



The economics of healthy and active ageing series
New evidence for the Western Pacific Region
Republic of Korea

HOW DOES HEALTHY AGEING AFFECT ECONOMIC GROWTH IN THE REPUBLIC OF KOREA?

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Acronyms

GDP	gross domestic product
IHME	Institute for Health Metrics and Evaluation
UN	United Nations
WHO	World Health Organization
YLD	years lived with disabilities

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“Population ageing presents economic and societal challenges”

Introduction

Population ageing presents economic and societal challenges for countries around the world. Rising life expectancy coupled with lower fertility rates is shifting age demographics so that, globally by 2050, 1 in 6 people will be over the age of 65, up from 1 in 11 in 2019 (UN, 2019a). As the share of older people in the overall population increases, the workforce composition will also shift from young to relatively older age workers in many countries (Aiyar et al., 2016).

Some researchers have suggested that increases in the share of the population at older ages can have adverse economic implications (Fair & Dominguez, 1991; Acemoglu & Restrepo, 2018). This could occur through a number of pathways. For example, a large population share at older ages may put fiscal pressure on social security systems, pensions and health expenditure (Bloom, Canning & Fink, 2011); a large older population may exit the formal labour force en masse and; in addition, some researchers suggest that older people who do continue in formal work may have lower productivity rates (Feyrer, 2008; Aiyar et al., 2016; ADB, 2019).

The potential for population ageing to result in economic challenges through these pathways may be exacerbated if people age in poor health (Feyrer, 2008; Aiyar et al., 2016; Cylus, Normand & Figueras, 2018). A critical question therefore is how the health and disability of older people impacts economic growth and whether the potential adverse economic effects described above can be moderated by supporting healthy ageing.

This report presents estimates of macroeconomic effects of population ageing in the Republic of Korea and considers the role of health and disability. Data and methods used for the analysis in this report are outlined in Box 1.

Box 1: Data and methods for forecasting economic gains of healthy ageing

To estimate the effects of population ageing on economic growth and consider the potential moderating effects of health and disability among the older working-age population, we make use of data from multiple sources. We use data on real per capita gross domestic product (GDP) from the World Bank (World Bank, 2020a), historical and forecasted population by age data from the United Nations (UN) Population Division (UN, 2019b), and data on years lived with disabilities (YLD) by age from the Institute for Health Metrics and Evaluation (IHME, 2020). We aggregate the data into three working-age groups: the young working-age (20–39 years old), the mid working-age (40–54 years old) and the older working-age (55–69 years old). Data are available from 1990 to 2017 for 180 countries.

Country fixed effects models are used to estimate real per capita GDP growth as a function of the shares of the population in each age group and the interaction between YLDs per person and the share of the population aged 55–69 years old. To illustrate the magnitude of effects of supporting healthy ageing, we compare GDP growth projections holding baseline (2017) YLDs per person for 55–69-year-olds constant to an alternative healthy ageing scenario where disability rates are held constant at 5% lower than at baseline.

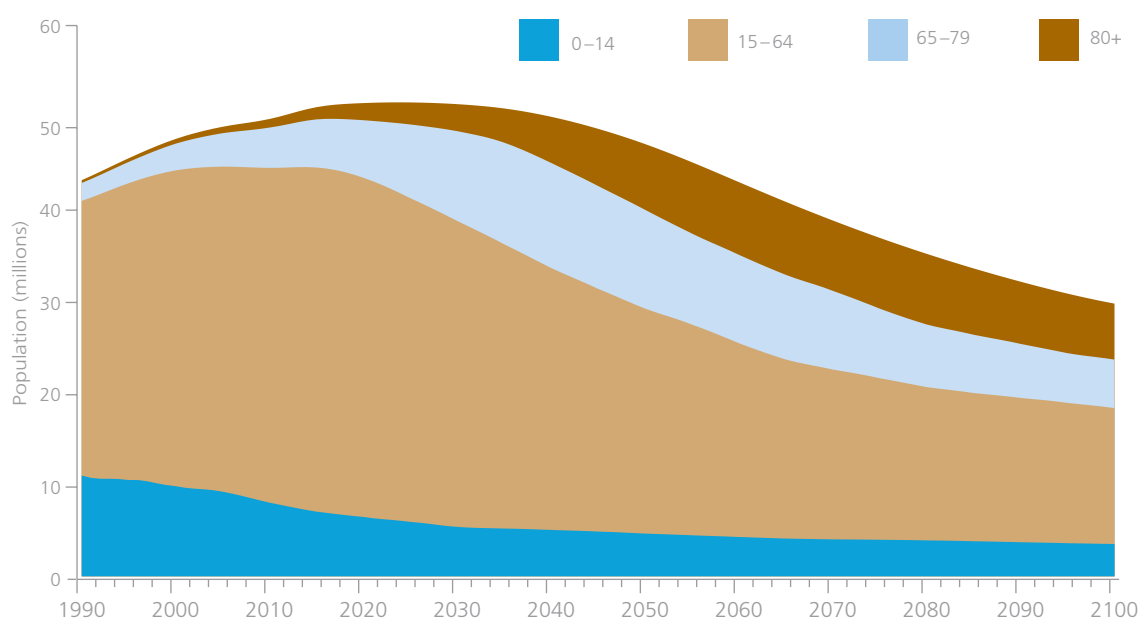
Republic of Korea context: demographics, health and disability, and the economy

