



ADDRESSING ECONOMIC CHALLENGES OF AGING POPULATIONS: STRATEGIES FOR SUSTAINABLE DEVELOPMENT

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Abstract

Populations around the world are getting older and aging comes along with serious economic repercussions demanding progressive measures in terms of sustainable development. This paper discusses labor markets, healthcare, and pension systems. Ageing shrinks workforce size necessitating policies that favour older workers, lifelong learning, and automation. Pressures on healthcare systems continue to rise making preventive cost-efficient care more important than ever. Limits on pensions require reforms toward later retirement ages, more personal savings, and different models of pension systems. This would require "a holistic change" with labour, health, and pension reforms in the works. Supporting research, entrepreneurship, and international cooperation is crucial for economic growth. Lessons for policymakers in Japan, Germany, and Singapore these strategies have been proved to work as illustrated through case studies. The paper calls for immediate adaptive solutions and underscores the fireproofing and innovation this can bring to aging societies. It fills a gap in the demographic transition literature advocating policy efforts to safeguard global economic security and generational equity.

Keywords: Aging populations, Economic challenges, Labor market impacts, Healthcare costs, Pension systems, Sustainable growth strategies

1. Introduction

This paper is organized in a systematic sequence of sections that together represent a holistic evaluation of the economic implications of population aging and suggested solutions. The paper opens with an “Introduction” that frames the discussion by highlighting a global demographic phenomenon of increasing elderly populations and the resulting economic impacts. After that, the second section, “All about Demographic Shifts and Their Impact” has three sections looking at labor markets, pensions systems and health-care costs. Each of the subsections hits different challenges such as decreasing labor force, growing healthcare, and the whether pension models are sustainable. Section 3, “Responses to the Challenges of Aging Populations”, presents options for meeting these challenges with steps to encourage more work in the labor force, change the health care system and modify benefits from pensions. section 4 offers “Case Studies” from Japan, Germany, and Singapore documenting successful policy implementation in varied settings. In fifth section we look at the “future research”, and explore the limitations of this study, as well as the need for further examination elsewhere, a wide range of possibilities are available, followed by the “conclusion” (in the last and sixth section), that we need much more comprehensive and innovative response to the economic consequences of population ageing. Such a structured dealing of the issues provides a logical sequence of information, making the learning of these intricate topics easy to understand.

1.1. Aging populations worldwide The new world is facing a significant demographic challenge as the world population of older persons is growing at an unprecedented rate. At the heart of this trend are falling fertility rates and rising life expectancy leading to an increasing

number of 60 years and older (1). However, the United Nations has also stated that the world's ageing population should increase more than twice in 2050 up to 2.1 billion (1). This process of demographic transition is unfolding in different stages and with different speeds at different regions around the world with the more advanced change in developed countries (2). Projections are that by 2050 one in every six people on the planet will be aged over 65 compared with one in 11 people in 2019 (1).

1.2. The importance of tackling the economics of ageing societies The demographic trend of population aging creates various economic challenges for nations that may jeopardize its growth and stability. On a macroeconomic level, the growing challenges are reduced labour forces, rising healthcare prices, and overburdened pension systems (3). In order to avoid harming our economic welfare with resulting consequences for the old and young, we need to act accordingly. The state would grow more slowly but experience less pressure on living standards and residents would likely see less intergenerational conflict than if it were to demographic regime change (4). For this reason, policymakers, companies, and society at large must develop strategies to reduce the downsides and maximize the upsides of the aging population.

2. All about Demographic Shifts and Their Impact

2.1. Labor Markets

2.1.1. Drop in labor force and labor scarcity The young age structure of the Netherlands has the side effect that the working-age population (15–64-year-olds) will be decreasing as a proportion of the population while the share of elderly increases. As a result, the labor supply diminishes with the consequence of

various labor supplies when measured sector by sector (5). A smaller labor force may be a barrier to economic development as a decrease in the number of workers can lead to a decrease in production capacity and productivity in general and as a result economic growth (6). Additionally, labor scarcities thrust bidding up for high-skilled workers triggering wages to ascend and therefore perhaps affecting enterprise profitability too (7).

2.1.2. Shifting skill sets and the demand for evergreen skills Another consequence of aging populations is changes in the skill profile that is the demands of the type of skills required by the labor market. Older workers may find their hard-won HR skills are no longer relevant as technology and industries move on (8). This in turn underscores the importance of lifelong learning and lifelong skill acquisition to keep pace with the labour market (9). Governments and employers might have to tend to a necessity for relevant training and education during careers (10).

2.1.3. How Automation and Technology Can Fill Jobs Shortages Automation and technology could be decisive on the role they played to relieve the pressure posed by a labor deficit as a result of an ageing population. By utilizing more sophisticated technologies such as machine learning, robotics, and artificial intelligence companies can improve in their production processes and become less dependent on human workforce because all of these technologies are capable of increasing productivity and efficiency (6). That being said, one must be cautious with the integration of automation because of the workers that will be displaced without adequate assistance or new jobs to commit to (11).

