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Addressing Demographic Change in the APEC Region

By Emmanuel A. San Andres and Chelsea Seah Jiaqi

KEY MESSAGES

- The APEC region is currently going through seismic demographic changes, namely lower fertility rates and increasing ageing population shares. This will have significant economic, financial, and fiscal impacts.
- Economic growth will likely be impacted through a dwindling labour force and dampened productivity growth. Financial stability is compromised as liquidity risks loom, while lower risk appetites will have implications for investments and innovations. Rising government expenditures paired with a decreasing revenue base call into question the sustainability of public budgets.
- Gearing up the workforce engine through increasing labour force participation and productivity is essential. Everyone who can and is willing to work should be given the opportunity to do so. Clearing pathways to work is crucial to augment shrinking workforces.
- Lifelong learning is crucial to maintaining productivity. Economies can achieve this by upskilling and reskilling, and even raising retirement and pension eligibility ages to help relieve labour market and financial challenges. Making spaces accessible to the elderly and persons with disabilities is also important to provide work-friendly environments for economic participation.
- Preventive healthcare is a core strategy for healthy ageing. Continued research on healthcare models and treatments would improve health outcomes for elderly patients. A focus on geriatrics and gerontology would better equip economies to meet the needs of an ageing population. Models of collaborative care stand out as a way to provide cost-effective and quality care for the elderly.
- Promotion of financial security and literacy is pertinent in strengthening personal safety nets. Financial regulatory safeguards are equally important in ensuring that retirement savings are not lost due to financial market imprudence.
- Ageing is a structural issue that requires a structural solution. Economies need to build a sustainable model for old-age pensions that incorporates close public-private collaboration. This cannot be built overnight and requires intensive investment as well as the public's buy-in and cooperation.
- Developing fiscal resilience: Rethinking public finances is necessary to combat the conundrum of mounting financial pressures paired with a smaller revenue base. This could be executed through capital income taxation or property taxes to supplement constrained income tax revenue.

Demographic changes in the APEC region

When the Asia-Pacific Economic Cooperation (APEC) was formed in 1989, Ministers discussed a wide variety of issues—from cross-border trade and investment to skills development and sustainable growth—with the aim of improving the lives of people in the region. Little did they know that more than 30 years later their successors will need to tackle the side effects of their success: slowing population growth and demographic change.

Over the past three decades, APEC's population growth has been slowing down, and is expected to stop growing and start contracting by 2035 (Figure 1). From a current population of about 3.0 billion, the APEC region is projected to shrink to 2.2 billion in 2100.

At the same time, the past three decades have seen the region's population grow older on average. The share of APEC's population that is 65 years old or older doubled from 7 percent in 1990 to 15 percent in 2025 (Figure 2).

All regions within APEC experienced an increase in the share of the elderly population, but this is most acute in Northeast Asia where the share increased almost three-fold from 6 percent in 1990 to 16 percent today.

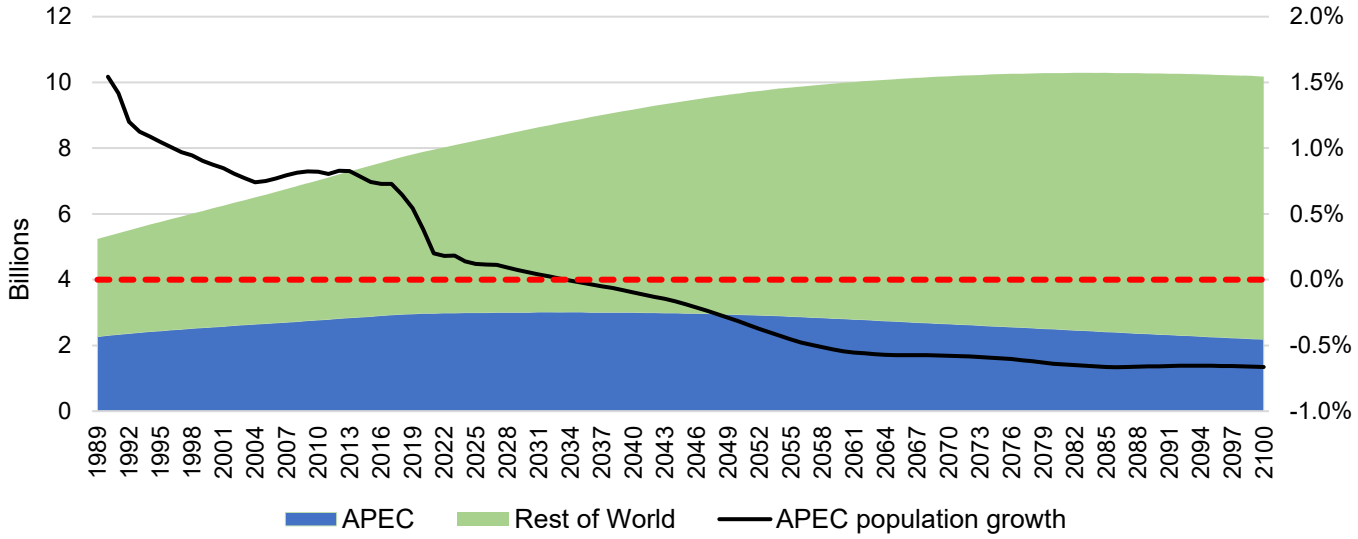

Figure 1. Total population and growth (actual and projection), 1989–2100

Source: United Nations World Population Prospects (UN WPP).