Population (2020)	Shares of the population (%) 55–69 years old	2019 GDP per capita (PPP)	2018 Employment share of the population (%) 55–65+ years old	2017 Life Expectancy (years)	Years lived with disability (YLD) per 1000 population 55–69 years old in 2017
51.3 million	2020: 20.70% 2050: 21.71% 2080: 17.40%	\$43 029	55–64: 68% 65+: 33%	82.7	171

The Republic of Korea's population is rapidly ageing

Although the Republic of Korea's population has been growing rapidly since 1990, the total population is expected to shrink, reaching 46.8 million people in 2050 and 29.5 million people in 2100 (Figure 1). The Republic of Korea's population is currently growing older with a median age of 44 in 2020 compared with 27 in 1990 (UN, 2019b); the share of people aged between 55–69 is 20.7% in 2020 compared to the younger working-age population (20–54 years old) of 51.4% (UN, 2019b). However, the median age is predicted to significantly increase in the upcoming decades as the population ages and the share of older people rises. In fact, the share of the older population aged 55–69 is projected to increase to 21.71% by 2050 and slightly decrease to 17.4% by 2080 (UN, 2019b). This age-demographic transition is also shown through the substantial projected increase in the old-age dependency ratio (ratio of population over 65 to population aged 20–64) from 23.6% in 2020 to 89.7% in 2060 (UN, 2019b).

Figure 1. Population age-mix in the Republic of Korea, historical and projections (1990–2100)



Source: UN, 2019b.

Life expectancy is among the highest in the region, but death rates have been on the rise

Life expectancy at birth in the Republic of Korea has substantially improved since 1960, with a gradual increase from 56.2 to 82.7 years in 2017. Although life expectancy is higher than the World Health Organization (WHO) Western Pacific Region's average of 76.6 years and infant mortality has been falling, death rates in the Republic of Korea are increasing. However, for the older population aged 50–69, death rates have fallen from 1393 deaths per 100,000 in 1990 to 496 deaths per 100,000 in 2017 (IHME, 2020). Extended life expectancy can be linked to equitable access to health care services due to the national health insurance's protection mechanisms, including reduced co-payments for catastrophic illnesses and having a ceiling on out-of-pocket (OOP) payments (Kwon, Lee & Kim, 2015). The improvement in infant mortality can also be linked to facility delivery and prenatal care utilization (Kwon, Lee & Kim, 2015). However, the poor still face financial barriers to accessing primary care, the system has low continuity of care, and avoidable admissions are significant (Kwon, Lee & Kim, 2015).

