). OECD Regional Statistics (database), 2020.

Figure 1.3. GDP per capita gap between predominantly urban and rural regions, 2017



Source: (OECD, 2021[1]). OECD, Regional Statistics (database), 2020.

Figure 1.4. Labour productivity gab between urban and rural regions, 2016



Note: Labour productivity as a ratio of GVA over workers per place of work.
Source: (OECD, 2021[1]). OECD, Regional Statistics (database), 2020.

Demographic distribution in the OECD and Korea

A relatively large share of the population lives in regions far from large cities in many OECD countries

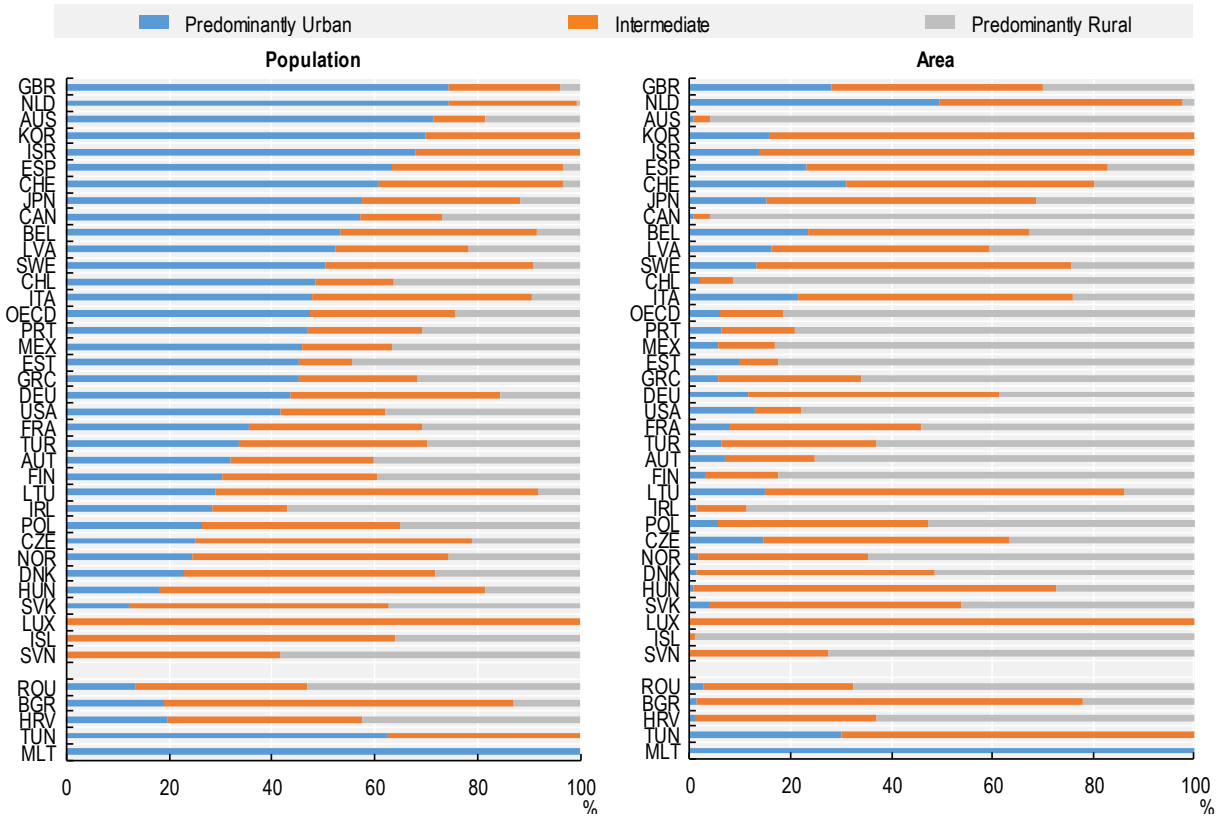
According to the OECD regional typology (see Annex 1.A), 25% of the OECD population lived in predominantly rural regions in 2017, 20% of which lived in rural regions close to cities and 5% in rural-remote regions (Table 1.1). This means that 80% of the OECD rural population live in close proximity to cities and only 20% in remote regions (Figure 1.5). According to the alternative regional typology (see Annex 1.A), in 2019, 42% of the OECD population lived in regions with a large city, about 43.5% lived in regions near cities, and the remaining 14.5% lived in remote regions, which accounted 8% of the total population (Table 1.1). This evidence confirms that in OECD countries, only a small share of the total population lives in remote areas with no interaction to nearby cities. (OECD, 2020[2])

Table 1.1. Population shares by OECD regional typology based on access to cities

OECD regional typology		OECD regional typology based on access to cities	
Predominantly urban regions	48%	Regions with a city >1M	42%
Intermediate regions	27%	Regions with a city >250K	29%
Predominantly rural regions	25%	Regions near a city >250K	12%
Close to cities regions	20%	Regions with/near a city <250K	9%
Remote	5%	Remote regions	8%

Note: City refers to a Functional Urban Area (FUA). Based on available data for 2 152 TL3 regions in 33 OECD countries. 2018 values for Australia, Ireland, Japan, and United States.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

Figure 1.5. Distribution of population and area by type of small regions (TL3), 2019

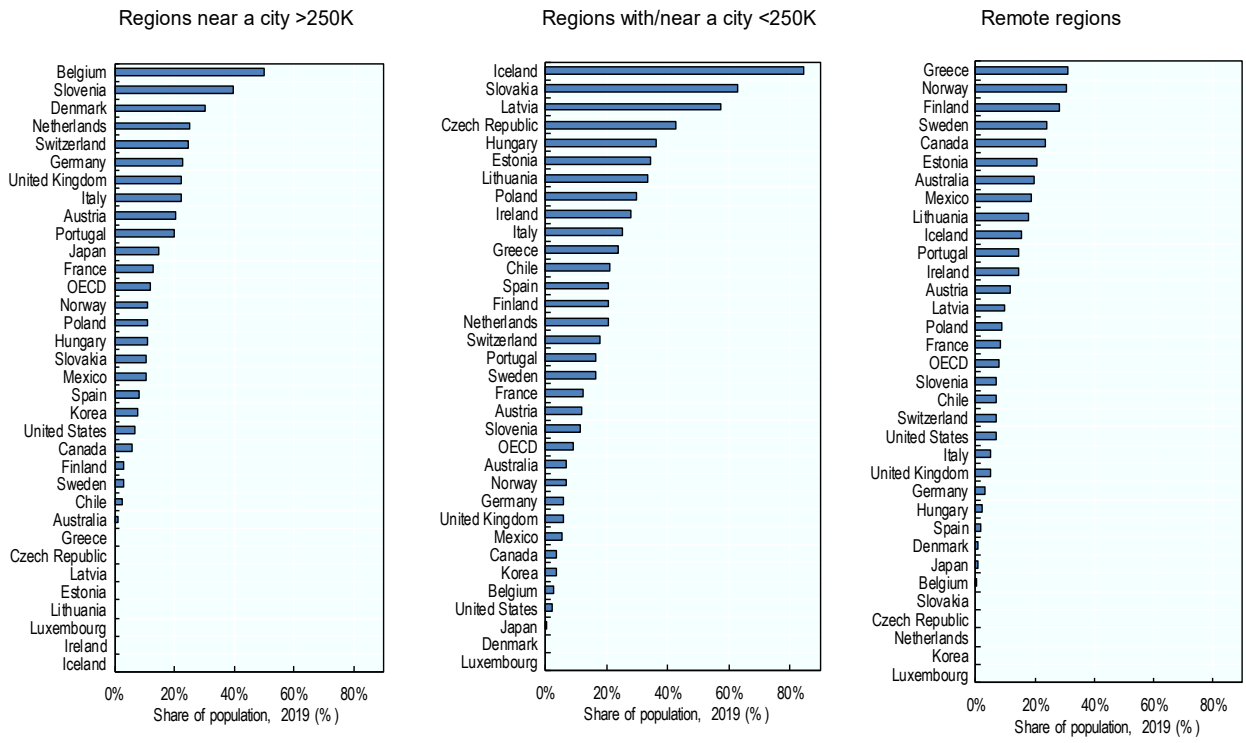


Note: Weighted averages of small regions (TL3). 2019 population or latest available year: TUN (2016); AUS, CAN, HRV, HUN, ISR, JPN, LTU, and USA (2018). Countries are ranked in descending order of the share of population in predominantly urban regions.
Source: (OECD, 2020[14]), OECD Regional statistics (database), 2020. Information on data for Israel: https://oe.cd/israel-disclaimer.

The distribution of the population of regions according to the alternative typology captures some similarities of countries according to their geographic characteristics (Figure 1.5):

- Although only 8% of the OECD population live in remote regions, in 7 OECD countries one-fifth or more of the national population live in remote regions. These include Norway (31%), Finland (28%) and Sweden (24%) from Scandinavia with sparsely populated regions, Greece (31%) with an island and mountainous geography, and 2 of the largest OECD countries in terms of area, Canada (23%) and Australia (20%). (OECD, 2020[2]).
- In fifteen OECD countries, more than 20% of the population live near or in regions with a small/medium city. Countries with the highest shares of population in these types of regions include Iceland (84%), and former East European and Baltic countries including the Slovak Republic (63%), Latvia (57%), the Czech Republic (43%), Hungary (36%), Estonia (34%) and Lithuania (33%). (OECD, 2020[2]).
- About 20% of the population in the OECD live in regions near a large city. This percentage increases in 10 countries: Austria (21%), Belgium (50%), Denmark (30%), Germany (23%), Italy (22%), the Netherlands (25%), Portugal (20%), Slovenia (40%), Switzerland (40%) and the United Kingdom (22%). (OECD, 2020[2]).

Figure 1.6. A relatively large share of the population lives in regions far from large cities in many OECD countries. Population in 2019 (percentage)



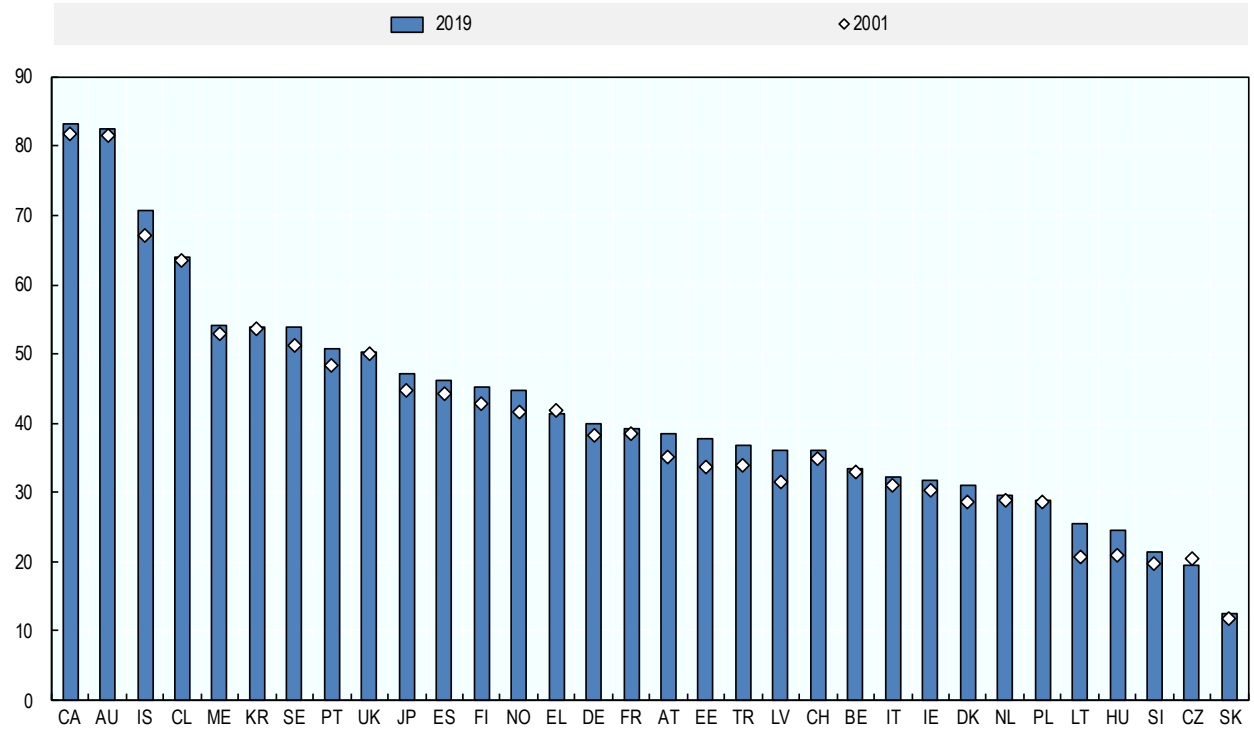
Note: City refers to an FUA. 2018 values for Australia, Ireland, Japan and the United States
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020

Korea's population is highly concentrated and urbanized

Korea has undergone quick demographic changes since the 1960s, when the country began its industrialization. The share of the rural population (national definition) decreased from 18.2 millions (60% of the total population out of 30.8 million) in the 1970s to only 9.7 million (19% out of 51.6 million) in 2018. Migration from rural to urban areas because of rapid industrialization have caused these trends (OECD, 2021[1]).

Even if the rate of concentration has declined in recent years, settlement patterns are concentrated in Korea when compared to OECD standards. In fact, among the 32 OECD countries for which data are available, Korea's population was the 6th most concentrated across TL3 regions in 2019. The geographic concentration index depicts the spatial distribution of the population within Korea, comparing the resident population weight and the land area weight over all TL3 regions. The index ranges between 0 and 100: the higher its value, the larger the regional concentration. Korea's population concentration index was 53.8 in 2019 (Figure 1.7).

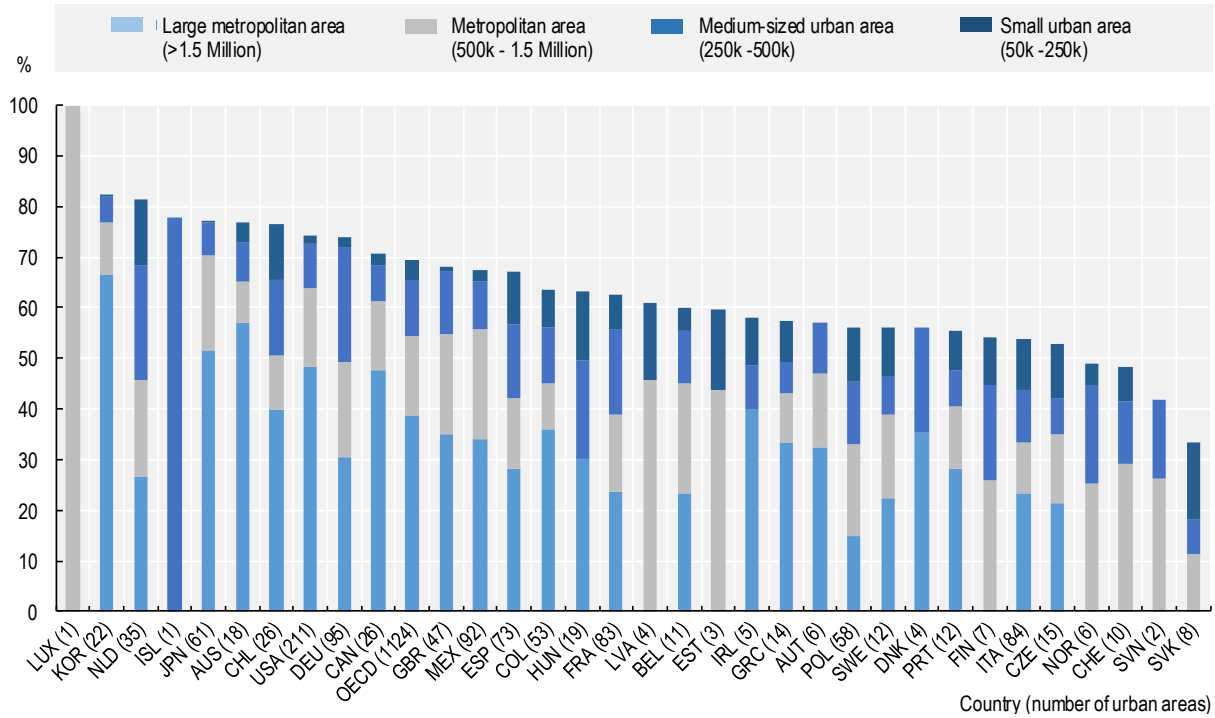
Figure 1.7. Index of geographic concentration of population, TL3, 2001 and 2019



Source: (OECD, 2021[1]). OECD, Regional Statistics (database), 2020.

In term of the OECD FUA definition, 83% of Korean population lives in cities of more than 50 000 inhabitants and 76% lives in cities with more than 500 000 inhabitants, significantly higher than the OECD average share of 55%. When compared to OECD countries (Figure 1.8), only Luxembourg has a higher national share living in FUAs, making Korea one of the countries with the highest share of the national population living in FUAs (OECD, 2021[1]).

Figure 1.8. Population share living in Functional Urban Areas (FUAs) over total population, 2015



Source: (OECD, 2021[1]). OECD, Regional Statistics (database) 2020, "Metropolitan areas".

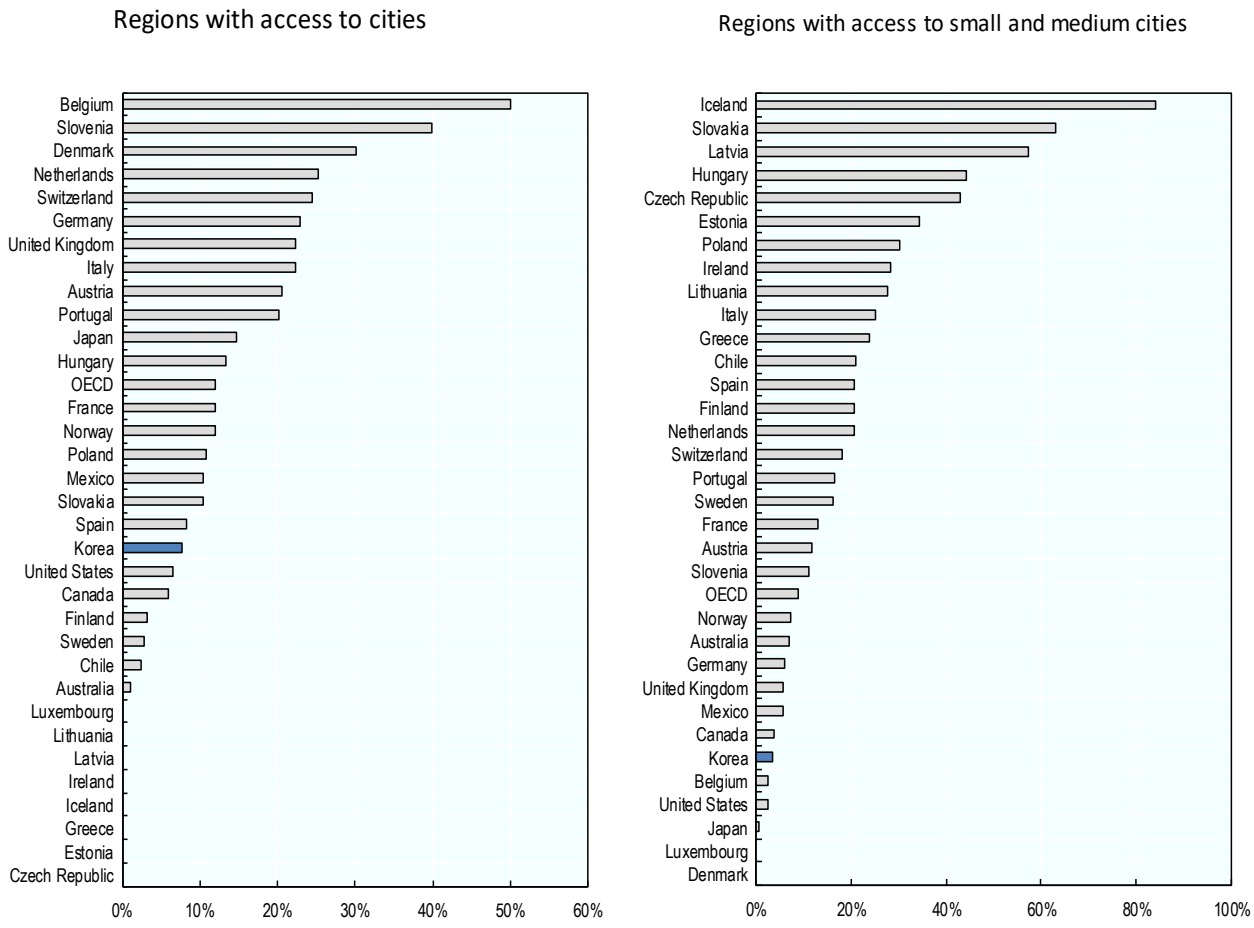
Korea's population is also highly urbanised, in comparison with other OECD countries, approximately 17.1% of Koreans lived in rural regions in 2018, based on the OECD TL3 regional typology, or 11.3% if applying the OECD regional definition based on access to cities. The share of Korea's national population living in rural regions (11.3%) is significantly lower than the OECD average (29%) (Table 1.2) and the majority of rural population have an easy access to a city (Figure 1.9). On average, the median travel time to the closest city is in Korea is about 25 minutes (the 4th shortest in the OECD). Of the 11.3% of the population who are rural dwellers, 7.8% lived in regions near a large city, while 3.4% lived in regions near a small/medium-sized city. There are no remote rural regions in Korea by the OECD definition. (OECD, 2021[1])

Table 1.2. Share of rural population according to different definitions, percentage, 2018

Share of rural population according to different definitions, 2018				
	OECD TL3 typology	Non-FUA	Alternative OECD TL3 typology	World Bank
Share of rural population	17.10%	17%	11.30%	18.50%

Note: Table refers to year 2015 for FUA.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020. World Bank Rural Population (% of Population) - Korea (dataset), 2019 https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=KP-KR.

Figure 1.9. Population share by TL3 regions, access to cities OECD definition, 2018



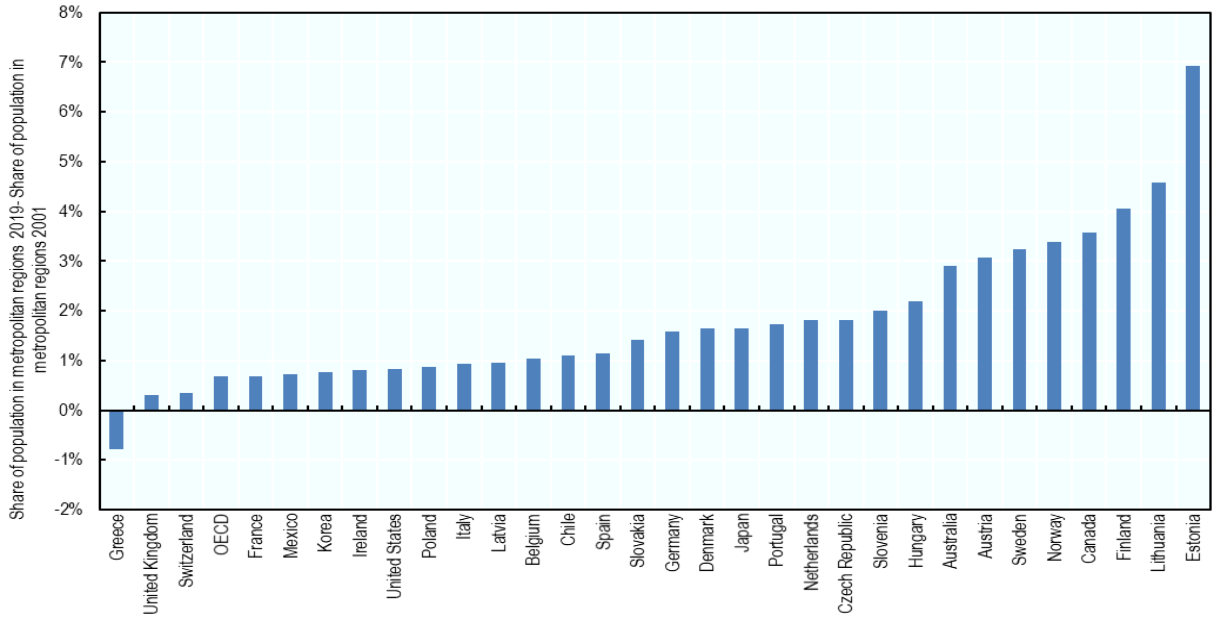
Note: 2017 values for Australia, Chile, Ireland, Japan and Mexico.
Source: (OECD, 2021[1]); OECD, Regional Statistics (database) 2020

Demographic dynamics in the OECD and Korea

The population grew in regions near large cities in most OECD countries in the last two decades

A common feature of cities is their ability to attract people and businesses. This happens as companies tend to locate themselves close to other companies and suppliers (for example for lower transport costs). Furthermore, businesses, especially service-oriented ones, tend to be located where there are greater densities of consumers. Workers also tend to be located close to businesses, due to the increased opportunities available. This dynamic is confirmed by demographic trends in the OECD over the past 20 years. Figure 1.10 shows that share of population living in metropolitan regions against the share of rural regions increased in all but three OECD countries (Greece, Korea and the Netherlands) (OECD, 2020[2]).

Figure 1.10. The share of the population in metropolitan regions increased in the last two decades



Note: Metropolitan regions includes regions with a city of at least 250 thousand inhabitants.
Source: (OECD, 2021[1]). OECD, Regional Statistics (database), 2020.

Most OECD countries (especially small ones like Estonia and Lithuania and those with large sparsely populated areas like Canada, Finland and Norway) concentrated even more population in metropolitan regions after the 2008 financial and economic crisis. In the period 2001-2019, the population in metropolitan regions grew by 0.70% per year, twice as fast as in rural regions (0.33%). Outside metropolitan regions, remote regions experienced the fastest growth rate (0.45%) and the second-largest absolute increase (7 million people) after regions near a large city (8 million) (Table 1.3). After the crisis, population growth slowed down in regions near a large city (by 13%) as well as in regions with a small/medium city (by 0.14%). (OECD, 2020[2]).

Table 1.3. Population growth slowed down in rural regions after the crisis

Region Type	Change (millions of people)	Growth rate 2001-2019	Growth rate 2001-2007	Growth rate 2008-2019
Regions with a city >1M	68	0.79%	0.85%	0.75%
Regions with a city >250K	34	0.57%	0.63%	0.52%
Regions near a city >250K	8	0.30%	0.38%	0.25%
Regions with/near a city <250K	5	0.28%	0.35%	0.21%
Remote regions	7	0.45%	0.41%	0.45%

Note: City refers to a Functional Urban Area (FUA). Based on available data for 2 147 TL3 regions in 33 OECD countries.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

Although rural regions have experienced slower demographic growth than metropolitan regions, some 66% of them are increasing in population (Table 1.4). In the period 2001-20019, remote regions suffered most of the population decline (36% of them experienced a population decline of 1% or more) (OECD, 2020[2]).

Table 1.4. One-third of rural regions experienced population decline in the last two decades

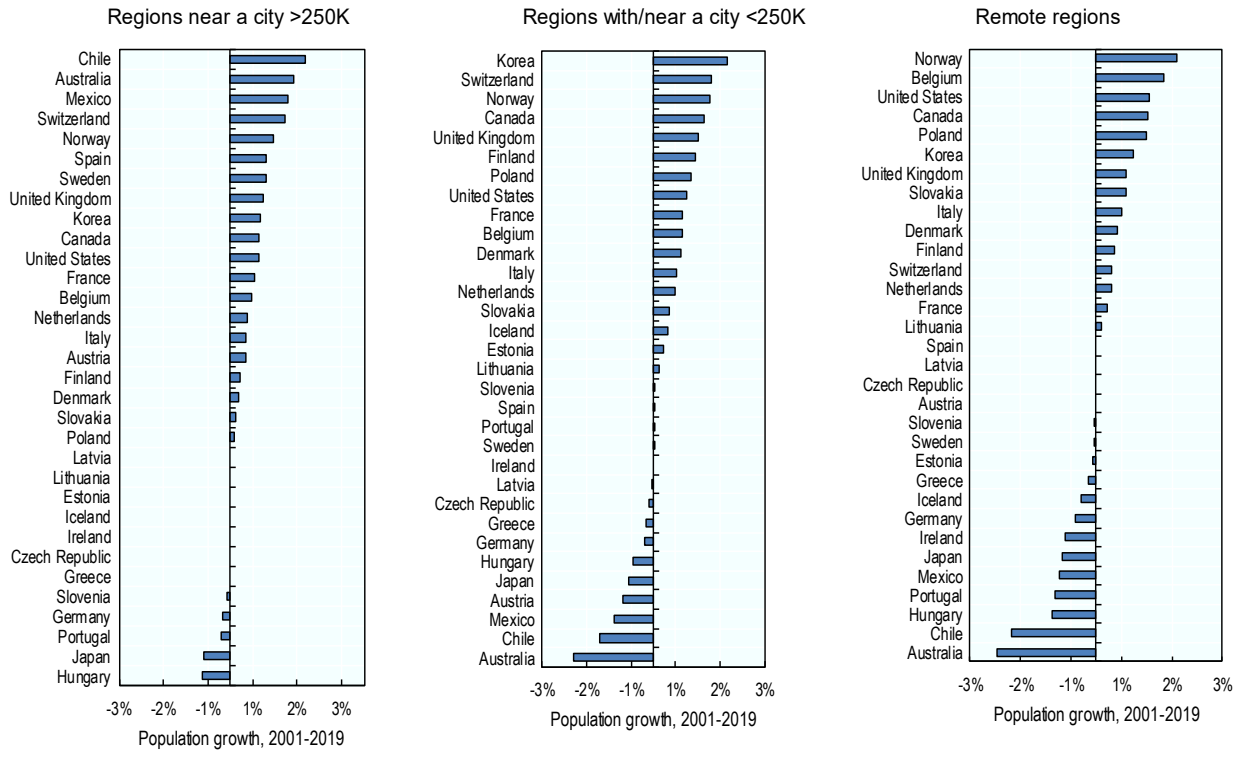
	Population growth	Population decline
Regions with a city >1M	239	37
Regions with a city >250K	416	110
Regions near a city >250K	269	132
Regions with/near a city <250K	214	116
Remote regions	394	220
Total	1532	615

Note: City refers to a Functional Urban Area (FUA). Based on available data for 33 OECD countries.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

In the period 2001-2019, metropolitan regions grew fastest in all 24 OECD countries that had at least one metropolitan region. On the other hand, population growth in remote regions was lower in 19 of the 28 countries with that type of region. In the same period, 50% of OECD countries with remote regions (14 out of 28) and almost 35% (9 out of 31) of countries with regions with or close to a small / medium city showed a decline in population (Figure 1.11). Japan, Hungary, Germany, Poland and Portugal showed a decline of population also in metropolitan regions (OECD, 2020[2]).

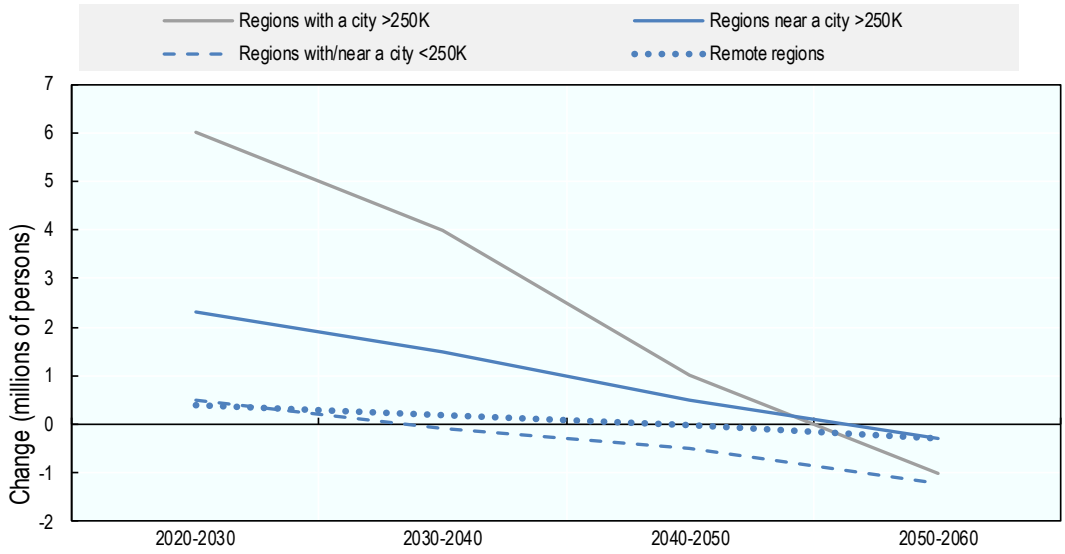
Figure 1.12 shows that in Europe, regions with or near a small / medium city are estimated to lose population in absolute terms by 2040 and beyond (compared to 2015, these regions will have lost almost 700,000 people by 2060, while metropolitan regions and regions close to cities will have gained about 22 million people). (OECD, 2020[2])

Figure 1.11. The population grew in regions near large cities in most countries in the last two decades



Note: City refers to an FUA. Based on available data for 2 147 TL3 regions.
Source: (OECD, 2020[2]); OECD Regional Statistics (database) 2020.

Figure 1.12. The population is projected to decline in all rural region types in European countries

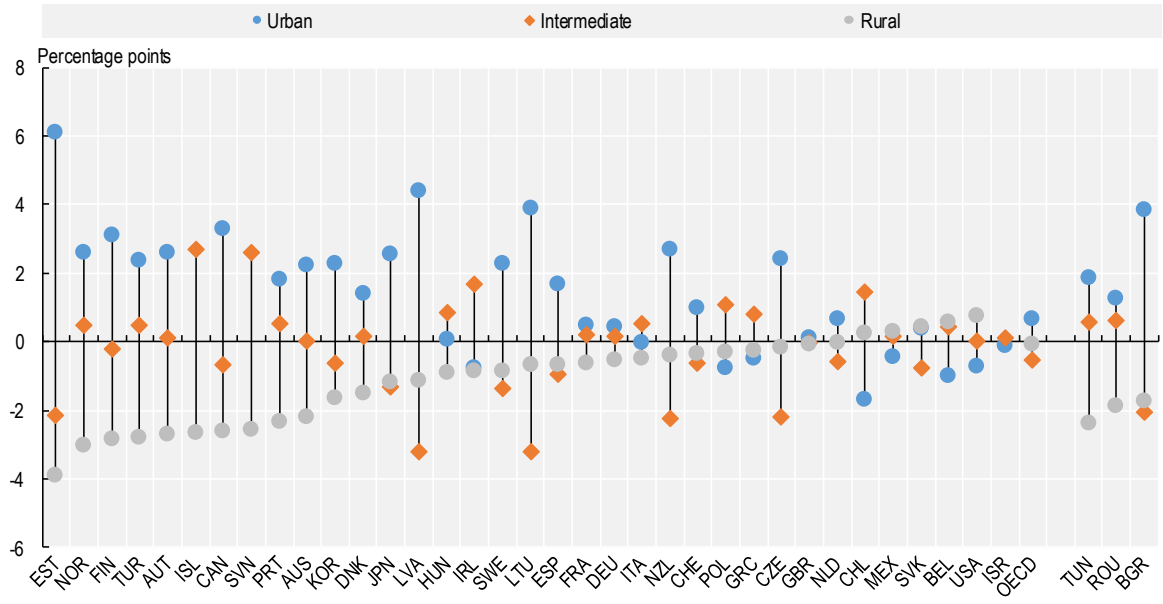


Note: Population series downscaled from country level to NUTS3 level, consistent with the 2018 EC Ageing Report, https://ec.europa.eu/info/sites/info/files/economy-finance/ip065_en.pdf.
Source: (OECD, 2020[2]); Batista e Silva, F. et al. 2016 Regionalisation of demographic and economic projections.