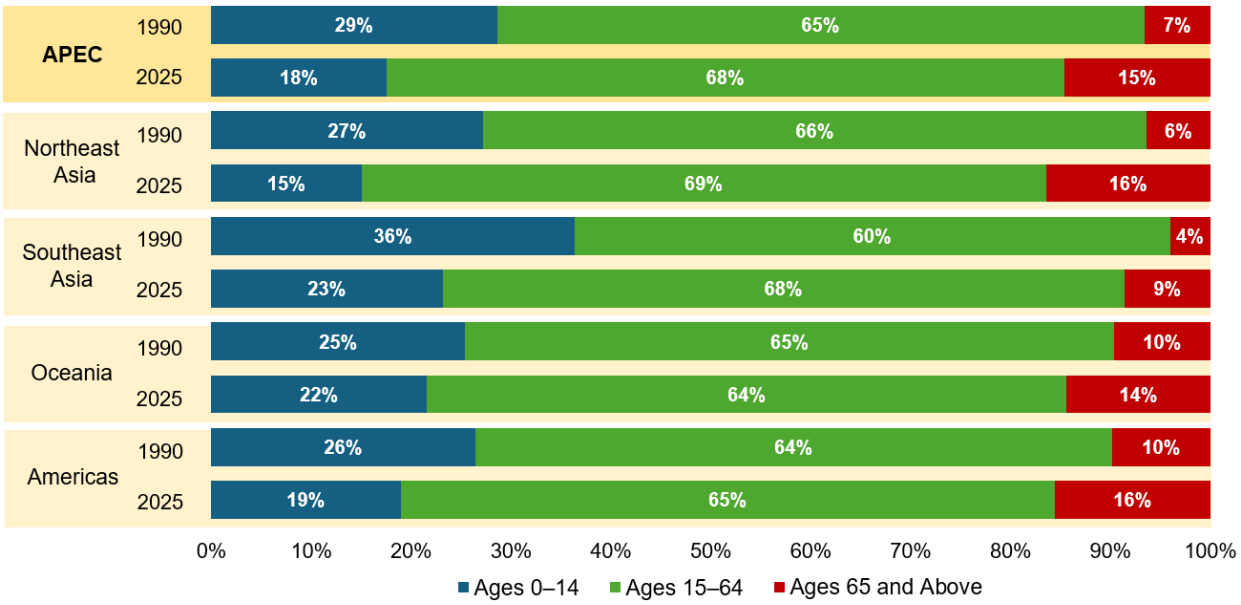

Figure 2. APEC population shares by age group, 1990–2025

Note: Northeast Asia = China; Hong Kong, China; Japan; Korea; Russia; and Chinese Taipei. Southeast Asia = Brunei Darussalam; Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. Oceania = Australia; New Zealand; and Papua New Guinea. Americas = Canada; Chile; Mexico; Peru; and the United States.
Source: UN WPP.

This slowdown in growth and ageing of population is largely a result of the region's success in improving people's welfare. Over three decades of economic cooperation and integration have contributed to better access to healthcare and nutrition.[1] It has also resulted in improved education outcomes[2] and increased job creation and overall income, especially for women.[3] A result of all this success is that people in the region are living longer lives, learning more and earning more.

But it also means that families are having more control over their reproductive choices. Studies show that as households attain better health and economic outcomes, they choose quality over quantity of children, focusing their resources on a few children rather than spreading it over many.[4] As a result, the average total fertility rate (TFR) in the APEC region has declined from 2.5 in 1989 to 1.3 in 2023, which is well below the replacement fertility rate of 2.1 (Figure 3).

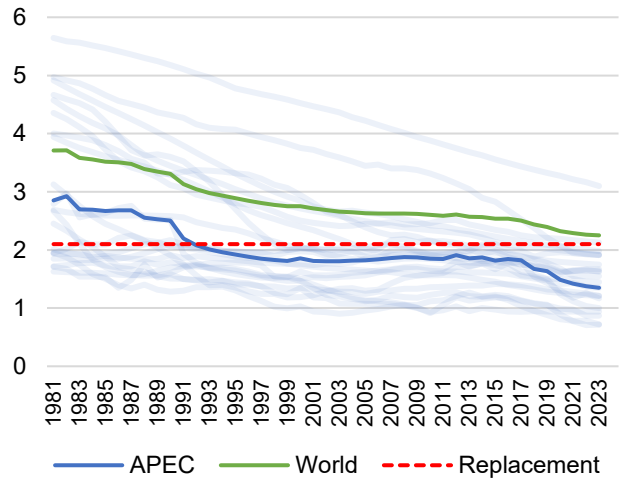

Figure 3. Total Fertility Rate in APEC, 1980–2023

Source: UN WPP.

