The economics of healthy and active ageing series

New evidence for the Western Pacific Region

Japan

How does healthy ageing affect economic growth in Japan?

World Health Organization
Centre for Health Development

European Observatory on Health Systems and Policies
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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

Figures

Box

Introduction

"Population ageing presents economic and societal challenges"

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 Japan 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 the 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.

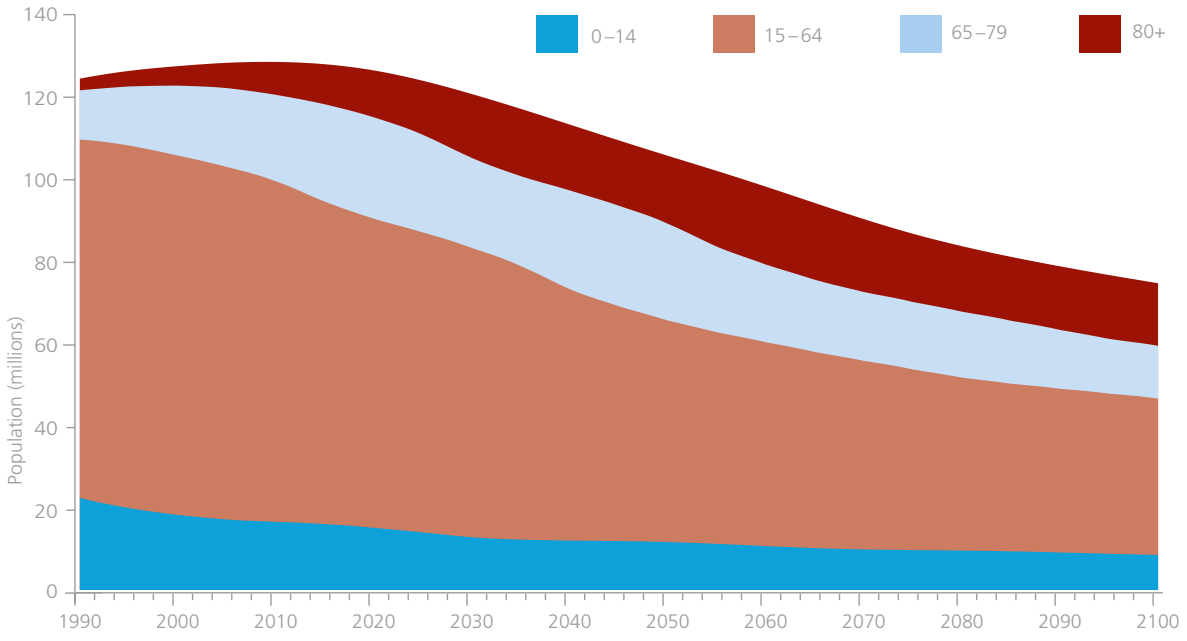
The Japanese context: demographics, health and disability, and the economy

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
126.5 million	2020: 18.8% 2050: 18.8% 2080: 17.5%	$43236	55–64: 75.2% 65+: 24.3%	84.2	164.6

Japan is at the leading edge of the demographic transition and has an increasingly large older population

With a rapid growth rate since 1990, Japan's total population has reached a peak of 126.5 million in 2020. Due to low fertility rates, the total population is predicted to decline to 106 million people in 2050 and 75 million people in 2100 (Figure 1). Japan has the world's oldest population with a current median age of 48.4 in 2020 compared with 37.3 in 1990 (UN, 2019b); the share of people aged between 55–69 is 18.8% in 2020 compared to the younger working-age population (20–54 years old) of 42.5% (UN, 2019b). The median age is predicted to increase further in the upcoming decades as the population ages and the share of older people rises. Although the share of the older population aged 55–69 is projected to remain 18.8% by 2050 and slightly decrease to 17.5% by 2080, the old-age dependency ratio (ratio of population over 65 to population aged 20–64) is projected to substantially increase from 52% in 2020 to 83.3% in 2060 as the number of people over 65 rapidly rises (UN, 2019b).