Migration patterns to metropolitan areas offer a partial explanation for the population decline in rural regions in Korea

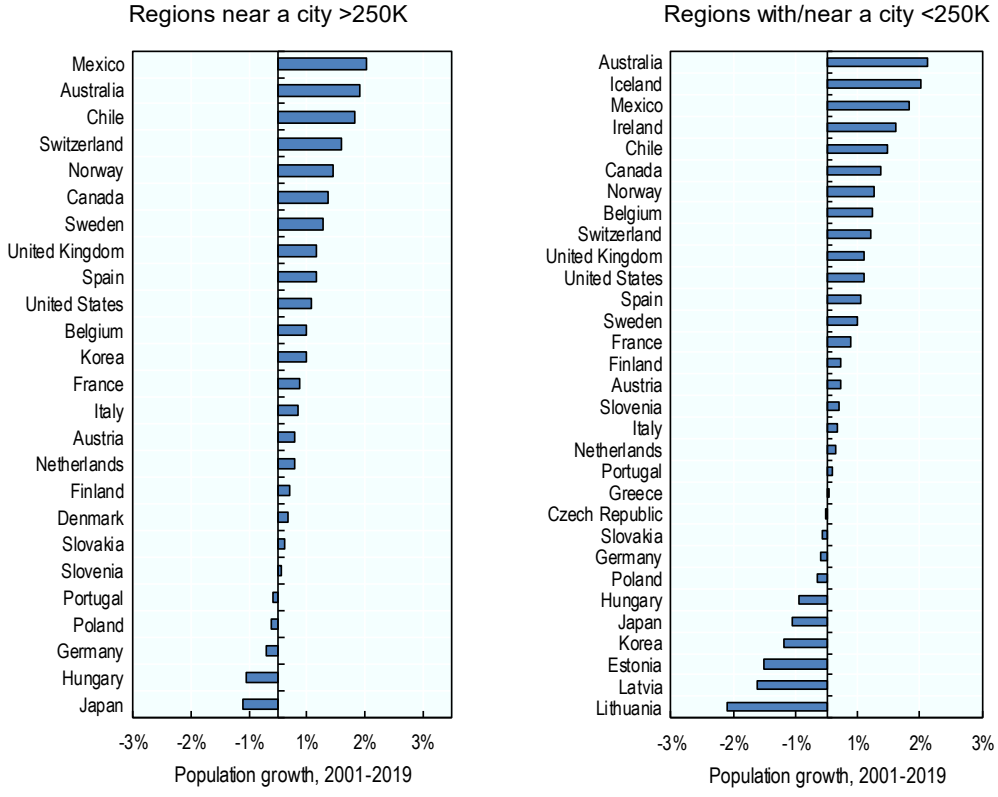
In terms of population growth, according to the OECD TL3 regional typology, predominantly urban regions in Korea experienced the largest increase in their population share over the period 2001-17, increasing by 2.3 percentage points over this period (Figure 1.13). On the other hand, the share of population decreased both in the intermediate regions (by 0.6%) and in the rural ones (by 1.6%), while rural regions close to the big cities registered an annual increase in population of 0.48%. These population dynamics across different types of regions in Korea are in line with OECD trends (Figure 1.14). (OECD, 2021[1])

Figure 1.13. Change in the share of population by type of region (TL3), 2000-17



Source: (OECD, 2018[15]); OECD Regional Statistics (database), 2018,

Figure 1.14. Population growth in TL3 non-metropolitan regions, 2000-18



Note: City refers to a Functional Urban Area (FUA). Based on available data for 2 147 TL3 regions.
Source: (OECD, 2021[1]); (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

The fall in rural population is driven mainly by a decline in Jeollanam-do, the only Korean TL3 region categorised as having access to small- and medium-sized cities (but which is relatively distant from a large city). Jeollanam-do's population shrank annually by an average of 0.7% over the period.

Migration patterns offer one explanation for the population decline in rural regions in Korea: they show predominantly urban regions to be net migrants recipients from other typologies of regions. Based on the access to cities typology, not all Metropolitan regions are net recipients of migrants. In fact, the only type of region which saw a positive average of migration flows was that with access to a large city (Table 1.5). In 2017, regions with access to a large city recorded a positive average net migration rate, while other region types saw a negative average rate (OECD, 2021[1]).

Data also shows that young people, aged 15-29, disproportionally leave regions with access to a small/medium-sized city compared to other age groups. This age group is also particularly attracted to the country's large metropolitan areas (OECD, 2021[1]).

The comparison of net migration rates of total population versus young people reveals that (OECD, 2020[2]):

- large metropolitan regions attract young people (e.g. +0.95% of 15–29-year-olds in 2017);
- regions near a large city attract older population (15-19 years old net migration is negative); and
- compared to other age groups, young people disproportionally leave remote regions and regions with or near a small/medium city (-8.15%, 15–29-year-olds, 2017).

Table 1.5. Net migration rates, young and total population, by type of TL3 region (average), 2017

Net migration rates young and total population by type of TL3 region (average), 2017			
Net (young) migration rate defined as the median value of inflows minus outflows of (young) people over total population.			
		Net migration rate (%)	Net migration rate (%), population 15-29
OECD TL3 regional typology	Predominantly urban	0.31	0.56
	Predominantly rural	-0.07	-1.24
OECD alternative typology	Large metro	-0.14	1.72
	Metro	-0.04	-4.92
	Regions with access to large city	1.42	0.95
	Regions with access to a small/medium city	-0.17	-8.15

Note: Net (young) migration rate is defined as the median value of inflows minus outflows of (young) people over the total population. Inflows are defined as the group of new residents in the region coming from another region of the same country; outflows are defined as the group of persons who left the region to reside in another region of the same country.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

Table 1.6. Net outflows of young people are larger in rural regions

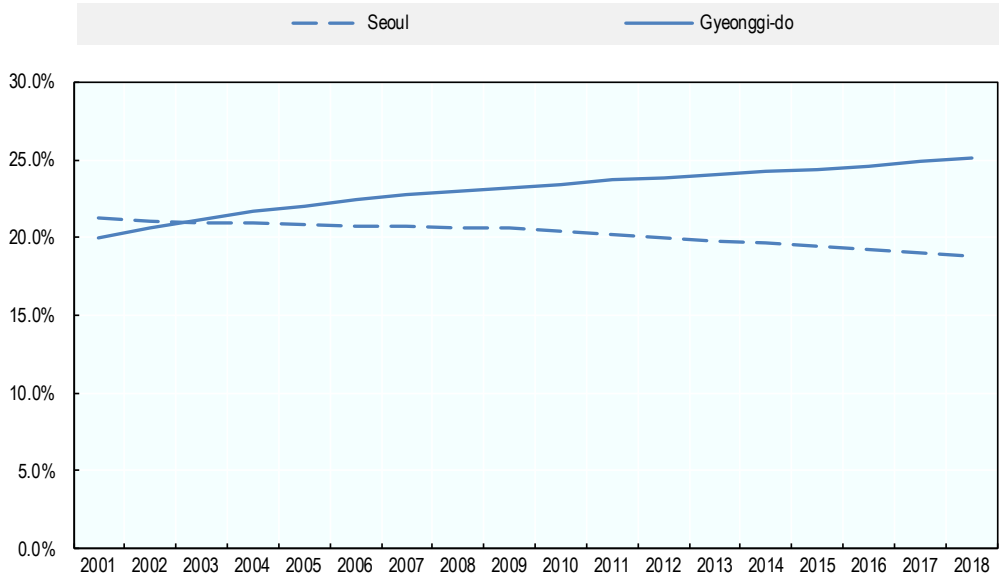
Net (young) migration rate defined as the median value of inflows minus outflows of (young) people over total population.		
	Net migration rate (%)	Net migration rate (%), population 15-29
Regions with a city >1M	0.07	0.028
Regions with a city >250K	0.098	0.019
Regions near a city >250K	0.128	-0.059
Regions with/near a city <250K	-0.065	-0.085
Remote regions	-0.058	-0.087

Note: Based on available information for 1 493 TL3 regions in 25 countries. Inflows defined as the group of new residents in the region coming from another region of the same country; outflows defined as the group of persons who left the region to reside in another region of the same country.
Source: (OECD, 2020[13]); OECD Regional Statistics (database) 2020.

Amongst FUAs, those with more than 500 000 inhabitants but less than 1.5 million experienced the fastest population growth with an approximately 18% overall increase over 2000-18. While metropolitan (9%) and medium-sized (7%) urban areas saw population growth, smaller urban areas decreased by 11%. In the period 2000-2015, commuting zones in functional urban areas (FUAs) of large metropolitan areas grew by 48%, while commuting zones of FUAs in medium-sized urban areas grew by 23%. Metropolitan (8%) and medium-sized (7%) areas, on the other hand, grow less. Population growth in metropolitan areas was higher at 17% (OECD, 2021[1]).

In 2001-2018, on a TL3 scale, Gyeonggi-do (20% in 2001) and Seoul (21.3%) concentrated the highest population shares within the TL2 capital region. Over this time, the population share in Seoul decreased to 18.8% in 2018, in contrast to Gyeonggi-do which experienced an increase to 25% (Figure 1.15) (OECD, 2021[1]).

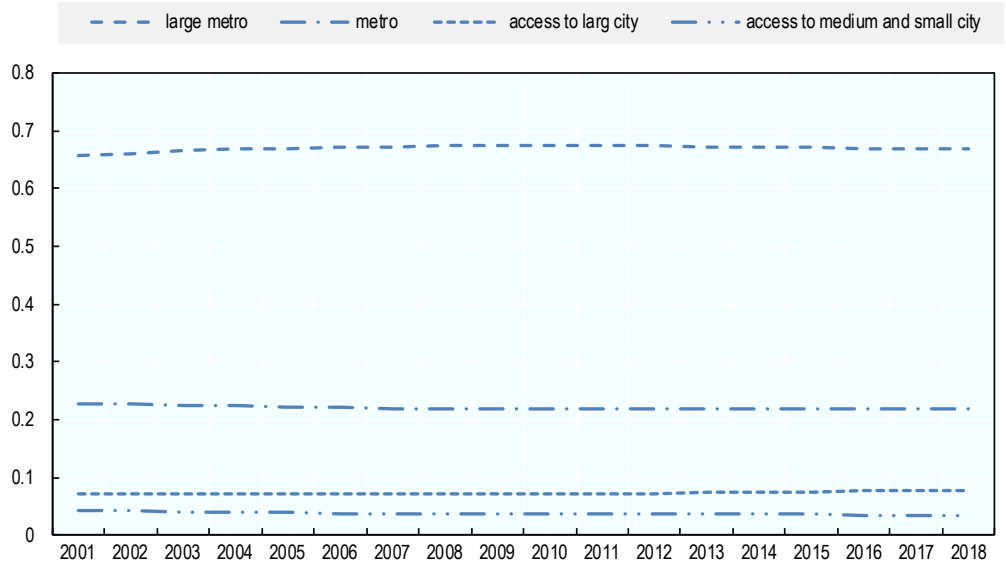
Figure 1.15. Population shares in Seoul and Gyeonggi-do, 2001-18



Source: (OECD, 2021[1]); OECD Regional Statistics (database) 2020.

The definition of access to cities also offers different demographic trends between the types of regions. Metropolitan regions increased by 1% (from 65.7% to 66.8%), while the share of metropolitan regions decreased by 0.9 percentage points (from 22.7% to 21.9%). Regarding rural regions, those with access to large cities increased by 0.6% and regions close to small- and medium-sized cities decreased by 0.8% (Figure 1.16) (OECD, 2021[1]).

Figure 1.16. Population shares in Korean TL3 regions based on OECD access to cities definition



Source: (OECD, 2021[1]); OECD Regional Statistics (database) 2020.

Population ageing and demographic change pose significant challenges for Korean regions and rural areas

As a result of longer life expectancy and low fertility rates, Korea is experiencing population ageing

As a result of longer life expectancy and low fertility rates, Korea is experiencing population ageing, which is predicted to continue in the long-term. Life expectancy increased of 20 years since 1970, the second largest increase in the OECD. In 2018, life expectancy was 82.7 years, 1.9 years above the OECD average, rising from 80.2 years in 2010 (OECD, 2021[9]). Since 2015 Korea is facing steadily low birth rates (0,84 children per woman in 2020) with a rapid decline (-31% new-borns in 2015-2019, -10% in 2019-2020; -26% total fertility rate in 2015-2019, -9% in 2019-2020) and it is projected to become an ultra-aged society by 2025, with the share of elderly exceeding 20% of the entire population (Statistics Korea, 2019[16]).

Demographic change in Korea is so fast that its total population is projected to change from the fourth youngest population in the OECD in 2012 to the third oldest one by 2050. (OECD, 2021[9]). The elderly dependency ratio (percentage ratio of over 65 years old and the 15-64-year-old population) is estimated to rise from 18% to 72% in 2014-50, which is the highest growth rate among all OECD countries. (OECD, 2021[9]), to rise even more sharply from to 120.2% by 2067 (Statistics Korea, 2019[16]).

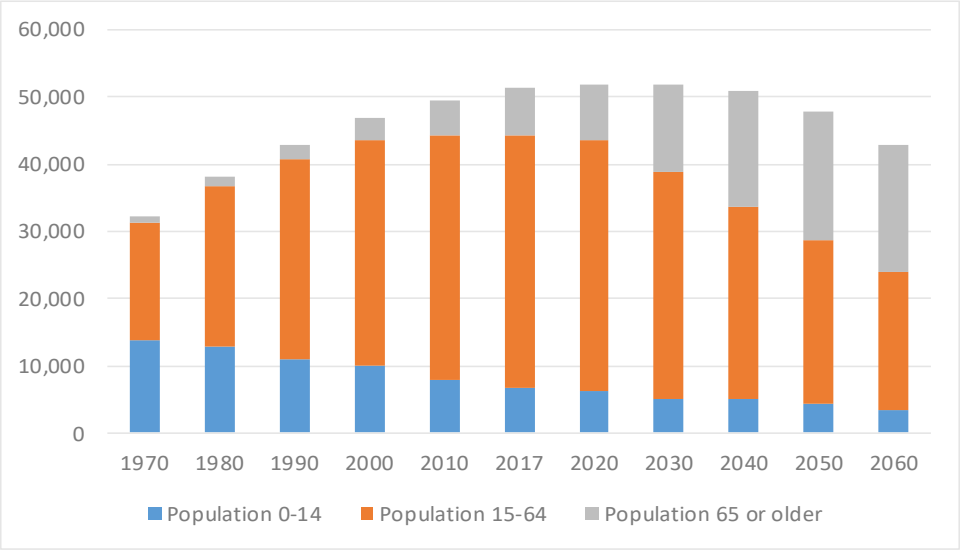
Korea's population is also decreasing

With a combination of declining births and a growing number of elderly, Korea reported the first natural decline in population in 2020. At this rate, Korea is projected to shed 12 million in the absolute population (current population 51 million) and 19 million in the working-age population from 2020 to 2067. (See also Figure 1.17 and Table 1.7). Male and female population is estimated to show a similar pattern of the entire population (Table 1.8). (Statistics Korea, 2019[16]).

In 2017, the working age population between 15 and 64 years of age accounted for 73.2% (37.57 million) of the total population, followed by the elderly aged 65 or older (13.8%, 7.07 million) and the youth aged 0-14 (13.1%, 6.72 million). 15-64 years old started to decline in 2017 and are expected to decrease from

37.57 million in 2017 to 17.84 million by 2067, or 45.4% of the estimated total population in 2067 (being the over 65 estimated at 46.5% and the 0-14 years old at 8.1%). In fact, with the elderly outnumbering the youth from 2017, the elderly will likely be 5.7 times more than the youth by 2067 (the elderly are estimated to double by 2033 and increase 2.6 times -to 18.27 million- by 2067, while the youth are projected to reduce to 3.18 million by 2067). (Statistics Korea, 2019[16]).

Figure 1.17. Korean population projection by age (million), 1970 - 2060



Source: (Statistics Korea, 2019[16]); Statistics Korea's special estimate of the future population between 2017 and 2067, March 2019

Table 1.7. Korean population projection by age, 1970 - 2060

		1970	1980	1990	2000	2010	2017	2020	2030	2040	2050	2060
Ratio	0-14	42.5	34.0	25.6	21.1	16.1	13.1	12.2	9.6	9.8	8.9	8.0
	15-64	54.4	62.2	69.3	71.7	73.1	73.2	72.1	65.4	56.3	51.3	48.0
	65 or older	3.1	3.8	5.1	7.2	10.8	13.8	15.7	25.0	33.9	39.8	43.9
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: (Statistics Korea, 2019[16]); Statistics Korea's special estimate of the future population between 2017 and 2067, March 2019.

Table 1.8. Korean population projection by gender, 1970 - 2060

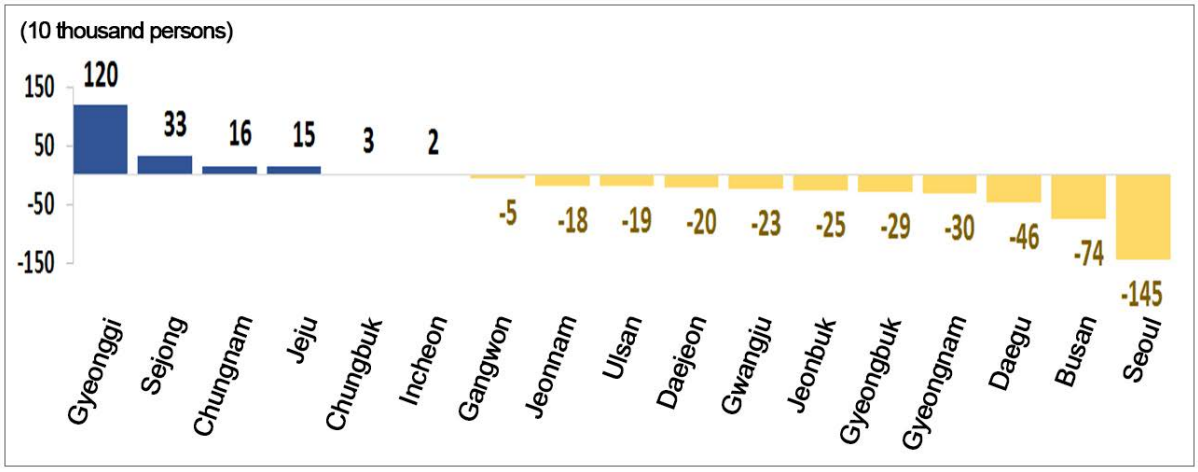
	1970	1980	1990	2000	2010	2017	2020	2030	2040	2050	2060
Total	32,241	38,124	42,869	47,008	49,554	51,362	51,781	51,927	50,855	47,745	42,838
Male	16,309	19,236	21,568	23,667	24,881	25,737	25,946	25,943	25,293	23,639	21,194
Female	15,932	18,888	21,301	23,341	24,673	25,625	25,835	25,984	25,562	24,105	21,644
Gender ratio	102.40	101.80	101.30	101.40	100.80	100.40	100.40	99.80	98.90	98.10	97.90

Note: Population unit ('000). The gender ratio is the number of men per 100 women (over 100 means more men than women, and vice versa).
Source: (Statistics Korea, 2019[16]); Statistics Korea's special estimate of the future population between 2017 and 2067, March 2019.

Over 2017-2047, the population is projected to decrease in 11 TL3 regions including Seoul and Busan, but it is estimated to increase in the remaining 6 TL3 regions (Gyeonggi, Sejong, Chungnam, Jeju, Chungbuk and Incheon) (Figure 1.18). In 2042, all regions including Sejong are expected to record natural decrease

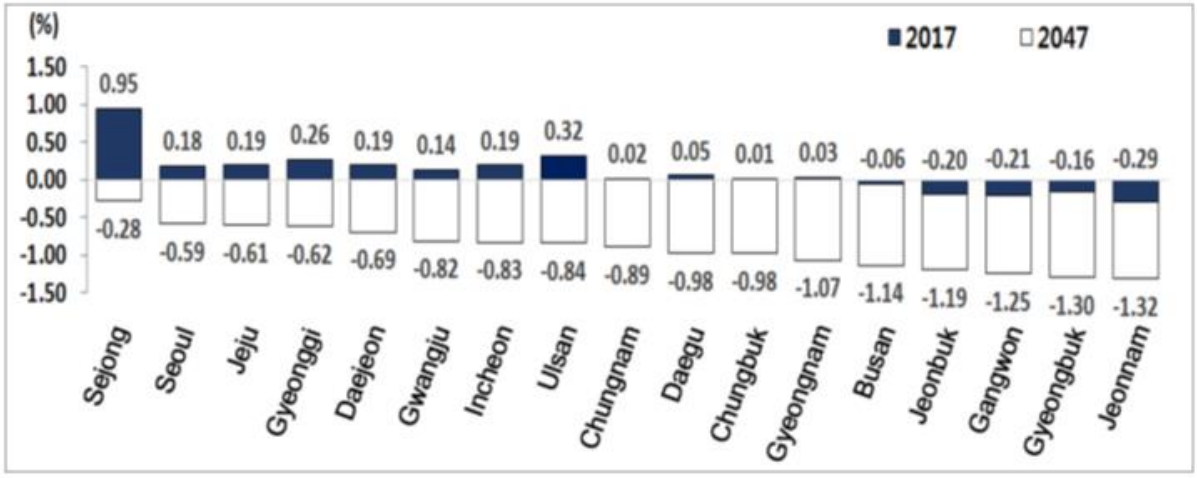
(Figure 1.19). After 2044, all TL3 regions (excluding Sejong) are estimated to have a negative population growth rate (Figure 1.20) (Statistics Korea, 2019[17]).

Figure 1.18. Change in the population by TL3 regions (2017-2047)



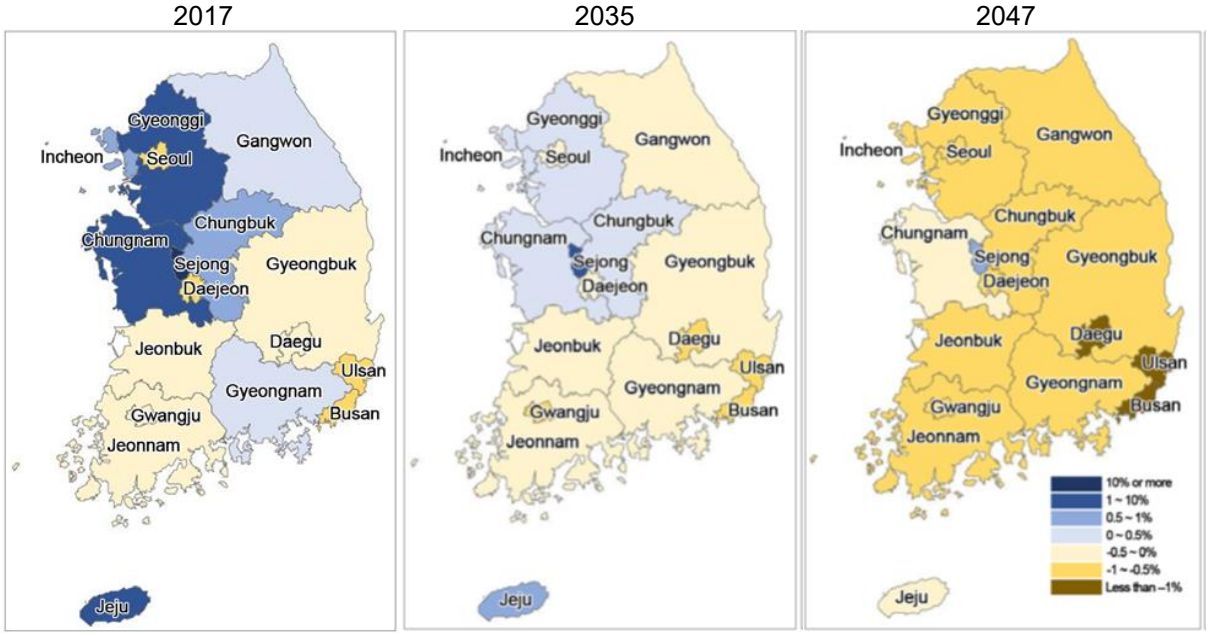
Note: Using the OECD typology defining TL3 regions, there are 17 such regions in Korea, which include special cities and metropolitan areas (Busan, Daegu, Daejeon, Gwangju, Incheon, Seoul, Ulsan) as well as provinces (Chungcheongbuk-do, Chungcheongnam-do, Gangwon-do, Gyeonggi-do, Gyeongsangnam-do, yeonsangbuk-do, Jeju-do, Jeollabuk-do, Jeollanam-do, Sejong),
Source: (Statistics Korea, 2019[17]); Population projection for Provinces (2017-2047).

Figure 1.19. Natural increase rate by TL3 regions (2017, 2047)



Note: Using the OECD typology defining TL3 regions, there are 17 such regions in Korea, which include special cities and metropolitan areas (Busan, Daegu, Daejeon, Gwangju, Incheon, Seoul, Ulsan) as well as provinces (Chungcheongbuk-do, Chungcheongnam-do, Gangwon-do, Gyeonggi-do, Gyeongsangnam-do, yeonsangbuk-do, Jeju-do, Jeollabuk-do, Jeollanam-do, Sejong),
Source: (Statistics Korea, 2019[17]); Population projection for Provinces (2017-2047)

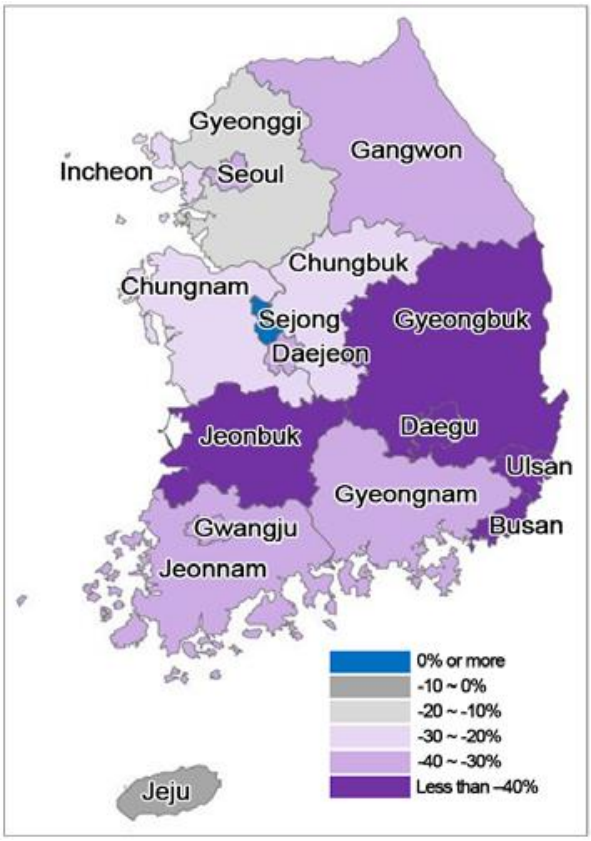
Figure 1.20. Population growth rate by TL3 regions (2017, 2035, 2047)



Note: Using the OECD typology defining TL3 regions, there are 17 such regions in Korea, which include special cities and metropolitan areas (Busan, Daegu, Daejeon, Gwangju, Incheon, Seoul, Ulsan) as well as provinces (Chungcheongbuk-do, Chungcheongnam-do, Gangwon-do, Gyeonggi-do, Gyeongsangnam-do, yeonsangbuk-do, Jeju-do, Jeollabuk-do, Jeollanam-do, Sejong),
Source: (Statistics Korea, 2019[17]); Population projection for Provinces (2017-2047).

By 2047, the working age population is estimated to decrease in 16 provinces (excluding Sejong) compared to 2017. Busan (-45.6%) and Daegu (-43.4%) are projected to record the highest decreases in the working age population for the 2017-2047 period. Whereas Jeju (-7.4%) is projected to record the lowest decrease in the working age population for the same period. In 2047, the working age population of Sejong is projected to increase by 86.1% (160 thousand persons) compared to 2017. It is estimated that Jeonnam will reach the highest share of the elderly population aged 65 or over (with 46.8%) in 2047, followed by Gyeongbuk (45.4%) and Gangwon (45.0%). As for the share of the elderly population, all regions excluding Sejong (27.8%) are estimated to exceed 30%. In 2047, the young population of Sejong is projected to increase by 50.8% compared to 2017. Whereas the young population is projected to decrease by more than 30% in 13 provinces (excluding Jeju (-16.0%), Gyeonggi (-23.0%) and Chungnam (-25.8%)) for the 3 decades. (Figure 1.21) (Statistics Korea, 2019[17]).

Figure 1.21. Percent change in the working age population from 2017 to 2047



Note: Using the OECD typology defining TL3 regions, there are 17 such regions in Korea, which include special cities and metropolitan areas (Busan, Daegu, Daejeon, Gwangju, Incheon, Seoul, Ulsan) as well as provinces (Chungcheongbuk-do, Chungcheongnam-do, Gangwon-do, Gyeonggi-do, Gyeongsangnam-do, yeonsangbuk-do, Jeju-do, Jeollabuk-do, Jeollanam-do, Sejong),
Source: (Statistics Korea, 2019[17]); Population projection for Provinces (2017-2047)

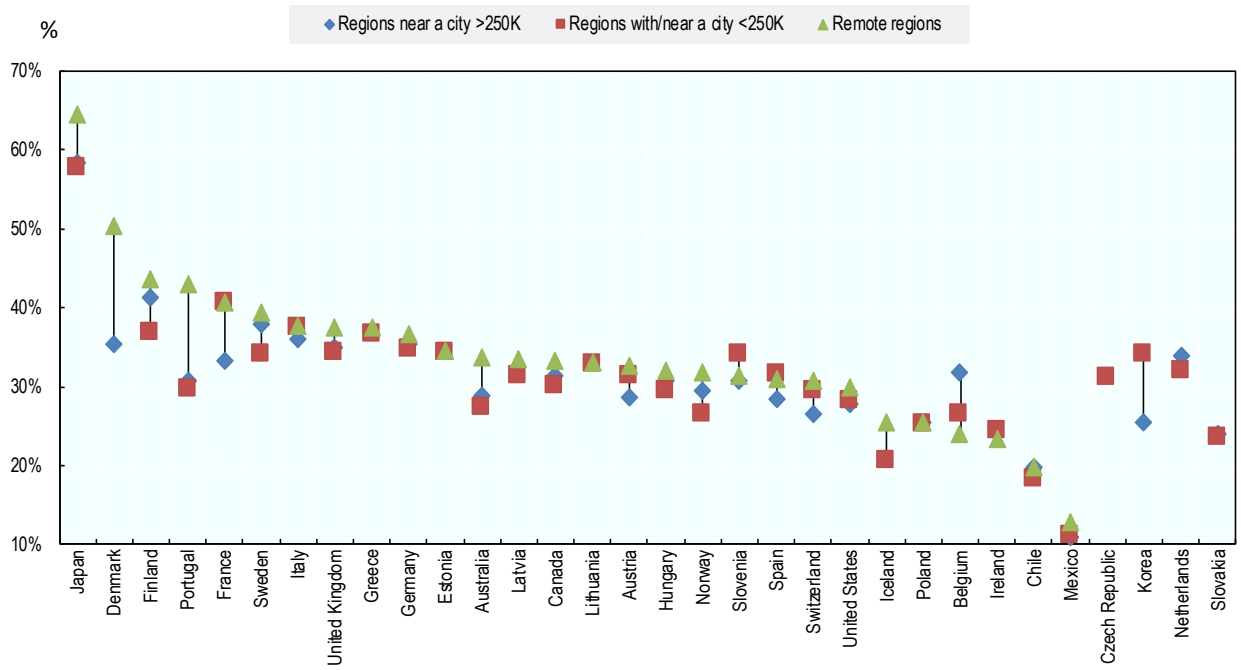
Demographic pressures are growing particularly in rural regions close to small-/medium-sized cities

Over the last 18 years, the population living in Korea's rural regions has become increasingly older, following the recent trends in OECD countries. Elderly dependency rates in Koreans rural regions stood at 27% in 2018. The ratio was slightly lower than the OECD average in TL3 rural regions (at 28.6%), but, when compared to urban, it is significantly higher and it is growing rapidly (about 4.2% annually in 2000-2018). In fact, the gap in the age dependency ratio between urban and rural regions in Korea is among the widest in the OECD, just behind Denmark and Japan: Korea, Australia, Canada, Finland, France, Japan, Sweden and the United Kingdom, all have a gap above 8 percentage points (Figure 1.22). (OECD, 2021[1])

These national figures, however, mask important regional variations. In Korea the share of the elderly population is higher in rural regions. Within rural regions, the elderly population grew faster in the region with access to a small/medium-sized city compared to regions with access to a Metropolitan region. In 2018, regions with access to a small/medium-sized city had the highest average elderly dependency ratios (33%), followed by regions with access to a Metropolitan region (24%). This differs from the trend typically seen in the OECD context, since in 2018, in 13 out of 18 OECD countries, the elderly dependency ratio was higher in regions with access to a Metropolitan region than in regions with access to a small/medium-sized city (Figure 1.22). (OECD, 2021[1]).

Figure 1.22. Elderly dependency ratio by country and type of non-metropolitan region, 2018

Share of the population aged 65 years and older with respect to the working-age population, 15-64 years old



Source: (OECD, 2021[1]); (OECD, 2020[14]); OECD Regional Statistics (database) 2020.

Conclusions

Despite over the last sixty years Korea has experienced strong economic growth, including in rural regions, some gaps remain in areas far from large cities and in places that have not benefitted from targeted development initiatives. The "penalty of distance" in rural economies can be quite substantial. In the OECD, the income level, productivity level and employment rate of regions near a large city are around 18%, 10% and 8% below OECD average levels respectively. The gaps for regions with or near a small/medium city are even bigger, at 28%, 20% and 14% below the OECD average, while the gap for remote regions is 21%, 14% and 3% below the OECD average (OECD, 2020[2]).

Korea's economic geography has some characteristics in the OECD. The country is highly economically concentrated. In 2017, 45% of the whole country's GDP was produced in just two large Metropolitan areas, namely, the capital Seoul and its region, Gyeonggi. Further, uniquely within the OECD, GDP per capita in Korea's rural regions is higher than the GDP per capita in urban regions. The strong performance of Korea's rural regions may also result from the effects of geography and their close proximity to cities. In this respect, OECD research suggests that surrounding regions can "borrow" agglomeration from neighbouring cities. (OECD, 2021[1]).

A relatively large share of the population lives in regions far from large cities in many OECD countries. On the other side, Korea's population is highly concentrated and urbanized. The percentage of the population living in rural regions of Korea ranges from 11.3% to 18% according to the OECD regional type definition or the OECD access type to cities. Despite this low percentages, rural regions in Korea maintain strong linkages with cities, especially those bigger that 250,000 inhabitants (OECD, 2021[1]).

While many OECD countries are facing population decline in rural regions, metropolitan regions have been growing annually twice as fast as rural regions in the past two decades. Also, in Korea population is growing faster in metropolitan regions. In rural regions, population growth is higher in regions close to large cities and negative in those ones close to small- and medium-sized cities. Migration patterns offer one explanation for the population decline in rural regions in Korea. These trends point out that predominantly urban regions are net recipients of migrants from the other regions. Data also shows that young people, aged 15-29, disproportionally leave regions with access to a small/medium-sized city compared to other age groups. This age group is also particularly attracted to the country's large metropolitan areas (OECD, 2021[1]).