2.2. Healthcare Costs

2.2.1. Growing requirement of healthcare The need for healthcare

services grows as people live longer. The additional health care supports the older population traditionally demands - such as care for age-related diseases and enduring ailments or long-term treatment - will also increase cultural and health care barriers to medical follow-up (12). This rising demand already puts major strains on health systems which have to grow to accommodate an aging population and the writing is on the wall that if we continue as we are we face a global health crisis (13). OECD (2019) forecasts that with the effect of population ageing the share of GDP spent on health across OECD countries - which averaged 8.8% of GDP in 2018 - will increase to 10.2% by 2030 (9).

2.2.2. Strain on the Public Health System Public healthcare systems are under pressure from the aging population and are often funded by taxes. Rising cost of caring for the elderly can be fiscally challenging for governments and other areas may need to have fewer resources (9). However, this strain is even more evident in countries with extensive public healthcare systems e.g. countries with universal healthcare provision (14).

2.2.3. Implementation of Technology to Improve Healthcare In healthcare, implementing technology has been an essential component to streamline the practice of healthcare delivery and quality improvement efforts. For instance, online immunization services have been one of such adaptations that in turn reinforce consumer behavior in the healthcare domain. The use of telemedicine and remote monitoring technologies for primary care and specialty care has the potential to lower the cost of healthcare (15) and increase access to care. Secondly, promotion of health aging lifestyle intervention may contribute to reducing increasing healthcare expenses related to chronic diseases and help in prevention from earlier or postponed onset of chronic conditions (12).

2.3. Pension Systems

2.3.1. Traditional pension models are not sustainable

An aging population is putting traditional pension models - like the defunct defined benefit plans - under strain. To fund lifetime pension benefits these models usually depend on the current workers' contributions. With a higher proportion of retired versus working citizens, the sustainability of these systems comes into question (9). As the World Bank (2019) points out many countries have pension funding gaps where the estimated costs of providing benefits surpass the anticipated contributions from the working-age population (11).

2.3.2. How longer lifespans change retirement planning

Retirees appreciate that people are living longer and this has the potential to 'complicate' retirement planning as people have to be able to ensure that their savings and/or pension benefits will last possibly decades. These include changes in retirement age, changes to contribution rates, and changes to benefit calculations (9). To adapt to this new demographic future, it is crucial that governments and pension providers adjust their policies to ensure that pension systems will continue to be sustainable and able to provide adequate support to retirees (11).

2.3.3. Private savings and other income sources in retirement

With traditional pensions in crisis, the significance of private savings and alternative retirement income options grows clearer. They will need to plan more for retirement for themselves whether that be through personal savings, defined contribution pension schemes, or investments (9). These are incentives for the private savings through the fiscal regime, financial literacy, and consumer protection and regulation that ensure long-term financial security (11).

3. Responses to the Challenges of Aging Populations

3.1. Support for Higher Labor Force Participation

3.1.1. Measures to Help Older Workers Preventing Age Discrimination

Governments to some extent react by proposing aging workers step into retirement more slowly and much later than even a decade ago. These can include more informal practices such as avoiding age discrimination in hiring and promotion, providing flexible work arrangements, and offering older worker-specific training and skill development (9). Societies can benefit from the rich experience and accumulated knowledge of their older workers through the creation of inclusive and enabling work environments (16).

3.1.2. Flexible working arrangements and Retirement on request

To stay in the job market older workers may need flexible work arrangements like part-time employment, job sharing, or work from home that allow them to meet their personal or family responsibilities (9). According to the European Commission (2018) phased retirement programs by which employees reduce their working time gradually on the path to retirement can also help with a smoother exit from the labour market. Such set-ups offer continuity of purpose and financial security for employees (17) and ensure employers retain vital talent and institutional knowledge.

3.1.3. Supporting the continuous training of the existing rabbit-farming community

To assure that a capable workforce will be available to meet the demands of today and to anticipate demographic changes, there must be lifelong learning and continuous skill development to ensure that all workforce members remain abreast of technological

changes, product advances, and processing strategies. OECD (2019) argues that governments and businesses need to invest in education and training programs which can help workers of all ages to learn new skills and changes in the jobs they have to engage in (9). Extended to access to vocational training, online learning platforms, and platforms for dissimilar professional development (8). A culture of lifelong learning will enable societies to keep their workforce competitive and adaptable in the face of the evolving landscape of skills requirements in a world of fast-advancing technologies (10).

3.2. Reforming Healthcare Systems

3.2.1. Concentrating on prevention and getting older healthier In these aged societies, preventive care and healthy aging initiatives can go a long way in easing the burden on healthcare systems. WHO (2015) stated that healthcare providers can contribute to preserving the independence and quality of life of the older person by promoting good health, detecting and responding early to ill health, preventing diseases, and managing chronic conditions (12). The World Health Organization also stated that governments should assist the promotion of preventive care operations by linking them to broader public health advocacy campaigns, community-based initiatives, and activities that would stimulate individual interest in preventive care (9).