Figure 1. *Population age-mix in Japan, historical and projections (1990–2100)*



Source: UN, 2019b.

Japan has one of the highest life expectancy rates in the world

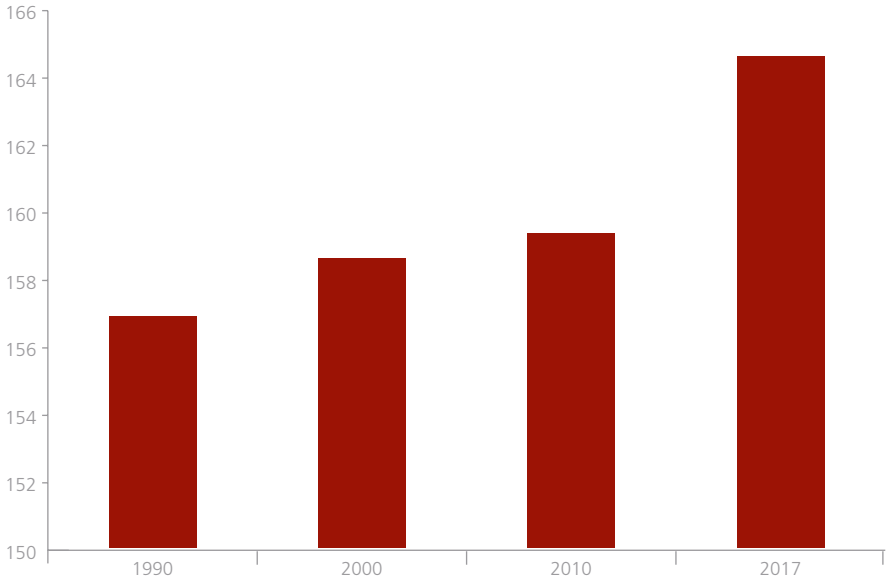
Life expectancy at birth in Japan has substantially improved since 1960 with a gradual increase from 69 to 84.2 years in 2017. Japan's life expectancy is among the highest in the world and it remains higher than the World Health Organization (WHO) Western Pacific Region's average of 76.6 years. Death rates overall are rising slowly, however, amongst the population aged 50–69, death rates have fallen from 755 deaths per 100,000 in 1990 to 550 per 100,000 in 2017 (IHME, 2020). The contributing factors to the extended life expectancy and few deaths in Japan can be linked to healthy lifestyles, hygiene and sanitation as well as equitable and universal health system coverage (Sakamoto et al., 2018).

Non-communicable diseases are the main cause of disability

The main drivers of disability and morbidity in Japan are non-communicable diseases, cerebrovascular diseases, cardiovascular diseases and respiratory diseases (mainly pneumonia). In fact, 82% of the burden of disease in Japan 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 is 4.3%, which is lower than the Western Pacific Region's prevalence of obesity among adults of 6.4% in 2016 (WHO, 2017). In addition, 36% of adults in Japan led a lifestyle with insufficient physical activity in 2016 (WHO, 2018). Consumption of alcohol is projected to be 7.9 litres per person in 2020 and to increase to 8.3 in 2025 (WHO, 2016). Moreover, 29.2% of adult males are projected to smoke tobacco in 2020 compared to 9.6% of females (WHO, 2015). Optimistically, both are predicted to decrease in 2025 respectively to a prevalence of 25.5% and 8.7% (WHO, 2015). Further, high disability rates affect the population in Japan. In particular, people aged between 55–69 approximately experienced roughly 164.6 YLDs in total per 1000 population in 2017 (or alternatively, one can consider an equivalent conceptualization that around 16.5% of the population aged 55–69 was fully disabled for the entire year). Disability rates in Japan are lower than other countries in the region including Viet Nam, the Republic of Korea and Australia, which respectively report per 1000 population YLDs of 166.9, 171 and 176.3 (IHME, 2020).