As a result of longer life expectancy and low fertility rates, Korea is experiencing population ageing, which is estimated to continue in the long-term. Demographic change in Korea is so fast that its total population is projected to change from the fourth youngest population in the OECD in 2012 to the third oldest one by 2050. The elderly dependency ratio (percentage ratio of over 65 years old and the 15-64-year-old population) is estimated to rise from 18% to 72% in 2014-50, which is the highest growth rate among all OECD countries. (OECD, 2021[9]), to rise even more sharply to 120.2% by 2067. Korea's population is also decreasing. With a combination of declining births and a growing number of elderly, Korea reported the first natural decline in population in 2020. Korea is projected to shed 12 million in the absolute population and 19 million in the working-age population from 2020 to 2067. Male and female population is estimated to show a similar pattern of the entire population (Statistics Korea, 2019[16]).

Elderly dependency ratio in Korean rural regions is slightly lower than other OECD rural regions but much higher if considered urban regions. In fact, Korea shows the seventh-highest gap in dependency ratios between rural and urban amongst OECD countries. Elderly dependency ratios are increasing at a fast pace in Korea's rural regions in comparison to Metropolitan regions, particularly in regions close to small- and medium-sized cities (OECD, 2021[1]).

Population concentration, ageing and decline pose significant challenges for Korea. People are attracted to densely populated areas for the wider availability of job opportunities, goods and services. However, the benefit of average higher productivity and wages in densely populated areas must be weighed against the costs of agglomeration (or diseconomies of scale), including congestion, higher land and housing prices, rising inequality and environmental pressures (OECD, 2020[2]).

Demographic change on such a significant scale requires concerted policy action on several fronts to safeguard Korea's economy and ensure social cohesion. Demographic changes in Korea call for new policy objectives that provide sustainable solutions to maintain a robust labour force, attractiveness and quality services in rural regions. Regardless of large agglomerations with great economic density, villages and smaller cities can act as very important aggregation and centres of development for the rural economy. Rural regions close to urban areas can also benefit from agglomeration and fewer diseconomies of scale. In other rural locations, however, demographic decline could be an inevitable trend due to structural factors. In these cases, rural and regional policies should not fight against demographic patterns but rather respond with strategic, sustainable forward-looking policies that support a vibrant community culture for people of all ages and mechanisms to integrate the elderly and young workers in the local economy (OECD, 2020[2]).

The following chapters focus, in particular, on what precisely is done and can be done to improve outcomes for Korea's ageing workforce.

Annex 1.A. The OECD regional typology

The OECD regional typology simplifies regional data comparability across OECD countries. It classifies two levels of geographic units within each member country: i) large regions (TL2), which generally represent the first administrative tier of subnational government; and ii) small regions (TL3), which aggregate local administrative units (e.g. *communes* in France or municipalities in Mexico). TL3 regions are divided into predominantly urban (PU), intermediate (IN) and predominantly rural (PR) based on population density and size. Rural areas are further categorised into different types according to their proximity to urban centres for the purpose of defining specific challenges and opportunities related to their geographic location.

Using the OECD typology defining 3 types of TL3 regions (urban, intermediate and rural), there are 17 such regions in Korea, 9 of which are defined as PU, 3 as IN and 5 as PR. Of the five PR regions, all are further categorised as PR close to a city. There are no rural regions in Korea that are considered remote rural regions under the OECD typology.

The OECD uses the concept of functional urban areas (FUAs) as a complementary territorial definition (see Annex Box 1.A.1). FUAs define urban areas encompassing daily flows of people for work, leisure and social activities as functional socio-economic units, rather than relying on official administrative boundary definitions. Applying the FUA territorial definition, Korea has 22 FUAs covering 26% of the national territory. Out of the 22 FUAs, 5 are classified as large metropolitan areas (with a population of 1 500 000 or more) and 6 as metropolitan areas (with a population of 500 000 to 1 500 000), 8 as medium-sized urban areas (population between 250 000 to 500 000 people) and 3 as small urban areas (population between 50 000 and 250 000 people).

Annex Box 1.A.1. The EU-OECD definition of an FUA

The EU-OECD definition of FUAs consists of highly densely populated urban cores and adjacent municipalities ("commuting zones") with high levels of commuting (travel-to-work flows) towards the cores. This definition overcomes previous limitations for international comparability linked to administrative boundaries. This methodology is a clear example of how geographic/morphological information from geographic sources and census data can be used together to get a better understanding of how urbanisation develops.

As the first step, the distribution of the population at a fine level of spatial disaggregation of 1 square kilometre (1 km^2) is used to identify the urban cores, which are constituted by aggregations of contiguous municipalities that have more than 50% of their population living in high-density clusters. These clusters are made of contiguous 1 km^2 grid cells with a population density of at least 1 500 inhabitants per km^2 and a total population of at least 50 000 people.

As the second step, 2 urban cores are considered part of the same (polycentric) FUA if more than 15% of the population of any of the cores commute to work to the other core.

The third step defines commuting zones using the information on travel-to-work commuting flows from surrounding municipalities to the urban core. Municipalities sending 15% of their resident employed population or more to the urban core are included in the commuting zones, which thus can be defined as the "worker catchment area" of the urban labour market, outside the densely inhabited urban core.

The methodology makes it possible to compare FUAs of similar size across countries, proposing four types of FUAs according to population size:

- Small urban areas, with a population of between 50 000 and 250 000 inhabitants.
- Medium-sized urban areas, with a population of between 250 000 and 500 000.
- Metropolitan areas, with a population of between 500 000 and 1.5 million.
- Large metropolitan areas, with a population of 1.5 million or more.

The definition is currently applied to 34 OECD countries (of the 37 OECD members, it is not available for Israel, New Zealand and Turkey) and identifies 1 199 FUAs of different sizes. Among them, 351 FUAs have a population larger than 500 000 and 668 FUAs have a population larger than 250 000.

Source: OECD (2018[15]), *OECD Regions and Cities at a Glance*, https://dx.doi.org/10.1787/reg_cit_glance-2018-en.

An alternative regional typology based on access to cities

The two territorial definitions – the OECD TL3 Regional Typology and the complementary FUA territorial definition – lead to different analytic frameworks. The TL3 regions cover the entire territory within countries, while FUAs only capture a subsample of the territory. Furthermore, the OECD typology may lead to a certain dichotomy between urban and rural areas.

Against this backdrop, the OECD has recently developed an alternative definition introducing some spatial continuity between metropolitan and non-metropolitan areas. This definition of FUAs classifies cities and their broader area of influence based on commuting patterns. An FUA is constructed by concatenating grid cells with high population density (above 1 500 inhabitants per km^2) into an urban core. Then, these cells are connected with surrounding lower density cells when the flows of commuting between the two types of cells exceed a given threshold (i.e. at least 15% of the labour force commutes to the urban core).

The alternative TL3 classification is based on the presence of FUAs within TL3 borders and the proximity of regions to FUAs of different sizes. The 5 types of regions include 2 types of metropolitan regions – large metropolitan (with an FUA of more than 1 million people) and metropolitan regions (with an FUA of more than 250 000 people). It also includes 3 types of non-metropolitan regions – regions near a large city (i.e. regions with access to an FUA of more than 250 000 people within a 60-minute drive), regions with a small/medium-sized city or near one (i.e. regions with an FUA of more than 250 000 people or with access to one within a 60-minute drive), and remote regions (see Annex Box 1.A.2for details).

Throughout the document, reference will be made to "rural regions" when referring to the group of non-metropolitan regions, to a "large city" when referring to a city with more than 250 000 inhabitants and a "very large" city when referring to a city with more than 1 million inhabitants. Also, the terms "city" and FUA will be used interchangeably.

This alternative regional classification, based on access to cities allows measuring socio-economic differences between regions, across and within countries. It takes into consideration the presence of and access to FUAs. Access is defined in terms of the time needed to reach the most proximate urban area; a measure that takes into account not only geographical features but also the status of physical road infrastructure.

Annex Box 1.A.2. An alternative typology of small regions

The first tier adopts as a threshold 50% population of the TL3 (small) region living in an FUA of at least 250 000 people; the second tier uses as threshold 60 minutes' driving time, a measure of the access to an FUA.

The new methodology classifies TL3 regions into metropolitan and non-metropolitan according to the following criteria:

- *Metropolitan TL3 region,* if more than 50% of its population live in an FUA of at least 250 000 inhabitants. Metropolitan regions (MRs) are further classified into:
  - Large TL3 MRs, if more than 50% of its population lives in an FUA of at least 1.5 million inhabitants.
  - TL3 MRs, if the TL3 region is not a large MR and 50% of its population live in an FUA of at least 250 000 inhabitants.
- *Non-metropolitan TL3 region,* if less than 50% of its population live in an FUA. Non-metropolitan regions (NMRs) are further classified according to their level of access to FUAs of different sizes:
  - With access to a TL3 MR, if more than 50% of its population lives within a 60-minute drive from a metropolitan area (an FUA with more than 250 000 people); or if the TL3 region contains more than 80% of the area of an FUA of at least 250 000 inhabitants.
  - With access to a small/medium-sized city TL3 region, if the TL3 region does not have access to a metropolitan area and 50% of its population has access to a small or medium-sized city (an FUA of more than 50 000 and less than 250 000 inhabitants) within a 60-minute drive; or if the TL3 region contains more than 80% of the area of a small- or medium-sized city.
  - Remote TL3 region, if the TL3 region is not classified as NMR-M or NMR-S, i.e. if 50% of its population does not have access to any FUA within a 60-minute drive.

Source: Fadic, M. et al. (2019[18]), "Classifying small (TL3) regions based on metropolitan population, low density and remoteness", https://doi.org/10.1787/b902cc00-en.

These definitions, initially elaborated for international comparability, also represent important tools for policymaking purposes. The alternative regional definition is relevant for rural policies since it differentiates amongst different types of rural regions – those close to cities and those that are remote. Rural areas close to cities require a much stronger integration of policies with cities in areas such as transportation, land use labour market or housing amongst others. Furthermore, the definition differentiates rural areas with access to large cities *vis-à-vis* small/medium-sized ones allowing to better understand and capture differences in the linkages. In contrast, rural remote regions may require much-differentiated policy responses that address their particularities. Thus, spatial scales are critical tools for the design of regional policies.

For the case of Korea according to the alternative definition, seven regions are classified large MRs, six are classified as MRs, three (Chungcheongnam-do, Gangwon-do and Sejong Special Self-Governing City), as regions close to large cities and just one (Jeollanam-do) as a region close the small- and medium-sized cities.

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2 Dealing with demographic decline

This chapter examines a range of policies that can address socio-economic changes associated to demographic trends in the OECD and Korea and offers an overview of Korea's responses in terms of policies and strategies to manage demographic pressures in regions and rural places.

Introduction

Since the 1950s, virtually all OECD countries, including Korea, have experienced three important demographic trends. The first is a steady increase in the share of the total population that is urban in nature, reflecting both internal migration from rural areas within a country, and inflows of migrants from other countries to major metropolitan regions. This has led to the rural share of national populations declining, even in those countries where rural populations grew in absolute numbers.

A second trend has been the growing linkage of urban economies to proximate rural regions, which has resulted in these rural regions being absorbed within the boundaries of metropolitan regions. As a result, rural territory becomes part of an urban agglomeration. Consequently, in many OECD countries a large share of the territory assigned to metropolitan regions remains rural in nature, but the people in these areas are considered urban (OECD, 2020[1]).

The third trend is more recent and is an absolute decline in the number of rural people within a country, reflecting the combination of, falling fertility rates, steady increases in average life expectancy and ongoing outmigration. In most OECD countries until fairly recently female fertility rates in rural areas exceeded those in urban areas, allowing the rural population to increase, even though outmigration rates were fairly high. More recently, rural fertility rates have shrunk to the same level as in urban areas, and in many OECD countries this level is below the natural replacement rate. In the short run, as life expectancy increases, more older people will live longer in rural regions and this partially mitigates the effect of lower fertility rates. But in the longer run low fertility rates and youth outmigration inevitably lead to rural population decrease.

In many rural regions the key workforce problem of the past was too few job opportunities for the number of available workers, but in the last few decades it has shifted to too few workers for available jobs. With the fall in fertility rates, longer life spans and steady outmigration, many rural regions have entered a period of steep work force decline.

As time progresses, impacts on the local labour force become more evident as fewer people enter work. Throughout the process the older age cohorts become a larger share of the local population and place an increased demand on public services for their care, particularly after they retire. And, as long as young people continue to leave the region, population decline continues to accelerate, until at some point the local economy may no longer be viable and communities collapse. Thus, while at the national level demographic decline leads to a smaller and older population, the effects and responses will vary greatly by region, with some regions potentially able to find ways to continue to grow both in terms of population and economic activity.

The next sections of the chapter discuss how demographic change affects the nature of regional economies, community social relations and implications for local governance, provides a perspective on how national governments might structure their response to the problem of demographic decline in rural areas and outlines Korean's current policy responses.

Key actors driving regional and rural development in Korea

In Korea the national government has accepted the challenge of dealing with demographic trends at the highest level. Three Presidential committees and a task force provide a forum for identifying new policies and programs to improve conditions across the national territory, they are:

Presidential Committee for Balanced National Development and Prime Minister's Committee for Quality of Life

Two inter-ministerial committees, the Presidential Committee for Balanced National Development and the Prime Minister's Committee for Quality of Life, drive the development in regions and rural areas in large measure. Together these two committees oversee myriad initiatives for economic development and the well-being of people.

The committee on Balanced National Development, launched in 2003, provides direction and oversight regarding key policies to implement balanced national development and drives much of the economic agenda in the regions. It is composed of government (12 ministries) and civilian members; other special committees report to it, such as those for metropolitan area management, regional innovation and transferring public institutions to local areas, among others. The Committee is responsible for Five-Year Regional Development Plans and the Special Account for Regional Development, as well as project management and evaluation. It also plays a key role in co-ordinating sectoral policies by different ministries (OECD, 2021[2]).

The Quality-of-Life committee concentrates on service delivery and well-being in fishing and farming communities. This committee is responsible for establishing the basic plan for improving the quality of life of farmers and fishermen and developing rural areas every five years (the fourth basic plan is being implemented for the period of 2020-24). The committee, chaired by the Prime Minister, is composed of 14 ministries and 6 administrative agencies of the central government, and the Ministry of Agriculture, Food and Rural Affairs (MAFRA) is the lead ministry. Under this basic plan, the committee establishes the annual implementation plan, monitors and evaluates its implementation, and then reports the outcomes to the National Assembly each year. The committee also co-ordinates sectoral policies by different ministries (OECD, 2021[2]).

Presidential Committee on Ageing Society and Population Policy Task Force

The Committee was launched by the Korean government in 2005 in an effort to tackle demographic challenges Korea was facing. In 2019, the government acknowledged the possibility that the low birth rate in Korea would be unlikely to be reversed. In response, the government promoted a two-track approach by introducing measures to strengthen the entire society's adaptive capacity to the changing environments, while continuing efforts to increase the chronically low birth rate mainly through the Presidential Committee. In addition, the Government also created a pan-government Population Policy Task Force to promote measures to foster the society's adaptive capacity to the changing environments.

The first-round task force was launched in April 2019, followed by a second round in January 2020 and a third one in February 2021, currently being implemented. Examples of outcomes of the first two rounds Task Force include (MOLIT, 2021[3]):

- support to the discussion on the possibility to extend the legal age for retirement so to bolster workforce in the labour market;
- establishment of a new supply/demand model for teachers and the promotion of pilot projects for the combination of schools with other community facilities including day care centres, libraries, gyms, and parking lots;
- definition of a number of countermeasures against the demographic hollowing out of small and mid-sized cities in regions, with a focus on managing vacant homes, enhancing competitiveness of farming and fishing communities, and providing more customised transport services. In detail:
    - regarding the "Management and utilisation of vacant houses in regions", the government has established an "integrated management system" with relevant bodies (e.g. Korea Real Estate Board and Land and Geospatial Informatrix Corporation) with the scope to integrate information

on vacant houses nationwide. Further, it was reduced the tax on capital gains for the use of land for public works projects and there are consultations for the modification of the nation's Fund Management Plan with the scope to expand loans for the maintenance of vacant houses.

- regarding the "More elderly-friendly transport" policies, it was introduced the compulsory use of low-floor buses and consultations are underway to revise the Act on Promotion of the Transportation Convenience of Mobility Disadvantaged Persons. Lastly, it was created a fund for local government to foster the use of demand-responsive vehicles in regions with low passenger demand.

Currently the Task Force (in its third round) is focusing on four main strategies: 1) absorbing labour shortage shocks caused by demographic changes, 2) responding to the shrinking society, 3) taking pre-emptive action against possible local extinction, and 4) improving the sustainability of the society as a whole. Specific policy measures to prepare the Korean society to population changes target four defined categories - women, elderly, local citizens, and general public - and include (MOLIT, 2021[3]):

- Women: measures to facilitate developing or maintaining a career, also finding more career opportunities and improving employment conditions, as well as to reduce household burdens.
- Elderly: measures to provide more opportunities to senior citizens who want to work to be economically active and increased access to health care and nurse care services after retirement (e.g. through at-home medical centres and use of ICT).
- Local citizens: incentives to maintain and attract talents and skilled workers in regions (e.g. national universities acting as regional growth hubs and fostering of lifelong vocational education in colleges linked to regional strategic industries; region-specific pilot visa projects to attractive skilled foreign nationals), and development of regional hub cities and development of community infrastructure between regions.
- General public: measures to provide more opportunities for capability development, protect workers and employment, protect families and households, develop skills and digital education, improvement of demographic statistics infrastructure and composition of research teams for demographic policies.

Actions and measures deployed by the Population Policy Task force to deal with demographic changes and regional development in Korea will be outlined in more detail in the next sections of the chapter.

The Presidential Committee for Balanced National Development, the Prime Minister's Committee for Quality of Life, the Presidential Committee on Ageing Society and the Population Policy Task Force will develop the foundation for new strategies to support rural and regional development that will in turn lead to new policies that will be introduced by appropriate ministries. A number of these strategies have already been developed and can provide a means for improving the co-ordination of policies and programs introduced by relevant ministries. These include: i) the Strategy for Balanced National Development, ii) the New Deal Strategy, the Comprehensive National Territorial Plan.

Korean's Strategy for Balanced National Development

To tackle current trends and challenges such as low growth, polarisation, low fertility, population ageing and localisation, the government is pursuing sustainable and balanced national development OECD Regional Outlook 2019.

The Korean Government's "Vision and Strategy of Balanced National Development", published in February 2018, sets the goal of "establishing a regional-led independent growth foundation". To do so, the document put a special emphasis on decentralisation, inclusiveness and innovation, and identifies three major strategies to be developed within a "Five-years Plan for Balanced National Development" (Development, 2020[4]):

- People-oriented strategy (stable and decent life in all the regions). 1) Retain talents in regions linking education and jobs locally. 2) Strengthen regions' cultural assets to contribute improving leisure and job creation. 3) Strengthen regions' health and welfare system to ensure a happy and basic quality of life anywhere and to enhance regions' attractiveness.
- Spatial strategy (vitalising regional space). 1) Revive agricultural and fishing villages that are suffering from population decline and ageing. 2) Develop an urban regeneration new deal. 3) Improve settlement conditions in all regions.
- Industrial strategy (regional innovation and job creation). 1) Establish new growth engines in the regions through "innovation cities". 2) Promote industries locally through fostering i) local mid-sized companies and local star companies, ii) youth-friendly industrial complex and iii) investment in human capital and equipment. 3) Enhance the vitality of the local economy through the valorisation of local assets.

Korean's New Deal Strategy

The Korean New Deal was introduced as a national development strategy to support the country's recovery from the pandemic crisis and lead the global action against structural changes. Its three main objectives are: 1) Create jobs (not only government-supported jobs for low-skilled workers, but also jobs that support the structural transition towards a digital and green economy). 2) Build infrastructure for a digital and green economy that will restore investments and support job creation. 3) Set the groundwork for Korea to adapt to structural changes in the post COVID-19 era. This plan forms an institutional basis on which a digital and green economy can be supported.

To this end the government plans to introduce two main policies – the Digital New Deal and the Green New Deal – and an overarching policy to strengthen the employment and social safety net.

- With the Digital New Deal, the government plans to build large-scale ICT infrastructure including a 'Data Dam,15' which serves as the foundation for a digital economy. This promotes a data-driven economy including the collection, standardisation, processing and combining of data, and ultimately secures a competitive advantage for the country by creating new industries and accelerating the digital transition of key industries.
- At the same time, Korea's Green New Deal aims to achieve net-zero emissions and accelerates the transition towards a low-carbon and green economy. To this end, the government plans to build eco-friendly energy infrastructures that promote energy saving and an increased use of renewable energy. The mobility, energy, technology and other types of climate-friendly industries will be strengthened in all possible ways.

The government intends also to establish a 'future-oriented job training system' by investing in human resources, thereby allowing a smooth transition between occupations and nurturing talent for innovation (MOFA, 2020[5]).

Korean's Comprehensive National Territorial Plan

The Ministry of Land, Infrastructure and Transport (MOLIT) is the leading ministry to draft the Comprehensive National Territorial Plan (CNTP). As a long-term overarching regional development plan, the CNTP is a vehicle to encourage inter-ministerial co-ordination and to align subordinate regional plans. Since the enactment of the National Land Planning and Utilisation Act in 2003, replacing the Urban Planning Act and the National Land Use Management Act, the Korean spatial policy has expanded its scope to include non-urban areas along with urban areas, thus allowing rural policies to have a territorial perspective. According to this comprehensive perspective employed in the CNTP, the ministry is leading the nation's balanced development across regions. The newly begun fifth CNTP (targeting 2020-40, formulated in December 2019) proposes a vision "Our land, shared future: Towards balanced, smart and

innovative cities and regions for all". The new plan puts the priority on people living on the national land, shifting the focus from the land itself. Along with the three major objectives to make the territory balanced, smart and innovative, the plan presents six implementation strategies: i) Facilitate regional development in a way that enhances local identity, based on solidarity and co-operation. ii) Innovate regional industries and promote culture and tourism. iii) Build safe and liveable places for all generations. iv) Create quality and eco-friendly spaces. v) Ensure efficient infrastructure operation and smart territory. vi) Bring peace to the national territory and connect the continent with the ocean. For regional development, focal points include achieving compressed development through spatial rearrangement, strengthening competitiveness through inter-regional linkages, nurturing hubs for balanced development, like innovation cities, and seeking shared prosperity between the Seoul capital region and the rest of the nation (OECD, 2021[2]).

Policy implications for regions and rural areas

Moving to the policy and program stage requires a comprehensive assessment of how demographic decline, in conjunction with other major changes in society and the economy are influencing opportunities and constraints in the different parts of Korea. These changes include: climate change, technological change and broad social changes. This section of the chapter introduces some of this context.

Context

Demographic decline reduces the possibility for one of the main drivers of economic growth – an increase in the number of workers. This means that in countries and regions where the workforce shrinks, increases in productivity will be required just for current levels of output to be maintained. In those countries and regions where the current labour force participation rate is relatively low, an obvious strategy is to increase participation rates, particularly for females and for those now only weakly attached to the workforce. Attracting immigrants to a country is another obvious way to increase the size of the national labour force. Within countries some regions will be able to attract internal flows of workers, either on a temporary or permanent basis, to increase their labour force. But obviously this leads to fewer worker in other regions. Nevertheless, internal flows may be an effective way to increase productivity if workers are more effective in a different region.

In general, a smaller workforce will require more skills, and the relative scarcity of labour will lead to more investments in equipment and technology to maintain efficient output (Goodhart and Pradhan, 2020[6]). Rural regions have historically had relatively limited skill development programs and have a larger share of lower skilled workers, making both the need for, and potential value of, investments in skill development high. Similarly, opportunities for good jobs for women in rural areas and good quality childcare facilities have been limited, once again providing an opportunity. Significant increases in their labour force participation rate will require major adjustments to skill development and family support programs. Many of those now marginally attached to the labour force will require skill upgrades to increase their wage potential and encourage greater engagement. For women, a key impediment to labour force participation is often inadequate access to child support, especially for young children. Providing ready access to good and inexpensive childcare can provide two benefits – greater female participation and a modest increase in fertility rates. Finally, for rural regions it will be important to provide a higher quality of life by improving the standard and variety of services than is often now available, if they are to attract new workers and stem the flow of out-migrants.

Local, regional and national governments will play key roles in facilitating adaptation to a smaller workforce and an older society. Clearly more people and facilities will be required to care for older citizens, especially if families are less able to provide this care due to increased participation in the formal economy. Those local governments experiencing the greatest reduction in the number of workers and large declines in

economic activity will face major challenges in providing new services and in making investments in appropriate housing for the elderly. At the same time, ongoing expenditure on education and basic public services will still be required and may even be more expensive to provide due to lost economies of scale, particularly in rural regions. With a need for major new investments and a shrinking revenue stream, local governments will face major challenges in identifying, funding and implementing a set of initiatives to restructure their economy and community. National governments may have to provide new sources of revenue and additional authorities to local and regional governments for this transition to occur.

Economic restructuring, as some sectors decline while others grow, in conjunction with ongoing major employment changes due to e-commerce, has already made many careers obsolete and changed levels of demand for various goods and services. This, in conjunction with future reductions in the number of workers, suggests that the comparative advantage of many regions will be different in the future. More recently, the COVID pandemic has altered assumptions about the benefits of globalisation and high-density urban living. Collectively these changes may lead to new opportunities for rural economies, but taking advantage of them will require significant investments, in people, firms, public services and infrastructure.

Thus, for national governments in the OECD, the question of demographic decline in their regions and rural territories is a crucial question - because it has a number of important public policy dimensions. The next sections will discuss three key policy areas where a falling and ageing population has important impacts, notably:

- workforce impacts
- social impacts
- governance impacts

As always, how rural is defined will have a large influence on the magnitude of the problems associated with rural demographic decline.

Workforce impacts

National and regional economies in OECD countries face adjustment pressures from multiple sources in addition to demographic decline. These include: climate change mitigation; the increasing importance of the internet economy, which affects retail, communications, and the organisation of work; and a continuation of a shift to a more service-based economy. Most recently it is clear that COVID has had a large short-term impact on both employment rates and how work is organised, but it remains uncertain how long these effects will last. In combination these factors are changing the role and operating practices of virtually all industries, whether they are located in urban or rural regions.

Rural regions are exposed to these forces in different ways than are metropolitan areas. Historically, most rural regions have always experienced high rates of youth outmigration as many people entering the work force left for better jobs in urban areas. This is particularly the case for more educated youth, particularly young women (Leibert, 2016[7]) (Sano et al., 2020[8]) (Wiest, 2016[9]). Rural areas have also experienced difficulty in attracting foreign immigrants to supplement low rates of natural population replacement. Businesses in rural areas are challenged by: capital market imperfections that limit access to debt and equity finance, less access to input suppliers that increases input costs, and higher transport costs to ship products to large urban markets. The low-density economy of rural areas has led to greater specialisation in tradable goods, such as natural resources and manufactured products, and a relatively high cost for providing both public and private services (OECD, 2016[10]). While widespread access to broadband in rural areas may offset many of the rural challenges of: low density, distance and weak economies of scale; and may ultimately provide greater advantages to rural communities than to large urban ones, this is not the case today (Weber and Freshwater, 2016[11]). Further, economies of rural regions are more directly connected to nature than are the “built environments” of urban areas. This makes rural regions more

exposed to both the effects of climate change - droughts, floods, frosts and excess heat, and to efforts to mitigate climate change - carbon taxes, higher cost energy, restrictions on water use, and environmental protection requirements. Finally, COVID has disproportionately affected rural areas in terms of: fewer opportunities to work at home, a greater share of workers who are considered essential, and less access to health care facilities (OECD, 2020[1]).

National governments play an important role in labour markets by providing policies that can: enhance the supply of labour by increasing the number and skills of workers, influence the demand for workers by stimulating business starts and expansions, and facilitate the workings of labour markets to better match workers to employers. Historically these Active Labour Market Policies (ALMPs) have been mainly employed in times of high structural unemployment when long-term unemployment rates remained persistently high (Box 2.1). However, they can be an effective way to develop policies to address a different structural labour market problem – a reduced supply of labour. It is important that any such policies be spatially sensitive, because not only are the labour market problems different in urban and rural areas, but so will be the appropriate responses and mechanisms to resolve them. Multiple OECD countries already have some experience in addressing labour market imperfections in rural areas, and their experiences can provide a foundation for constructing policies to reduce the workforce impacts of more widespread demographic decline.

Box 2.1. Demographic decline and Active Labour Market Policies (ALMPs)

Demographic decline has broad impacts on the economies and social relations of nations in addition to requiring major adjustments in government policies. One way to organise thinking about these impacts and appropriate policy responses is to examine the effect on local/regional labour markets and frame policy responses in the context of active labour market policy (ALMP). Because ALMP has three dimensions, labour supply, labour demand and improving the workforce matching process in a context of structural change, it is capable of dealing with many of the effects of both demographic decline and the impacts of rapid technological change. While ALMP is often implemented as a national policy, it is more useful in a regional context where labour markets are both, better defined in terms of skills and quantities of workers, and more tractable in terms of identifying interventions to improve their performance. At the regional level ALMP is in many ways an alternative framework to understand the constraints and opportunities for local economic development.

Demographic decline affects the number of workers available for employment and the types of employment opportunities that will be available. This in turn affects the skills that workers will require to be employed and providing sufficient workers with these skills will determine, in part, whether the structure of the local/regional economy can adapt to the new situation. But other important factors are affecting labour markets at the same time – including technological change in the form of internet impacts, robotics and social media, the growing concern with moderating the effects of climate change, and adjustments to global trading patterns. While these changes are less directly influencing regional labour markets, they individually and collectively alter the future prospects for every region, albeit in different ways.

In rural areas, crucial change has already occurred. Several decades ago, in periods of higher fertility rates in rural areas, a common problem was a surplus of workers with traditional skills who were reluctant to relocate to other regions when work became scarce. This pool of surplus labour contributed to: lower incomes in rural regions, higher rates of unemployment and social malaise. The main labour market problem in this period was to find ways to improve employment prospects by a combination of: encouraging outmigration, providing skill development programs and stimulating new sources of employment by inward investment and encouraging local entrepreneurs.

After several decades of falling fertility rates, many rural regions no longer face a surplus labour problem, but instead face a labour shortage. In addition, in many rural areas levels of employment in agriculture or other natural resource-based industries have declined and the remaining workers now require higher levels of formal education and skills than in the past. Without training a considerable share of lower skilled workers remain unemployed, even where employers experience staff shortages. Moreover, demographic decline has increased the share of older people in rural regions and this has created a new demand for workers to serve their needs, but once again there are few people with appropriate skills. Consequently, the current problem is a shortage of workers, especially in fields that require technical skills. And, paradoxically, in some areas a surplus of lower-skilled workers who are too unproductive to meet employers' needs.

In the case of Korea one of the more pressing structural changes facing labour markets is rapid demographic ageing (OECD, 2020[12]). While the problem is serious in urban areas, it is particularly significant in rural areas. Most rural regions start with a larger share of the population being older as a result of constant youth outmigration, particularly females. Even with the present level of lower fertility rates expectations are that there will still be a significant outmigration by rural youth, particularly those with higher levels of education. To date return flow from urban to rural areas have not been large enough

to offset outmigration. Moreover, to the extent that inflows are largely retired people this may exacerbate existing worker shortages.

Employment in rural areas is also more likely to be in smaller companies or self-employment. These jobs are often less than full-time and can provide few benefits, particularly pensions. As a result, employment opportunities in rural areas are more fragile and offer less compensation. This can lead to outmigration for those with higher skills and lower rates of labour force participation by the less skilled because the returns are low. Korea also has the largest share of over 55-year-olds still in employment in the OECD, and the highest share of elderly in relative poverty (OECD 2020, p. 71), and these shares are likely to be higher in rural areas. Efforts to increase the share of females participating in the labour force in rural areas of Korea may also be challenging. In rural areas there are fewer formal care facilities for either children or the elderly, which increases the burden on families, particularly women and may prevent them from seeking formal employment.

The core ALMP strategy of reducing skills mismatches between worker capabilities and employer needs may also be challenging in rural areas. Improving worker skills through either formal training or apprenticeship programs is more difficult. Small population rural regions may not be able to support a technical training institution and where there is one it may not be able to offer courses because the number of potential applicants or job opening is too small. Smaller SMEs may not be willing to use apprenticeship programs either because they cost too them much, or they fear that graduates will leave for a higher paying urban job. Similarly, employment matching services in rural areas face the challenge of at best a small pool of qualified people for any skill and a set of employers who may have limited need for additional workers. While rural employment matching services could encourage workers to seek jobs in an urban region this would contradict the objective of fostering local growth.

Source: Own elaboration.

Future economic growth will hinge to large extent on how two somewhat conflicting forces affect labour markets at the national and regional level.

Technological change has tended to lead to higher levels of capital replacing labour in new production approaches that are reshaping major sectors such as, retail, manufacturing and natural resource production. While technological change is having large impacts on some aspects of the service sectors, it has yet not reduced the role of labour for those services that are delivered directly to customers. In general, though, technology has led to a reduction in the need for workers with moderate skills who perform tasks that can be automated or eliminated by machines or completely new approaches.

Conversely, demographic decline leads to a reduction in the supply of labour as there are fewer new entrants to the labour force than the number of workers who leave for normal retirement or other reasons. Once again there are important nuances to the nature of the labour force. Workers may not leave at the usual retirement age if they have inadequate pension income, or employers provide sufficient inducements to work longer. New entrants to the labour force may commence work at a later age if they remain in school, or other forms of skill development. Women may increase their participation rate in the labour force if they are provided with higher pay and better childcare opportunities. But women may not enter the labour force if they face greater responsibilities of caring for multiple aged relatives, as has become increasingly common with smaller families and as older people live much longer.

How these two forces will interact will be important for labour market outcomes and productivity and economic growth at the national level, but particularly at the regional level where supply and demand mismatches and inefficiencies in the matching process can limit the well-being of households and communities. Addressing the specifics of workforce supply and demand conditions will require targeted approaches that are specific to a region, but it is possible to identify some general characteristics of the problems and opportunities that are emerging.

Changing supply of labour

The size of the local labour force in most regions will shrink, except in those regions with a high influx of migrants. In general, we also know that the average age of workers will increase over the next decade. This means the work force will be physically less capable, but have more experience, so the impact on productivity is ambiguous. Because the ageing transition is a slow process it can give firms and government a chance to ensure that incoming workers develop the necessary skills to replace those outgoing workers whose roles are most important. Fortunately, technological change in those sectors where it is most prevalent seems to be biased towards reducing the quantity of labour required. However, an ageing population means that a larger portion of the workforce will be employed in various forms of elder care, which is also unlikely to see large increases in worker productivity.

In rural regions, youth out-migration is likely to continue, but the effects could be mitigated by efforts to encourage younger workers, especially those who wish to attain post-secondary education elsewhere, to return to their place of birth. This will require finding ways to motivate those leaving to return after completing training and gaining some initial work experience. Key to success in triggering return flow will be ensuring that employment opportunities in rural places are available for higher skill individuals. Workers are also likely to need ongoing skills upgrades over their working life to keep up with advancing technology. Providing effective skill development has always been a challenge in rural areas because of small numbers in any cohort and uncertain future demand for specific skills in a small economy. Technology associated with e-learning schemes offers a possible way for rural areas to resolve the challenge of providing skill development opportunities.