Non-communicable diseases are the main cause of disability

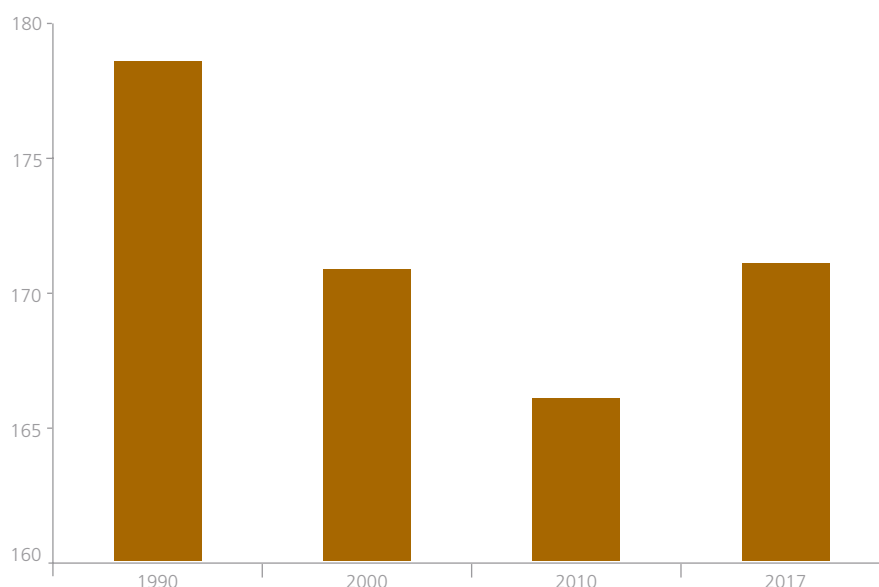
The main drivers of disability and morbidity in the Republic of Korea are non-communicable diseases, cancer, cardiovascular diseases, cerebrovascular diseases and respiratory diseases. In fact, 80% of the burden of disease in the Republic of Korea is attributed to a rise in non-communicable diseases, which are mostly related to increasing population risk factors, including high levels of obesity, physical inactivity, smoking and alcohol consumption. The prevalence of obesity among adults in 2016 was 4.7%, which is lower than the Western Pacific Region's prevalence of obesity among adults of 6.4% in 2016 (WHO, 2017). However, 35.4% of adults in the Republic of Korea led a lifestyle with insufficient physical activity in 2016 (WHO, 2018). Consumption of alcohol is projected to be 11.3 litres per person in 2020 and to increase to 11.5 litres in 2025 (WHO, 2016). Moreover, in 2020, 46.9% of adult males were projected to be smoking tobacco compared with 3.8% for females (WHO, 2015). Optimistically, both are predicted to decrease in 2025 to a prevalence of 44% and 3.6% respectively (WHO, 2015). Further, high disability rates affect the population in the Republic of Korea. In particular, people aged between 55–69 approximately experienced roughly 171 YLDs per 1000 population in 2017 (or alternatively, one can consider an equivalent conceptualization that around 17% of the population aged 55–69 was fully disabled for the entire year). Disability rates in the Republic of Korea are higher than in Japan and Viet Nam, which have per 1000 population YLDs respectively of 164.6 and 166.9. They are, however, lower than in Australia, New Zealand and Mongolia, which respectively report per 1000 population YLDs of 176.3, 183 and 200 (IHME, 2020).

Figure 2 displays how YLDs had been gradually decreasing in the Republic of Korea since 1990, reaching 166 in 2010. However, since then, YLDs have started to increase again, flattening at 171 per 1000 population in 2017 (IHME, 2020).

The Republic of Korea's economy is undergoing a slowdown and COVID-19 coupled with persistent structural challenges are hampering potential growth

During the past half-century, the Republic of Korea's economic growth has been positive and expanding. In the face of the Asian economic crisis in 1997, the Republic of Korea's GDP per capita nearly halved, the Korean currency devalued and the unemployment rate doubled to 4.4% (Kwon, Lee & Kim, 2015). Fortunately, the economy recovered in the 2000s and GDP per capita grew slowly with greater openness to imports and investments (OECD, 2010). In 2008, the global financial crisis had an impeding effect on the country's economy with the GDP growth rate dropping to 0.3% in 2009 (Lee, 2016). Although the economy did not resume its pre-crisis growth, the Republic of Korea managed another fast recovery due to its high productivity levels, innovation and trade openness as well as its strong manufacturing sector (OECD, 2010; Lee, 2016; OECD, 2018). The Republic of Korea's strong economic performance and resilience has also been attributed to efficient high-quality institutions, tailored fiscal and monetary policies, low debt, high savings rates and strong human capital (Lee, 2016).

Figure 2. Years lived with disabilities per 1000 population, for 55–69-year-olds in the Republic of Korea, historical (1990–2017)



Source: Authors' calculations using IHME, 2020 and UN, 2019b.