Impacts of demographic change

While having children is a very personal choice for families, a collective reduction in fertility rates can have significant repercussions on the economy. Along with falling populations and ageing societies, this demographic change could affect an economy's ability to sustain itself.

Figure 4 shows the current and expected trajectories of APEC's dependency ratio (DR), which indicates the number of non-working age people who are economically dependent on every 100 working-age individuals: a lower ratio is generally more favourable. After falling over two decades, the APEC region's total DR has been rising since about 2010 and is expected to continue rising in the next 70 years.

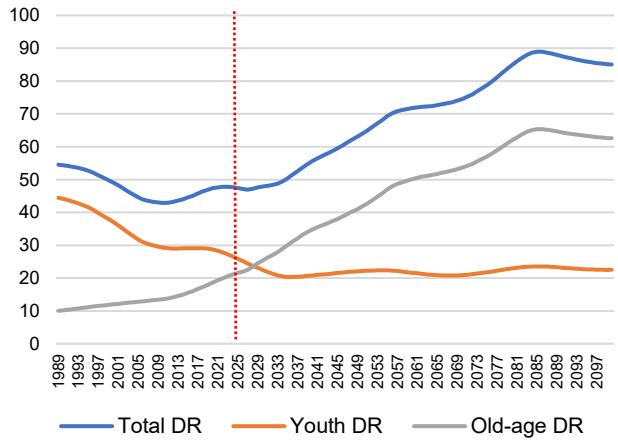

Figure 4. APEC Dependency Ratios, 1980–2100

Note: Youth dependency ratio (DR) is the number of people aged 0–14 divided by the number of people aged 15–64 times 100. Old-age DR is the number of people aged 65 and older divided by the number of people aged 15–64 times 100. Total DR is the sum of youth and old-age DRs.
Source: StatsAPEC and APEC Policy Support Unit (PSU) calculations.

Figure 4 also shows that the old-age DR is rising rapidly while the youth DR is tapering off. The concurrent rise in the old-age DR and the fall in the youth DR imply that there will be fewer workers supporting more elderly people in the future. This signals a lack of demographic dividend from a growing labour force in the future, and points to constraints on economic growth.

Labour force growth, labour productivity growth and innovation

Impact on labour force growth. As fertility rates decline, fewer people enter the workforce; as populations age, more people retire from the workforce. Over time, the shrinking workforce will be unable to offset rising retirements, reducing both labour force growth and supply. Additionally, the labour force participation rate (LFPR) decreases due to the dual effects of ageing societies and generally lower economic participation rates of the elderly relative to younger groups.[5] In economies with rapidly ageing populations, it has been estimated that labour supply could drop by as much as 35 percent.[6]

Assuming that there are no changes in labour productivity (to be discussed in the next section), this translates to lower economic growth due to a reduction in the number of people contributing to the production of goods and services.[7] This relationship generally aligns with the literature. The International Monetary Fund (IMF) finds that a one percentage point increase in the share of elderly population is correlated with a real GDP per capita growth decrease of 4.1 percentage points.[8] Recent studies likewise report that a shrinking working-age population is projected to adversely impact global GDP per capita growth from 2040 onwards.[9] The

adverse impact on economic growth is similarly observed in Asia.[10]

Impact on labour productivity growth. An ageing population affects labour productivity growth in several ways. On an individual level, the relationship between productivity and age is thought to be a hump-shaped one, with productivity increasing as younger workers acquire more skills and subsequently decreasing as older workers face deteriorating health, and loss or obsolescence of skills.[11] At the same time, workers' productivity generally rises with more experience, especially for occupations that are not physically demanding. In fact, at the firm level, older workers are likely to accumulate human capital as they grow older: some studies find that an ageing population leads to increased capital deepening and hence more output per worker.[12]

Other studies estimate a negative impact on productivity growth from a rise in elderly population. Research in Canada shows that older workers are less productive than their younger counterparts, and as a result, an older workforce exerts a moderate negative impact on productivity growth.[13] There are also growing concerns of older workers' adaptability to technology in today's highly digitalised and dynamic labour market. In general, however, the relationship between age and productivity is inconclusive on both the micro and macro level.

Impact on innovation. In theory, an ageing population is expected to depress innovation. On the demand side, older workforces with lower technology adoption rates tend to benefit less from innovation and thus have lower demand for innovation-driven growth. On the supply side, a lower supply of workers possessing a comparative advantage in innovation (i.e., fresh ideas) will likely depress the innovative capacity of the economy.[14]

In practice, however, an ageing population can be a catalyst for innovation, as firms may look to automation and artificial intelligence (AI) to augment a shrinking labour force.[15] In fact, workforce ageing has been identified as a driving factor in the current rise of innovation and automation in the workplace.[16] Furthermore, some studies find that total factor productivity (TFP)—a statistical residual often attributed to intangible technological improvement—may be the primary channel through which ageing influences economic growth.[17] In Korea, for example, automation has helped to alleviate the adverse impacts of ageing on productivity growth even more so when productivity is measured by TFP.[18]

Pension funds and financial markets

As an integral part of financial markets, pension funds play a significant role in maintaining market stability and sharing intergenerational risk. With ageing populations, however, the relative size of pension liabilities and assets proportional to financial assets continue to rise, magnifying their impact on financial stability.[19]

Impact on financial stability. Pension funds are a source of liquidity when markets are distressed, due to their longer-term time horizon and limited redemption options for their beneficiaries.[20] However, with rising old-age dependency ratios and longer life expectancies, the sustainability of pension systems, especially pay-as-you-go (PAYG) pensions, is threatened as there is a lower number of contributors relative to beneficiaries. As contributions dwindle and pension payouts rise, a negative cash flow arises. Ultimately, the pension pool's liquidity is reduced, limiting its effectiveness to provide financial stability.