One way to improve the supply of labour is to reduce outmigration and attract new workers by making rural communities more attractive. Two programs introduced by Korea focus on making rural places more desirable locations for people to live. The first is Creating Happy Living Zones.

Creating Happy Living Zones in Korea

A regional co-operative approach to enhance quality of life has been increasingly mainstreamed in the Korean regional policy and adopted at a larger spatial scale. A new spatial concept, Happy Living Zones, was introduced in 2013 as a basis for regional development policy. It aims to enhance peoples' happiness and quality of life by encouraging co-operation among local governments beyond jurisdiction. Three types of zones were formed according to the shared characteristics and conditions of local municipalities, such as geography, local industries and historical background. These include: Rural zones (with a population of approximately 100 000 inhabitants); Rural-urban zones (with small- and medium-sized cities of 100 000 to 500 000 inhabitants); Metropolitan zones (with a population of more than 500 000 inhabitants). The zonal development plan is designed and implemented by the association of local governments in the zone. It covers various inter-local co-operation projects such as economic revitalisation, education, culture, welfare and basic infrastructure, which then are fed into the provincial and national five-year regional development plans. To support the formation of the Happy living zones and implementation, the central government had provided a broad range of support schemes such as co-ordinating local governments with funding through a special account for regional development, consulting and technical assistance, and deregulation (OECD, 2021[2]).

The second involves Revitalising Rural Hubs: networks among rural villages.

Revitalising Rural Hubs in Korea: networks among rural villages

Lower quality of life in rural areas, compared to urban areas is one of the key policy concern in Korea. In addition to the commitment to the national minimum for the basic service provision in rural villages, the government has adopted new approaches to improve the availability and accessibility to the services for rural residents. Focused investment to rural hub towns and networking surrounding smaller villages allow

village residents to access to broader services. The use of networks among rural villages is emerging as an effective and efficient policy to build sustainable living environment in rural communities. The rural hubs revitalisation project has been promoted since 2015 by MAFRA, reorganising predecessor projects focusing on infrastructure and property development. In response to the increase in depopulated villages, the new project aims to improve residents' livelihoods by linking with towns which can function as rural hubs and providing neighbouring villages with various services including educational, medical, cultural, welfare and business. Public supports are focused on improving basic living infrastructure in general village districts and, in contrast, larger investment is made in leading districts so that they can function as a region's business and service hub. Until 2016, 33 leading districts have completed basic planning and they are in the implementation stage (OECD, 2021[2]).

Labour demand

The combination of technological change and shrinking work force will alter the pattern of demand for workers, as some types of job disappear and others grow. In any region the types and size of employers may change significantly further altering the local labour market. Also, in a dynamic economy incumbent firms may face major challenges from new entrants, making it important that each region try to foster entrepreneurial activity, especially in areas where it has a competitive advantage. In a time of turmoil local support for business retention and expansion can provide support for businesses that may otherwise contract or close. Efforts to recruit new residents could also try to target potential entrepreneurs or individuals who might consider relocating their business to a new location.

With a shortage of workers, a logical outcome is an increase in wages. However, higher wages may not lead to large increases in the supply of workers in many regions because of a general process of demographic decline. Instead, higher wages may encourage firms to alter production processes to reduce the amount of labour they require. In the recent past when rural regions experienced a worker surplus, the substitution of capital for labour was seen as having negative consequences for employment. Now, however, firms should be encouraged to make these adjustments where they are possible, and especially if they improve competitiveness by reducing production costs or improving product quality.

Rural areas typically have a relatively large number of temporary, seasonal or part-time jobs, many of which are in core industries like agriculture or tourism. Any extension of the season when this type of employment occurs would help make these jobs both more attractive for workers and increase the viability of firms by expanding opportunities to generate revenue. Since these industries are usually part of the core tradable sector, maintaining their viability is crucial for the local economy. Finally, with fewer workers in the region it may become more difficult for firms to find vital sessional workers. Because seasonal work is both essential for the local economy but also leads to under-utilisation of workers, a potentially important local strategy is to identify complementary new seasonal work opportunities. Seasonal employment in two different sectors that operate at different points of the year can create the equivalent of full-time employment and more fully utilise local workers.

Improving employment opportunities can involve a number of approaches, such as strengthening core rural industries, typically agriculture and fishing and their associated first-stage processing activity. Or it can involve encouraging innovations in rural areas that can increase productivity and competitiveness. Korea has introduced a number of these programs. They include:

Korean's Basic Plan for Improving the Quality of Lives of Farmers and Fishermen

Complementing the economic development efforts spearheaded by the Presidential Committee on Balanced National Development, the Prime Minister's Committee on Quality of Life brings specific focus to the well-being of rural dwellers in farming and fishing communities. This committee oversees the execution of the Basic Plan for Improving the Quality of Lives of Farmers and Fishermen, a five-year plan to improve the quality of life in rural areas. In 2010, the government introduced rural services standards

(e.g. good access to medical and other basic public services) to guarantee a high quality of life for rural residents and narrow the gap between cities and rural areas. The scope of the policy has been expanding from basic services to cover more various sectors such as culture and leisure, environment and landscape, and safety of rural residents. The plan, including comprehensive policy measures, is developed through consultations with relevant ministries and rural stakeholders, and finalised through the review and deliberation of the Committee (OECD, 2021[2]).

Korean's Agriculture and Rural Community and Food Industry Development Plan

The Ministry of Agriculture, Food and Rural Affairs (MAFRA) is a key ministry in regional rural development in Korea. The Framework Act on Agriculture, Rural Community and Food Industry mandates MAFRA to formulate the Agriculture and Rural Community and Food Industry Development Plan every five years. The plan provides the policy directions which covers not only the agricultural sector but also the broad policy measures on rural development. The most recent policy plan for 2018-22 sets four main policy targets: strengthening the income safety net; innovation for sustainable agriculture; enhancing food safety in the supply chain; and improving rural welfare. Strengthening competitiveness and growth of agriculture by enhancing agricultural productivity has been a core goal of agricultural policies in Korea. The most recent five-year policy plan diversifies the objective of agricultural policies to address more varieties of societal demands towards agriculture and rural areas. The new policy plan shifted the orientation of agricultural policies further to ensure income stability and quality of life of farmers as well as the balanced development between agricultural production and environmental conservation. It also foresees a strengthening of bottom-up participation in policy (OECD, 2021[2]).

Korean's Basic Plan for the Development of the Sixth Industrialisation

As a part of an income diversification strategy, the so-called "6th industrialisation policy" has been implemented to promote the production of high-value-added agricultural products through the expansion of farm operations to processing, marketing and tourism. Since 2014, the government has installed 6th industrialisation support centres in 10 regions to investigate the development of 6th industrialisation activities and undertake business support projects. The government also established the 1st Basic Plan for the Development of the 6th Industrialisation (2016-20) and introduced the certification system of 6th industrialisation for business operators with a potential to lead the process and to foster outstanding enterprises. In 2016, 1 130 business operators received the certificate. The basic plan has a target to maintain the sales growth rate of certified business operators at 5% by 2020, to increase the number of 6th industrialisation start-ups from 1 600 in 2016 to 3 000 in 2020, and to increase the number of rural tourism visitors from 6 to 8 million during the same period (OECD, 2021[2]).

Improving labour market matching functions

In a period of employment instability, it is important that the matching function of labour markets work well. In rural regions "word of mouth" and personal recommendations play a large role in matching workers with employers in the local labour market. This informal process should be supplemented by more formal mechanisms, either operated by private employment services or by government.

With demographic decline better co-ordination among various local labour markets will become more important if workers are to be matched with the best opportunities for their skill set, which may be outside their current labour market. Improving the ability of people to relocate, to a rural region, will be beneficial to the individuals, employers and the nation. Improvements in ICT technology has allowed far more workers to tele-work and this trend has increased rapidly during the COVID pandemic (Gallardo and Whitacre, 2018[13]) (OECD, 2020[14])). Similarly, decreases in travel costs and increases in the frequency of connection time has led to a rise in long-distance commuting (Markey, Ryser and Halseth, 2015[15]). Both these trends have important implications for labour markets in rural regions (Box 2.2).

Box 2.2. Tele-Work and Long-Distance Commuting

Most workers live and work within a short commuting distance that allows a daily commute of about one hour or 100 km. While commuting times can be considerably longer in large metropolitan areas dues to congestion, and considerably further in rural regions due to greater population dispersion local labour markets account for the majority of employment. However, there is an increasing number of workers whose employment lies outside this norm. The two most obvious examples involve either long-distance commuting where workers travel a long distance to their place of work and only return to their residence after an extended period of time, two or three weeks; and the other is tele-work where the work is carried out at home for a geographically distant employer. Most recently COVID has increased the number of tele-workers, as employers who once required the physical presence of employees at their business are now encouraging or requiring workers to work from home.

Both practices have offered employment opportunities for rural workers when local jobs are not available that match their skills.

Tele-Work

Tele-work depends on the ability to use electronic communications to link the worker to the employer or customer. Widespread access to high-speed internet has expanded both the demand for tele-work provided services and the capacity of more places, including most rural regions to host these workers. Tele-work should be distinguished for “call centres” where workers provide similar functions but are all physically located at the same company provided site.

Long Distance Commuting

An example is a decades long commuting flow of workers from Atlantic Canada, particularly Newfoundland, to northern Alberta to work on construction projects in the Alberta oil sands (ref). Workers stay in company dormitories for two to three weeks and then fly home for a similar length of time but are replaced by another shift of workers. This “fly-in, fly-out” cycle avoids having to build a new settlement and attract households for jobs that, while they have lasted for many years, would end when construction is finished and a much smaller labour force is required to operate the oil extraction process. The home communities benefit from the inflow of relatively high earnings that support local business and institutions.

Other examples of this type of long-distance commuting include:

Specialised crews of workers that install the turbines for wind farm or solar arrays. In both cases the installation process requires skills that are not required for operation, so it makes sense to bring workers to a site for several months to complete the task.

The traditional travelling sales, or product repair, representative of a company, who covers a large geographic area, where demand is too infrequent to justify a local provider but large enough to justify a semi-regular presence.

Long distance transport workers, including: truck drivers, airplane crews, and train operators. In these cases, people can live in a location that is largely unconnected from their workplace because their workplace is inherently mobile.

Active-duty military who are stationed far from their homes and often in places where family is not allowed to be in close proximity.

While workers in these jobs can reside in an urban or rural community, they may be more attractive to rural residents because of the more limited potential for a local job that offers a similar income. People

with these careers may be attracted to a rural lifestyle because it offers a more attractive location and lower cost of living. In some cases, only rural places that have reasonable proximity to a major airport to rail hub can expect to host these types of workers, but for truck drivers, military families or construction workers more places have potential.

Local labour markets are defined by the daily commuting patterns from place of residence to place of employment. The people within a given local labour market reflect the potential labour force both in terms of numbers, professions and skills. In metropolitan regions the local labour market consists of a large number of employers and workers with a broad range of skills both available and required. Consequently, both employers and workers find it relatively easy to find an acceptable match between worker and job. Demographic decline may make the matching process a bit more complicated as the workforce shrinks, but the adjustment should be manageable, particularly if in migration from rural areas continues. Rural labour markets on the other hand have a small number of workers and a relatively narrow set of skills, which can make it difficult to adapt to shifts in employer labour requirements.

Source: Own elaboration.

Clear opportunities exist in better co-ordination of part-time or seasonal work, but this requires a more sophisticated matching capability. If individuals can co-ordinate a number of part-time jobs, they can earn the equivalent of a full-time income. An important contribution to this type of solution will be better co-ordination of worker benefits, so workers with less than full-time work at a single employer have equivalent access to benefits. Better labour market co-ordination may help attract women who have home care responsibilities that do not allow full-time employment into accepting part-time work. In some cases, job-sharing may be an attractive option for both workers and employers if a mechanism is in place to co-ordinate the process. Similarly, older workers may be interested in part-time or seasonal work and" job sharing" as a transition to retirement. Matching services can ensure that employers have the equivalent of a full-time worker even as workers are engaged in less than full-time work.

In rural areas firms or governments may need a worker with a particular skill, but only on a part-time basis. However, without full-time employments there is little incentive for a person with those skills to accept a job in a rural area. Potential solutions to this may include several employers agreeing to jointly hire an individual on a full-time basis (Box 2.3), an employment service or consultancy hiring the person and contracting with local employers, or an entrepreneurial individual recognising the opportunity to co-ordinate multiple part-time positions into a full-time equivalent. While there are multiple possible solutions they all require some way to identify the existence of a latent demand by a sufficient number of employers to support a full-time equivalent position.

Box 2.3. Sharing Services Across Multiple Communities

Many rural places are too small to offer full-time employment to a skilled professional who provides a specific private or public service. But the absence of this service creates a major problem for households, businesses and local government institutions that affects both economic viability and the quality of life. Typically, the function played by the service provider is not so infrequent that the demand occurs sporadically, which might allow a consultant to be hired, but is not frequent enough that an individual could earn an adequate living by only working in the community.

Several creative ways to resolve this type of problem have been developed in rural areas across the OECD. In Newfoundland Labrador, Canada, five small communities on the Labrador coast jointly employ an individual to operate and maintain their individual water treatment facilities. While each community has its own water plant none is large enough to require a full-time person, but regulations require that a certified operator be employed. Sharing the cost of hiring the operator results in lower costs for the communities and a full-time equivalent income for the person. Individual skilled trades providers adopt a similar approach by providing regular services in a number of small communities that are relatively close together. An electrician or plumber will schedule multiple appointments in one place on a specific day and appointments in other places on different days. Emergency services are provided as needed, but typically with some time lag due to longer commutes.

Mobile services offer another option. For example, mobile libraries were once common in rural areas of North America with a central library bringing a large bus full of books on shelves to small settlements on a weekly basis. The same approach was used for diagnostic health care, by using a bus or trailer fitted out with medical equipment, to bring services to people, rather than forcing them to travel a long distance to a central location.

In Korea the Rural Hub program achieves a similar goal by concentrating services in a single village that is near a number of other villages that can then take advantage of the improved services. While those outside the hub village have to incur travel costs that are able to access multiple services in a single trip and if services are of higher quality and/or a greater variety of services are available with consolidation their living conditions are improved.

Source: Own elaboration.

Social Impacts

The social impacts of demographic decline are significant, particularly in rural areas where family ties remain stronger and people rely more on their immediate and extended family to provide services that are often either purchased or provided by government in cities. In this environment increasing female labour force participation rates will have the consequence of reducing the ability of women to continue to provide family or household-based services including, childcare, elderly care and voluntary work. While demographic decline leads to fewer children it also leads to more elderly who require different services, and unlike the case of children, whose service needs decrease as they age, with the elderly service needs increase with ageing.

In OECD countries, the role of services, provided by government or by investor-owned firms and non-profit entities, has become a major part of the economy. Many services that in poorer countries are provided within the household or do not exist are now widely available. As a result, the service economy provides the largest share of employment in rural areas of all OECD countries, but accessing many services is a particular challenge in most rural areas, particularly those far from an urban centre. Low levels of demand

prevent rural service providers from achieving economies of scale and lead to higher per capita costs than is the case in urban areas. Long distances between users and providers result in high transportation costs that are born by users either directly or through higher charges by the provider. Finally, low total demand for a specific service in a rural region often leads to a single or, at best, a few providers, and that in turn precludes both the price reducing effects of competition and limits choice.

Ready access to services is now a central part of a high quality of life in OECD countries, and the availability of services in a community or region is central to its ability to attract both migrants and business investment. While national governments may choose to subsidise public services in rural areas out of a concern for equitable access or social cohesion, entrepreneurs and corporations will only operate in a rural area if the profits from their investment are high enough to remain active. Because private services provided by for-profit firms are less viable in rural areas there is a greater role for governments, and especially for the voluntary or non-profit sector, in supporting both the level of well-being and in creating an environment that supports economic growth.

Public Services

Education

Historically, due to smaller enrolments and less funds, rural schools have provided a narrower set of opportunities for learning than have urban schools, with many schools providing only a weak base for future learning. Poor skills tend to lead to weak attachment to the labour force and low incomes, and this can reduce opportunities for marriage and contribute to social exclusion and other social problems. Moreover, in some rural areas children and their parents have not fully accepted the need for a strong education system, and consequently there are high rates of school dropout, particularly by boys. In part this reflected low returns to education in rural areas when an excess supply of labour held down wages and employment opportunities.

Now, as the number of children declines, the importance of a strong education system will increase, because it will be even more important that formal schooling provide a strong foundation for skill development and life-long learning. Existing trends of employment requiring higher levels of numeracy, critical thinking and analytical capacity are likely to be reinforced, as workplaces substitute for scarce labour with more technology and equipment. Traditional resource-based industries, such as, agriculture, forestry and fishing, point in this direction. For decades, in these industries the adoption of machinery and biological innovations have increased productivity and allowed large reductions in labour, even as output has increased. But much of the remaining work force in these industries now must have much higher levels of formal skills that are based on a foundation built during the years of formal schooling.

Health Care

With increased age people tend to make greater use of hospitals and other forms of health care. In addition, their health problems become more complex and require specialist providers. While many rural areas may have reasonable access to primary care services, they do not have local providers for complex surgery or the many health problems of older people. These tertiary care facilities and the specialists who work in them are only found in larger urban places. As the number of older people in rural areas increase this service gap will become more evident, but it will not be addressed by building rural tertiary care facilities. Instead, alternative means of provision will have to be developed, largely based on tele-health and specialised transport.

Social Services

Governments provide a range of social services, including: recreation and cultural opportunities, counselling, welfare support, housing and libraries, for example. As the demographic structure of a

community changes, the relative need for social services also changes. As local populations age the need for active recreation sites and job counselling will decrease and the need for assistance for the elderly and elderly housing will increase. Even in wealthy communities restructuring the mix of services will take considerable time to develop new programs and find appropriate facilities and staff to implement them. In poorer places the challenge is greater. And in poor rural places, where historically families have self-provided social services but may no longer be able to, due to increased formal work responsibility and fewer family members able to help, the challenge will be extreme.

In particular, a high and growing ratio of elderly in the population of a rural community can lead to social exclusion if social service cannot keep up with the increased demands. Similarly, if rural families are pressed into trying to provide elderly care that is beyond their capacity to do so because social services are not adequate, this will lead to increases in family stress and to lower rates of labour force participation.

Box 2.4. Service Provision

Services can be provided through three different mechanisms – private for-profit firms, governments, or private non-profit organisations and firms. Typically, economists focus on either governments or private firms as service providers and segment their roles on the bases of whether the activity is a mainly a private or a public good. Pure private goods or services are rival and excludable, whereas pure public goods/services are non-rival and non-excludable. However, many goods and services are mixed in nature having attributes of both. For example, vaccines protect both the individual but when large numbers of people are vaccinated all of society experiences a low rate of infection due to “herd immunity”. Similarly providing assistance to the poor clearly befits them directly but for the rest of society it can provide a greater sense of social cohesion and a reduction in crime.

But in all OECD countries non-profit organisations provide a third way to provide goods and service. Non-profits do not have the ability to compel behaviour, as do governments when they raise taxes to fund the services they provide or when they require their use. Nor are non-profits motivated by the desire to at least some minimum level of profit from selling the service to customers. For non-profits, services are provided out of some combination of altruism or because those providing the service directly benefit from its provision. In many case one of the two motives is clearly paramount. Charitable organisation that provide aids to the poor do so out of a sense of altruism. Conversely, members of an input-supply farm co-operative join because they expect to directly benefit from pooling their purchasing power to obtain lower prices.

Unlike governments and for-profit firms, which have a strong incentive to control costs, in part by seeking economies of scale and standardising behaviour, there are more limited benefits for these actions by non-profits. For those motivated by altruism the larger the organisation the smaller the role for each individual, and the less likely each potential donor is to believe their actions make a difference or are needed. Similarly, for non-profits motivated by self-interest, such as a co-operative, as size increases there is a tendency for operating costs (employee expenses, facilities etc.) to grow disproportionately, which reduces the benefits from not buying from a for-profit competitor.

This suggests that non-profits may experience diseconomies of scale. One reason to believe this might be the case is that in OECD countries the non-profit sector plays a larger role in smaller towns and the rest of rural areas. In larger places services that are commonly provided through either individual volunteers or non-profit groups, are provided by government employees or private for-profit firms. Simple examples include: volunteer fire departments, unpaid part-time elected officials, local service clubs that support various activities that benefit community residents, credit unions and other non-profit financial intermediaries, and community-based health care organisations. In many cases these organisations exist because local governments and the population they serve are too small to generate

enough revenue to provide the service directly, in part because per capita costs are too high for serving small and dispersed population. Similarly, potential for-profit service providers that are found in cities are unwilling to operate in rural areas because the same factors limit returns on any investment.

This suggests that in rural regions one way to deal with demographic decline is to invest in stimulating various non-profit organisations that can supplement or replace, either government or for-profit firm provision of services. Shrinking and ageing populations will reduce the ability to deliver current services as they are now provided, while at the same time new services will be needed. However, bringing back a strong capacity for local service provision by community volunteers may not be easy, particularly when people are used to either government or private firms being providers. Further, a shrinking population means there are fewer potential volunteers, and an ageing population reduces both the number of potential volunteers while also expanding the demand for services. Finally, if labour force participation rates are to increase to offset a shrinking work force, it may be hard for people to find the time to volunteer.

Source: Own elaboration.

Third Sector

The third sector sits between government and investor-owned firms with profit objectives and consists of a variety of organisational forms. Some are more like a for-profit firm, such as, co-operatives or social enterprise, while other are more government-like in nature, such as, associations and community organisations. In rural areas they can be more common because either government or for-profit firms are not providing a service that people in the region want. As a result, the local population self-organises to provide the service itself. In rural areas the local government may not be able to provide fire-protection through paid fire-fighters. A local response is to form a volunteer fire brigade that is funded through donations by those who benefit from its services. Co-operatives, owned by member/customers can be formed to provide a grocery in a village where there is no other source of food. The co-operative can be viable because it relies on members for both capital and labour, and also because it does not have to generate a market rate of return for its investors. Members are willing to take on the task because they capture consumer surplus benefits from the enterprise as well as sales revenue. Several examples of such responses are provided in Box 2.5 and Box 2.6.

Box 2.5. Social enterprises

Social enterprise broadly refers to businesses that operate with a broader objective than profit maximisation. While these firms strive to cover their costs and retain enough earnings to make investments that allow them to replace and upgrade their production capacity, they are willing to accept a below market rate of return. In rural areas social enterprise is common when the community is too small to provide an acceptable rate of return to a conventional firm. Typically, residents of the community band together to create a business that they own collectively to provide a service that is of value to the investors and to the broader population. Because the owners of the business are also consumers of its output, they benefit directly from both the consumer surplus associated with access to the output and also any incremental revenue that exceeds the costs of production.

While in urban areas social enterprise often forms as a response to high charges by for-profit firms, in rural communities the driving force is an unwillingness by private enterprise to locate in the community because the potential return on investment is too low. Local co-operatives are a classic form of rural social enterprise but there are many other organisational structures that serve the same function. Social enterprises in rural areas includes: bakeries in rural France where a for-profit bakery closes and there is no source of fresh bread so residents jointly restart the bakery to meet their needs; convenience stores in rural Canada, where a small town loses its for profit gasoline station and small store, but local resident band together to reopen it as a social enterprise; or small villages on the island of Gotland, Sweden where households organised to jointly wire their homes for broadband when large private operators showed no interest.

In Korea the government created the Social Enterprise Promotion Agency (SEPA) in 2007 to promote and fund social enterprises (Doh, 2020). The aim of the agency is increase the number of enterprises providing social services to underserved populations and thereby stimulate both employment and an improved quality of life. By 2020 the program had supported 3125 new social enterprises (Doh 2017 p.2). Doh notes that those regions where more social enterprises were created tended to have higher rates of economic growth but was unable to establish a strong statistical relationship. The author suggests that weak statistical results may reflect a combination of, data limitations, omitted variables and a weak focus on regional economic growth in investments by SEPA.

Source: Own elaboration.

Box 2.6. Trangsviken Community Centre: Trangsviken, Jamtland (Sweden)

Trangsviken is a small community of less than 800 people located 43 km from Ostersund in central Sweden. One remarkable fact about the community is that it hosts about 80 distinct entrepreneurial ventures, including some that have a considerable number of employees. But earlier, in 1990, businesses were closing and the community hall had been condemned leaving no place for community meetings. A local group organised to build a new community facility and after a ten-year effort managed to build a new multi-purpose community centre that holds 17 different services, including: a chapel, meeting rooms, a day care centre, a performance auditorium, a pharmacy, a restaurant, a bank, and the community library. Because of its multiple functions it attracts hundreds of people every day and it has become the heart of the community and source of local pride.

The Trangsviken story shows that a small but committed group can have a large role in the fate of community, even though it may take time for success. The story also points out an increasingly common approach to service delivery in small rural communities. By combing both public and private services in a single facility they all became more affordable and co-locating them provides significant benefits to the local population because they can make one trip to accomplish multiple tasks. Finally, success in constructing the community centre contributed to a major change in popular opinion. People began to believe that the community had a future and this triggered and reinforced the great increase in local entrepreneurship.

Ultimately constructing the new centre changed the local perception of Trangsviken from a declining community to a place with opportunities. As a result, new entrepreneurial activities emerged as people looked for ways to build upon the new image. And, as the community prospered it began to attract visitors and small number of new families, which helps to ensure its long-term viability.

Source: Own elaboration.

Demographic decline increases the demand for third sector responses, even as it weakens the local capacity to provide it. As a community shrinks the profit opportunity for private service providers erodes and there will be a reduced supply of services. In some cases, the demand for specific services may also decline as well, such as entertainment and active sports venues. In other cases, the demand for private services of one type or variety may decline, but the demand for private services of a related type may increase. For example, fitness centres that focus on strenuous exercise may decline, but pools that focus on therapeutic water exercises may become popular. Whether the previous service provider will be able to adapt to the change in demand is not certain. Nor is it certain that a new firm will enter to satisfy the demand if the incumbent does not. If not, then an opportunity opens for a third sector solution.

Similarly, local governments may be forced to cut back some programs as demographic decline reduces their revenue and requires them to move funds to other functions more needed by seniors. Maintenance of public parks may become a lower priority for government, but parks provide a positive impression of a place that can help it attract visitors, migrants and new businesses. Ideally a volunteer group will be willing to take over much of the park maintenance activity, in part because they directly benefit from the park but also out of a sense of public responsibility. Once again as communities age and shrink the capacity of the local population to engage in activities that offset reductions in government funded or delivered services is reduced.

Governance Issues

While the provision of local public services will be a central issue facing local governments as they shift to providing more support to the elderly and reduce commitments to young people, there are other pressing issues (Douglas, 2007[16]). Acting upon these needed changes will be difficult in many cases if demographic decline is associated with lower public sector revenue. If local economies cannot readily adapt to a reduction in the supply of labour then both employment and income will decrease and so too will tax revenue. Property tax revenues are also likely to fall if the demand for housing drops and businesses fail. To the extent that national conditions are similar to those at a local level, the scope for transfer payments from national governments will be reduced. And, if national governments do provide support, it may be more targeted to regions with greater political influence or to those with higher growth potential in an effort to facilitate a quicker national adjustment. This suggests that rural regions may have a lower priority for national support if they are seen as facing greater difficulty in responding to the effects of demographic decline.

Efforts to consolidate public services as population shrinks will be more difficult in rural regions because they typically only offer core public services and provide them at a small number of locations, which makes it more difficult to reduce services as a way to offset lower revenue. In particular, reducing the number of locations where services are delivered can increase travel costs significantly in regions with low population density. If governments pay the travel cost then total costs of consolidation may be higher than with more locations. If users pay the travel costs then utilisation rates may fall with adverse consequences for future health outcomes, public safety or levels of future worker skills. Once again, the internet and advances in tele-communications offer ways for governments to deliver services in new ways over large distances, but adopting these new methods requires up-front investments and also a reconfiguration of existing delivery mechanisms to align them with the new approaches.

Further, rural communities and regions tend to rely heavily on volunteers to: serve as elected officials, deliver public services and carry out functions that are normally be provided directly by urban governments. An ageing and shrinking population reduces the number of people who can be expected to take on these voluntary responsibilities. In addition, new services for the aged will become a priority and many of these may not fit the traditional capabilities of the local population. While volunteers may still be available, they will require training to make them more effective in these new roles. Where volunteers are not available, local governments may have to hire additional people to support programs for the elderly or accept the possibility of social exclusion and poor health outcomes.

Social exclusion among the elderly has been identified as a significant concern for public policy (Van Regenmortel et al., 2016[17]) (Walsh, O'Shea and Scharf, 2019[18]). Trends of living longer, but with major disabilities, caused by Alzheimer's disease or similar debilitating conditions are also seen as increasing (Goodhart and Pradhan, 2020[6])). Even in more traditional societies, where family responsibility extends to looking after the elderly and family members live in relatively close proximity, it is increasingly difficult for families to provide the care that the elderly require. If a larger share of the population is to be engaged in full-time work as the labour force shrinks the need for formal mechanisms to provide support to the elderly will increase. In places where the elderly have little possibility of nearby family support, either because their children have moved away or they have no children, the need for public support in the form of: appropriate housing, meal delivery, transport, recreation opportunities and health support is clear.

Beyond the challenge of dealing with reduced local source revenue and demands for new public services, local governments must continue to help their local economies evolve in response to, changing labour market conditions, global competitive forces and new technologies. In some countries local governments have more of the resources and authority to engage in this work, while in other they have limited authority to move into new roles and lack the resources to carry out more than basic responsibilities. In rural regions these problems can be especially acute, because: metropolitan regions are given more authority than rural regions, metropolitan regions typically have far greater per capita revenues than do rural regions and

metropolitan regions have a large full-time professional staff that has the capacity to carry out new functions independently or with the support of consultants.

Quality of governance has been shown to play an important role in both economic development and the quality of life for nations and regions (Charron and Rothstein, 2018[19]) (Filkins, Allen and Cordes, 1999[20]) (McCann and Varga, 2018[21]) (Nzaku and Bukenya, 2005[22]). As national governments devolve responsibility to local and regional governments the quality of these governments may influence the returns from these policies. Evidence suggests that measures of the quality of governments is relatively stable over time, both at the region and national levels in the EU (Charron, Lapuente and Annoni, 2019[23]). And, despite significant differences in the powers of government among nations, within EU countries there is a significant negative relationship between population size of a region and perceived quality of government (Charron, Dijkstra and Lapuente, 2013[24]). Further, the same study found a positive relation between region size (hectares) and quality of governance. Together these results suggest that within a country, metropolitan regions (characterised by large populations and small size) can have lower quality of governance than more rural regions. This suggests that rural regions and communities may be able to effectively manage the required transition to the effects of demographic decline if they are provided with needed resources by national government.

Providing increased support for local governments has been recognised by Korea as a significant way to enhance regional and rural development. Several useful approaches' have been introduced in the country, including:

Promoting Combination of Community Infrastructure for Regions in Korea

In order to improve the quality of life of rural residents and promote balanced regional development, Korea is pushing to reinforce living infrastructure that provides health care, childcare, and welfare community services, based on the principle of local governments taking the initiative and the central government assuming a supportive role. In April 2019, the central government announced a three-year plan (2020-2022) to further develop community infrastructure nationwide and, in doing so, focused on resolving previous limitations such as uneven distribution of facilities among regions, traditional ministerial silos, municipal fiscal constraints, construction and operation cost burden, duplicated functions and programs, lack of synergies, and difficulties to secure proper sites. In particular, to bridge the regional gap in delivering public services, such as essential medical services, Korea is implementing a co-location project for community infrastructure by putting together multiple facilities and amenities in one site, such as gyms, libraries, and day-care centres, which were previously provided by individual ministries. The community infrastructure combination project aims to serve three key functions: 1) enhancing vitality based on sports and recreational centres, 2) making a healthier environment based on care-oriented facilities, and 3) improving safety for transportation means and outdoor sites (MOLIT, 2021[25]).

Box 2.7. Korea's community infrastructure combination project

In August 2018, the current administration led by President Moon Jae-in put an emphasis on making an active investment in 'community infrastructure', which is also known as 'living SOC (social overhead capital) in Korea. The term SOC usually refers to infrastructure such as roads and railways that underpin a nation's economic activities. In comparison, 'living SOC' refers to infrastructure that is more related to people's everyday life, encompassing childcare, medical, welfare, educational, cultural, sports-related facilities and services. Based on this, Korea's focus on 'living SOC' (meaning 'community infrastructure') shows its strong commitment to delivering better quality of life, balanced regional development, and enhanced regional vitality, ultimately seeking an inclusive nation. To support the policy, the government increased budget allocation for the development of community infrastructure and established a policy consultative body. This consultative body is headed by the Minister of the Office for Government Policy Co-ordination and comprised of multi-ministerial officials, along with a supporting bureau, which also belongs to the Office for Government Policy Co-ordination. In December 2018, the Ministry of Land, Infrastructure and Transport (MOLIT) finalised the national minimum standards for 'basic living infrastructure' ('community infrastructure' in nature) to ensure anyone can live a decent life based on public service delivery, regardless of location. The national minimum standards should be established every 10 years or can be re-examined or renewed every five years, if necessary, under the Article 4 of the Special Act on Promotion of and Support for Urban Regeneration.

The combination of community infrastructure has been promoted by newly constructing (or remodelling) multiple facilities or amenities in one building or more in a connected form, which enables integrated service delivery. Through this combined approach, Korea aims to reinforce community services through a set of infrastructure that are essential for everyday activities to the level of matching or exceeding what are prescribed in its national minimum standards. Under the project, an integrated mix of spaces is provided to accommodate more than two out of 13 types of facilities.

Thanks to combination, it has become easier to secure sites for community infrastructure, less costly to construct and operate those facilities, and more convenient to link different functions and programs. This joint approach is incentivised with a higher percentage of government subsidies. For example, 50% of the total cost is subsidised by the central government for a single facility but the rate becomes higher to 60% for combined facilities. Under this community infrastructure combination approach, the central government plans to invest a total of KRW 30 trillion, or approximately EUR 22 billion, over the period of 2020-22. The entire project cost can be as large as KRW 48 trillion, or EUR 35.2 billion, if local governments expenditure is considered.

Source: Ministry of Land, Infrastructure and Transport (MOLIT), OECD RDPC Meeting, 5-6 May 2021

Developing Demand-Driven Customised Assistance in Korea

Introduced in 2015, the Demand-Driven Customised Assistance (DDCA) is an example of a bottom-up approach in regional development policy. In contrast to its predeceasing subsidy-based policy for underdeveloped areas, which had focused on large-scale infrastructure investment, the DDCA integrates hardware such as infrastructure and software such as cultural content, aiming at both enhancing quality of life and promoting economic growth. Each regional government formulates project proposals, based on the consultation with the local people, experts and interest groups so that the plan is tailored to satisfy the local demands, and MOLIT is in charge of selecting plans eligible for government supports (OECD, 2021[2]).

The institutional framework for the rural development in Korea is central government led and line ministry oriented. However, decentralisation of financial resources and authority is encouraged. Recent development of the contract system between the central and local governments is noteworthy as it aims to build local capacities as well as break policy silos through providing multi-ministerial and multi-year governmental supports. (OECD 2019, Rural study of Korea, https://dx.doi.org/10.1787/50e33932-en). Particularly, MOLIT assists subnational governments in strengthening their capacity to manage the growing number of policy jurisdictions that are under their leadership as a result of the ongoing devolution strategy. With each subnational government required to establish and implement its own ten-year development plan, MOLIT provides support where necessary in the forms of budget allocations, tax breaks and deregulatory measures. For those areas facing particular challenges in terms of income, population or financial capacity, "growth promotion areas" are designated and these areas then receive special support (OECD, 2021[2]).