Figure 2 displays how YLDs have been on the rise in Japan since 1990. Since 2000, YLDs have increased rapidly from 158.6 per 1000 population, reaching 165 per 1000 population in 2017 (IHME, 2020).

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



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

Although the economy has been improving, growth will not remain in the near term due to the COVID-19 pandemic and rapidly declining labour productivity

The burst of asset bubbles in the 1990s led to Japan's 'lost decades', a period of economic stagnation, deflation, high debt and a dysfunctional financial system (Yoshino & Taghizadeh-Hesary, 2015). During this long-term recession, Japan suffered from sluggish economic growth and a sharp decline in its real GDP growth rate. Since then, the economy has been moderately expanding, with a rise in the country's annual GDP growth from 0.5% in 2018 to 0.9% in 2019 (World Bank, 2020a). Japan's poverty levels and unemployment rates have been historically low, and the manufacturing and services sector are the biggest drivers of economic growth (Sakamoto et al., 2018).

In early 2020, the outbreak of COVID-19 altered the economic course of Japan. Although a rapid response and the implementation of preventative measures significantly decreased the spread of the virus, the economy was highly impacted. Being deeply integrated through trade and tourism with the Western Pacific region, which has experienced massive GDP losses, Japan is incurring adverse economic knock-on effects. With the disruption of Asia's value chains through cost increases and restrictions on cross-border movements, Japan's manufacturing sector, specifically the machinery and automotive industries, are bearing the economic toll (UNDP, 2020). Japan's GDP growth decreased by 3.4% in the first three months of 2020 and economic output is expected to contract by 6.1% by the end of the year, pushing the country into a recession that has been especially aggravated by the postponement of the Tokyo 2020 Olympics (World Bank, 2020b).

To cushion the economic and social blow of the pandemic, the government is distributing fiscal support packages that account for 40% of GDP, and the Bank of Japan has expanded its balance sheet with securities and corporate bonds (World Bank, 2020b). Japan has taken extensive social protection measures, including income support to citizens, sickness benefits, employment retention subsidies, direct income support for freelance workers, and family leave and care policies, as well as access to affordable treatment and testing by injecting funds into the health system (UNDP, 2020).

Although the economic outlook for this year is challenging to overcome, with the right fiscal and monetary support, economic growth is projected to bounce back at 2.5% in 2021 (World Bank, 2020b). However, due to its accelerated ageing and shrinking working-age population, Japan is still facing various economic challenges and financial sector vulnerabilities. As a result, structural reforms are needed (notably relating to labour market conditions such as encouraging women and the elderly to participate in the labour force), monetary easing and flexible fiscal policies (IMF, 2020). These interrelated policies would contribute to raising inflation and stabilizing debt rates to regain GDP growth in the post-pandemic era (IMF, 2020).

As regards population ageing, the number of older people in the labour force has steadily been decreasing. In 2018, 11,480,000 people aged between 55–64 were employed compared with 12,140,000 in 2010. The inverse is observed for people over 65 years, with 8,620,000 employed in 2018 compared to 5,700,000 in 2010 (ILOSTAT, 2018).