Impact on capital availability. Pension funds have been long regarded as a contributor to capital sources for projects due to their steady influx of funds over time.[21] However, increased risk aversion, together with the rising shift from defined benefit (DB) to defined contribution (DC) pension plans, would have ripple effects for the capital available to companies. DB plans provide a fixed payout for employees based on salary and working history. Meanwhile, DC plans are funded by both employee and employer contributions, with the funds being invested in an asset of the employee's choice.[22] In the latter, financial risk is transferred to individual investors who decide on investment allocations independently. This also means that there is a higher chance of exit should returns appear to fall. Consequently, this lowers the demand for riskier investments, such as equities, that companies need in order to raise capital through the stock market. The generally lower risk tolerance of older investors, combined with a growing share of wealthy older investors, may therefore pose problems for liquidity and capital availability for higher-risk and innovative investment projects.[23]

Impact on investment markets. Likewise, as individuals age, risk horizons and appetites tend to decline: older people have less time to wait for their investments to mature and hence prefer to seek safer assets. On an aggregate level, ageing populations combined with a lower risk appetite have significant impacts on investment markets. With older investors' shifting demand to owning lower-risk assets and asset preservation, corporate finance may face adjustments in terms of falling equity demand and rising bond yields. In the United States, equity prices have been historically tied to demographic factors. This has been empirically reaffirmed in a study showing that equity price/earnings (P/E) ratio is highly correlated with age distribution.[24] Furthermore, McKinsey Global Institute estimates that ageing populations would contribute to a 1.7 percent decrease in global equities from 2010 to 2020.[25] This could have implications for asset prices, though empirical evidence remains limited due to exogenous

shocks and limited number of observations in studies,[26] making it challenging for causal inferences to be made.

Impact on the banking sector. The banking sector is also impacted by a growing proportion of elderly clients: banks tend to see higher savings in the form of deposits and lower demand for credit as the elderly are less likely to open new businesses.[27] More deposits mean that the cost of funds falls for banks; however, combined with lower credit demand due to lower risk appetite by elderly clients, banks are compelled to seek higher yield opportunities in other geographical locations,[28] which could introduce new risks into the financial system.[29]

On the other hand, the amount of savings that the elderly can maintain also depends on other factors, such as financial literacy and coverage of social safety nets. For instance, should basic health coverage schemes be insufficient to offset growing healthcare costs, older patients may find themselves paying copious out-of-pocket funds for medical care, reducing their savings. In some economies, the incidence of catastrophic health expenditures (CHE)—usually defined as 10 to 40 percent of a household's annual consumption expenditure—has been increasing,[30] particularly for households with a greater proportion of elderly members.[31] In this case, the impact of an ageing population on the cost of funds for banks will vary across economies.

Public expenditures and revenue base

Impact on healthcare expenditure. As populations age, governments are faced with a complex situation involving a higher demand for services (e.g., long-term healthcare) and a declining revenue base. As people age, there is a greater propensity of contracting non-communicable diseases (NCDs).[32] This translates to a higher demand for medical and long-term care, which can lead to higher government healthcare expenditures

Box 1. MSMEs and Demographic Change

Demographic change is a megatrend affecting large and small firms alike, but the challenges and opportunities vary greatly according to firm size.

Challenges to labour and finance. Micro, small and medium-sized enterprises (MSMEs) would be hard-hit by shifting demographics. As more MSME owners reach retirement, they will struggle to find successors due to ageing cohorts, shrinking labour forces and a limited pool of savings for entrepreneurial capital.[1,2] The adverse impact of ageing on labour size and productivity discussed earlier is magnified for MSMEs as labour productivity levels in small firms are already low, often just half of that of large firms.[3]

Finance for small business is another challenge for MSMEs in an ageing society. Studies suggest that access to credit for MSMEs increases as populations age; however, it dips after a certain threshold.[4] This is likely due to the constrained financial markets that MSMEs face as populations age. The International Finance Corporation (IFC) approximates that 40 percent of formal MSMEs in developing economies already face a financing gap of USD 5.7 trillion each year.[5] As demographics shifts contribute to depressed investor demand and instability in pension funds, constrained financial markets could further depress the amount of available credit for MSMEs.