Managing Rural Demographic Decline

National governments should play a pivotal role in addressing the challenges from rural demographic decline. While the main impacts of decline are experienced at the community level, there are important consequences for the entire nation because of spill over effects into national measures of economic activity, social cohesion and citizen well-being. The broad strategy for rural development proposed by the OECD (OECD, 2020[1]) provides a general framework for designing and implementing national responses. Most importantly, it is necessary for national policy to be able to discriminate between those consequences of demographic decline that are associated with a fundamental change in the role of rural places, and those changes that are in society's collective interest to mitigate. In the first case public policy should compensate losing people and places for undergoing painful adjustments, but not block them. In the second case, it can be in both the collective and community interest to find ways alter outcomes in rural places to improve economic capacity, enhance quality of life and strengthen local governance systems.

Active Labour Market Policy with a Regional Focus

Demographic decline has broad impacts on the economies and social relations of nations in addition to requiring major adjustments in government policies. One way to organise thinking about these impacts and appropriate policy responses is to examine the effect on local/regional labour markets and frame policy responses in the context of active labour market policy (ALMP). Because ALMP has three dimensions, labour supply, labour demand and improving the workforce matching process in a context of structural change, it is capable of dealing with many of the effects of both demographic decline and the impacts of rapid technological change (Box 2.8). While ALMP is often implemented as a national policy, it is more useful in a regional context where labour markets are both, better defined in terms of skills and quantities of workers, and more tractable in terms of identifying interventions to improve their performance. At the regional level ALMP is in many ways an alternative framework to understand the constraints and opportunities for local economic development.

Demographic decline affects the number of workers available for employment and the types of employment opportunities that will be available. This in turn affects the skills that workers will require to be employed while providing sufficient workers with these skills will determine, in part, whether the structure of the local/reginal economy can adapt to the new situation. But other important factors are affecting labour markets at the same time – including technological change in the form of internet impacts, robotics and social media, the growing concern with moderating the effects of climate change, and adjustments to global trading patterns. While these changes are less directly influencing regional labour markets, they individually and collectively alter the future prospects for every region, albeit in different ways.

In rural areas, crucial change has already occurred. Several decades ago, in periods of higher fertility rates in rural areas, a common problem was a surplus of workers with traditional skills who were reluctant to relocate to other regions when work became scarce. This pool of surplus labour contributed to lower incomes in rural regions, higher rates of unemployment and social malaise. The main labour market problem in this period was to find ways to improve employment prospects by a combination of encouraging outmigration, providing skill development programs and stimulating new sources of employment by inward investment and encouraging local entrepreneurs.

Box 2.8. OECD and Active Labour Market Policy

Standard income replacement programs that provide support to the unemployed are useful for dealing with short term unemployment where people are expected to regain their previous job in a relatively short period of time. The schemes most OECD countries introduced as a response to COVID-19 fall into this category. However, when the cause of unemployment is structural change, most of the unemployed will not return to their previous job and active labour market policy (ALMP) is a more appropriate response. ALMP operates across three dimensions of labour markets: improving attributes of the labour supply by enhancing workers skills. Improving the demand for workers by increasing incentives for employers to hire workers and improving the working of the labour market matching process that connects workers looking for jobs with employers needing the skills these workers possess.

The OECD has a long history of recommending active labour market policy as a useful policy approach to dealing with structural adjustments in labour markets. The initial Jobs Study (1994) was developed to deal with declining levels of productivity in member states. It recommended policies to develop new technologies increase the use of capital in production and foster entrepreneurial behaviour, but also to retrain workers so they were effective complements to the new investments in production technology and increase flexibility in labour markets. The Jobs Strategy was refreshed in 2006 to address increased income and wealth inequality and still low increases in productivity, despite low levels of unemployment and modest increases in wages (OECD, 2006[26]). The refreshing exercise concluded that additional efforts were required to make the ALMP recommendations from 1994 more effective. Greater attention was needed to increase work incentives and to better tailor job training programs to meet actual work opportunities. In addition, it was seen as being important to create better job matching mechanisms and to reduce impediments to low wage work. In 2018 a completely new Jobs Strategy was released by the OECD reflecting the impact of the Great Recession and ongoing structural changes in labour markets due to rapid technological change, globalisation and imminent demographic changes (OECD, 2018[27]).

Typically, ALMP is conceived as operating at the national level where monetary fiscal and other broad national macroeconomic policies can be sued to alter the broad environment in which employment takes place. However, ALMP can also have a regional or local focus where instead of targeting broad sectors or industries it deals with employment prospects in the specific firms found in a region. The broad recommendations made by the OECD are the following: to promote an environment where high quality jobs can flourish, to prevent labour market exclusion and protect individuals against labour market risks, and to prepare for future opportunities and challenges in a rapidly changing labour market apply at the regional level. However, circumstances in individual labour markets, particularly rural labour markets, will alter specific policy choices.

Source: Own elaboration.

Rural areas face particular challenges. After several decades of falling fertility rates, many rural regions no longer face a surplus labour problem, but instead face a labour shortage (Sven Smit et al., 2020[28]). In addition, in many rural areas levels of employment in agriculture or other natural resource-based industries have declined, and the remaining workers now require higher levels of formal education and skills than in the past. Without training a considerable share of lower skilled workers remain unemployed, even where employers experience staff shortages. Moreover, demographic decline has increased the share of older people in rural regions and this has created a new demand for workers to serve their needs, but once again there are few people with appropriate skills. Consequently, the current problem is a shortage of workers, especially in fields that require technical skills. And, paradoxically, in some areas a surplus of lower-skilled workers who are too unproductive to meet employers' needs.

Box 2.9. The Korean Situation

In the case of Korea one of the more pressing structural changes facing labour markets is rapid demographic ageing (OECD, 2020[12]). While the problem is serious in urban areas, it is particularly significant in rural areas. Most rural regions start with a larger share of the population being older as a result of constant youth outmigration, particularly females. Even with the present level of lower fertility rates expectations are that there will still be a significant outmigration by rural youth, particularly those with higher levels of education. To date, return flow from urban to rural areas have not been large enough to offset outmigration. Moreover, to the extent that inflows are retired people this may exacerbate existing worker shortages.

Employment in rural areas is also more likely to be in smaller companies or self-employment. These jobs are often less than full-time and can provide few benefits, particularly pensions. As a result, employment opportunities in rural areas are often more fragile and offer less compensation. This can lead to outmigration for those with higher skills and lower rates of labour force participation by the less skilled because the returns from work are low. Korea also has the largest share of over 55-year-olds still in employment in the OECD, and the highest share of elderly in relative poverty (OECD, 2020[12]), and these shares are likely to be higher in rural areas. Efforts to increase the share of females participating in the labour force in rural areas of Korea may also be challenging. In rural areas there are fewer formal care facilities for either children or the elderly, which increases the burden on families, particularly women and may prevent them from seeking formal employment.

Source: OECD Economic Surveys: Korea 2020 (OECD, 2020[12])

The core ALMP strategy of reducing skills mismatches between worker capabilities and employer needs may also be challenging in rural areas. Improving worker skills through either formal training or apprenticeship programs is more difficult. Small population rural regions may not be able to support a technical training institution and where there is one it may not be able to offer courses because the number of potential applicants or job opening is too small. Smaller SMEs may not be willing to use apprenticeship programs either because they cost too them much, or they fear that graduates will leave for a higher paying urban job. Similarly, employment matching services in rural areas face the challenge of at best a small pool of qualified people for any skill and a set of employers who may have limited need for additional workers. While rural employment matching services could encourage workers to seek jobs in an urban region this would contradict the objective of fostering local growth.

Supporting Local Government Adaptation Efforts

While national and state/provincial governments play a major role in setting the framework for adaptation to demographic decline, and have the greatest resources for introducing change, local governments at the

regional or municipality level will lead the actual process of delivering support to individuals, communities and businesses as they adapt to the new environment. The size and nature of each region/municipality will determine both its specific situation and appropriate ways to deal with it. Co-ordination among regions and municipalities will be essential to limit actions by one place that adversely affect others. Most concerning will be efforts to block the movement of workers as a way to maintain population.

It is in the larger public interest that all regions adjust to change since this strengthens the nation and the region. Rural regions may need more assistance in constructing and implementing adaptation efforts than do larger more urban regions. Limited capacity of local governments, resulting from small budgets for technology, a greater reliance on volunteers and fewer specialists, can impede the ability to make use of development assistance funds. While it may be tempting for national governments to take approaches followed by urban regions and scale them down to fit smaller regions this will be ineffective. Similarly, national governments should resist the urge to construct a list of “best practice” solutions and present them as a menu for a rural region to choose from. The core of the OECD rural policy approach is a recognition that the local community has to embrace whatever strategy is followed if it is to be effective because only the firms, organisations and households in that community can undertake the actions that will bring about change and adaptation.

While every region, whether urban or rural, has to develop a locally specific approach to dealing with its future, it is possible to identify some broad elements of useful strategies for rural regions and communities. Four important elements that are applicable in most regions are: productivity, mobility, community, and collaboration. Some may be more important in certain regions than in others, but these four elements can be seen as a creating a framework for identifying and implementing a local response to the key forces of, demographic decline, technological change and climate adaptation.

Improving productivity is the starting place for constructing a viable economy that can adapt to changing conditions. Without increases in employment numbers the only way to increase output is by increasing output per worker – the simplest measure of productivity. Productivity is a key determinant of worker wages, as firms cannot pay workers any more than their labour contributes to the value of a unit of output. Thus, in regions with low worker incomes, increases in productivity are vital to reducing regional income inequality gaps. While demographic decline may lead to higher wages in those regions where in the past surplus workers suppressed wages, this change reflects a shift in the share of income going to labour and not an increase in output or productivity. As noted earlier the essence of S3 strategies is to identify products or services where a region has a competitive advantage and find ways to stimulate technological changes that enhance market share. This shifts the regional economy to a higher level of productivity. Another key element in improving productivity involves enhancing the workings of local labour markets, by fostering the creation and growth of dynamic local firms, by developing a work force with the skills to participate in these firms, and by ensuring that workers and firms make appropriate matches.

Mobility has several elements, but all involve movement of people, goods or information. A shrinking labour force increases the pressure to move employment to the places where it can be most productive, either by moving people or firms. Typically, people will move from one region to another, but some people will move from being out of the labour force to being in it, while others will move from less than full-time employment to full-time. Improving skills to better match employment opportunities will be crucial in accomplishing these changes as will removing impediments to working such as, difficulty in getting to a job because of lack of transport or being unable to work because of care responsibilities for children or elderly family members. Transport infrastructure is a key part of mobility because it reduces the cost of moving people or goods and increases market integration over space. The last dimension of mobility is improving the movement of information or data, which is increasingly important in a world of e-commerce. Ready access to broadband and to relevant information about jobs, the availability of inputs and potential markets improve opportunities for rural regions.

Community captures the idea that there is a particular geographic context to the strategy. Rural regions have specific capabilities and needs and are far from being self-contained economic or social units. It is their small size that makes the idea of S3 powerful because specialisation is essential for their survival. Because they are distant from larger markets, they also have to determine which services are essential for the community and find ways to deliver them effectively. This often involves relying to a greater extent on the voluntary sector instead of government or for-profit firms. Social cohesion at the community level is essential for identifying a shared vison of a future where all members of the community benefit. Studies of quality of government show a high correlation between strong levels of social trust within a population and quality of government (Charron, Dijkstra and Lapuente, 2013[24]) (Charron and Rothstein, 2018[19]).

Small regions improve their chances for a better future when they can collaborate with others.

Individually small regions can lack the capacity to deliver the full set of services their population desires even with the support of volunteers and non-profit firms. Unless a region or community is highly isolated it will be part of a labour larger market, meaning that some workers at firms in the region come from outside the region and that some workers in the region work at firms outside the region. In addition, people will shop and obtain services across the administrative boundaries of the region. With this high degree of interconnectedness collaboration among the linked local governments allows resources to be aggregated and used to achieve common benefits.

Collaboration is often difficult for small communities, even when they are in close geographic proximity because of longstanding social conflicts between communities or because of a fear they will be taken advantage of. Often an incentive has to be out in place to trigger some initial degree of collaboration (Lackey, Freshwater and Rupasingha, 2002[29]). This can be a government grant that requires joint application. It can be a rational response to a new municipal obligation such as providing an enhanced solid waste disposal site that is too expensive for any single community to afford. Collaboration can take place around efforts to stimulate tourism. While no single community may have a compelling attraction, jointly marketing a number of tourism opportunities in close proximity may provide an attractive option for visitors.

National and state/provincial governments and the European Union have adopted a variety of approaches to create incentives for multi-community collaboration. The European Union LEADER programme provides incentives for multiple communities to jointly apply for funding for regional development. Another initiative in Canada, the Community Futures Network of Canada, supports small businesses in rural communities. In Quebec the provincial government introduced the Pact Rurale as a way to provide an incentive for local governments to collaborate after it redrew regional boundaries to reduce the number of regions and moved some regions into new groups. Korea used the Comprehensive Rural Village Development Program to encourage clusters of villages to collaborate on their future development effort (Box 2.10).

Importantly, these programs provide an incentive to collaborate, but they do not try to force collaboration. Forced mergers of local governments to create regions defined by national governments can lead to counterproductive results, because they fail to capture how different communities relate to each other (Zimmerbauer and Paasi, 2013[30]). And, while larger rural regions are seen as ways to reduce the cost of delivering services the cost savings often fail to materialise because distances are too large and densities are too low to reduce the number of service locations without incurring large increases in travel costs (Dollery and Crase, 2004[31]).

Box 2.10. The Korean's Comprehensive Rural Village Development Program

While its predecessor, the Saemaul Undong program is more well-known, the Comprehensive Rural Village Development Program (CRVDP) introduced in Korea in 2004 is more aligned with current OECD recommendations for rural policy. Crucially, the program operated over a period of time, 2004-13, when demographic decline in the rural regions of Korea was already a significant issue. While Korea's development trajectory since the 1960s has been extremely rapid it largely followed an unbalanced growth model, emphasising heavy industry in urban locations. A result has been a steady out migration of younger individuals from rural areas that in conjunction with declines in female fertility rates has led to an ageing and shrinking of the rural population (Choi, Park and Lee, 2020[32]).

The CRVDP adopts a spatially based development approach based on clusters of contiguous villages that are encouraged to adopt a shared development strategy that reflects their current situation and opportunities. By encouraging co-operation among three to five villages with strong cultural links it is possible to achieve some critical mass. Further, selecting one "hub village" to host investments in joint public service infrastructure may provide a small "growth pole" and stimulates interaction among all village residents. The Program is comprehensive, in that it includes economic, social, cultural, environmental and governance dimensions, making it similar in nature to the LEADER programme of the European Union. Importantly, the CRVDP recognised that while agriculture remains important in much of rural Korea and there is a strong national interest in maintaining food security, for rural areas of Korea to be revitalised major investments outside farming were required. Indeed, given the small size of most farms in Korea, the best way to enhance the economic well-being of farm households may be through expanding off-farm income opportunities (OECD, 2018[33]).

While investment in enhancing agricultural production have been common, so too were efforts to stimulate tourism by enhancing the quality of the rural environment and preserving cultural heritage as ways to stimulate tourism and potentially attract migrants from urban areas (Heo and Kim, 2016[34]). An important feature of the CRVDP was its bottom-up approach where a cluster of villages chose to enrol in the CRVDP. This required a first step by the villages to agree to participate, which ensured that there was an initial degree of collective interest. In the 2004-2009 period 290 community groups out of a total of 1388 eligible entities participated in the program (Hwang, Park and Lee, 2018[35]). A recent evaluation of the program's impact found that on average participating villages had an increase in quality of living compared to nonparticipants (Hwang, Park and Lee, 2018[35]).

Two aspects of this evaluation are particularly interesting when components of standards of living in participating villages are compared to nonparticipating villages. The first is that a larger share of elderly in the population resulted in a statistically significant decrease in the standard of living in nonparticipating villages, but not in participating villages (Hwang, Park and Lee, 2018[35]). Conversely, a larger number of farmers and higher farm sales significantly increased living standards in non-participating villages, but not in participating villages (Hwang, Park and Lee, 2018[35]). A parallel study of the impact of the CRVDP on farm income found that in participating areas farm income was significantly higher when compared to both non-participating villages, and when compared to expected farm income levels based on participating villages' conditions prior to them enrolling in CRVDP (Choi, Park and Lee, 2020[32]). Collectively these results suggest that participating villages were able to beneficially reduce the role of farming in their local economy at the same time that farmers' income was increasing, and that the improvement in living standards was sufficient to overcome an increase in the share of elderly in the population.

This suggests that CRVDP was able to support a transition from a narrow agrarian economic base to a mare diversified base. Although the CRVDP did not explicitly target business development, other than agriculture and tourism, significant investments in improving the living standards in communities

including: housing improvements, better public services and public amenities, and environmental quality enhancements seem to have created an environment where economic growth prospects improved.

Source: Choi, Eunji, Jonghoon Park and Seonghoon Lee (2020) The Effect of the Comprehensive Rural Village Development Program on Farm Income in South Korea. Sustainability 12, pp. 1-27. available January 21, 2021 at: https://www.mdpi.com/2071-1050/12/17/6877/pdf; Heo, Jang and Yunjung Kim 2016. Comprehensive Rural Development Strategies of Korea and Their Implications To Developing Countries. Journal of Rural Development 39: special Issue, pp. 1-34. available January 21, 2021 at: https://ageconsearch.umn.edu/record/251927/files/RE-39-5-01_HEO.pdf; Hwang, Jaehee, Jonghoon Park and Seongwoo Lee (2018) The Impact of the Comprehensive Rural Village Development Program on Rural Sustainability in Korea. Sustainability 10, pp. 1-21. available Jan. 21, 2021 at: https://www.mdpi.com/2071-1050/10/7/2436/pdf; OECD Korea Agriculture

Fostering Innovation in Rural Regions

The literature on innovation systems emphasises the role that co-ordinated effort on formal science and engineering research, conducted by research universities, large corporations and governments, has a major impact on technological progress and innovation (Camagni and Capello, 2013[36]) (Foray, DAVID and HALL, 2011[37]) (Morgan, 2007[38]) (OECD, 2013[39]) These efforts are seen as driving economic growth in the 21st century by providing the new technologies, products and processes that will increase productivity and help resolve crucial problems, such as, mitigation of climate change. While this is a credible and compelling story, it is a story only about the role of metropolitan regions, since only they host the research universities, corporate research centres and government laboratories that underpin innovation systems.

This has the implication that innovation does not take place outside urban centres, which if true, suggests a limited role for non-metropolitan regions. Yet there is considerable evidence that innovation is taking place beyond metropolitan regions (Doloreux and Dionne, 2008[40]) (Naldi et al., 2015[41]) (OECD, 2014[42]). This innovation is important in several ways. The first is that it can provide a means to improve the competitiveness of firms in these regions, which in turn assures that local employment is maintained, or enhanced, and communities remain viable. The second is that in a period of demographic decline innovation provides a way to move the production of goods and services away from low capital to labour production technologies to ones that use less labour. Typically, this leads to higher wages for workers as their productivity increase, and releases labour for use in other sectors. Third, while the share of national output in OECD countries that comes from large metropolitan regions continues to increase over time, vital goods and services are only produced in nonmetropolitan regions. These include: food, energy, minerals, other raw material and environmental services.

This innovation comes from three distinct sources. The first is innovation developed in metropolitan regions specifically for use in nonmetropolitan regions. This research is part of the standard innovation system paradigm, but with a nonurban focus. For example, universities, governments, and corporations engaged in natural resource extraction and processing all create knowledge and innovations that are specifically oriented for uses in nonmetropolitan regions. Second, innovation conducted in a metropolitan region that is first employed in metropolitan regions can be reconfigured or adapted for use in nonmetropolitan regions. For example, most of the underlying technology used for tele-health or tele-education was first developed for use in an urban setting, but then adapted for use in more rural environments where it may be even more valuable because it relieves the problems of low density and long distance.

Third and finally, individuals and firms located outside metropolitan regions develop local innovations to address their specific needs and opportunities. These applications occur outside the formal innovation system process and are often not captured by patent data. While they may have limited application outside the region where they are developed, they can be extremely important in that region, and later for other similar regions. For example, the commercialisation of salmon aquaculture was first developed along the west coast of Norway by local entrepreneurs, with limited support from nearby small regional universities. Over time it has been adopted by regions around the world with similar environments, but using Norwegian technology and has grown to be a significant source of income, employment and exports for several

countries (Asche, 2008[43]) (Liu, Olaf Olaussen and Skonhoft, 2011[44]) (Nilsen, 2010[45]) (Tveteras, 2002[46]).

While salmon aquaculture is an unusual example of a major innovation that developed outside the formal innovation process, it is not unique. Other major innovations that took place in rural regions that spread beyond the locality where they were first developed include such firms as, Walmart in the USA, Bombardier in Canada, Ikea in Sweden and Lego in Denmark. In Korea several of the chaebol that are now large multinational corporations had their origins as innovative family firms in rural areas. While most innovations in both urban and rural regions do not have such a direct global impact, their cumulative effect is important. These innovations improve the economic prospects of firms, and in doing so increase the level of well-being of individuals, and of the communities that host them.

Improving rural-urban linkages

The regional and rural development policy in Korea has significantly evolved over the past 60 years. The focus has diversified from solely economic and industrial development, which in fact enhanced the national income and living conditions across the country while widened the regional disparity, to include securing quality of life nationwide. The success of the country's development strategy in the latter half of the 20th century in building an advanced industrial economy has increased concentration in cities and particularly in and around Seoul, while rural communities have seen their populations age and fall. Consequently, the government has grown increasingly concerned about the inclusion of rural communities in the overall balanced development agenda. Correspondingly, rural policy has increasingly adopted functional and network-based approaches to deal with regional and rural issues such as basic service provision, along with traditional large-scale investments to build growth hubs (Garcilazo et al., 2019[47]).

While policies that focus directly on improving economic conditions and the quality of life in rural regions should be the core of any rural policy framework the importance of strengthening rural and urban linkages should not be ignored, especially in a country like Korea where the main drivers of economic growth are likely to remain urban in nature. Spill overs from urban development can help strengthen rural areas if they are facilitated through appropriate policies that help improve connectivity between the two types of region. Several policies introduced in Korea can serve this function: including:

Developing regional hubs in Korea: Innovation Cities and Sejong

A primary policy under the regional development initiative led by the CNTP is the development of three types of new city across the country to relocate administrative functions and economic activities from Seoul to the provinces. The scope is to curb the excess concentration of people and economic activities in the capital region and build growth hubs relocating public and private functions to less developed regions in the provinces. Many government ministries and public organisations have been relocated to the new multifunctional administrative capital of Sejong and other public organisations, including research institutions, have transferred to ten newly constructed Innovation Cities to play leading roles in forming regional innovation systems. Additionally, Enterprise cities will contribute to revitalise regional economies through encouraging private investment, providing incentives on land use and tax. These initiatives go beyond the development of new communities: rather they are intended to improve the quality of life of local residents and support the development of the surrounding areas outside the new cities themselves, for example by enhancing residential environments, hiring local talent and procuring locally sourced goods among other things (OECD, 2021[2]).

Reinvigorating Small and Medium-sized Cities around Regional Hubs in Korea

Korea is improving the residential environment of small and medium-sized cities surrounding regional hubs. Under the Urban Regeneration New Deal project launched in 2017, Korea is implementing pilot

projects that link housing units, community infrastructure, and job offering to promote the expansion of residential amenities and the improvement of low-rise housing units. With a goal of completion for a total of 500 sites by end-2022, progress has been made on 400 sites as of end-2020. In addition, Korea began pilot projects that provide a package of public rental homes, amenities, and jobs in farming and fishing villages that are experiencing a serious population decline. With these pilot projects, the intention is to support a renewed population inflow, along with the supply of jobs and infrastructure (MOLIT, 2021[3]).

Reinforcing Regional Transportation Networks in Korea

Within the general scope to promote balanced development, Korean government is striving to expand metropolitan railway networks to cover regional areas with relatively poor railway conditions as well as disconnected spots. The government is also pushing projects to improve arterial road networks through new construction or upgrades by taking into account travel demand between different provinces and their overall balanced development (MOLIT, 2021[3]).

Conclusion

Demographic decline is a crucial question which impacts several important public policy dimensions, three of which are key for regions and rural territories:

- *Workforce issues.* With demographic decline, the labour force steadily ages and shrinks. This leads to limits on the number of employees available for work and can lead to skills gaps if some ageing workers with specific skills cannot be readily replaced. As the population ages, both in particular places and across the nation, the demand for goods and services is affected, which leads to a change in the mix of outputs and from there to changes in the skills needed by employers. There are also important implications for maintaining current rates of economic growth, as large increases in productivity are needed to offset a smaller number of workers.
- *Social issues.* Shrinking local populations also alter social relationships within communities. Initially organizations that engage youth are challenged by falling numbers of participants and may cease to operate, which weakens opportunities for the remaining children. Somewhat later a similar effect is felt by organisations that are oriented to working age adults. The result is a community that loses its capacity to generate social capital and maintain the local quality of life. Ultimately, the community can lose its ability to provide care for the still relatively large number of older people, because there will be too few people to provide these services ,either within the family or in a care facility. Problems of social exclusion can become more pervasive as the structure of communities change and social ties are weakened.
- *Governance issues.* With economic decline the local tax base falls and local governments become starved of revenue at a time when the demand for new social services may increase as the local demand shifts in response to an ageing population. With shrinking populations local governments can experience higher per capita service costs, as they lose economies of scale in service delivery. In some cases, the community may experience a reduced capacity to self-govern as the population shrinks and ages.

Demographic decline creates a demand for a new approach to regional and rural development. Importantly demographic decline in rural regions has important implication for urban centres because rural outmigration to cities remains an important source of urban population growth across OECD countries. OECD research has shown for decades that rural regions can be a source of economic growth under appropriate conditions, but with a shrinking workforce this will be an increasingly difficult prospect. For current levels of economic output to be maintained in future years there will have to be significant increases in worker productivity and in local labour force participation rates to offset absolute declines in the labour supply. Moreover, structural changes in rural economies will be required to reflect shifts in the types of

service that people desire and in response to ongoing technological change. A wide array of programs that can help facilitate such adjustments is available and appropriate combinations of programs can support various goals and needs. What is needed is an appropriate strategy at the local level and a supportive national framework.

The scope and complexity of these changes is more than rural communities can be expected to manage without significant national government support. However, the most appropriate way to provide support is by assisting communities or groups of communities to identify their particular needs and opportunities. This "bottom-up" approach to rural policy has been shown to be the most effective way to bring about sustainable rural development across the OECD. Rural regions will require significant investments in the broad areas of workforce development, appropriate service provision, and improved governance mechanism if they are to make a full contribution to national development objectives. Importantly if rural places can achieve these capabilities, they will also help satisfy broader national concerns with improved territorial integrity and the avoidance of desertification.

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3 A policy framework to respond to demographic changes in Korea

This chapter presents relevant policies and practices adopted by selected OECD countries and defines a policy framework with development priorities and measures to tackle socio-economic challenges caused by demographic changes in Korea.

Introduction

Korea now faces a major adjustment as it deals with the twin challenges of demographic decline and adapting to rapid technological change. While the adjustment will affect all parts of the country, the focus of this discussion is on the rural parts of Korea, where people mainly live in small settlements and minor cities. Two policy choices for rural areas are considered here.

The first is to allow a large part of the adjustment to take place in rural regions by adopting policies that reinforce current economic and demographic trends. These include: maintaining the flow of young people from rural to urban places, continuing to allow rural communities to lag behind in adopting technological change, allowing lower quality rural public services to continue in place and generally focusing public policy on fostering urban growth. The result of this policy will be a further reduction in the share of the Korean population living in rural areas and the abandonment of many small settlements when they decline in population and economic function to the point that residents abandon the community. For the nation this will lead to a process of desertification where previously settled areas revert to a natural state.

Alternatively, Korea could choose to try to maintain most of its territory in a settled state by improving economic opportunities and living conditions in rural places; thereby slowing the outflow of rural youth to urban centres and possibly encouraging a flow of people from cities to rural Korea. This second approach preserves the territorial integrity of the country, but will require major adjustments in public policy. Notably, it will require stimulating local economic development to provide attractive career opportunities. Because of the small size of local labour markets in rural areas these efforts will have focus on small and medium size enterprises, and many of these firms will not be competitive in international markets. Further, to ensure that the quality of life in rural areas is comparable to that in cities, there will have to be major improvements in rural public and private services. These investments will be challenged by the rural realities of limited potential for economies of scale and high transportation costs. This means that alternative service delivery mechanisms will have to be developed. Because worker productivity in Korea is currently lower in SMEs and in service-oriented firms it will be important to invest in ways to increase their productivity in order to make rural income competitive with urban income, and to help them offset the broader reduction in the size of the national work force.

Either policy choice also has implications for urban centres. For decades large cities in Korea have benefitted from rural to urban migration as a significant contributor to their labour markets. With demographic decline this inflow of workers will slow, but it will likely slow more if government policy increases opportunities in rural areas as part of a strategy to maintain a populated countryside and decrease congestion in large cities. Even with maintained flows of rural youth in percentage terms, the number of rural in-migrants will decline as the rural population declines. Other factors may also slow rural outmigration as the population ages. To the extent that rural communities retain a more traditional set of social relations, there may be increased pressure on young people to remain near their home in order to help care for elderly relatives. Elderly care is more likely to remain a family responsibility in rural areas because small settlements will be unable to provide public or private elderly housing.

Deciding on a broad approach to how spatial impacts of demographic decline will be addressed is important because it will affect the value of existing efforts to improve rural conditions. For example, the current program to rehabilitate rural housing makes more sense if it is part of a broader strategy to maintain a balanced distribution of the population. But even if this the case, it is unlikely that all rural communities with substandard housing will be viable in the long run. To some extent if communities self-select participation in the program there will be a tendency for the better-organised and more viable places to apply. However, self-selection may not achieve a spatial distribution of surviving communities that meets national needs, so more context may be needed for existing rural programs to make them more coherent with national objectives.

The Korean context

Korea has made rapid economic and social progress over the last fifty years. Much of the progress reflects a sound development strategy that has turned Korea into a global leader in manufacturing. Large Korean firms are dominant in important sectors, such as, batteries, telecommunications, automobiles, ship construction and electronics. Korea's dominant export-oriented manufacturing firms were able to combine a high rate of technological progress with abundant relatively low cost but skilled workers to penetrate world markets. Policies followed by the Korean government supported the growth of these chaebols including financial support and favourable labour and environmental regulations.

A consequence of this growth was an increasing concentration of the population and economic activity in cities. This has led to most regions in Korea being urban in nature, and a decline in the both the number of rural regions and the rural share of the population. However, while rural regions in Korea are few in number, they now produce a higher per capita income than do urban regions (Chapter on Demographic trends in the OECD and Korea). This suggests that there are economic opportunities in rural Korea that can be leveraged for future growth. The rural population in Korea also tends to reside relatively close to a medium size or large city, and there are no remote rural regions. As a result, a large share of the rural population lives in what can be considered a peri-urban environment. This provides the potential to form stronger rural-urban linkages that can be a way to improve the quality of life in both urban and rural locations (OECD, 2021[1]).

However economic progress has not been uniformly distributed. Three aspects are relevant to the inequality. The first is a significant small firm versus large firm difference in productivity and profitability. The second is the concentration of growth in the manufacturing sector, with services playing a far more limited role. The third is a geographic concentration of prosperity in the largest cities that continue to attract workers from other parts of the country, particularly rural areas. The result is a classic case of unbalanced growth.

During the post-war period Korea experienced a demographic dividend of a rapidly growing labour force that also underwent a major increase in skills (Han and Lee, 2019[2]). The demographic dividend fuelled the economic transformation by providing a growing number of workers whose skill level improved with each new generation. Many of these workers came to cities from rural regions at a time when rural fertility rates were high, and employment prospects and living conditions in cities were better than in rural communities.

The Korean government is already embarking on a series of policy adjustments to bring about more balanced growth. However, Korea now faces a major new challenge that both makes strengthening and broadening growth more important, and that imposes new constraints on this effort. Korea has already moved from a favourable demographic structure, where new workers were more numerous and better skilled than older retiring workers, to one where the new worker replacement ratio is below one, resulting in a shrinking work force. While workforce skills continue to increase, the rate of improvement from generation to generation is slowing. And, while urban areas are still forecast to grow they will be less able to rely on an incoming flow of workers from rural areas, because persistent outmigration has led to a large decline in the number of women of child-bearing age, and fertility rates of women in rural areas are now comparable to those in cities.

With a less favourable demographic situation a number of common practices and behaviours will need examination to see if they should remain common. Examples are: relatively long working hours, pressure on older workers in large companies to retire at a relatively early age, a pattern of young workers remaining out of the labour force while they search for jobs in large firms or government, a high rate of entrepreneurship by older individuals that can be characterised as being driven by necessity and not opportunity, low service sector productivity and low rates of female employment. These practices and

behaviours tend to reduce labour force participation rates or result in under-employment, which in turn limits productivity.

In its early decades of growth, Korea placed limited emphasis on rural development, with the notable exceptions of the land reform program of the 1950s under President Syngman Rhee, and in the 1970s the Saemul Undong program of President Park Chong-hee that provided support for village modernisation and economic diversification in addition to agricultural support (Looney, 2012[3]) (Whang, 1980[4]). More recently, Korea introduced a major multi-year effort to revitalise rural areas and improve living conditions with the Comprehensive Rural Village Development Program (Box 2.10) that operated from 2004 to 2017 (Hwang, Park and Lee, 2018[5]).

For most of the last fifty years Korea relied upon an unbalanced growth strategy that supported a relatively small number of globally competitive manufacturing firms concentrated in a few cities, particularly Seoul. Most recently Korea has embarked on a balanced growth approach that seeks to reduce the share of the population in Seoul by fostering the development of a number of new cities, and a broadening of the economy. The new strategy, Innovation Cities has the goal of fostering a shift in population and economic activity away for the Seoul metropolitan region to 10 existing regional cities and a new administrative city, Sejong (OECD, 2021[1]). Spreading population and economic activity to cities distributed across the country will relieve pressure on the Seoul region and lead to an improved geographic balance. And, while the policy is mainly an urban development approach, it should provide spill-over benefits to rural territory near these new growth poles.

However, the policy, as currently conceived does not explicitly identify rural development as a contributor to balanced growth. Certainly, increasing the number of dynamic urban regions and spreading them across more of the national territory provides greater opportunity for rural people to access urban services and employment opportunities, but this is not the same as strengthening rural development. Without more support for rural development it may be possible to create a more balanced urban system, but ongoing population and economic decline in rural areas is likely to continue.

Few regions in Korea are characterised as predominantly rural, 5 out of 17 regions. This may suggest that rural issues are not very important for Korea. However approximately 18% of the Korean population live in a rural environment because all types of region contain both urban and rural territory and populations (Chapter on Demographic trends in the OECD and Korea). Most of these people live in fairly close proximity to a city, with a median travel time of less than half an hour. This makes constructing opportunities for strengthening rural urban linkages a potentially important way to improve rural well-being. Close geographic proximity allows the possibility of rural people accessing services from nearby urban centres and perhaps finding work in these urban places if commuting is possible. Similarly, rural areas can benefit from urban people purchasing local goods, such as farm products, or from urban families travelling to rural areas for leisure activities. While these linkages can develop independently of national government support, they are more likely to lead to a stronger rural economy if they are explicitly encouraged (OECD, 2021[1]).