The Republic of Korea was among the first countries to face the COVID-19 pandemic, with exponential increases of infections in January 2020. Due to the pandemic, the Republic of Korea's real GDP is projected to decline by 1.2% and exports by 1.9%; these losses are attributed to a slowdown in global demand and a fall in exports and manufacturing due to supply-chain disruptions (IMF, 2020; OECD, 2020). The sharp decline in tourism and rise in unemployment to 4.5% are also contributing to the economic toll of the pandemic (OECD, 2020). However, having learnt from the MERS outbreak in 2015, the Republic of Korea took rapid action to contain the number of infections with the least economically disruptive measures (World Bank, 2020b); these include mobilizing infectious disease surveillance systems, using big data and innovation, establishing a comprehensive multi-level framework, adopting evidence-based public health interventions and increasing governmental transparency (Dawoon & Hoon, 2020).

Although the pandemic is projected to pull the Western Pacific Region's economic growth down beyond 2020, the Republic of Korea offers an optimistic example as the contraction in GDP is expected to be milder than other countries in the region. Additionally, to cushion the economic and social impact of the pandemic, the Republic of Korea has taken extensive social protection measures, including provision of free COVID-19 testing and treatment, boosting income support to citizens including sickness benefits, employment retention subsidies, family leave and care policies, wage subsidies to small merchants and loan guarantees for small and medium enterprises (UNDP, 2020; World Bank 2020b). In the post-pandemic era, the Republic of Korea has to implement expansionary fiscal policies, boost productivity growth, enhance competition and innovation, and improve service-sector productivity to rebalance the economy and achieve a broader-based recovery (Lee, 2016; OECD, 2018).

As regards population ageing, the number of older people in the labour force has steadily been increasing. In 2018, 6,851,500 people aged between 55–64 were employed compared with 4,102,000 in 2010. The inverse pattern is observed for people over 65 years with 2,239,000 employed in 2018 compared to 1,674,000 in 2010 (ILOSTAT, 2018).

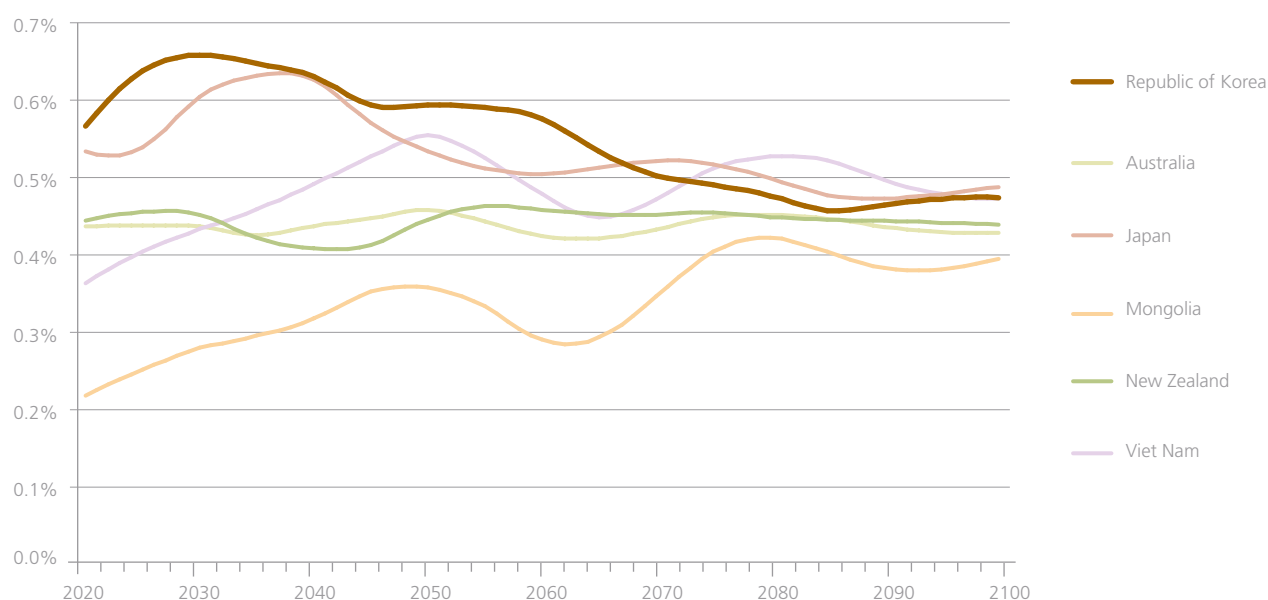
How will population ageing in the Republic of Korea affect economic growth according to the models?