Opportunities from nimbleness. Despite the challenges that MSMEs face, they could be well-placed to address changing demand from an ageing population, quickly filling the gaps in an emerging 'silver economy'. As populations age, they present unique needs in sectors such as healthcare and assisted living. These needs can be met by small, agile startups. In contrast to larger firms, MSMEs have the speed and agility to tackle the challenges brought on by demographic changes: small firms can make decisions faster and tend to have shorter and more local supply chains. This allows them to quickly address the needs of a changing market.

However, their agility from being small comes with the cost of precarity: business survival and an inability to expand are main obstacles to futureproofing MSMEs.[6] Seizing the opportunities from an emerging silver economy depends on having the appropriate springboards—such as access to upskilling and financial inclusion—that can enable MSMEs to address their unique challenges.

[1] The Economist Intelligence Unit, "Derailing the future of economic growth: Demographic risks and financing pressures facing the UK SME economy," 2013, https://impact.economist.com/perspectives/sites/default/files/Derailing%20the%20future%20of%20economic%20growth_030713_FINAL.pdf.
[2] "Lack of funds are stopping Gen Z and Millennials from starting businesses," Small Business Connections, 2023, https://smallbusinessconnections.com.au/lack-of-funds-stopping-gen-z-and-millennials-starting-businesses/#:~:text=Access%20to%20start-up%20cash%20has%20been%20voted%20as,business,%20a%20new%20poll%20from%20CPA%20Australia%20shows.
[3] Anu Madgavkar et al., "A microscope on small businesses: Spotting opportunities to boost productivity," *McKinsey Global Institute*, 2024, https://www.mckinsey.com/mgi/our-research/a-microscope-on-small-businesses-spotting-opportunities-to-boost-productivity.
[4] Ling Wang, "Demographic structure and SME credit availability: Rethinking SME finance amid unprecedented demographic transformations," *Research in International Business and Finance* 76 (2025), https://www.sciencedirect.com/science/article/abs/pii/S0275531925000698.
[5] "MSME Finance," International Finance Corporation (IFC), accessed 11 April, 2015, https://www.ifc.org/en/what-we-do/sector-expertise/financial-institutions/msme-finance.
[6] World Economic Forum (WEF) and the National University of Singapore (NUS), "Future Readiness of SMEs and Mid-Sized Companies: A Year On," 2022, https://www.weforum.org/publications/future-readiness-of-smes-and-mid-sized-companies-a-year-on/.

on programmes such as preventive health campaigns, nursing homes, and long-term care.[33]

As such, as populations age, per capita public health expenditure will tend to increase. We estimate that for every one percent increase in the number of people above 65 years old in the APEC region, per capita public health spending will increase by 0.27 percent (Figure 5). Based on current projections of demographic change, and assuming no significant upticks in inflation, public per capita spending on healthcare will need to rise by almost 20 percent by 2050 compared to current levels.

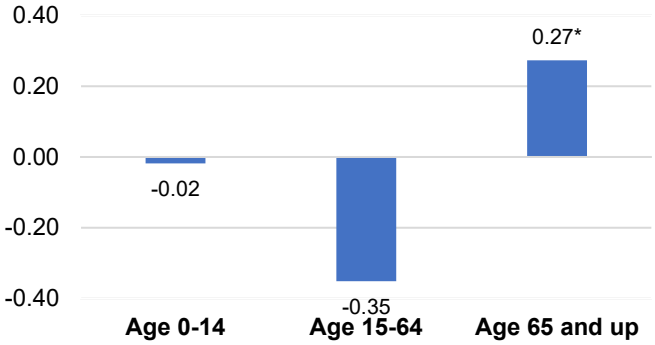

Figure 5. Elasticity of per capita public health spending to population by age in APEC

Note: Chart shows the percentage change in per capita public health spending (in USD) for every 1 percent increase of a specific age group's population after controlling for per capita GDP, reverse causality and heteroscedasticity. * = statistically significant at 5 percent confidence level. Panel OLS was used for the elasticity estimation, with 446 observations across 21 APEC economies.
Sources: APEC PSU calculations based on data from the World Bank; Hong Kong, China Health Bureau; and Chinese Taipei Ministry of Health and Welfare.

Impact on revenue base. However, this increase in spending will coincide with a shrinking working-age population who is expected to pay income taxes and social security contributions. As a growing share of elderly people exit the labour force, this ultimately shrinks the income tax base and limits revenues and contributions that governments can accumulate.[34] This puts pressure on the fiscal sustainability of economies, especially those with pension systems supported by working adults (e.g., PAYG pensions).

