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A Super-aged Singapore: Policy Implications for a Smart Nation

By Tan Teck Boon

Synopsis

The latest July 2015 United Nations World Population Prospects (UNWPP) paints a sober picture of Singapore's demographic situation. A rapidly ageing population has severe implications but emerging technologies can cushion its impact.

Commentary

ACCORDING TO United Nations World Population Prospects (UNWPP), Singapore will become a super-aged society in 2026. By then, one in five persons in the country or 1,258,441 will be aged 65 or above. The median age will exceed 44.9 (from just 18.1 in 1965) meaning that half of the population will be at least 44.9 years old. When Singapore gained independence in 1965, just 2.65% of the population or 49,757 were aged 65 or above.

But drastic improvement in life expectancy and a sharp fall in the country's birth rate have led to rapid population ageing. Between 1965 and 2014, life expectancy jumped by 16.1 years while birth rate plummeted from 29.0 births per 1000 population to just 9.1. The net result is a rapidly ageing population. Furthermore, this trend is unlikely to be reversed anytime soon as life expectancy is projected to climb further while the birth rate is expected to continue falling. Belying the jubilee, Singapore is sitting on a demographic time bomb.

Demographic time bomb

Apart from the sheer number of senior citizens in the coming decades, the rate at which Singapore is ageing is also remarkable. From 7% in 1999 to 20% of the population in 2026, Singapore will go from being an ageing to a super-aged society in just 27 years. Japan, China, Germany and the United States – countries that are also undergoing ageing – took or will take 36, 32, 76 and 86 years to make that transition respectively. Compared to them, Singapore is not only ageing rapidly, it is doing so at a speed that is faster. More importantly, it also implies that the country will have less time to prepare itself for the looming "silver tsunami".

Singapore has always counted on its human capital for national development but at current fertility and mortality rates, the population will start shrinking as early as 2030 with zero migration. (If normal

migration flow is held, the population will begin shrinking in 2047.) To survive the next 50 years, the country needs innovative solutions to defuse this demographic time bomb.

Implications of rapid ageing

The government will be under pressure to increase spending for elderly care against a backdrop of competing demands for finite public resources. If more of the national budget is allocated to elderly care, then less might become available for defence or education, for example. One solution is to shift the fiscal burden to the younger population in the form of higher taxation.

However, it risks intergenerational inequity and even tensions when the political power (in terms of voting number) of the younger population declines vis-à-vis the larger older population. In 1965, the old-age dependency ratio in Singapore was 4.9; by 2026, it is projected to hit 30.1 – for every 100 working age adults, 30.1 will be dependents.

An ageing population will also lead to a reduction in the nation's military strength. The Singapore Armed Forces (SAF) is made up of mostly male conscripts and the number of 18 year-old males had already peaked in 2012 at 37,619. By 2026, the number of 18 year-old males is expected to fall to only about 32,050 and when the total population starts to shrink in 2047, the number will have fallen to just 29,906 – a reduction of 20.5% from its peak.

A shrinking population also hampers economic growth by reducing the supply of young labour to the economy. As the labour force contracts, national output will fall unless there are significant gains in labour productivity. Consisting of those aged between 25 and 49, the core labour force in Singapore is expected to peak in 2020 at 2,147,231 workers and by 2047, will see a shortfall of 341,570 workers – a 15.9% drop – from its height. For a country that spends 3% to 5% of its GDP on defence annually, slower economic growth will impact military expenditure too.

Employing technology to cushion the impact?

Current measures to care for the aged neither scale very well nor consider the desire of many to age within their own communities. Many of the technologies being deployed under the Smart Nation initiative will help senior citizens to age safely in their own homes while enabling them to receive help from their own support network. Telemedicine – the use of cutting-edge information communication technology and self-administered medical gadgets to provide remote medical diagnosis, treatment and care – will end non-essential visits to the hospital for senior citizens. Meanwhile, autonomous vehicles will enhance their mobility when they do need to travel.

Between 1999 and 2013, Singapore's health expenditure rose from 2.8% to 4.6% of GDP, according to the World Bank. Much of this increase can be attributed to a contemporaneous twofold jump in the number of people aged 65 or above; however, by leveraging on certain disruptive technologies, future increases in health expenditure can be contained. For instances, a new class of biotech drugs called biosimilars are 20% to 30% cheaper than their biologic counterparts but just as effective and safe. Already prescribed in Europe and Australia, biosimilars make difficult and expensive treatments more affordable. Together with telemedicine and generic drugs, biosimilars can help to contain rising healthcare spending.

As the population shrinks, it is also vital to ensure that the economy continues to prosper and the SAF's fighting capability is not compromised. With rapid advances in "deep learning" systems, advance robotics that can outperform humans in some tasks will soon be a reality. McKinsey Global Institute estimated that by 2025, automatons could produce the output of 110 to 140 million full-time equivalents so it is conceivable that super-smart robots might one day address the shortfall in our population. From being caregivers to labourers to sentries, automatons could well be ubiquitous in the future.

While severe, rapid ageing need not spell the end for Singapore. Indeed, it presents real opportunities too. Singapore is not the only ageing society in the world – many are. With a global Silver Economy estimated by Merrill Lynch at US\$15 trillion by 2020, the first-mover advantages and lessons learned from the application of emerging technology to tackle ageing will be invaluable when Singapore spreads its knowledge. That Singapore experience will be something special in the next 50 years.

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