As noted in the chapter on Demographic trends in the OECD and Korea the quality of life of rural people in Korea is often inferior to that of urban Koreans. This includes: access to reasonable quality housing, availability of public services, quality of education, access to transportation, and, in some places, environmental quality. If rural regions are to continue to make a positive contribution to national development it will be important to ensure that rural areas are desirable places for workers to live. Assuring Inclusive growth across Korea can be framed in terms of: ensuring work and skills, and opportunities to start and grow businesses (OECD, 2021[6]). And these are certainly the key factors influencing productivity and production. However, in an environment where the labour force is shrinking and places must compete for workers, it is important to ensure that some places are not disadvantaged because they are currently unable to offer an adequate quality of life.

Korea now must decide how its rural policy will support general development objectives in this new period of demographic decline. It is clear that some rural places will not survive, because the national population is falling and there will be a significant geographic rebalancing of people. However, the number and geographic distribution of surviving rural communities will hinge on policy choices by the government on where investments in increasing productivity and providing public services will occur. Choices that assign a priority to favour factors that encourage the permanence of a significant share of the population across rural regions will reduce desertification and may meet national security objectives, but will require the implementation of a range of policies that focus on improving rural conditions. Conversely, a policy regime that is mainly urban focused will inevitably lead to higher rate of rural decline.

Lessons and suggestions for Korea

Defining a rural strategy for Korea

Korea has undertaken a highly successful national development strategy over the past fifty years that has made it a prosperous country. Historically much of Korea's growth was driven by investments to support export-oriented manufacturing. This was clearly successful, but it has resulted in rapid urbanisation of the population as rural residents migrated to cities for better jobs, and significant rural decline. Korea has become a major manufacturing power and is a global leader in electronics, automobile and ship-building. In the process the economy and Korean society have become highly urbanised with Seoul becoming the dominant city. Currently the Korean government is engaged in efforts to spread economic activity and the population outside Seoul to create more spatially balanced growth and reduce increasing congestion costs in the capital city. Much of this effort involves creating a network of secondary cities. While Korea has a clear urban strategy it currently lacks a parallel rural strategy that could add to the current focus on achieving more balanced growth and increased prosperity for all citizens wherever they live.

OECD countries are affected by demographic change in different ways. Mainly due to ageing, immigration and falling fertility rates, many cities and regions in the OECD are likely to continue to "shrink" in the coming decades, even with some increases in population due to migration (from within or outside the country). There is a need for new thinking and policies to overcome some of the expected challenges ahead (e.g. ensure financing of services that are likely to see increased demand with the growth of the ageing population; balance employment opportunities for the youth and the elderly; innovate the management of urban infrastructure). The silver economy (referring to the elderly workforce) and the white economy (referring to the economic opportunities of healthcare) could be new sources of growth together with opportunities from green economy activities, but there is a need to create an enabling environment by providing appropriate support to local governments and business. At the same time, national and local governments are already working to address the ageing workforce, which is a priority issue, and a number of programmes and initiatives are in place (Martinez-Fernandez et al., 2012[7]).

Other OECD nations have recognised that it is important to move beyond just trying to reverse demographic decline in rural areas to finding ways to adapt to and manage the decline process. For example, in the Netherlands, population and households are projected to decrease rapidly in the near future. The decrease in the number of youths and the ageing population will also cause a rapid decrease in the size of the potential labour force. In 2010, the Dutch Government identified a strategy called "anticipating regions" for facing population shrinkage. Regions and municipalities had to anticipate the effects of demographic decline and adapt housing policies but also define new policies for the local economy, retail trade, business locations and the labour market. In fact, the experiences in shrinking regions show that there is little use trying to combat demographic decline and that a policy shift from combating shrinkage to managing, shrinkage is more effective, even if it is a difficult process. To do so municipalities need to work together at the regional level to ensure that they do not compete for the same residents and businesses. This also helps preventing unprofitable spatial investments, financial problems

and unoccupied homes and offices. Regional and national government shall support municipalities in their search for new coalitions, in developing financial resources and in exploring the possibilities provided by existing regulations to implement common strategies that focus on anticipating and managing shrinkage. Main takeaways from evaluations of policies to manage shrinkage include: 1) Approach demographic challenges in an integrated way and adopting a long-term perspective. 2) Develop adapted financial instruments to facilitate long-term intergovernmental co-operation. 3) Make sure the right preconditions are in place to realise the opportunities in shrinkage areas and take away any obstacles in regulation that prevent regional-specific efforts and approaches. 4) Sharing experiences, expertise and knowledge between regions. 5) Make sure regions and municipalities have enough resources to maintain the basic social infrastructure to which everyone has a right. Make sure there is some flexibility in funding since this infrastructure might cost more in shrinkage areas then elsewhere (Verwest and Van Dam, 2010[8]).

Italy's "inner areas", rural areas that are found to be exceptionally remote from urban centres and to face specific infrastructure and service-delivery challenges, cover almost 60% of the national territory, hosting nearly 23% of the national population and encompassing approximately 53% of Italy's municipalities. Inner areas are characterised by: distance from large and medium-sized urban centres; a wealth of natural assets and cultural resources; and a complex settlement pattern shaped by diverse natural phenomena and human settlement processes. In aggregate, these areas are experiencing population ageing and decline, loss of jobs and shrinking public and private service supply. Their decline in many cases has hydro-geological consequences and entails loss of cultural heritage and landscape degradation. A National Strategy for Inner Areas development has recently been developed with a view to promoting the recovery of such areas on the basis of a set of interconnected projects focused on few selected priority fields of intervention and co-ordinated with ordinary sectoral policies (service provision). The strategy seeks to enhance well-being and quality of life in Inner Areas by turning differences into competitive strengths, overcoming differences, interconnecting locations, and strengthening networks. The Strategy pursues two complementary objectives: i) improving Inner Areas populations' capability to have access to essential services (education, health, transport); and ii) promoting Inner Areas' development by capitalising on local assets and stimulating job opportunities. The ultimate goal of the Strategy lies in reinforcing Inner Areas' demographic structure. Five major innovations differentiate the strategy from previous efforts in this field: 1 Though it is a national strategy, it is based on partnership across levels of government and a strongly participatory approach to local development. It neither forces local actors to conceive new development measures themselves nor plans them from the capital. 2) It has two clear aims of accessibility and promoting development, and the central government's approach to these two goals is differentiated. For accessibility, it is a supply-focused policy rationalised by sustaining their quality of life. For promoting development, it is a support-giving function to promote local initiatives in selected domains. 3) The framework to promote development is well-conceived. It is a step-by-step process, enabling the government to minimise the risks of pouring resources into undesirable areas and to maximise the benefits expanding others. One prototype area per region is selected to evaluate the potential success of the Strategy and trigger a positive learning mechanism. All the selected areas come to be part of a project federation to encourage networking, exchange and learning. 4) The process for selecting prototype areas is very transparent. Meetings, datasets, results and reports are published on line. 5) The sustainability of Strategy actions is ensured by a bottom-up approach in which municipalities and regions are directly responsible for Strategy implementation. Municipal associations are utilised in Italy as a platform for collaborative work. (Source: Information provided directly by the Department for Development and Economic Cohesion of the Italian Republic). (OECD, 2016[9]).

Similarly, Japan has introduced two new strategies that provide a context for developing a range of policies to address demographic decline. The Long-term Vision and the Comprehensive Strategy for Overcoming the Population Decline and Vitalizing Local Economy were both approved by the Cabinet in December 2014. The "Long Term Vision" is Japan's vision to alleviate the rapid population decline and vitalise the regional economy for 2060. The primary perspectives are: 1) Ease the overconcentration in Greater Tokyo Area; 2) Support young generation's hope for work, marriage, and parenthood; 3) Solve the regional

challenges based on the specific characteristics of each region. The “Comprehensive Strategy” is Japan’s basic policy principles and its implementation for the coming five years. The objectives are: 1) “Generate stable employment in regional areas,” 2) “Create a new inflow of people to regional areas,” 3) “Fulfil the hopes of the young generation for marriage, childbirth, and parenthood,” 4) “Create regional areas suited to the times, preserve safe and secure living, and promote co-operation between regions.” The Government and local governments co-operate in pursuing solving issues by: 1) creating “Regional Economy Data Analysis System” to provide local governments with big data to analyse various indicators, including demographics, business activities, and tourism trends in each region; 2) financial support (grant for local governments, local allocation tax, and tax incentives for businesses) for creating the “Regional Comprehensive Strategy” in each region and its implementation; 3) Human support by assigning government officials and the other experts to assist the chiefs of smaller cities, as well as providing local governments with consultant service by government officials. The “Long Term Vision” is revised every five years, and the “Comprehensive Strategy” is revised every year. In December 2020, “Comprehensive Strategy” was amended, which included the measures for avoiding spreading the pandemic, such as promoting Digital Transformation and decarbonisation society, promoting teleworking, creating attractive universities and industries in regions, and increasing the number of people who move or visit regional areas frequently. The “Basic Policy for Overcoming the Population Decline and Vitalizing Local Economy in Japan” contains detailed policies to achieve the principles in the “Comprehensive Strategy (OECD, 2016[9]).

In recent years, Korean governments have recognised the need to invest in rural areas. Several factors are important.

- The first is a recognition that unbalanced growth policies have left rural people worse off than their urban pers. When it was important to induce rural to urban migration flows this may have been considered acceptable. But now there is less need for more people in the large urban centres, and many rural people now lack the skills demanded by urban employers as they transition to more advanced production methods.
- Second, Korea has reached a point where the returns from further investments in strengthening large export focused manufacturing firms in urban areas are starting to decline. Consequently, future economic growth will require contributions from other parts of the economy and from other parts of the country, including rural areas.
- Third, demographic decline has started to impact the labour force with retirements exceeding new entrants. In this environment it is crucial to increase labour force participation rates and to ensure that workers are not “underemployed”. In rural areas there are lower labour force participation rates, especially by females and the productivity rates of rural firms are considerably lower than those in urban places.

The OECD has shown that rural areas can make effective contributions to national economic objectives but they need particular types of support that are tailored to their situation and capabilities, which differ considerably from large urban regions (OECD, 2016[10]). In particular, economic growth and sustainability in rural areas hinges on the development of tradable sectors that sell their production, whether goods or services, outside the local economy. In the past rural areas tended to specialise in the production of natural resources, including agriculture, fishing, forestry and mining. First stage processing of these resources developed and this introduced manufacturing. Over time, some rural regions have been able to expand beyond first stage processing of resources by expanding the variety of manufactured goods they produce. More recently, many rural areas have become specialised in providing tourist activities that are based on nature of local cultural attributes. In addition, some rural regions have been able to act as retirement destinations for urban residents who relocate to enjoy a quieter lifestyle in a pleasant surrounding. Finally, modern ICT has allowed some services to be able to locate to rural areas, including call centres and various “back-office “functions that do not involve close interaction with customers.

While the service sector, broadly defined, employs more people in rural regions, just as it does in urban regions, most service-sector jobs support the local economy but do not generate any revenue from external sales. Because they lack a large home market, due to a small population, rural areas have to purchase many of the goods and service that are required locally from outside their region. This in turn requires that they sell sufficient locally produced outside the region to pay for their imports. Ultimately, a sustainable rural economy requires a strong core of export-oriented firms that form the base of the economy. On this basis, it will be possible to develop a fabric of firms and local government services that create an improved quality of life. But absent the base, the fabric will dissolve as the externally generated funds needed to support it disappear.

Box 3.1. The OECD Rural well-being framework

The new OECD rural policy framework introduced in the publication Rural Well-being: Geography of Opportunities provides a structure for suggesting policy recommendations that address the impacts of demographic decline in rural areas of Korea. The focus on well-being recognises that there is more to rural development than improving income and employment, and that the quality of life in a place or region is increasingly important to residents, employers and workers. Moreover, if local economies are to move beyond relying on their specific natural resource endowment as a source of economic growth, then they have to provide a high quality of life to both new employers and workers if they are to attract them. Because these new development opportunities have multiple location choices, it will be the regions or communities that offers the best package of labour force, infrastructure, environmental and cultural amenities, and public and private services that are most likely to grow. In particular, in an environment of demographic decline when all regions will be competing for a smaller labour supply, a focus on enhancing the local quality of life will offer a competitive advantage in attracting and retaining workers.

The Rural Well-being report identifies demographic decline as one of the main factors affecting rural regions of the OECD. The discussion in the report suggests that populations are projected to decline in all rural regions of OECD countries. This reflects varying combinations of: low fertility rates that reduce the number of child births by each woman; high youth outmigration rates, especially for young women; low inward migration rates, except in some regions with high amenities and good public services; mortality rates that continue to decline. While life expectancies continue to increase in most rural regions, which slows population decline this is contributing to a smaller a share of the population being in the active labour force and higher demands for workers in elderly care.

While virtually all OECD countries are now either experiencing demographic decline, or will soon do so, some, such as Korea, Japan, Germany and Italy, are far more exposed to an aging and shrinking population. This makes it imperative to examine how: a shrinking workforce, a smaller school age population and a larger number of retired individuals affect economic and social policies. Rural Well-being identifies a roadmap for improving the various dimensions of quality of life in rural regions.

In many rural regions the effects of demographic decline have been accompanied by slower economic growth in the time period since the recession of 2008-2009. This is especially the case in more remote regions that are distant from a major urban agglomeration. In general, rural regions have been less able to adapt to new economic conditions that reflect a shift to a service economy, particularly high value-added services, and greater use of digital technologies in all parts of the economy. As a result, productivity in most rural regions has not kept up with increases in urban areas; and some remote rural regions have experienced both declining employment and declining productivity. Broad strategies for improving economic prospects and quality of life include: improving skills, particularly digital skills, better broadband access, strengthening the education system, improving entrepreneurship and innovation

performance. For rural areas investments that accommodate and support higher rates of automation and digitalisation will be crucial.

Source: (OECD, 2020[11]), Rural well-being: Geography of Opportunity, OECD 2020.

Box 3.2. Rural development policy: the European Union model

The Common Agricultural Policy (CAP) is a system of European Union (EU) subsidies and programmes meant to enable producers of all forms of food to survive and remain competitive on world markets. The key objectives of the CAP are to: increase agricultural productivity; ensure a fair standard of living for agricultural producers; stabilise markets; assure availability of supplies; and ensure reasonable prices to consumers. The Union's rural development policy emerged in a piecemeal way through successive reforms of the CAP. Consequently, there are now two "pillars" through which funding is disbursed. Pillar I, the larger share of the overall budget, provides subsidies to farmers. The second pillar is the Rural Development Regulation. The CAP has evolved in ways that make it more important for broader rural development issues and EU countries can now use the flexibility in the CAP to shift money from direct payments for commodities to other programme areas. Early opportunities for modulation* of direct payments were implemented by the United Kingdom and France at the turn of the 21st century. These were largely for agri-environmental improvements, but they tended to be most valuable in marginal farming areas where additional farm income plays a relatively larger role in the local economy. The expansion of Pillar II makes the CAP an increasingly important factor in rural policy. With the introduction of Pillar II to the CAP in 1999 it began to play a major role in rural development policy within the European Union. As funds are diverted from Pillar I to Pillar II and programmes under Pillar II become more structured and better funded, they play larger roles in conditioning national rural policies. Because Pillar II remains highly oriented to agriculture it promotes a stronger role for farming in rural development. Funding is made available for farm diversification, agri-environmental improvement, farmer training and improving infrastructure that has direct ties to agriculture, such as modernising farm market towns. The broadest aspect of Pillar II is its support for the LEADER programme (Box 3.17), which offers opportunities for introducing locally based rural development approaches that rely on a wide variety of sectors and actors.

Note: * The term "modulation" is used to describe the transfer of funds from direct subsidy payments under Pillar I of the CAP to rural development expenditure under Pillar II of the CAP. It is a mechanism used to shift financial resources across otherwise separate budget lines.
Source: (OECD, 2011[12]). (OECD, 2016[9]).

Tailoring labour force policies to support rural development

Policies may affect the consequences of decline in regions and rural areas in one of three ways.

- The first are supply side policies that try to increase the number of potential workers, either through increasing birth rates or through encouraging in-migration. Inward migration is also a challenge for most nations, and while internal migration within a country can improve population numbers in some regions, it will reduce them in others.
- Second, policies to enhance the utilisation of the current labour forced largely by increasing participation rates or slowing the rate of retirement can be introduced. These can be effective, but there are limits to their use since they tend to be less effective each time they are used. It may be

possible to increase the workforce participation rate by a few percentage points, but it becomes much more difficult to subsequently entice those with stronger reasons for not participating. Similarly, the youngest cohort of older workers may be easily encouraged to work longer, but it is more difficult to entice people in their late 60s to continue to work.

- The third, and most effective way to adapt to a shrinking workforce is to enhance worker skills and substitute capital and technology for workers as they become scarce. This has the additional benefit of increasing worker wages because this approach enhances labour productivity, which should increase wages. Improved workforce training is a key part of this but it is clear that skill development has to be tightly coupled to employer needs, which will vary by industry and often by size of firm if they are to be effective. It also suggests that the effects of demographic decline by industry must be examined and effective ways to adjust to this decline must be identified. Only then can appropriate workforce development programs be identified.

Of these policies, very few – increasing fertility rates and increasing immigration, attempt to directly reverse demographic decline. All the rest can be characterised as efforts to mitigate the effects of decline, by altering how labour markets function, how and how governments deliver workforce development programs.

Labour force development is best understood in the context of Active Labour Market Policy (ALMP), which focuses on the supply of labour, the demand for labour and ways to make labour markets function more effectively. On the supply side three policy areas are discussed: retaining a larger share of rural youth, increasing the labour force participation rate of those with low current rates and improving rates on migration to rural areas. Labour demand is mainly discussed in the three subsequent sections covering agriculture, tourism and manufacturing. In addition, the importance of raising the effective supply of labour by improving workforce skills is considered in a rural context.

Supply side policy responses

Policies that significantly expand the number of workers have been difficult to implement in OECD countries. The main driver of national population decline has been a large drop in female fertility rates that took place over several generations. This largely reflects differences in lifestyle choices by families that would be difficult to reverse. For family size to increase major changes in support for women is required. While families can play a role in this process national governments will have to provide far better support for working women than is now available in all but a few OECD countries. This includes: extended paid time off for new mothers and fathers, high quality subsidised day care, access to after school care that is close to places of work and flexibility in working hours to deal with family emergencies. Countries that provide these family friendly policies tend to have significantly higher fertility rates than do countries where these accommodations are not widely available.

While these policies offer only a long-term opportunity to influence fertility rates they can have a significant short-term effect in countries and regions where female labour force participation rates are low. For women to be willing, or able, to take on paid work they must have a way to transfer a significant portion of their household responsibilities for family care to their partner or another provider. In the past this may have been a member of the extended family. However, in modern society it is less common to have relatives living in close proximity, which means that a formal institution, such as a licensed day care facility or a similar entity that provides after school care is required. Cost, quality of care provided and ease of access are all important factors that will influence a woman's willingness to take on formal employment. If countries see higher female participation rates as a way to deal with imminent workforce shortages this may be an additional reason to support programs that also provide long term increases in fertility rates even these may not affect the work force for decades.

Korea has recognised that fertility rates in Seoul and in other high cost, congested, large cities are lower than in the rest of the country. In part this may reflect a self-selection process where individuals less interested in having children concentrate in urban centres or live in cities for the part of their lives when

they do not have children. However, it may also be a response to the high cost of housing, the resulting small living spaces for most households and difficulty in affording care for children without both parents working. Current efforts by the Korean government to provide family friendly environments in secondary cities are an appropriate response to this problem and appear to be successful (Economist, 2020[13]). To the extent that rural locations offer a contrasting situation to large cities – affordable housing less stress, lower cost of living, perhaps more nearby relatives, efforts to stimulate young households to move to rural communities might have a positive impact on fertility rates. However, it will be important to provide similar forms of support for young mothers. Otherwise, the number of relocations may be small, or relocating families may decide to reduce their degree of participation in the formal labour force to manage the time obligations of childcare.

Box 3.3. The Masuda Report (Japan)

In the midst of Japan's demographic transition, and in light of previous policies' perceived inadequacies, the Japan Policy Council (JPC) in May 2014 published a study entitled "Stop Declining Birth Rates: The Local Revitalisation Strategy", which sought to galvanise debate and policy making on the intersection between ageing and the economy. The report is often referred to as the "Masuda Report," after JPC chairman Hiroya Masuda. The report attracted widespread public attention with its stark warning that 896 local governments – roughly half the total - risked "extinction" by 2040 through further declines in their populations of young women. It argues that the best response to regional decline would be a strategy of building "regional cities attractive to young people," by forging a "new structure of agglomeration" and a "choose and focus" strategy of investment. The report emphasises the need to make these regional cities into the nodes of networks that function to "dam" the flow of younger people into the largest cities. This approach is consistent with some recent government initiatives, particularly those of the Ministry of Internal Affairs and Communications (MIC), which Mr Masuda previously headed. The "autonomous settlement region," which the MIC inaugurated in 2008, is anchored on "core" regional cities of at least 40 000 residents, building on transport, information and communication technologies (ICT) and other networks to link them with surrounding towns and villages and rationalise the region's distribution of health, education, and other services. As of February 2015, there were 85 of these regions. The programme is financed with special incentive measures in the special "Local Allocation Tax" (LAT) (ordinarily used for emergencies). From fiscal year 2014, these incentives were increased to JPY 85 million for the core city and JPY 15 million for each area community (Ministry of Internal Affairs and Communications, 2015). The Masuda Report was presented to the Council on Economic and Fiscal Policy, the Industrial Competitiveness Council and other ranking policy-making organs. Its warnings and recommendations, and subsequent interventions by the JPC, have become important sources of inputs into, and showcases for discussion of, the revitalisation strategy. The report and the follow-up to it have been important in provoking discussion across Japan, as well as in focusing attention on the need to overcome sectoral policy approaches in favour of more integrated strategies for adapting to demographic decline.

Source: (OECD, 2016[9]), OECD Territorial Reviews: Japan 2016.

Policies to retain young people in rural areas

In rural areas of the OECD there is typically a high rate of youth outmigration from rural communities. When fertility rates were high this reflected the pull of better jobs in urban places and a push that came from an insufficient number of jobs for young people in rural regions. Surplus labour in rural regions can lead to wage stagnation and inferior working conditions, since employers believe they can always find replacement workers. This situation, in turn increases both outmigration and lower rates of labour force participation.

Youth outmigration, especially by young females, increases the rate of population decline. Such migration may be rational for the individual, and it is clearly positive for the cities receiving these people; but it is a problem for the rural community and it can be unclear whether it is beneficial for the nation. Korea's effort to encourage a reverse flow of people from cities to rural regions suggests that the social costs of rural depopulation when combined with the costs of urban congestion are too high.

With the number of new entrants into the workforce falling below the number of people leaving, it is important to increase youth participation rates and to ensure that young workers achieve their full potential in terms of productivity. In the past youth outmigration from rural regions achieved these two objectives. Young people left a region where their employment prospects were limited due to a scarcity of jobs, and in urban areas young migrants from rural Korea found work that made better use of their skills, which increased their productivity. This remains true today and will only change if the nature of employment in rural regions changes to make it less advantageous for youth to leave. Whether this happens will depend on the responds of rural employers to the increasing shortage of workers.

Productivity in rural areas of Korea lags behind levels in urban areas (OECD, 2018[14]). In part this reflects differences in the industrial mix, but it also reflects differences in production technology. Rural firms continue to rely on production techniques that are based on low cost labour and high-cost capital. In urban areas large Korean firms are substituting relatively low-cost technology for increasingly costly workers. One consequence of this is a strong incentive for rural youth who already possess a high job skill, or who have the aptitude to acquire high job skills to leave. The resulting "brain drain" from rural regions may be more important than the number of people who leave for rural development. Rural employers face a smaller and less skilled work force as a result. The small number of workers precludes continuing to rely on labour intensive production technology, but the low skill potential of much of the remaining rural youth limits the opportunity to shift to more capital-intensive production techniques that would increase productivity and wages. With no change, a large share of rural firms will eventually fail, either due to an insufficient number of workers, or by falling so far behind in terms of cost and quality that they lose market share.

If Korea is to achieve its objective of more balanced growth while adapting to demographic decline, it will be important to ensure that employment opportunities in rural areas offer comparable standards of living to those in urban areas. This does not mean that wages will have to be equal, or that all careers are available in the two types of geography. It does require that quality of life measured over multiple dimensions be fairly similar, including employment satisfaction. For some rural youth leaving for urban opportunities will still be preferred. Others may choose to stay if a better mix of local skill development and better career prospects is available. Further, if a broader range of employment opportunities in rural areas can be developed the government objective of having residents of urban places relocate to rural communities may be more achievable.

Box 3.4. Regional strategies to retain youth and talents

A study presented at the SEDEC Commission of the European Committee of the Regions in November 2018 has offered insights on how regions could boost their attractiveness to retain or get back young, skilled people. Brain drain is a problem affecting many regions across Europe. There is a high correlation between the socio-economic conditions of a territory and its brain drain/gain dynamic. Structural migration inflows, especially of young highly skilled individuals, usually occur in regions that have a comparative advantage and play a dynamic role in competing for international talents.

Ad-hoc policies or measures implemented locally or regionally to retain, attract, or regain a highly educated workforce can be effective. Recommendations include:

A first recommendation is that local and regional authorities (LRAs) in sending regions to become aware of the brain drain problem. LRAs should also identify the talent they want/need to retain, attract or regain. Establishing a dialogue with the talent in question appears to be essential. This is especially true for young talent.

A second recommendation relates to the need for the co-ordination of players and the synergy of resources to focus on talent-based growth strategies. These circumstances both occur, for example, when a Smart Specialisation Strategy exists. Examples of other valid instruments are physical spaces, virtual spaces, or quadruple/triple helix–based approaches/mechanisms. Co-ordination among relevant players is also intended to improve the local/regional matching of the demand and supply of talent. Similarly, it is intended to strengthen the talent-producing capacity of a region by nurturing its gifted youth.

A third recommendation relates to the opportunity to identify key driving sectors for retaining/attracting talent.

A fourth recommendation is to stimulate the absorption of talent from outside. This could be achieved by attracting international talent and/or regaining such talent that had previously moved away. It may involve the setting-up of specific projects or medium-term strategies as well as branding initiatives or initiatives aimed at rewarding talent.

A fifth recommendation is for LRAs to work on the removal of structural impediments/barriers, which may, for example, be related to infrastructure (e.g. physical and/or technological), services and facilities, the reputation of the locality/region and culture (e.g. gender-biased mentality).

Finally, as brain gain automatically leads to competition for the same resource (i.e. talent), it is suggested that public authorities facing the same challenges should seek co-operative and/or shared solutions.

Source: (Regions, 2018[15]). European Committee of the Region; Commission for Social Policy, Education, Employment, Research and Culture Addressing brain drain: The local and regional dimension; EU 2018.

Increasing the participation rate of underutilised workers

In all cases the main task is to identify policies that will encourage individuals who are currently out of the labour force to engage in employment. In some cases this may be a simple function of wages, which should increase as the number of workers declines. However, in many instances an important impediment is not directly related to wage levels. Women may have low participation rates because they have major household care responsibilities for children or elderly relatives. Providing high quality care at low cost and in close proximity to the home or place of work could increase female participation rates. Elderly may not

participate because they no longer wish to, or are unable to work full time. By creating part-time jobs or facilitating the sharing of a single job among several individuals it may be possible to increase their participation rates. The disabled may not participate because they need specific work adaptations that employers have previously been unwilling to provide. With accommodation's they could are more likely to engage in work.

Box 3.5. Expanding opportunities for older workers

Make use of us: 45 + Employees in your enterprise (Poland)

The aim of this project implemented in Pomorskie region in Poland, was to identify opportunities to develop the human resources policies od SMEs (mainly through the development of the management concept) to more fully exploit the potential of workers 45+. Quantitative and qualitative research constituted and integral part of the project and was aimed at monitoring the situation in the labour market in the Pomorskie, with particular emphasis on issues related to the employment of workers aged 45+. The studies were conducted among SME entrepreneurs and 500 enterprises were questioned. Managers responsible for human resources policy in the investigated entities were the respondents survey. The respondents evaluated the group of elder workers quite positively, pointing to loyalty of these workers, respect for work, flexibility, diligence and experience. On the other hand, they evaluated as low: the ability to adapt to change; the desire to undertake further education, and openness to innovation. The result of the positive evaluation of the 45+ workers, as well as declarations regarding implementation of age- management- oriented policies draws a quite optimistic picture of 45+ workers' employment perspective in the SME sector. as a result of the project's realisation, two publications were issued: a guide for SME employers entitled "How to be successful at employing workers 45+" and a book titled "45+ employees in an enterprise".

Perspective 50 plus: regional employment pacts for older long-term unemployed persons (Germany)

The Federal Programme was launched in 2005 as part of the overall Initiative 50 plus, which aimed to improve employment opportunities for the elderly. The programme re-activated more than 580 000 long-term unemployed persons above the age of 50 between 2005 and 2011 and re-integrated 160 000 of these into the regular labour market. The programme targeted specifically the regional level integrating regional employment pacts with a budget for the re-integration of older long-term unemployed persons into the labour market. The programme had a special focus on gender mainstream acknowledging that unemployed women above of the age of 50 face particular challenges in finding jobs and includes special projects specifically targeting women with migrant backgrounds. The lessons learnt from the programme can be classified along two categories: how institutional arrangements can be configured to deliver effective active labour market policies (governance aspects) and new ways of working with long-term unemployed (methods and approaches)

Source: Polskie Tawarzystwo Ekonomiczne w Gdansku, 2012; (Martinez-Fernandez et al., 2012[7]).

In remote and sparse rural areas, transport to work is more difficult than in urban places. Even where public transit exists, it is generally infrequent and does not cover many routes. This means that people tend to rely on local jobs that are in close proximity to their residence or require an automobile. In the first case the likelihood of a good match between employer and worker can be low, which can decrease participation rates. In the second case the cost of owning and operating a car may be too high given the person's skills and prevailing wages, leading to withdrawal from the labour force. No standardised solution exists to resolve the transport issue, but many rural places are exploring innovative ways to provide relatively low-cost transport options in a rural context (see for example Italy's Inner Areas Strategy and Box 3.6)

Box 3.6. Adapt public transport for rural areas: "Big data" and public transport provision

"Big data" holds much promise for improving the planning and management of transport activity by radically increasing the amount or near-real-time availability of mobility related data. Transport authorities will need to ensure an adequate level of data literacy for handling new streams of data and novel data types.

Traffic operations, transport planning and safety are areas where authorities must critically evaluate where and how new, or newly available data and data-related insights, can improve policy. "Big data" can help governments, businesses and individuals to make more informed decisions. Better data can help transport authorities to understand commuters' behaviour, provide targeted information and identify policy interventions. In fact, the biggest gains from using big data may come from changing user behaviour.

From the government perspective, there is need for better data to support decision making, at least for the following purposes:

- understanding better the demand (needs by different user groups)
- better planning services to match user needs and
- making the market case for privately operated services (profitability).

Source: OECD/ITF (2015), International Experiences on Public Transport Provision in Rural Areas, OECD, Paris, available at: http://www.internationaltransportforum.org/Pub/pdf/15CSPA_RuralAreas.pdf.

Increasing migration to rural areas

Demographic decline at the national level is typically accompanied by high rates of decline in some regions and increases in population in other regions. Regions that tended to lose population, or which had slow rates of growth prior to the onset of demographic decline, typically continue to experience significant population drops. Korea's projections show that decline in rural areas will continue and accelerate in some cases due to significant outflows of young people, especially young females. In general, it can be assumed that regions with low rates of employment and low earned incomes will be unattractive to migrants, Further, rural regions across the OECD have been relatively unattractive places for international migrants unless they are required to go there as a condition of entry to the country. Even then many individuals leave for an urban setting as soon as they can, especially if the urban place has a significant number of their fellow citizens (Box 3.7).

If a rural region cannot retain a large share of its youth, it is unlikely to be an attractive place for others. The single large exception to this rule is in agriculture, where in many countries foreign migrants, either permanent or temporary, now constitute a large part of the farm labour force. This largely reflects the prevailing low wages and harsh working conditions on farms that discourage local people from farm work. The use of restricted entry visas that limit foreign workers to farm labour provide farms with necessary labour. While farm employment is unattractive to most rural citizens it can be desirable for people from poor countries. Programs to admit farm workers tend to exist in countries where the majority of production takes place on large farms and a large number of seasonal workers are required for harvest and field operations. However, most farms in Korea are small enough to be able to rely on family labour and often cannot fully utilise all their available labour on a regular basis, which makes bringing in large numbers of seasonal farm workers improbable.

Korea has introduced policies to encourage people in urban areas to consider relocation to a rural community. The success of this program will hinge on both the community being attractive as a place to

live and there being an opportunity to earn an adequate income. Rural places often have desirable amenities and it relatively easy to provide acceptable housing. However, it can be harder to provide the full set of public and private services that urban people are used to. Even more difficult is providing adequate employment, especially for a young family. If both parents work, which must become common given the shrinking labour force, then high quality affordable childcare will be required. Further, in many rural areas there are few or no opportunities for many urban careers and it can be difficult for an individual to identify a community where their skills are marketable. Box 3.8 provides examples of investments that have been made in a number of rural regions in OECD countries that can increase attractiveness. Box 3.9 describes an island community in Japan that successfully underwent a revitalisation process and is now attracting new residents.

Box 3.7. Migration as a driver of regional development

Many regions in the OECD face significant demographic change and a declining supply of labour as their populations age. To alleviate these challenges and reap the benefits of migration for regional development, the integration of migrants is crucial, making it one of the most relevant and pressing policy challenges in OECD countries. While migration and the size of migrant communities differ across countries, regional differences within countries also tend to be significant. Despite the scale and relevance of migration, a lack of detailed subnational data on migrants is often an impediment. Furthermore, limited evidence on how migration affects regional development remains a significant challenge for effective policy design. In OECD countries, the migrant population share has increased in recent years, reaching 12% in 2019. However, the extent of migration has a strong geographic nature, with the share of migrants varying widely across regions in the same country. Overall, migrants are significantly more concentrated in specific types of regions than the native-born population, with more than half of the foreign-born population (53%) living in large metropolitan regions, compared to only 40% of natives. Migration has also increased faster in specific OECD regions such as capitals or regions with more dynamic labour markets.

While migration generates valuable benefits for regional economic development, those benefits are not shared equally across space and different people. Regions with more highly educated migration record larger increases in international trade. More developed regions appear to benefit the most from migration with respect to innovation. In contrast, economically lagging regions experience higher adjustment costs in the labour market as a result of migration, which is particularly pronounced among low-skilled native-born workers. Targeted policies could help spread migration's benefits. To ensure that all regions and groups profit from migration, policies should aim to mitigate the potentially adverse labour market effects on vulnerable groups such as non-university educated workers and economically lagging regions.

Source: OECD (CFE) workshop on Migration and regional development, September 2021.

Box 3.8. Improving the local quality of life to attract and retain people

Providing a higher quality of life can both help attract and retain people in a rural place. Improving quality can involve a wide range of actions, including, improving housing, providing better access to services, expanding the range of cultural experiences, improving the quality of the environment, and improving connectivity to other places. In France, the national government has invested in constructing Maisons de service au public (Public services houses) and Maisons de santé (Health services houses) in rural regions. These facilities allow the colocation of a number of public services or health services in low-density or isolated territories while sharing costs and employees as far as possible among communities to improve efficiency. Users benefit from reduced transport costs and the ability to schedule multiple meetings in one visit. It has also been easier to attract doctors and other professionals to these locations because there are greater opportunities to interact with peers. (Information provided by the Commissariat Général à l'Egalité des Territoires, France) (OECD, 2016[9]).