Impact on public savings. With increasing government expenditures due to higher healthcare costs and higher pension payouts, public saving is strained. The IMF observes that public savings increase as working-age populations grow, and fall as the proportion of elderly increases.[35] In fact, it is estimated that the rise in global public pension outlay could reduce public saving by more than two percentage points of GDP by 2050.[36] As such, economies are expected to experience decreased public savings due to demographic changes, which will likely constrain domestic capital formation and have negative effects on long-term growth prospects.[37]

Impact on fiscal sustainability. Long-term fiscal sustainability can also be threatened by increased pension spending and rising healthcare costs. Mounting government expenditures could add on to economies' debts, which is deleterious to investments, especially public sector investment.[38] It would also limit economies from spending in areas such as public health and education, thereby limiting opportunities for human capital development and economic growth.[39]

Furthermore, debt levels also implicate the effectiveness of fiscal policy. Empirical studies suggest that fiscal multipliers are dampened in high debt environments via two main channels: interest rates and consumer expectations. When government expenditures rise, interest rates would rise due to higher demand in financial markets. This reduces incentives for private sector firms to invest, thereby crowding out private investment and consumption. This is largely observed in economies with high debt.[40]

Policy Options

Demographic change is coming, and it is coming quickly. It is a side effect of APEC economies' collective success in improving human and societal welfare: lower infant mortality, longer lives, improved education, increased agency, and higher incomes. While governments may be tempted to reverse declining fertility rates through behavioural nudges such as consumption subsidies, provision of services and 'baby bonuses', these have had limited effectiveness on fertility rates at best.[41] Even the most generous nudges to increase fertility have only shown limited success, and none have been able to raise fertility rates back to replacement levels in a sustainable manner.[42]

Fortunately, however, raising fertility rates is not the only policy option to address demographic change. There are many other policy options that economies can—and must—do to sustain economic growth, ensure quality of life and stabilise finances despite demographic changes.

Expand, extend and augment the workforce

Economies need to address the immediate impacts of a rapidly ageing workforce and ensure that their available labour forces and productivity are operating at the frontier, i.e., their most efficient level.

Expanding the workforce. One way to achieve this is to enable everyone to contribute to, and benefit from economic productivity. Economies need to maximise their workers if they have not already done so. More specifically, this applies to pockets of society who are frequently excluded from the workforce due to reasons such as physical status, societal expectations, and more. For example, there are still many structural

barriers to women's economic participation.[43] Ensuring pathways to work and return to work after childbirth will contribute to this end. Likewise, childcare services, work-life balance, flexible working arrangements, and other similar policies will not only contribute to women's economic participation but also help alleviate the costs of childcare.

The literature on demographic issues shows that another way to expand the workforce, even though it can be politically sensitive, is to enhance cross-border labour mobility and immigration. Studies have shown the contributions that highly skilled migrants and temporary workers bring to their hosts, as their know-how and calibre contribute to increased innovation and productivity,[44] boosting economic growth and business creation.[45] Likewise, lower-skilled migrants and temporary workers have been found to boost aggregate productivity in developed economies, due to skill complementarity with the domestic labour force.[46]

Multistakeholder collaboration and coordination are essential foundations for labour mobility policy development. Economies need to ensure that temporary foreign workers or immigrants have the necessary environments to thrive.[47] This includes setting up adequate support and work environments to ensure proper utilisation of skills and successful integration into the labour force.[48]

However, the feasibility of labour mobility and immigration to expand the workforce depends on domestic circumstances and priorities. While in some economies immigration policy is explicitly tied to demographic objectives,[49] in other economies labour mobility is only a temporary solution.[50] Labour mobility and immigration could also be unfeasible options for some economies due to economic, social and security concerns, as well as political considerations.[51]

Extending the workforce. Given the increased average longevity and rising dependency ratios, economies may need to consider raising retirement and pension eligibility ages to relieve labour market and financial pressures. Some economies are already doing this, but political backlash remains a challenge.

Legislation and education against ageism are also essential. While people may be expected to work longer, and some elderly workers may be willing to do so, discrimination and negative perceptions still surround the older generation. They are often seen as weak, inflexible, and a drag on resources.[52] These attitudes can hurt productivity in the workplace, due to reduced collaboration with seniors. Some firms may even pre-emptively terminate the employment of older workers in favour of younger recruits.[53] For the extension of the workforce to be effective, structural safeguards against ageism are necessary.

Augmenting the workforce. Lifelong access to education and skills development is crucial not only in developing a more skilled and productive labour force, but also in providing workers of all ages the skills to work in a digitalised and AI-augmented economy. Some APEC economies have already established initiatives promoting lifelong learning. For instance, Singapore's SkillsFuture program provides a wide range of courses for lifelong development.[54] Meanwhile, Japan's LifeLong Learning Promotion Law in 1990 saw the creation of councils to support this cause.[55]

Public-private partnerships are also essential: economies can encourage upskilling by means of policies, grants, and organising industry-specific upskilling programmes; industries can partner with universities to create new skill-building methods; and organisations can bridge firms' needs through the employment of overlooked groups of workers.[56] Employers can also leverage a multigenerational workforce to foster learning opportunities between younger and older workers with complementary skills – tech savviness from the former, and rich experiences from the latter. This can contribute to innovation and overall productivity.

Ensure longer and healthier lives

If labour markets need to keep people productive for longer, then economies will necessarily need to ensure access to healthcare for all people, including preventive healthcare, to keep them healthier for longer.

Focus on preventive healthcare. Early intervention and effective management of chronic diseases by healthcare providers can help improve health outcomes and reduce overall economic strain from NCDs.[57] It also enables ageing populations to remain actively engaged in society by lowering the impact and likelihood of advanced-stage diseases.