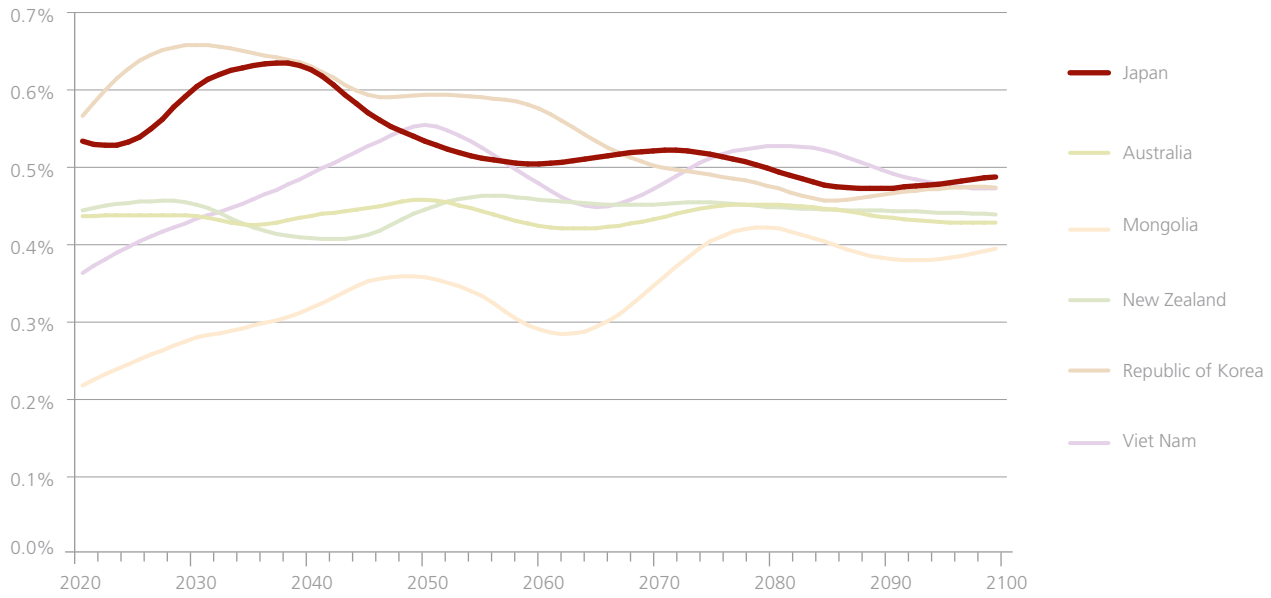
How will population ageing in Japan affect economic growth according to the models?

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 2045, the share of the population aged 55–69 is expected to increase from 18.78% to 20.09%, contributing to a slowdown in per person GDP growth of around 0.9% 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 18.78% to 17.14%, which, according to our model estimates, would be expected to increase per person GDP by around 1.12%.

Accounting for the level of disability among those aged 55–69, 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 just above 0.5% in 2020, rising to just over 0.6% per year around 2035.

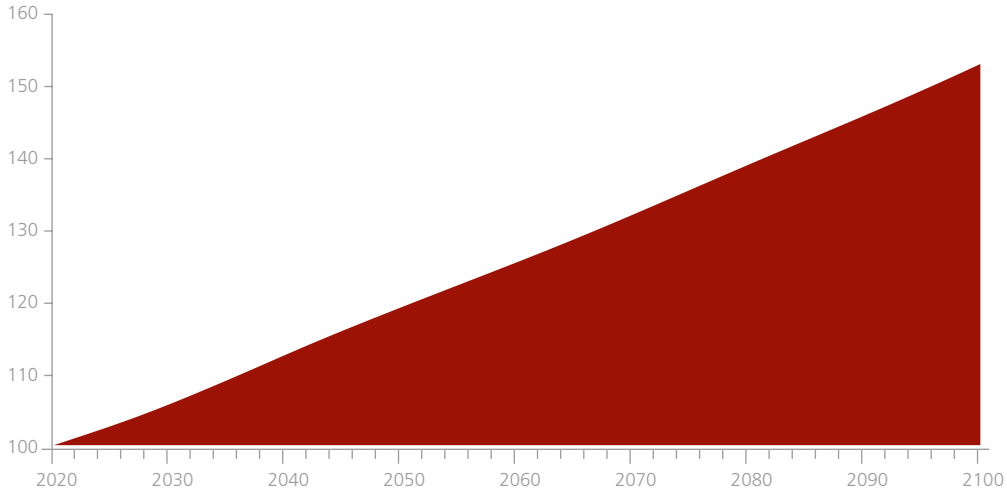
Figure 3. *GDP growth attributable to a 5% improvement in disability rates among older population (55–69 years) compared to 2017 baseline disability rates, projections (2020–2100)*



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, Japan could expect to see an additional 52.8 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 Japan 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 Japan'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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