Another option is to invest in expanding cultural opportunities in a rural place. In the city of Heerlen investments in culture, creative communication and in engaging with communities proved to be successful in creating a positive and creative people's climate which has been central in the city's urban strategies. Two projects were particularly effective: a community-based open web platform, the Zachte G Network for Creative Economy, where creative individuals displayed their talent and work and connect cultural and creative entrepreneurship and Design for Emptiness Challenge, a project gathering entrepreneurs, artists and developers to build concepts for empty buildings in the town centre. The case of Heerlen challenges the common sense that shrinking areas are places without ideas, creativity and innovation and shows that investing in people's climate is as important as investing in the local and regional economy (Martinez-Fernandez et al., 2012[7]).

Korea and a number of other OECD members are embarking in housing renewal projects to remove decrepit or abandoned homes and modernise other housing in rural places to both improve the overall attractiveness of the community and to provide a better housing opportunity for residents. Since rural homes are typically cheaper to buy than urban homes these improvements in quality may be a means for attracting new residents.

Source: (OECD, 2016[9]) and (Martinez-Fernandez et al., 2012[7])

Box 3.9. Regional revitalisation: the Ama-cho model (Japan)

The small island municipality of Ama-cho in Shimane Prefecture offers an excellent illustration of how local revitalisation can occur in a rural setting. Ama-cho saw its population fall by more than 70%, from almost 7000 in 1950 to not much more than 2000 a half-century later. It has since begun to grow again, attracting an influx of new residents from elsewhere, and the local economy has picked up considerably. Ama-cho's experience is instructive in a number of ways, and the lessons it holds are relevant to remote rural communities that are struggling for survival elsewhere in Japan and, indeed, around the OECD. The town had been struggling with decline for decades before it hit upon a mix of policies that enabled it to change trajectory. The change in Ama-cho's fortunes has been the product of a multi-faceted strategy that included measures to put public finances in order; innovation in public service provision (especially education); innovation and entrepreneurship that combines technologies from elsewhere (the best known is the cell-alive system for freezing seafood products in a way that retains quality better than other technologies) with local assets (especially Ama's rock oysters); and a mix of public and private initiatives, as well as public-private collaboration. Ama-cho's turnaround was engineered locally; it was not the result of large-scale intervention or funding from outside. Finally, Ama-cho has not turned in on itself but has rather reached out to the world, working to export its products and attract visitors and newcomers. Social capital and trust within the community have been critical ingredients in Ama-cho's success, and these can be easier to foster in small communities where residents know one another. In contrast to other places however, Ama-cho has worked deliberately to foster a strong sense of community that is still open and outward-looking, welcoming visitors and newcomers and encouraging people to try new things – even when there is a real risk of failure. The island tries to provide young people with opportunities to "learn by doing"; opportunities that a big city could not give them. Small rural places are often thought to be very conservative and resistant to change, and sometimes they are, but a growing number of Japan's rural communities are showing how they can embrace much more open and entrepreneurial attitudes to change.

Source: (OECD, 2016[9])

Broadening rural policy to respond to demographic decline

Revitalising local rural economies is required, both to slow current high rates of youth migration and to attract urban people to rural areas. Investments in public infrastructure and improvements in government services can make rural areas more attractive places to live, but without a strong local labour market, mainly based on private firms, communities can only survive if they receive ongoing transfer payments. Sustainable rural places must have an economic capacity that allows then to be competitive exporters of goods and services (OECD, 2016[16]).

While rural policy can be described as any policy that affects the people or places in rural territory, it is useful to focus on a small number of core policy domains where rural specific policies can be identified that have the potential to offer substantial support to rural people, forms and communities in Korea. They are:

- agricultural policy broadly defined to include farming and fishing and related activities;
- tourism, once again defined to included cultural activities that can attract visitors to rural areas;
- manufacturing, mainly focused on SMEs.

Because rural areas are characterised by low density, long distances and an inability to take advantage of economies of scale they are often challenging places to provide goods and services by typical means in both private and public sectors. This opens an opportunity for non-profit providers to play a larger role. In

addition, it is important to ensure that rural areas are able to keep up with technological change by engaging in innovative activities.

Currently Korea's rural policy focuses on expanding agriculture and tourism, with much of the focus in rural tourism either on landscape amenity or cultural tourism that is linked to traditional farming and fishing locations. These are important strengths for rural areas in Korea, but only having two pillars for rural economies can be problematic. In particular, farming both tends to offer seasonal employment with low wages and preserving traditional farming and fishing practices is now being challenged by an inability to attract new entrants. In principle while tourism and farming could offer the equivalent of a full time job by combining part-time work in both sectors this is in practice difficult, because the peak employment seasons for both sectors overlap to a great extent.

Given the strength of Korea in manufacturing a potential third pillar could be rural manufacturing, but at present rural manufacturing firms struggle to remain competitive (OECD, 2018[14]). Despite the clear challenges facing rural manufacturing firms they are present in most of the country and there is a considerable rate of new business starts, suggesting that people are interested in manufacturing. While rural manufacturing may not directly employ as many people as farming or tourism, it has the advantage of providing mostly full-time jobs with better wages. Even if wages in rural areas are not as high as in Korean cities, the addition of a third pillar in rural areas would offer an additional source of household income that, in conjunction with farm or tourism sector employment, could raise community and family incomes to a higher level.

In addition, it is important to find ways to stimulate alternative ways of organising firms in rural areas beyond traditional investor owned 'for-profit" enterprises. Encouraging a larger role for co-operatives and various forms of social enterprise in rural areas can both increase number and variety of businesses and improve the attractiveness of rural communities to current and potential residents. Returns on investment in rural locations are often low because demand is low, input costs are high and there are few opportunities to achieve scale economies. Various forms of social enterprise can thrive in these conditions because firm owners have a broader objective. In many rural places, some form of community ownership has allowed a vital business to remain in operation and help to stabilise the population.

Box 3.10. Success factors for territorial Smart Specialisation Strategies

Lead actors or institutions that are strongly committed and well positioned to mobilise other stakeholders and resources and to set the strategic framework for further actions normally initiate the process of designing a specialisation strategy. These lead actors may arise, for example, from companies, research institutions, national or regional authorities. The mobilisation and empowerment of key stakeholders and institutions to realise their potential as leading contributors are essential elements to transform a traditional regional innovation strategies into regional innovations strategies for smart specialisation.

Research on the successful adoption of Smart Specialisation Strategies in the OECD finds that the key success factors needed to ensure an efficient contribution from all relevant socio-economic actors involved in the designing of the smart specialisation strategy include:

- The participation of the leading institutions of knowledge: universities and institutions of research and innovation with sound expertise for the skills, scientific and technology frontiers that exist in a country or region;
- The participation of highly skilled experts in the process, given the increasingly cross-sectoral, cross-technology and cross-border dimension of entrepreneurship and innovation activities;
- The need to build trust and reciprocity among all socio-economic actors involved;
- The need to increase transparency on how stakeholders are selected and involved and, especially, what role (empowerment) they are provided during the process.

Source: OECD (2013), Innovation-driven Growth in Regions: The Role of Smart Specialisation, https://www.oecd.org/sti/inno/smart-specialisation.pdf. These objectives are to be achieved through regulatory reforms in urban and rural development, education, employment, medical care and agriculture. The zones are intended to spark private-sector investment.

Agricultural policy

Farming has become a smaller part of the rural economy in Korea, just as it has in all OECD countries. But farming remains the largest single use of rural land. In Korea, as in other OECD countries, the farming population is becoming older and fewer children of farmers wish to take over their parents' farms. In some countries the result has been a significant increase in average farm size, with a relatively small share of very large farms producing large quantities of output for domestic and export markets. These countries are typically much larger in size than Korea and have far more favourable agronomic potential. However, even in these countries there is an increase in the number of small farms that produce high value specialty crops and livestock products for either local or on-farm sales to, tourists, local residents or to specialty shops outside the region.

In Korea, where rice farms are the main specialisation and largest land use. there are considerable opportunities' for modernising production techniques that can improve farm household income. This however leads to farm consolidation and a reduction in the number of farm households, which can accelerate rural depopulation. The inherent trade-off between increased farm productivity and stabilising rural populations requires the use of integrated policies that address both issues. Japan has undertaken a project on modernising rice farms described in Box 3.11 that may suggest a model for Korea.

Box 3.11. Rice farming and rural development in Japan

Rice is Japan's most important crop, not only from an economic point of view, but also from a social and environmental perspective. It accounts for only 12% of total value added in agriculture and fisheries, and this share has been gradually and steadily declining. However, rice farming is the largest user of land and water. It accounts for more than 50% of the total cultivated area in Japan and accounts for the majority of agricultural water consumption. Over the last decade, MAFF has sought to increase the productivity of agriculture with policies targeting large-scale farmers and promoting farm consolidation – a major departure from traditional policies, which supported all types of farmers, often enabling low-productivity small-scale and part-time farmers to remain in business, rather than exiting the market in favour of larger, more efficient producers. At present," business farmers" (i.e. those who make their living as farmers rather than using part-time farming to supplement their incomes) are a minority of all farmers but they now cultivate around half of all farmland; MAFF is working to increase that figure to 80% over the coming decade. However, farm consolidation could undermine the viability of rural hamlets. Given the size of most hamlets, an average hamlet could profitably sustain just one or at most two rice farmers. If the remaining farmers sell or lease their land to such a producer, this accelerates population outflow. To maintain and demonstrate the multifunctionality of agriculture, MAFF designed a second set of policies to ensure payments to hamlets collectively maintaining irrigation and drainage facilities, as well as companion policies focused on rural development. Information provided by the Ministry of Agriculture, Forestry and Fisheries)

Source: (OECD, 2016[9])

Box 3.12. Supporting Small Farms

Small farms are by far the majority of all farms in OECD countries and account for a significant share of the population in many rural regions (OECD, 2016[16]). Few of these farms benefit from traditional agricultural policy because it uses support mechanisms that are typically based on the volume of production, hectares operated or number of animals, all of which lead to low payments for small farm households. Even with increases in the rate of support the incremental income for small farms is small, because their production base is small. This means that for the family income of small farm owners to reach national household averages, active engagement in non-farm employment is essential. In multiple OECD countries the average household total earned income of small farms can exceed all but that of very large farms (OECD, 2003[17]).

Off-farm income provides multiple benefits to the farm household, the community and even the nation (Freshwater and Jette-Nantel, 2017[18]). For the household off-farm income augments farm income and raises total household income to a level where farming can continue. This allows farm households that would have otherwise had to leave the sector to remain and maintain their preferred way of life. In addition, because off-farm income is uncorrelated with farm income it provides a significant risk mitigation function, further increasing the resilience of small farms (Jetté-Nantel et al., 2011[19]). Finally, in countries with a slow process of land consolidation that can allow the expansion of larger more productive farms, increasing opportunities for small farm operators to engage in local nonfarm employment can be a way to facilitate a subsequent transition to leaving farming while remaining in a rural area.

For communities facilitating off-farm employment benefits has several benefits. First, farm households are more likely to remain in the community and contribute to retail demand and to local taxes, and equally important, augment the population using local services, such as, schools and hospitals. The higher level of utilisation can contribute to lower per capita costs and maintain a critical mass required to keep these local services functioning. In many countries, farms have become part of local tourism initiatives by offering agri-tourism opportunities, or by providing bed and breakfast stays or farm-based restaurants that offer local cuisine. The labour force contribution of farm families is significant in three ways. First, in a time of a shrinking work force increasing the participation of individuals who might otherwise be outside the local pool of available workers is important. Second, farm families have important artisanal skills from working with equipment and animals that can make them effective workers, even though they may have limited formal education. Third, because they also have farm responsibilities they may be amenable to more seasonal or part-time employment opportunities that can provide a local firm with a more flexible workforce.

At the national level, support for small farm households serves several objectives. First, it can help to maintain regional balance is population by retaining farm families who would otherwise move. Second, small farms can be more effective environmental stewards: because they tend to have a stronger commitment to protecting land that has been in a family for multiple generations, because they tend to follow less intensive cropping and livestock management practices, and because they are more likely to integrate agri-environmental practices into their operation. Third, small farms are more likely to engage in practices that maintain traditional rural culture and land use patterns, which can be important to the entire society. Finally, increasing off-farm income provides government with an effective solution to longstanding problems in targeting agricultural policy benefits to both small and large farms.

Adopting policies that encourage part-time farming and active engagement in local employment opportunities can require modifications to national agricultural and social policies that now favour full-time farms. Local employers may also have to be encouraged to structure work opportunities in ways that allow farm families to participate in off farm employment while maintaining necessary farm

operations. Finally, because farmers are typically highly sensitive to tax obligations it may be necessary to modify current tax regulations to encourage off-farm work.

Source: (OECD, 2003[17]) Farm Household Income: Issues and Policy Response; (OECD, 2016[20]) Farm Structures: Managing Transitions and Improving Livelihoods. Background note for OECD Meeting of Agriculture Ministers, April 2016; (Jetté-Nantel et al., 2011[19]) Farm income variability and off-farm diversification among Canadian farm operators.

Korea would seem well suited to expanding this type of agriculture as a part of its rural development strategy. Small-scale farms provide agricultural output and are also more likely to provide a high-quality natural environment, as well as being a key part of supporting local and national heritage amenities. These multi-functional farms are consistent with a current trend in agricultural policy to move away from direct price support for the production of commodities to an agricultural policy that is more environmentally friendly and that supports broader rural development objectives.

Small-scale farms are also more likely to support broader rural development efforts. Part-time work is common, both in terms of hiring supplemental labour on the farm during busy seasons, and in farm household members seeking temporary or full-time work off the farm to supplement farm income. Small farms also result in a larger local population than do a few large farms on the same area of land. This larger population provides more local demand for retail establishments and for public services, which makes the broader local economy more viable. (See for examples the Box 3.13and Box 3.14).

Box 3.13. The co-operative model in Trentino (Italy)

The farming structure in the Autonomous Province of Trento (Italy) has always been characterised by the presence of a large number of small enterprises, family based and endowed with relatively small portions of land. Each farm has on average an extension of 1.5 hectares and this condition had a negative influence on the productive structure. Economies of scale were precluded with adverse effects in efficiency and performance. The solution was found in the co-operative system. Co-operatives account for 80% of the provincial agricultural production and manage almost all the marketing and distribution activities of local producers. The evident positive performance of the agricultural co-operatives in Trentino is due to the idea of vertical integration and concentration (economies of scale), implemented over time by the Federation of Trentino Cooperatives and the Autonomous Province of Trento. This means that the first level co-operatives, spread over the territory, have a direct link between members and the co-operative structure, offering advice and resources to the small producers. The second level co-operatives, namely the consortia, are governed by a pact among co-operatives to develop all marketing functions and relations with the value chain. Mastering on the accumulated experience, the second level consortia organised their strategic goals to increase market shares in final product markets through aggressive sales efforts. They were supported by aggregation, facilities operating at optimal scale and efficient managerial functions, enabling co-operatives to reach economies of scale. Consortia focus their marketing strategy on quality factors, in particular those involved in production and reflecting the consumer‘s preferences, instead of using discounts or promotions to underbid competitors. They avoid to pressure on product prices and address their strategic design and incentives on members to innovate in quality and sustainable production techniques. Being able to capture part of the increased marketing margins, the gains return to the active owners preserving their entrepreneurial responsibility. The third level, the Federation of Trentino Cooperatives, is at the centre of the system composed of first and second level co-operatives. It unites, represents, protects and promotes the interests of the associates. The Federation is a legally recognised organisation that brings together over 500 companies, active in all productive sectors, and a social base consisting of about 280 000 people. This is an element that distinguishes the co-operative movement in Trentino from others. All sectors of entrepreneurship and all the merchandise areas in which the Trentino co-operation operates find in the Federation a unitary centre of representation and assistance. An integrated group of rural and co-operative banks support the system.

Source: (OECD, 2014[21])

Box 3.14. Fisheries and aquaculture

The Greek government seeks to foster the production of high-quality and high value-added agricultural and fishery products in less-favoured areas or areas with permanent natural handicaps such as rural areas and islands. The Greek Operational Programme for 2014-20 under the European Maritime and Fisheries Fund (EMFF) has two main priorities: sustainable fisheries and sustainable aquaculture. The priority on sustainable fisheries envisages investments in the modernisation of fishing ports, auction halls, landing sites and in the construction of fishing shelters, innovation in fisheries, the creation and monitoring of artificial reefs, and protection and restoration of marine biodiversity. The aquaculture priority aims at fostering environmentally sustainable, resource-efficient and knowledge-based aquaculture. The EMFF supports productive investments in aquaculture, actions to improve innovation in the sector, such as developing technical, scientific or organisational knowledge and the introduction of new aquaculture species with good market potential and new or improved products and processes.

All OECD countries are advancing reforms in their fisheries management systems to improve the profitability and sustainability of the sector. They are also working actively to promote the development of aquaculture, which is seen as the future of fish production. These efforts include regulatory improvements and increased spending on research, as well as cost-sharing with the private sector to encourage investment. Aquaculture has been one of the fastest-growing forms of food production for many years and growth in aquaculture can provide jobs and development opportunities in territories with few economic alternatives. The emphasis is shifting from stimulating growth to putting the sector on a sustainable footing for the future by addressing environmental limits and focusing on new production technologies to increase competitiveness. To do so most countries provide now support to general services to the sector, rather than transfers to individual fishers. Governments invest a significant amount of resources to this kind of support, which includes management, enforcement, research, infrastructure, marketing, community support, education and training, research and development, management of resources.

Source: (OECD, 2020[22]) Territorial Reviews: Greece 2020; (OECD, 2020[23]) Environmental Performance Reviews: Greece 2020. (OECD, 2017[24]) Review of Fisheries, Policies and Summary Statistics, 2017.

Tourism policy

Korea has already taken important steps to increase the role that tourism can play in rural communities. Because most of rural Korea is in close proximity to an urban agglomeration a key focus for tourism could be short-term visits that bring visitors for a weekend or a multi-day midweek stay. In addition, rural communities in Korea could become places where urban families have a summer home they visit regularly, especially if these families have some historic attachment to the community. Most rural regions in Korea cannot offer the kind of compelling, globally recognised tourism experience that makes them a destination for international tourists. However, it may be possible to put together a package of tourism experiences that are collectively more interesting for international tourism. Examples of the approach are: the Bourbon Trail in central Kentucky that offers visits to about 20 different distilleries, barging in Burgundy that allows visitors to take a barge along historic canals and stop in a number of small villages, or the Queensland Heritage Trail in Australia that links multiple communities each of which have an interesting cultural or natural feature. In addition, special events, such as seasonal festivals or concerts can bring people to a region for the first time and provide the motivation for repeated visits or even longer-term investments in a second or retirement home.

Tourism has become an important way to diversify the economic base of rural communities and regions. While it provides mainly lower wage seasonal employment opportunities, these can be an important

addition to household income in a rural labour market where many other jobs are seasonal in nature. Moreover, tourism can be an effective part of a recruitment strategy that tries to attract new residents and businesses. Individuals who vista place and form a favourable impression are likely to be more interested in a permanent relocation because they have had a direct positive experience and are likely to have developed personal connections in the community.

Box 3.15. A Digitalisation Strategy for Austrian Tourism

Digitalisation is transforming the tourism sector at a rapid pace, with strong implications on both, demand and supply. In view of an active role in this process, the Ministry of Science, Research and Economy together with the Austrian NTO and the Federal Economic Chamber launched a digitalisation strategy for Austrian tourism in September 2017. The strategy has been developed in an open innovation process with the involvement of many stakeholders (national and regional, industry experts from tourism, technology and the creative economy, universities and research, etc.) and pursues three strategic objectives i) to shape digital change ii) to strengthen the innovation capacity of enterprises and iii) to create skills and processes for digital transformation. The strategy defined 22 measures to meet these objectives including nationwide coverage of broadband technology, good information and co-operation structures for data management, support for digital innovation in SMEs, as well as for the development of digital skills for the sector.

Source: Ministry of Science, Research and Economy. OECD (2018), "Greece", in OECD Tourism Trends and Policies 2018, OECD Publishing, Paris. DOI: https://doi.org/10.1787/tour-2018-19-en.

Box 3.16. The Seiwa area, Mie Prefecture (Japan)

The Seiwa area of Mie Prefecture is a rural district with a population of about 5 000 and an area of 53.6 km2, of which 70% is forested and about 13% is cultivated. The average farm size is roughly 0.4 ha and the main products are rice, tea, Chinese cabbage, cabbage, white alliaceous, wheat and soybeans.

By the early 2000s, Seiwa found itself facing an ageing and declining population, a lack of successor farmers and the growth of abandoned farmland, which, in turn, contributed to the encroachment of wild animals into cultivated areas. In response, the ten small hamlets in the area formed the Seiwa Rural Resource Management Association, which has put in motion an impressive array of local projects.

In an effort to enhance the landscape and protect farmland, the association organised maintenance of the canals and farm roads, including the planting of flowers on unused land, the creation of a biotope and the introduction of multi-use of irrigation water for community purposes (firefighting, environmental uses, etc.). Some farmland has been returned to a wild state, but co-ordinated land management has made it possible to do this efficiently and without harming the land that remains under cultivation. Household garbage is now composted. In an effort to do more than just preserve agriculture, the Association has moved in the direction of the sixth industry, organising local festivals and building a market for distinctive local produce. This, in turn, has reinforced environmental performance, as the farmers found that it was better to market green produce than to use pesticides and this has also helped to promote green tourism in the area and to improve the quality of the water.

What began as a resource preservation exercise in the face of farm abandonment has thus led to a wide range of new activities. Though backed by the municipality, the Association has not relied much on municipal or central government funds, though it has attracted sponsorship for some activities from Sharpe.

Source: Information provided directly by Seiwa Rural Resource Management Association. (OECD, 2016[9]), OECD Territorial Reviews: Japan 2016.

Rural manufacturing policy

Manufacturing is a recognised strength of the Korean economy and there is a significant amount of manufacturing already taking place in rural Korea. There are opportunities to broaden the range of manufacturing, particularly by SMEs that could complement existing subsidiaries of large firms (Box 3.17). While subsidiary establishments can provide employment to a large share of a local labour market in a rural area, the nature of the work is typically highly specialised, which leaves workers with a skill set that is not very useful to other employers or for becoming an entrepreneur. Moreover, because branch plants are integrated into national or global supply chains opportunities for forward or backward linkages within the community or region are limited. As a result, multiplier effects for the local economy are small.

Box 3.17. SMEs in Korea

The 2018 OECD Economic Survey of Korea (OECD, 2018[14]) provides a comprehensive assessment of the state of SMEs. Korea has relied upon a relatively small number of large manufacturing business groups- the chaebols, to drive its economic growth. These firms dominate the manufacturing sector and account for the majority of Korean exports and a large share of employment and innovation. However, their ability to continue to propel the economy is now in question. In Korea, as, in all OECD countries, SMEs account for the largest share of employment, but in Korea they: provide the largest share of total employment in the OECD; exhibit a much lower rate of productivity than large firms, and one that is declining, as well as being one of the lowest in the OECD; and, are concentrated in low-wage, labour intensive activities, particularly services at 90% of all service sector firms. Multiple factors contribute to the limited role that SMEs have played in the past. Some include: national and local government policies that while providing high levels of support have stifled growth through strong regulations, and support mechanisms that penalise expansion. High levels of support and the prevalence of older workers being squeezed out of regular employment in large firms or the public sector have contributed to a high rate of SME start-ups. However, many of these firms are undercapitalised and have weak business models, which limits productivity and their contribution to economic growth. Despite these underlying weaknesses, Korea has the lowest rates of business exits in the OECD.

Demographic decline in Korea increases the importance of enhancing the role of SMEs, particularly increasing their rate of productivity. Current low productivity rates of many SMEs mean that wages are low relative to larger firms, where higher productivity levels allow higher wages. But several things must happen for productivity and wages to rise. The first is that SMEs will have to improve the technical efficiency of their operations, by adopting new production, management and marketing technologies, and improve working conditions. At the same time the average level of skills of workers employed in SMEs will have to increase to support the investments in improving technical efficiency. Not all SMEs will be able to do this and as a consequence “churn” in SME numbers from new entries and exits will have to increase, at least in the short term. A worker shortage will increase the pressure to reduce under-employment in SMEs, and to better match new worker skills with employer needs. Currently, Korea has a relatively high rate of youth unemployment that reflects a dual labour market, where there is strong competition for high wage and good benefit public sector and chaebol jobs, and an aversion by young people to working for, or starting, an SME. The result is one of the lowest youth employment rates in the OECD and a particularly high rate of young people with tertiary education who are neither employed, nor in education or training. Delaying participation in the labour force imposes large coasts on these individuals and on society, especially in an environment where the underlying worker replacement ratio is low.

To its credit, Korea has embarked on major reforms to improve the performance of SMEs. These include: regulatory reform, efforts to enhance rates of entrepreneurship, improving SME access to financial resources, expanding the role of R&D in SMEs, and strengthening linkages to foreign markets, and all are important. But Korea should consider an explicit regional dimension to its SME strategy. More rural areas are particularly reliant on SMEs because they have limited capacity to host large enterprises. SMEs in rural areas are also more likely to experience difficulty in discovering new technologies, less likely to have access financial support, and more likely to have high rates of entrepreneurship that is driven by weak employment prospects, rather than a perceived market opportunity. This latter point can be particularly important for older workers who may be more productive in formal employment than as owners of a marginal small business.

Source: (OECD, 2018[14]), OECD Economic Survey of Korea, 2018.

Other OECD countries with strong manufacturing sectors have found ways to combine large scale manufacturing plants in more urban regions having large labour forces, with smaller export-oriented firms in more rural regions with smaller labour forces. Notable examples are Germany and Italy. Many of these small firms are family owned and focus on producing highly specialised products that have small but profitable markets. The manufacturing processes typically combine sophisticated technology with skilled labour, and strong customer service, making it difficult for potential competitors to enter the market. The mittelstand in Germany (Box 3.18) provides a useful example. Key to the success of these firms is access to new knowledge, and while German firms have developed this capacity over time it will be important for Korea to support firms of this type initially with government programs. The manufacturing extension service in the United States provides an example of a way to do this (Box 3.19).

Box 3.18. Manufacturing in Mittelstand (Germany)

Large German manufacturing firms have a global presence in automobiles, engineering and chemicals, but a group of smaller German firms loosely termed the *mittelstand* play a major role in Germany and in manufacturing export activity. Mittelstand firms are SMEs (employment is less than 500), but not all German SMEs are mittelstand. While 99% of all German firms are SMEs and account for half of German output and 60% of employment, the mittelstand share is about 70% with a concentration in construction manufacturing and services (Berlemann, Jahn and Lehmann, 2019[25]). What characterises the mittelstand is a particular type of business model that: entails owner-operators from multi-generational families, has a focus on long-term firm viability, engages in strong worker training efforts, and provides a narrow product or service that involves high level of customer support (Parella and Carmona Hernández, 2018[26]). In addition, a large share of mittelstand firms are found outside large cities in smaller towns.

Mittelstand firms are a key part of the social responsibility model of German capitalism, where the firm has responsibilities to its workers and to the broader society, and not just to its owners (Parella and Carmona Hernández, 2018[26]). This is both a key strength and a possible weakness. Firms are strongly involved in workforce training and offer high wages and stable employment opportunities to retain highly productive workers. But these workers can be highly specialised in their skills, since they are employed by a firm that produces a specific niche product (Heider et al., 2021[27]). Similarly, mittelstand firms invest in making steady improvements in their product in response to customer suggestions, but this form of incremental innovation can leave them vulnerable to radical shifts in the market.

The mittelstand offers an interesting opportunity for Korea. It is based on a family business that involves steady efforts to make product improvements to meet customer needs. In a time where labour shortages are imminent, the practice of developing strong worker skills may become more attractive to businesses that need to increase labour productivity. Similarly, if workers are to work for a longer period before retiring it may also become more attractive to engage in workforce practices that retain workers. Finally, the mittelstand offers an export-oriented manufacturing model that is based on SMEs that can successfully operate outside the large labour markers of metropolitan areas.

Source: Own elaboration.

Box 3.19. Manufacturing Extension Partnerships (USA)

The Government of the United States created the Manufacturing Extension Partnership (MEP) program in 1988 to support small manufacturing firms, with a focus on those in less urbanised areas. The MEP is loosely patterned on the Cooperative Agricultural Extension Service, which is a federal, state and county partnership that supports agriculture across the entire country and has been in existence since 1916. In the case of the MEP the main partners are national and state governments, augmented by state specific mixes of non-profit organisations, industry groups and universities and community colleges (Shapira, 2001[28]). The MEP offices in each of the 50 states are jointly funded by the US Commerce Department and by state funds. While some services are provided at no cost to firms, there are charges for more firm-specific consultations. Over time the MEP program has focused more on innovative activities and the adoption of new technologies that are priorities for each state. Thus in a sense its approach is consistent with EU's efforts to induce European regions to adopt smart specialisation strategies based on existing, or emerging, competitive advantages.

Small manufacturing firms, especially those in rural areas, can have a hard time growing beyond their initial level of production and finding new markets. If they are able to expand they create more local jobs and income and can provide an encouraging signal to potential entrepreneurs who may be uncertain about the local business climate. Firms in urban areas are more likely to be able to find consultants to support them or tap the expertise of peer firms to become more productive. In particular small manufacturing firms face challenges in: obtaining or training workers with specific skills a firm requires, identifying suppliers of essential inputs that cannot be locally sourced, keeping up on technological advances that can make them more productive, breaking into new markets outside their region and, making general improvements in firm management (Sargent, 2019[29]).

Source: Own elaboration.

In the future a smaller local labour force may make it more difficult to support larger branch plants in rural communities. However, smaller, niche product manufacturing enterprises could provide a path to a stronger rural manufacturing economy. For this to happen a multi-part support program is required. The first element is to provide encouragement to young (but also senior people) to consider entrepreneurial behaviour, rather than seeking a job in a large corporation or in government. Once nascent entrepreneurs exist a second step is to provide them with the support to take their business idea to a stage where it can actually be implemented. The third step is to provide the support for them to implement their business plan. At this stage incubators and funding can be crucial factors for a successful business launch. The final step is to assist young, promising companies and help them to grow either in size or to broaden the number of products or services they provide.

Expand the role of social enterprise

The social economy or social enterprise serves as a complementary alternative to either for-profit firms or government as a provider of goods and services. In rural areas social enterprise can be particularly important when neither for-profit firms nor government are prepared to serve the community in a manner that meets local needs. Because social enterprises are embedded in their local community and are owned and operated by people who also use the good or service produced they can thrive when other typed of provider withdraw. The main advantages of a social enterprise are: that it can rely on volunteers for at least part of its labour needs, it can obtain financing from members or through grants that need not receive a market rate of return, and it can tailor its activity to the specific needs of the member-owners. Social enterprises that provide services are often more closely related to government, such as co-operative

schools or community owned health care facilities. Other social enterprises, such as community shops or farmers marketing co-operatives are more like for-profit businesses in their orientation, In all cases a social enterprise should cover its costs and generate sufficient funds to make investments to allow it to grow but does not distribute a profit.

Some brief examples of successful social enterprise in rural regions of OECD countries can provide a context for developing a broader use of the concept as tool for rural development in Korea.

- **Appalshop, Whitesburg, Kentucky USA.** Appalshop was founded in Whitesburg in 1969 to teach young people in the region to make films that documented local history and culture. In the process it would teach people marketable skills. By 1975 it had 20 full-time employees and had expanded to provide support for artists, theatre and other creative work. Today it operates a radio station, sponsors a music festival and in 2019 installed a net-metred renewable energy system. The guiding principle of Appalshop is that supporting cultural development is also a means to supporting economic development.[1]
- **Gotland's Broadband Initiative, Gotland ,Sweden.** By the mid-2000s small communities on the island of Gotland realised that major telecommunications operators in Sweden were not interested in providing last-mile fibre-based broadband to rural households. In response villages organised to develop a framework where they would be responsible for installing the fibre in their community through volunteer labour with each household providing 3 days of work. Starting in 2010 and ending in 2017 broadband has been installed in all 92 parishes with a high rate of homes connected for a modest fee. In 2017 the project was one of five winners in eh European Union annual European Broadband Award.[2]
- **Candover Valley Community Shop, Hampshire, England.** In 2013 the only village shop in the area decided to close, which would have left about 2 000 people in 5 villages and 4 hamlets with no local sources of food or other services. The shop owners agreed to continue in business until the community could develop a plan to take it over. Residents formed a committee to investigate taking over the shop as a community owned business. Subsequently local people raised GBP 120 000 and GBP 105 000 was obtained from grants to build a new shop that would also host the post office. The new shop opened in 2019 and is staffed by 40 volunteers and has 250 member-owners.[3]
- **iCoop, Korea.** iCoop Korea is the second largest consumer co-operative in Korea with more than 170 000 members, it focuses on ensuring that Korean households have access to high quality foods produced in a sustainable way. The co-op contracts with farmers to produce food that meets its desired standards and means of production. One of its main activities has been to find ways to produce rice in more environmentally friendly way. Research was sponsored to develop new production methods that improved biodiversity in rice paddies and subsequently farmers received contracts to produce rice using the new methods. ICoop believes that its effort is helping consumers and helping to maintain a viable agriculture in rural Korea.[4]
- **Greencraig Community Wind Turbine, Falkirk, Scotland.** The turbine project is a partnership between a local social enterprise, the Bespoke Community Development Corporation that focuses on enhancing green travel in the area and on employment training, and Locogen a for-profit renewable energy specialist. A new community investment corporation will operate the project with 65% of profits flowing to community development purposes. Bespoke received grants from the Scottish government to cover most of its share of the investment and will receive a minimum payment of GBP 37 500 over the life of the project to support its activities. Power from the project will be fed into the grid at prevailing prices.[5]
- **Social Traders, Melbourne Australia.** Social Traders is social enterprise that acts as a certifier of individual social enterprises that provide goods or services and as a platform that connects these certified businesses with public and private supply chains across all of Australia. This

> intermediation function is vital for many social enterprises that have not fully developed a market niche. It also allows companies and governments that want to buy from social enterprises to certain that the firms they deal with are legitimate. Their objective is to facilitate more than $5 billion in demand for social enterprise in Australia by 2030. This will lead to major increases in employment and in related job training as well as providing other community benefits.[6]

Across the OECD there is untapped potential within social economy organisations and social enterprises that requires policy action to unlock. These entities can help build more inclusive and sustainable society in each region. Much of the policy needs concern the development of enabling ecosystems. Building a conducive ecosystem for social economy development includes: 1) Raising awareness and visibility of social economy organisations, including social enterprises. This can be done through dedicated and enhanced framework laws or national strategies that define the nature, mission and activities of social economy organisations and therefore help policy makers to more effectively target their support. This can also be done through lighter policy options such as setting up communication campaigns or providing specific support to networks that connect social entrepreneurs to investors and public-sector representatives.2) Providing business support to social enterprises throughout their developmental phase. Specific public support for structures such as hubs, accelerators or incubators can facilitate the development of social enterprises across territories and activity sectors. 3) Supporting a diversification of financial sources. While public support (predominantly through grants and subsidies) is a major financial source for a number of social enterprises, an increasing number now seek to access financing provided by mainstream or new funders (e.g. commercial banks or impact investors). Still, mainstream funders or impact investors perceive social enterprises – especially in the early stages – as high-risk clients and are therefore reluctant to invest in them. Policy makers need to raise awareness through capacity-building, along with efforts to share the risks with mainstream funders, impact investors and commercial banks, for example through guarantee schemes. 4) Fostering social-entrepreneurship skills in the education system. In the long run, education and skills that breed entrepreneurial behaviours need to be developed. For example, educational programmes on social entrepreneurship can provide students with opportunities to develop new solutions to unresolved social challenges and learn about business-creation processes and planning at the secondary and higher education levels. 5) Ensuring institutional continuity and political support for social enterprise development (OECD, 2020[22]).