Public health and the creation of liveable communities also have a role to play in fostering healthy lifestyles. Strategies focusing on behavioural change have been found to be effective in increasing health checkup attendance,[58] which improves future health outcomes. Inculcating healthy lifestyles and habits in the population is equally important as well. Economies should use evidence-based interventions to promote this, tailoring their approaches according to their unique cultural norms and susceptibility to nudges by the public.

Environmental factors also affect a population's health. Indicators, such as the ones developed by the World Health Organization (WHO), are useful tools for economies to assess the age-friendliness of their communal spaces.[59] Creating liveable communities requires accessible housing, transportation,

Box 2. Accessibility and Employment

People with disabilities (PWDs) make up a sizeable 15 percent of the global population.[1] They are an extremely valuable untapped reserve for the labour force as many APEC economies face a looming labour force shortage due to demographic changes. Yet compared to the rest of the population, they face higher rates of unemployment.

Structural and institutional solutions. Hiring practices regarding older workers and PWDs have to be transparent. Institutional solutions would spur companies to improve their broad-based hiring practices. Furthermore, on a structural level, the employment gap is present largely due to a mismatch of needs between employers and prospective workers. This is more prominent for older workers[2] and PWDs. The case for inclusion is not just a social one; it is economic as well – globally, up to roughly USD 2 trillion is lost every year due to PWD exclusion from the workforce.[3] Governments should work with organisations such as firms and non-governmental organisations (NGOs) to understand the needs of both firms and elderly/PWDs, to better implement work programmes that would increase the employment of their target groups. To assuage concerns or initial reservations that employers might have, pilot projects involving PWDs could be implemented. Raising awareness of the benefits of PWD employment should also be done concurrently to dispel the prevalent social stigma amidst employers. Other approaches like tax relief can help increase non-discriminatory workplace hiring.

Enhancing accessibility. Eliminating physical barriers is essential to facilitating accessibility for senior workers and PWDs, for example incorporating ramps or lifts for easier mobility, and having restrooms that have safety rails.[4] Assistive technology, such as visual and communication aids, is a powerful tool for PWDs, as it allows greater independence for its users, enhancing work satisfaction and performance.[5] Lastly, flexible work arrangements have been proven to retain elderly workers in the workforce,[6] enabling them more autonomy over their time, with the option to contribute productively if they wish to. This is also particularly helpful for those living with episodic disabilities (e.g., arthritis, diabetes) who experience variability in their symptoms.

Addressing intersectionality. Amongst the elderly, more than 46 percent have disabilities.[7] Intersectionality between older workers and PWDs must not be overlooked, as their unique and complex needs will provide insight into how economies can better tailor their solutions. Stakeholders must take an intersectional approach to promote economic empowerment for both PWDs and the elderly alike, by evaluating solutions based on their effectiveness to tackle the challenges faced by elderly PWDs. Data collection disaggregated by various factors must be enhanced as well.

[1] Marzia Fontana and Sophie Mitra, "Inclusive Trade and Persons with Disabilities," *Ministry for Foreign Affairs of Finland, Helsinki*, 2023, https://unctad.org/system/files/non-official-document/2023-10-19_ITPD_full_en.pdf.
[2] Cynthia Hansen, "What are the needs and challenges of an ageing workforce?," *World Economic Forum (WEF)*, 2024, https://www.weforum.org/stories/2024/09/ageing-workforce-challenges-solutions/.
[3] "Persons with disabilities," International Labour Organization (ILO), 2011, https://www.ilo.org/resource/persons-disabilities#:~:text=Worldwide%2C%20their%20exclusion%20from%20the%20workplace%20deprives%20societies,want%20to%20be%20productive%20members%20of%20their%20societies
[4] Jeffrey Howard, "How to Create Accessible Workplaces for Employees With Mobility Impairments," *InclusionHub*, 2023, https://www.inclusionhub.com/articles/how-to-create-accessible-workplaces-for-employees-with-mobility-impairments#:~:text=To%20make%20workplaces%20more%20accessible%20for%20employees%20with,policies,%20and%20foster%20a%20more%20inclusive%20workplace%20culture.
[5] Tiziana Marinaci et al., "An Inclusive Workplace Approach to Disability through Assistive Technologies: A Systematic Review and Thematic Analysis of the Literature," *Societies* 13, no. 11 (2023), https://doi.org/10.3390/soc13110231.
[6] Marleen Dammam, "Blended Work and Employment Participation of Older Workers: A Further Discussion," *Work, Aging and Retirement* 2, Issue 4, (2016): 384–389, https://doi.org/10.1093/workar/waw022.
[7] "Ageing and disability," United Nations Department of Economic and Social Affairs, accessed 16 May, 2025, https://social.desa.un.org/issues/disability/disability-issues/ageing-and-disability.

recreational areas, and green spaces to encourage healthy lifestyles and social connections.

Continued research on therapy methods and healthcare models. Supporting research and development on regenerative medicine coupled with streamlined approval processes can enhance patient access to regenerative medicine therapies and improve quality of care, possibly reducing the need for long-term palliative care.[60] Advancements in healthcare technology can also deliver safer and more effective treatments for medical needs that are currently unmet, significantly improving health outcomes and enhancing the quality of life for elderly patients and their families.