Without accounting for the level of disability of the population, the increase in the share of the population aged 55–69 is expected to coincide with a slowdown of per person GDP growth. From 2020 to 2050, the share of the population aged 55–69 is expected to increase from 20.7% to 21.71%, contributing to a slowdown in per person GDP growth of around 0.7% according to model estimates. Additionally, taking a longer projection from 2020 to 2100, the share of the population aged 55–69 is expected to decrease from 20.7% to 17.33% which, according to our model estimates, would be expected to increase per person GDP by around 2.3%.

Accounting for the level of disability among those aged 55–69 years old, however, moderates any adverse effects of population ageing according to model estimates.

To illustrate, projections of per person GDP growth holding 2017 disability rates among the 55–69-year-old population constant in the future are compared to projections where a 5% improvement in disability rates is assumed. Figure 3 shows that reducing disability among the older working-age population is associated with increases in per person GDP growth. The 5% reduction in disability rates among the older population contributes positively to annual per person GDP growth, adding nearly 0.6% in 2020 and remaining constant in 2050 but decreasing to just around 0.5% per year around 2100.

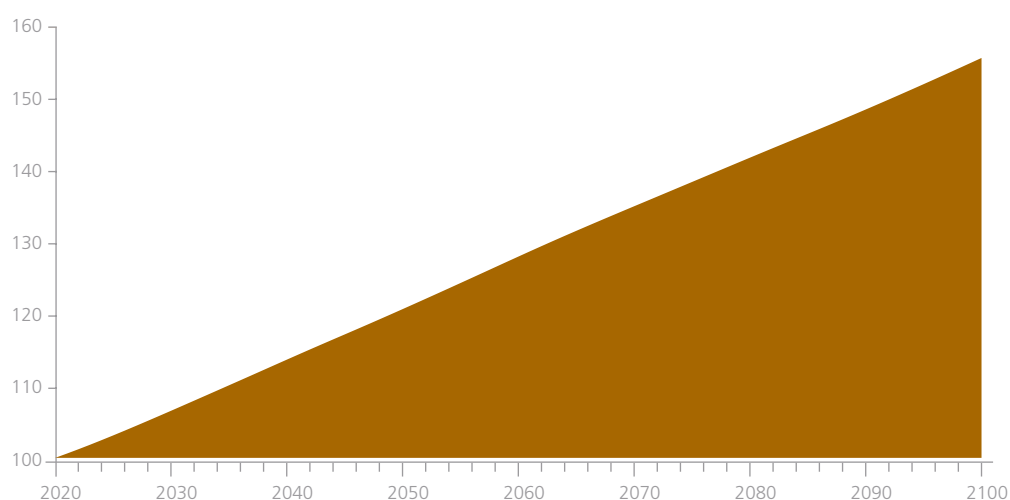
Figure 3. GDP growth attributable to a 5% improvement in disability rates among older population (55–69 years) compared to 2017 baseline disability rates, projections (2020–2100)



Source: Authors' calculations.

To get a sense of the full contribution of healthy ageing over the projection period, Figure 4 shows the cumulative effect of this growth due to lower disability. If disability rates among 55–69-year-olds were constant but 5% lower than in 2017, the Republic of Korea could expect to see an additional 55.4 percentage points of GDP growth per person by the end of the century.

Figure 4. Cumulative GDP growth attributable to a 5% improvement in disability rates among older population (55–69 years) compared to 2017 baseline disability rates, projections (index 2020 = 100)



Source: Authors' calculations.

Discussion

This report suggests that, although population ageing has historically been associated with slower economic growth, a healthy and active older population can have economic benefits. Model estimates indicate that relatively small improvements in disability rates among older people in the Republic of Korea can result in sizeable economic impacts by the end of the century.

Policies aiming to promote healthy and active ageing can play an important role in mitigating the adverse economic effects of ageing. Some effective policies that have been proposed in the literature to promote healthy ageing and improve disability rates reflect a life-course approach, including: preventing disease progression, cognitive and frailty declines; workplace initiatives; and other interventions outside the health system (Cylus, Normand & Figueras, 2018). An assessment of possible approaches to support the health needs specific to the Republic of Korea's ageing population would be useful so that appropriate policy interventions can be considered and the full potential of the older population realized.

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