Political impetus can act as a catalyst for both nascent and/or well-established ecosystems, fostering and accelerating favourable conditions for the growth of social enterprises. However, challenges may emerge when political support for developing the sector of social enterprises fluctuates owing to government changes. Sustained policy support is essential to establish an enabling ecosystem allowing social enterprises to thrive over time. Concerning policy actions that are specifically designed to support the employment creation role of social economy organisations, policy makers could promote: 1) Funding stability. Ensure that public financial support goes beyond short-term contract funding so that longer term employment plans can be developed; 2) Public procurement. An important tool to sustain social enterprises is public procurement, for example including “social clauses”, using “reserved contracts”, or applying “best quality/price ratios” so that social enterprises can compete in getting public contracts; 3) Employment subsidies. An ecosystem favourable for social economy can be also facilitated through the use of employment subsidies for social enterprises working with disadvantaged individuals to offset the costs stemming from the loss of productivity associated with hiring individuals whose job performance is less than normal (OECD, 2020[22]).

Foster innovation in rural areas

With a shrinking population it essential that rural regions find ways to increase productivity and remain competitive if they are to remain viable communities. Innovation is a major way to achieve this objective. But innovation can be difficult in rural regions because they lack most of the underlying characteristics, such as, formal research and development organisations, pools of investment capital and a core group of

scientific and engineering professionals. Innovation in rural areas comes from a number of sources. In some instances, it diffuses from urban areas where it originates. In other instances, research in urban areas is focused on applications in rural areas – for example research in agriculture, forestry or mining is typically undertaken in an urban location. Finally, there is innovation that originates in rural areas by the efforts of rural people. It is this latter form of innovation that is most subject to influence by rural society since both the actors and the locale are rural. In particular, there is a strong link between rural innovation and entrepreneurship (Box 3.21).

One way to enhance innovation is to try to attract innovative people to a rural region by offering them an environment that is conducive to their efforts. Box 3.20 illustrates an approach taken in one community in Japan. Another approach is to try to induce people who might not think of themselves as being entrepreneurial or innovative to consider a new activity. Box 3.22 provides some recommendations for increasing entrepreneurial activity by the elderly. Innovation is typically understood as the creation of a new product or new form of production, but it can also include a new service or a new way of delivering services. In rural areas all forms of innovation are important especially as a shrinking supply of labour and pressures to adjust to the effects of climate change are making current ways of providing goods and services less effective. Box 3.21 provides a number of examples from eh OECD Review of the Northern Sparsely Populated Areas of Finland, Norway and Sweden (OECD, 2017[30]) that illustrate innovative practices in remote rural areas.

Box 3.20. Attract entrepreneurs in knowledge-intensive services in Kamiyama (Japan)

Kamiyama, a rural community in Tokushima Prefecture on the island of Shikoku (Japan) set out to attract IT start-ups. The programme was launched by Green Valley, a non-profit private group, and was designed to revitalise the town by offering abandoned houses to IT engineers and other workers as satellite offices. The project is small but it has attracted 10 IT ventures to this town of 6 100 since 2010 years. Underlying Kamiyama's bucolic appeal is an advanced IT infrastructure built with the help of the prefectural government's drive to extend broadband access to its entire territory. Fibre optic cables were installed in each house and data speed in Kamiyama was faster than Tokyo. The tech cluster has attracted international attention, but it is also significant that Green Valley's revitalisation strategy goes beyond attracting IT firms: its efforts to attract and retain highly skilled workers by offering a good quality of life also extend to the promotion of cultural activities and exchanges, including an artist-in-residence programme. An important part of Kamiyama's focus is on changing the structure of the population: revitalisation may slow the decline of Kamiyama's population or even reverse it. (OECD, 2016[10]).

Source: (OECD, 2016[9])

Box 3.21. Examples of Rural Innovation from Finland, Norway and Sweden

Finnfjord AS: Finnsnes, Troms, Norway. Finnfjord has become the most energy-efficient manufacture of ferro-silica in the world by investing a waste heat recovery to electricity project. The company is locally owned and has about 130 employees, but competes with multinationals in a global market. Ferro-silica production requires large amounts of electricity to operate a smelting furnace that in turn produces large amounts of waste heat. By capturing the waste heat and using it to generate electricity from a steam powered turbine the firm has reduced its net electricity consumption by 40% and sells 340 gWh of renewable energy back into the grid. A second phase of the project will take waste heat from the turbine and use it to heat tanks where algae will be produced as a feed source for farmed salmon, capturing even more waste energy and

further increasing the energy efficiency of the plant. This is a clear example of rural innovation that was driven by the desire of the firm to reduce its costs and increase its competitiveness. The firm has no formal R&D activity but was able to find engineering expertise to support its project and bring the idea to reality. Funding from the national government for innovative activity helped support the process. In the second stage the firm is collaborating with aquaculture experts at the University of Tromso to develop the algae tanks, showing the value of strong business-university linkages.

Nordkapp Maritime Training Centre - Oil Spill Recovery: Honingsvag, Finnmark, Norway. The Nordkapp Maritime Training Centre has added a new specialised training program to its existing programs for sailors. Concern with the possibility of significant oil spills of eh coast of Norway increases as drilling expands and tanker traffic grows in volume. Containing oil spills in an Arctic environment, particularly in winter when daylight is short, is a difficult task. While the Norwegian government maintains a fleet of ships and equipment for this purpose, a training program for crews was needed. In addition, Norway has recruited fishing boats as a supplemental resource and their crews also require training. The Maritime Centre uses a sophisticated simulation system that allows multiple ships to co-ordinate their efforts to contain spills under a range of conditions. Funding for the program comes from Eni the Italian oil company that operates the first offshore oil field in the Barents Sea. The training program is an example of how modern resource economies require sophisticated skills to deal with the challenges of day-to-day operations. These skills have to link traditional skills, such as ship operation, with new needs like oil containment. Locating the training in close proximity to where the actual work will occur is a key advantage, especially since local people are the obvious candidates for the jobs. Using an existing maritime school and adding new equipment for the particular training function be fits the school because these resources can have multiple applications and befits oil company and regulatory process because it is an approach that is more likely to embed additional complementary skills that go beyond the specific training in oil spill recovery.

Wild Food: Koillismaa, Lapland, Finland. This project connects producers of wild foods from forests to local restaurants and food processors as a way to aggregate small-scale production of game, berries, mushrooms and fish into a larger regional presence that can be used as a “brand” to increase tourism and ultimately build export markets. The participants recognise that broadening the tourism offer is important for small remote regions that are expensive destinations. The growing consumer interest in: international foods, local foods and gastronomic tourism is a way to broaden the current tourism experience in Lapland. Participants also recognise that simply producing natural food from the forest will not be enough, and to be successful in increasing sales, jobs and incomes requires a strong investment in promoting and marketing the concept, both to tourism operators in other countries and to potential visitors over the internet. There are multiple useful ideas in this project. The first is the effort to take an underutilised resource and expand demand for it. The second is that in order to expand demand it is necessary to aggregate production from a large number of small-scale producers into a regional brand that can be marketed internationally. A third idea is the recognition that the Wild Food offer has to be bundled into a broader tourism experience, because by itself it is not going to attract many people. However, its value as an addition to more traditional experience-based tourism in Lapland can be significant. Finally, the project recognises that progress will necessarily be slow because it will take time to build the network of producers and processors, and to promote the Wild Food brand in international markets.

Ilosaarirock Festival: Joenssuu, North Karelia, Finland. The festival, started in 1971, is held in early July of each year at a local park over three days. It attracts over 20 000 people and is largely organised by about 1 500 local volunteers. There are five stages that host over 50 international artists from Europe and North America offering a range of musical genres. A key feature of the festival is that it occurs at a time of the year when there is daylight almost the entire day. The festival fills local hotels and restaurants and acts as a major attraction for visitors to the region. The festival provides a way to attract people who might not come to Joensuu otherwise and diversifies the types of tourism available. It also is a way to create cohesion within the community because large numbers of volunteers participate each year in setting up and staffing the event. Profits from the festival are used to support local musicians and musical events, which further

improves cultural opportunities. Because it is such a large event, it also generates national and international media coverage that can raise awareness of Joensuu and North Karelia. Notably the festival is an example of a place undertaking an activity that is well outside its usual framework. In doing so it achieves both local and external recognition for being more innovative than is expected.

Association of Local Authorities: Vaster-Norrland, Sweden. The seven municipalities in Vaster-Norrland have formed a voluntary association to find ways to collaborate on local service delivery and better manage their administrations. The association is governed by the seven mayors and seven leaders of the opposition party to ensure that changes in administration do not adversely affect the association. The main direction of the work is to establish ways for delivering a uniform set of public services across all seven municipalities. This is a challenge because the populations of the seven municipalities are quite different and there is considerable range of settlement sizes and connectivity among settlements. In addition, the municipalities have recently created a unit that delivers training for all municipal employees for the seven municipalities to reduce costs and to help support the joint service delivery effort. Small municipalities are always challenged by higher unit costs for administration and service delivery. By forming an association it can be possible to capture some scale economies if uniform procedures can be followed. This can be a preferable alternative to formal amalgamation because it does not lead to excessive centralisation and preserves local cohesion and local democratic processes. As professional standards become stricter for people engaged in public administration, the importance of a sound training scheme for employees will become a bigger challenge for many local governments. Once again, finding a way to jointly deliver training can be an important step.

Swerea-MEFOS: Lulea, Norrbotenn, Sweden. The Swerea Group is a public private partnership between the Swedish Ministry of Enterprise and Innovation (43% of Swerea AB) and five industry associations (57% of the company) that undertakes research and pilot development analysis for the member companies. The group has five branches with each one focused on the one of the five industry associations. Swerea-MEFOS focuses on metals and steel applied R&D to support the large primary steel industry in Norrbotten County and in other parts of Sweden. In 2015 funding came from industry (48%) national programmes (44%) and the EU (8%). MEFOS concentrates on metallurgy, developing pilot plant process technology, and energy and environmental issues for the metal industry. Some of its research is specific to particular company, but much of it is valuable to any company in the metals sector. This latter work has public good aspects which can justify government support. Swerea is majority owned by five trade associations, each of which represents a key sector in the Swedish economy. All these firms require steady improvements in technology to remain competitive, but a lot of this technology has public good attributes, which reduces the incentive for any single firm to fund it. The Swerea Group provides a solution to this dilemma by making its results available to member firms and undertaking research that is driven by member interests. Public funding is acceptable because the work benefits all firms, and indirectly strengthens the Swedish economy by making these firms more competitive.

Source: (OECD, 2017[30])

Box 3.22. Entrepreneurship and innovation in rural areas

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

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

Essentially support for innovative rural entrepreneurs takes two forms.

The first entails ensuring that existing support for innovation does not discriminate against rural entrepreneurs. Forms of discrimination include: a focus only on formal innovation systems where science-based research and development activity is a prerequisite for support, focusing support only on innovations that have the potential for rapid growth (gazelles), requiring that an innovation be novel in a national or international context before it can be supported, establishing high minimum funding levels and complex application procedures that can be difficult for individuals or small firms to deal with, and concentrating efforts to promote innovation in urban areas.

The second is more broad-based support for small rural business, including assistance in moving from identifying an idea – the latent entrepreneur – to then acting on that idea and developing a business plan and to actually starting a business. In rural areas the first of the three steps can be the most difficult. In many rural areas there is not a strong tradition of entrepreneurship, and in almost all rural areas there are few peers who can be looked to by someone interested in starting an innovative business.

Financing a start-up can be a particular challenge in rural areas because the financial intermediation system is weak. Incomes are lower in rural areas, leading to less ability for the entrepreneur to raise equity funds from own sources or family and friends. Banks tend to be less capable of assessing business plans and are more risk averse. Start-up costs can be higher in rural areas because facilities may have to be constructed rather than rented and equipment must be imported. Mainstream venture capital is designed to bridge this gap but is primarily designed for high-growth/high-return ventures which are also not normally evident in rural areas.

Many rural areas have bridged this gap through the creation of community development finance institutions (CDFI) which provide revolving loan funds to local SMEs and start-ups. The initial capital for the institution may be raised from the local community, other financial institutions and government. CDFIs can be banks, credit unions, loan funds, microloan funds or venture capital providers. CDFIs are normally accountable to their local community and operate on a not-for-profit basis with legislative and funding support from governments.

Source: Elaboration based on US Treasury (2016), "Community Development Financial Institutions Fund", www.cdfifund.gov/Pages/default.aspx (accessed 9 January 2016). (OECD, 2020[22]).

Box 3.23. Promoting senior entrepreneurship: pointers for policy development

To increase entrepreneurship by older people, policy should:

1. Create a positive awareness of the benefits of entrepreneurship for older people among older people themselves, and in society in general.
2. Assist business start-ups by older people by supporting relevant business networks for older entrepreneurs and providing training to fill knowledge gaps on entrepreneurship skills for those who have spent their working life as employees.
3. Ensure that older entrepreneurs have access to financing schemes, recognising that some groups of older entrepreneurs (e.g. those starting a business while unemployed) may need start-up financing while others (e.g. those with high incomes) may not.
4. Highlight the possibility of acquisition, rather than start-up of a business, as a means into entrepreneurship for an older person as it may be quicker, less risky and can facilitate another person retiring who may wish to do so.
5. Encourage older people to play a role in promoting entrepreneurship by others by becoming business angels or by mentoring younger entrepreneurs.
6. Ensure that tax and social security systems do not contain disincentives to entrepreneurship for older people, including investment in other businesses.
7. Reduce the likelihood that a failed venture will leave the entrepreneur destitute – the risk of losing home, life insurance and other savings is particularly serious towards the end of one's career.

Source: (EC, 2012[31]) Entrepreneurial Activities in Europe - Policy Brief on Senior Entrepreneurship.

Improving the rural labour force

With increased global economic integration, more developed economies lose their comparative in less-skilled activities over time making an upskilling of their work force imperative. Demographic decline is increasing the pressure to improve workforce skills to allow higher productivity to drive future economic growth. With fewer available workers appropriate policy responses are to increase the labour force participation rate, so that a larger share of potential workers are actually employed, and to improve skill levels to increase the productivity of those workers. Geographic differences in local labour markets between rural and urban places make it important that policies to accomplish these objectives reflect the differing conditions.

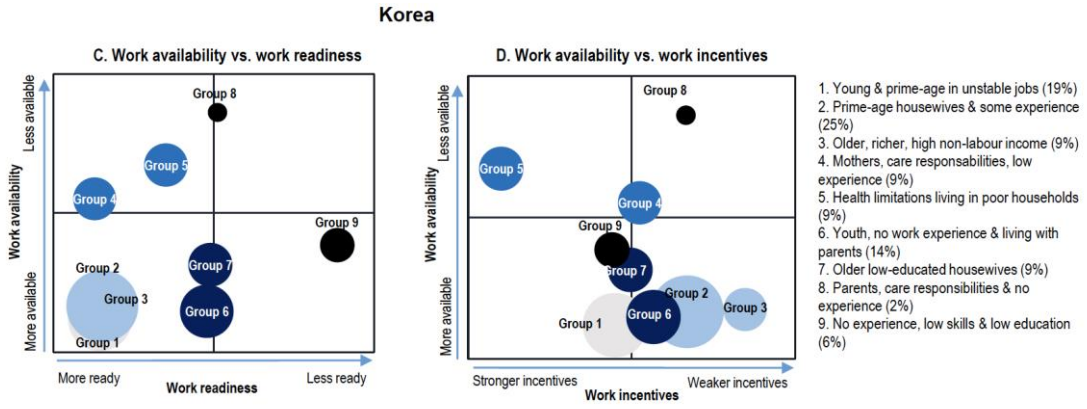
Figure 3.1, below, based on Fernandez, Hijzen, Pacifico and Theswissen, 2020, looks at two dimensions that affect participation rates – work readiness and incentives to seek work. The left side of the figure shows that in Korea there are 3 groups (5, 8 and 9) that will require additional support to improve their skills if they are to be employed. The right-side figure considers the incentives that people have to work. These can be considered as factors that affect the reservation wage, which is the lowest wage people require for their participation in the labour force. Many factors can affect work incentives: including high family income that reduces the need for another person to work, significant family responsibilities that have to be offset by hiring external help, or a lack of suitable work opportunities. In Korea. Group 2 (prime age housewives with some experience) is the single largest group with low incentives for work.

Typically, the idea of local labour markets is not extended to rural regions, even though the combination of long distance, low density and small local economies makes it difficult for many workers in rural regions to find work within a usual commuting range of under 1 hour. The coat of commuting in rural regions is also

an impediment to work especially for lower wage, lower skilled workers because public transport is not available. Even if people wish to relocate to another labour market, they may face difficulties in identifying employment opportunities or finding affordable housing The result is a set of small weakly connected local labour markets distributed across rural territory with limited potential for people to Skill development within rural regions is particularly important because local labour markets are small and weakly connected. This can make it difficult to attract workers from other regions, and hard for people with skills that are not in demand to find work.

Given the anticipated worker shortages and evolving employer needs, efforts to match the development of youth skills with changing skill needs in the local economy is particularly important. In many rural regions boys often believe that formal skill development is not needed because they can obtain artisanal skills through on the job-training just as their fathers did. However even if jobs in the industries their fathers worked in ae still available, it is likely that the skills workers today and tomorrow require are very different and are based on a strong formal education. For girls, the common experience is that they finish school with a strong education but find it difficult to obtain local work that offers an opportunity to use their skills. Consequently, young rural women have high propensity to move to cities, which reduces the size of the local labour force and has implications for future population growth. To retain these young women the economy has to evolve in ways that offer them better opportunities. Doing so should help both labour productivity and increase the potential for them to raise a family in the region.

Figure 3.1. Work availability vs work readiness and work incentives in Korea



Source: (Fernandez et al., 2020[32])

Improving the matching process may be the single most important element of labour force development in rural regions. With a small semi-autonomous labour force and an evolving set of job skill requirement a good matching process is needed to avoid unemployment and underemployment. At present, less effort Is placed in formal matching processes in rural areas then in urban locations. This may reflect the slower pace of change in rural areas and the greater reliance on informal “word of mouth” recommendations. A smaller number of people also tends to increase the unit cost of a formal matching service because fixed costs must be spread over a small number of individuals. On the other hand, the costs of a poor matching process in rural areas are likely to be high, because workers can end up in sub-optimal careers harming both themselves and their employer, and ultimately weakening the community.

The combined effects of demographic decline and technological change are likely to increase the average skill requirements of most workers and to make ongoing training an integral part of a person’s career. This suggests that aptitudes should be identified fairly early in the educational process and potential career paths that match these aptitudes suggested to the individual. Certainly, individual interests and potential opportunities can change over time so flexibility is important. Further mid-career assessments and

supplemental skill development are likely to be increasingly important as technologies and production methods evolve. While these investments may be expensive the imminent scarcity of younger workers makes them essential.

Building rural communities capacity

Rural communities are small places but must still carry out most of the functions of larger places, although in different ways and with less complex procedures. These include providing public services, abut also developing a strong civil society and supporting economic development. In larger communities most of these functions are carried out by paid professionals who work for the community. In smaller places some functions are carried out by paid workers, others by volunteers and others are not provided. Co-ordinating these tasks in a way that improves the quality of well-being for residents is a particular challenge for most rural places. (See for example the Comprehensive Rural Village Development Program in Korea, Box 2.9)

In general, rural communities face a shortage of leaders, who are often volunteers and who lack a background in public management or in other professions that would facilitate their role. In addition, in comparison to larger places, rural communities have a more limited capacity to influence their evolution. In most OECD countries rural places have a small tax base that is required to be spent on mandated services and very little other own source revenue. They are often too small to be eligible for some national government grants or programs and can lack the capacity to generate a strong application for those that they are eligible for. Local firms are typically too small and limited in number to be able provide much voluntary support to the community and there are few individuals with professional skills. Moreover, local financial institutions typically do not provide many functions beyond deposit taking and a limited range of consumer and business loans.

While some communities are able to manage to make significant progress over time despite these capacity constraints, others do not. This makes national government support for capacity building an important function. Various programs have been introduced across the OECD countries, such as LEADER in the European Union (Box 3.24) and Community Futures in Canada (Box 3.25), with the goal of strengthening local economic development. The hallmark of these programs is they provide a modest amount of money for a specific period of time to allow the recipient places to undertake a development activity that is both community defined and endorsed by a large share of the local population. As a result, not only does the community gain from the specific program, but it also befits from a strengthened sense of cohesion and a recognition that positive change is possible.

Box 3.24. The European Union's LEADER approach

The acronym 'LEADER" derives from the French phrase "Liaison Entre Actions de Développement de l'Économie Rurale" which means, 'Links between activities for the development of rural economy". It was introduced in 1991 by the European Commission in response to the failure of traditional, top-down policies to address problems faced by many rural areas in Europe.

The idea was to engage the energy and resources of people and local organisations as development actors rather than beneficiaries, empowering them to contribute to the future development of their rural areas by forming area based Local Action Group (LAG) partnerships between the public, private and civil sectors. These Local Action Groups are the main tool for the application of the LEADER approach to area development directly involving local representatives in the development and delivery of local strategies, decision-making and resource allocation. The added value of this approach is associated with local empowerment through local strategy development, delivery and resource allocation.

From 2007 LEADER was extended to fisheries policy and made a mandatory component of the EU's rural development policy. From 2014 the applicability of the LEADER approach was further extended as Community-Led Local Development (CLLD) in rural, fisheries and urban areas.

As LEADER has developed so too have the mechanisms to support the approach; formal networking structures through National Rural Networks and the European Network for Rural Development provide technical support and other networking services for LAGs. ELARD, the European LEADER Association for Rural Development, is an international co-operation forum of LEADER areas.

The LEADER approach or method is based on seven specific features and is dependent on all of these being present and employed together. These seven features define LEADER as a methodology and separate it from being simply a funding programme.

1. Bottom-up approach. The bottom-up approach is at the heart of LEADER. LEADER conceives that local people are the best experts to drive the development of their territory. This bottom-up approach means that the local community and local players can help define a development pathway for their area consistent with their needs, expectations and plans. Doing this through a collective approach with delegated decision-making enables them to take charge of their own area's future. They make decisions about the local strategy and the selection of the priorities to be pursued.
2. Area-based approach. LEADER and Community Led Local Development is based on a different way of doing things, linking the three elements of a local area, partnership and development strategy within a single approach. The area forms the basis for the development of the local partnership and strategy, creating a positive vision for what could be backed up by an active alliance of local stakeholders. Under the 'Area-based approach' the programme funding targets the priorities of the area as a whole, not specific projects or groups of projects (thus it is distinct from a 'project-based approach'). The area chosen must have sufficient coherence and critical mass in terms of human, financial and economic resources to support a viable local development strategy. The area must have clearly defined geographic but not necessarily administrative borders.
3. The local partnership. The local partnerships for area development work through a specific and structured governance mechanism referred to as the Local Action Group (LAG). Involvement in the partnership means that the people who were previously the passive 'beneficiaries' of a policy become active partners and drivers of their area's development; this is a defining characteristic of Community-Led Local Development. A LAG should comprise partners from public, private and civil society; it should be well-balanced and broadly representative of local interests and the different socio-economic sectors in the area. The LAG's legal form may vary from country to country, but it is often a non-profit, registered organisation.
4. An integrated and multi-sectoral strategy. The Common Provisions Regulation (EU No 1303/2013) specifies that CLLD be carried out through integrated and multi-sectoral area based local development strategies.
5. Networking. Networking lies right at the heart of what LEADER is and how it works. The LAG is a network of local partners which through its strategy and activities promotes links between local actors and others in the development chain. With the advent of CLLD wider networks involving links with non-rural areas can bring new possibilities.
6. Innovation. Innovation applies to what is done, the types of activity supported, the products or services developed etc. but importantly it also applies to how things are done.
7. Co-operation. Inter-territorial and international co-operation adds a wider dimension to local development in rural areas.

Source: EU Network for rural development, https://enrd.ec.europa.eu/leader-clld/leader-toolkit/leaderclld-explained_en.

Box 3.25. Community Futures Network (Canada)

Community Futures is a Programme which operates 267 non-profit offices across Canada that provide small business services to people living in rural communities. Each office delivers small business loans, tools, training and events for people wanting to start, expand, franchise or sell a business. Funding for Community Futures offices and the CFNC Network is provided by the Government of Canada's Regional Development Agencies. The Network is guided by a Board of Directors made up of Community Futures representatives from across the country.

CFNC provides a wide range of member services including specialised professional development and training. With the assistance of its Best Practices Committee, a key focus of the Community Futures Network of Canada (CFNC) is to gather and share information online on a wide variety of new and improved CF initiatives, processes and practices that will provide benefit to both staff and volunteers of CF/CBDCs across Canada. Through its national website, as well as its best practices portal (CFNCZone), the CFNC is able to offer easy access to a wide range of tools and resources that have been developed, tested and successfully utilised by local groups throughout the country.

Source: https://communityfuturescanada.ca/

Effective governance adjustments

The absence of an internal capacity to introduce new activities and create an effective program delivery mechanism is a crucial weakness of many rural local governments. While this weakness was less evident in periods of relative stability when the demand for new programs and new ways of delivering services was absent, the new environment of an aging population and rapid technological and social change is difficult for rural leaders to comprehend, let alone manage. Appropriate responses in rural regions are likely to be different from those adopted by metropolitan regions, which means that rural local governments will have to develop their own solutions for their specific situation. Associations of local governments can play a useful role in creating a forum for smaller regions to develop and share approaches. Funding from national and state/provincial governments to support these forums and build local capacity, as well as to help implement effective responses will also be important.

With demographic decline the capacity of smaller local governments to carry out existing responsibilities becomes questionable. Revenues will decline as responsibilities increase, because transfer payments are typically based on local populations and the local tax base will shrink as the economy contracts. The appropriate response is to explore some form of consolidation of local governments to achieve some minimum efficient scale. But consolidation in rural areas can often result in few cost savings because people are widely dispersed. Various studies across OECD countries show that forced municipal consolidation can lead to weaker local governments in terms of popular support and weaker social cohesion (Charron and Rothstein, 2018[33]) (Dollery and Crase, 2004[34]) (Douglas, 2007[35]) (Zimmerbauer and Paasi, 2013[36]). This in turn can make efforts to improve local economic conditions more challenging and exacerbate incentives for outmigration.

Building local support for collaborative development efforts can improve local governance and increase willingness for inter-municipal co-operation (Lackey, Freshwater and Rupasingha, 2002[37]). Over a period of time the OECD Rural Programme has identified a number of useful policies and actions that both national and local governments can adopt to improve the performance of rural local governments. Most of these policies and actions are generally desirable, but in an environment of where demographic decline is

a major issue they can be particularly effective in helping facilitate a smoother transition to a new environment.

Consider new ways to deliver rural services

As noted previously rural locations often face difficulty in providing services to people and firms. Often, they are required by national or state governments to adopt specific delivery mechanisms that are designed to be effective in urban contexts, but which do not work well in a large area, sparsely settled, small population contest. If national and state governments adopted regulatory systems that focused on the desired outcomes from services, rather than on the specific service delivery mechanisms, then local providers could choose the most appropriate way to provide services in their specific context. Areas where this approach could be useful include; tele-health, tele-education and other internet-based approaches; but also, core infrastructure, such as water and waste-water treatment facilities, and solid waste disposal; and public transit. Delivering public and health services through a single site as is being done in France is a way to find new delivery methods (see Box 3.8).

Encourage collaboration with other proximate communities to deliver services on a regional basis as a way to provide services more effectively and reduce costs

Small communities in close proximity often fail to work together to produce and deliver services despite opportunities to reduce unit costs and improve quality. Barriers to collaboration take several forms. The first is a fear that a neighbouring place may benefit by hosting a specific serve for the larger group of settlements. Conversely, in the case of an undesirable facility, such as a solid waste disposal site, each community may fear it will be forced to accept others' waste. In addition, higher-level governments that either set regulations governing service provision or provide funding may not create incentives for collaboration. Finally, despite close physical proximity there is often little experience in local government collaboration. Each of these impediments is a significant barrier, but none is insurmountable, especially if national or state/provincial governments provide incentives to collaborate. The example of local authorities collaborating in Vaster-Norrland, Sweden described on Box 3.21 shows the benefits of collaboration.

Identify ways to determine which services it is essential to provide by government, and which might be provided by local NGOs or the private sector

Few governments consider the possibility of finding alternative providers of public services, despite the potential for significant cost savings and an opportunity to reallocate scarce public funds to higher priority actions. In rural areas local governments may be unable to provide services that are easily provided in a larger community because they lack funding or the ability to attract individuals with the skills to actually provide the services. However they may be able to provide equivalent services by relying on a different mechanism such as local volunteers, a private contractor or a sharing agreement with a number of nearby places in a similar situation. . Rural transport services are difficult to provide using conventional bus systems, but some form of public transit is essential in most rural areas. Box 3.26 provides an innovative example from Korea.

Box 3.26. The 100 Won Taxi

In many rural areas a large share of the population does not have ready access to a car and public bus service does not exist or is infrequent. This makes it difficult for people to shop, arrange medical appointments or visit friends. Where scheduled transport is not available many local governments have tried to implement service on demand programs. These programs are similar to a taxi service where vehicles are sent to a customer when they are required. But in rural areas distances are long and demand is infrequent and potential riders have limited income making it difficult to operate a conventional taxi company.

In Seochon County, Korea the local government established the "Taxi of Hope" program in 2013 to subsidise the local taxi company to provide service to rural residents. Each resident pays KRW 100 – about 9 cents (US) for a ride, with the balance of the cost of each trip paid by the county Government. The majority of the riders are elderly people who live in small villages with no local shops or other services. The taxi service allows them to remain in their homes reducing the need for assisted living facilities. Because the program was so successful it was adopted in many other rural areas in Korea and has received funding from the national government. In 2020 more than 2.7 million passengers used the service across Korea. Similar types of subsidised programs have been implemented in the Czech Republic, Switzerland, the United Kingdom and other countries.

Source: Choe Sang-Hun. 2021. It's a Godsend: 9-cent Taxi Rides in Rural South Korea. NY Times Sept. 11 2021. available: Oct 19, 2021 https://www.nytimes.com/2021/09/11/world/asia/south-korea-100-won-taxis.html.

Ask for devolved authority from national/state governments to allow greater flexibility in how services are provided

National or state/provincial governments often mandate specific technologies or ways of delivering public services that they devolve to local governments. Typically, these rules specify best available technologies or specific levels of service to ensure uniform treatment across the entire jurisdiction. However, in many cases small communities are unable to meet the standards either because it is not technically possible or because the cost of compliance is too high. However it may be possible to provide similar levels of outcome by alternative delivery mechanisms if regulations are relaxed.

Seek greater own source funding sources to reduce reliance on transfer payments that have restricted uses

In most OECD countries local government have very limited revenue capacity and rely on "ear-marked" grants and transfers from higher levels of government to carry out their activity. This is a particular problem for small local governments in rural areas where transfer funds based on population do not go as far, because per capita service costs are higher than in more densely settled, higher population communities. A source of local funding is essential if these communities are to be able to make the locally specific investments that can enhance their productivity and attractiveness. In the European Union the LEADER programme has provided a new source of funding to rural areas that has allowed many regions to undertake new activities that could not be financed from national sources.

Recognise that good local services are a foundation for economic development because quality of life is important to firms and workers

Too often small places accept that they will not provide very high-quality services because they lack revenue or face high costs. But without a strong foundation of good services their economic future is perilous. Not only do they face difficulty in attracting outside investment, but they are likely to experience high rates of outmigration by young people who seek a better quality of life. Box 3.8 expands on this point.

Conclusions

Demographic decline is occurring at a time when the nature of work is changing to allow some individuals greater choice in where they work as a result of electronic communication. At the same time other individuals face more stringent conditions on where and how they work as technology better fuses human labour with complementary forms of mechanisation. COVID-19 has demonstrated the uneven nature of these changes with some individuals largely avoiding many of the impacts of the pandemic while working from home, while others were significantly exposed to the virus by virtue of their working conditions. In both cases, technology has changed the nature of work, but in some instances, it provides more flexibility, and in other it imposes more rigidities. Typically, higher skill workers befit from increased flexibility, while lower skill workers increasingly work at a pace set by machines.

National demographic decline will not result in equal rates of decline across regions. Some regions may even grow in the short term if current migration patterns remain in place. This may lead to continued rates of outmigration from rural areas to large cities. However, within a few years, the population of rural areas will have shrunk considerably, and the age composition shifted enough that there will be few young people left. At this point cities, particularly those that have a very low local fertility rate, will experience a large decline in the number of new young workers.

Demographic decline may increase the number of workers having non-routine jobs, but only if the share of the labour force with advanced skill levels increases. For those with lower skills working conditions will remain difficult, even though wages may rise due to a reduced supply of labour. However, wages may not increase by a lot because higher wages create an incentive to adopt technology to reduce the number of workers required.

Efforts to increase the number of women in the workforce by increasing female participation rates are likely. But so too are efforts to increase fertility rates. Whether women working longer hours will be compatible with higher fertility rates will largely depend on the availability of cheap high quality childcare and society changing so that men provide a greater share of household responsibilities. Similarly increasing the share of women in paid work will reduce their ability to provide care for the elderly and ill, shifting these burdens onto paid providers.

Finally, a higher productivity labour force is generally seen as the best way to address an imminent worker shortage. But at least in the short run bringing more marginal workers in terms of skills into the labour force will tend to lower average productivity. And increasing the share of workers in child car and elderly care will also lower productivity unless the way we provide this care changes significantly to increase labour productivity.

In framing the next generation of sectoral policies, it will be important to link sector specific policies to the necessity to incorporate adaptations to demographic decline. This will require a stronger linkage to labour market development policy than has typically been the case, especially for skill development to allow fewer workers to be more productive. Because rural labour markets are, small, more specialised and only weakly connected to each other, different approaches will be required both for skill development and for matching firms and workers.

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Notes

[1] For more information see: https://appalshop.org/story.

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OECD Rural Studies

Adapting Regional Policy in Korea

PREPARING REGIONS FOR DEMOGRAPHIC CHANGE

The study is part of the OECD work stream Preparing Regions for Demographic Change, a megatrend that affects several important dimensions of public policy. The following three of them are particular relevant for Korea's regions and rural places: (i) workforce dimension, (ii) social dimension and (iii) governance dimension. The report consists of three chapters. The first chapter depicts and benchmarks demographic trends in Korea regions against other regions from OECD countries. The second chapter examines a range of policies that can address socio-economic challenges related to demographic trends across the OECD and describes Korea's current policy approach to manage demographic decline and ageing in regions and rural places. The third chapter identifies recommendations for Korea that can help respond to current economic and demographic trends, and ensure social cohesion. It suggests Korea should aim to develop a clear national rural development strategy, tailor labour policies to rural areas, support rural entrepreneurship, rural SME and the social economy, promote rural innovation and foster local governments' and communities' capacity to respond to demographic challenges.

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