Specialised knowledge to serve the needs of an ageing population could also be encouraged through educational strategies that promote careers in geriatrics and gerontology. Targeted curricula and upskilling support that improve understanding of these fields, develop skills, and assuage concerns of medical and nursing students will help address skills gaps.[61] Resistance to entering these specialisations due to common concerns, such as perceptions of lesser prestige and low wages, will need to be addressed through information campaigns and institutional development to ensure fair wages.

Models of collaborative care. Integrating medical treatment with effective communications and behavioural strategies has found success in reducing symptom severity and increasing quality of life for patients with chronic illnesses.[62] Integrating healthcare with social services and shifting toward community-based care can enhance service delivery while

controlling costs, allowing for more cost-effective and better-quality care for the elderly.

Promote financial security

At the personal and household level, people need to be informed and equipped to save substantially for their old age. Increasing financial inclusion and literacy, including on retirement planning, is important for people to save and plan for their future. This could help reduce reliance on public pension funds and enable people to establish a stronger personal safety net in times of emergencies. However, people's confidence in savings is only as strong as the reliability and prudence of financial service providers. Regulatory safeguards for consumers are important to ensure that their savings are not easily lost due to financial market imprudence.[63]

Rethink public finances

Ageing is a structural issue, and a solution needs to be structural as well. If one is not yet in place, economies will need to build a sustainable model for old-age pensions that incorporates close collaboration between the public and private sectors. This model, which has been proposed and promoted by World Bank[64] and applied by many economies, combines public, private and personal pensions to ensure basic needs and quality of life into old age (Figure 6). But it cannot be built overnight and requires intensive investment as well as the public's buy-in and cooperation.

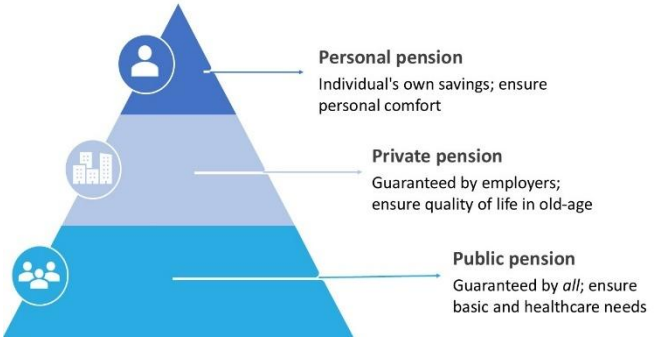

Figure 6. Three-tier model of old-age pensions

Source: Adapted from The World Bank, 1994.

Diversify revenue streams for a resilient tax base. Demographic change has a clear impact on public finances, and that is on the downside. Expenditures are expected to go up due to rising public healthcare spending and pension outlays, while workforce-based sources of revenues, such as income taxes and social security contributions, are expected to be constrained. Economies will need to develop more robust revenue bases by increasing their tax base via a multitude of channels and pursuing tax reforms to ensure that revenue streams are more sustainable in light of population ageing.

Capital income taxation could allow economies to accumulate revenue and promote income equality, since most capital income is distilled at relatively higher income households.[65] Currently, 13 APEC economies tax personal income, which includes income from employment, at higher rates than capital income, with an average differential of more than 20 percentage points.[66] Likewise, corporate income tax revenue has been found to be relatively unaffected by an ageing population, and has the potential to make the tax system more resilient to demographic change.[67]

Taxes on immovable property have also been found to be growth-friendly[68] and is a possible avenue to raise revenue, and making property taxes progressive would encourage equitable growth. Lastly, consumption tax is another avenue that is resilient to demographic ageing.[69] Raising consumption tax would help to fund increasing government expenditures. This should be paired with targeted measures to relieve the burden on elderly with low incomes, as a high consumption tax by itself will be regressive. Moreover, economies should take note of their initial consumption taxes, as raising an already high tax would prove to be unpopular.

Conclusion

The APEC region is currently going through seismic demographic changes, which will have significant economic, financial, and fiscal impacts for economies in the region. Some economies are undergoing this process more rapidly than others, but the bottom-line remains unchanged: economies should pursue a multi-pronged approach to mitigate the potential adverse effects of an ageing population and falling dependency ratios.

Economies' labour forces must undergo adjustments as their growth and productivity decline; structural changes in pension systems are necessary to build resilience and ensure growth inclusivity; and the provision of comprehensive healthcare is even more important with the rising complexity of healthcare needs. And all of this will come with costs that will have to be borne equitably by all sectors of the economy.

Demographic change is a megatrend. But just as APEC policymakers met the megatrends of globalisation and digitalisation in 1989, policymakers today need to grapple with demographic change while ensuring that past successes of healthy lives, better education and growing affluence are maintained.

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The Authors

Emmanuel A. San Andres and **Chelsea Seah Jiaqi** are Senior Analyst and Researcher, respectively, at PSU.

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Address: 35 Heng Mui Keng Terrace,
Singapore 119616
Website: www.apec.org/About-Us/Policy-Support-Unit
E-mail: psugroup@apec.org

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