3.2.2. Improving access and efficiency through the use of technology and telemedicine For instance, in aging populations, technology and telemedicine can transform the delivery of healthcare by enhancing access and reducing costs (15). As stated by the World Health Organization in 2015, remote monitoring devices, video consultations, and electronic health records can facilitate the provision of health care for older persons in their homes or communities, eliminating

the requirement for costly hospital admissions. Better coordination among healthcare professionals and more integrated care management to facilitate the more integrated care management mentioned above, therapeutic technologies can contribute to better coordination among healthcare professionals (9).

3.2.3. Promoting public-private partnerships for cost sharing in healthcare

Public-private partnerships can be facilitated to reduce pressure on health financing in aging societies (9). Governments can partner with private healthcare providers, insurers, and technology companies to supplement and build capacity for innovative solutions and process improvements in healthcare delivery (11). At the same time, they help deepen collaboration, promote competition, and foster the emergence of cost-effective high-quality providers (10).

3.3. Adapting Pension Systems

3.3.1. Increasing the pension age and pegging it to life expectancy A policy to resolve associated with pension systems is raised the retirement age and adjusted it to life expectancy (9). Extending the working life as people live longer will be crucial to guaranteeing the financial viability of pension schemes (11). Assuming the retirement age is automatically adapted to the changes in life expectancy, the governments would manage to sustain the relation between years of work and retirement (10). But this must be done in a staged way with due regard to differing impacts on different populations (18).

3.3.2. Encouraging individual savings and financial education Taking care is still required to help people prepare for their retirement in the face of aging populations, including through encouraging personal savings and increasing financial literacy (9). Governments are able to bolster savings by

offering tax subsidies, matched contributions, or automatically enrolling employees in retirement savings plans (11). For instance, ILO (2018) that suggests financial education and advice contribute to responsible retirement planning by aiding informed choices regarding investment strategies and budgeting for long-term care.

3.3.3. Alternatives to the pension model such as defined contribution plans

Retirement income in aging societies may be better supported by alternative pension models like defined contribution plans (9). In contrast, in defined contribution schemes, employees and employers both set aside money in retirement accounts which are typically invested in financial markets. Retirement benefits are hence derived from the performances of these investments (11). This model transfers investment risks to individuals but gives more flexibility and portability compared to the traditional defined benefit plans (18).

3.4. Promotion of Economic Growth and Productivity

3.4.1. Spending to innovate in research and development

Accommodating research and enhancement (R&D) is necessary to stir innovation and stimulate financial development in aging communities (9). Governments have a role in fostering innovation and entrepreneurship, for example, through funding scientific research, advancing technology, and creating new products and services (11). It can give rise to brand new sectors, highly-skilled jobs, and productivity in a plethora of the economy's other areas (10).

3.4.2. Stimulating entrepreneurship and small business creation

Increased entrepreneurship and small business development could drive economic activity and the creation of jobs in ageing societies

(9). Governments could back up the entrepreneurs by few measures like enabling access funds, assure some training and mentorship programs, and bringing down the regulatory hurdles (11). The enhancement of small and medium-sized enterprises (SMEs) may also assist to increase and diversify financial resilience since these types of organizations are typically more flexible and able to conform to the recession (10).

3.4.3. Fostering international trade and cooperation for global market access

Though trading internationally has potential to offer ageing societies access to global markets and new windows of growth (9). A country benefits from opportunities to improve its economy, exchange goods and services, and acquire knowledge through the exchange of goods and services, and those opportunities can only be made possible through the growth of trade relationships, joining regional and international partnerships, and boosting foreign direct investments (FDIs) (11). An additional benefit of forming cross-border collaboratives with other countries experiencing similar population dynamics is sharing as well as creating best practices for identical or similar sustainability topics (10).

4. Case Studies

4.1. Japan - ground zero for learning from the most aged society on earth

Japan is notoriously the globe's oldest society as more than 28 per cent of its inhabitants are aged 65 and above (19). This had given rise over some decades to what may be called quasi-natural experiments in economic populations for other countries to learn from (9). To overcome this problem, Japan has adopted certain measures including generating market demand for old-age workers, technology revolution by means of robot and automation to enhance productivity, and restructuring its health and pension

systems (20). Despite difficult times, Japan offers experiences and lessons learned about ways and dangers (21).

4.2. Germany: Modifying the labor market and pension system Germany and in fact much of Europe sees demographic changes especially in terms of an aging population (22). In order to deal with the risks arising from this transformation, Germany has carried out a large number of modifications in its labor market as well as pension system (9). These advices involve the increase of the retirement age, the introduction of flexible work, and the encouragement of lifelong learning and adult skill (10). For example, a multi-pillar pension system that pools public occupational and private pension schemes has been introduced in Germany to safeguard the long-term viability of retirement income provision (23).

4.3. Singapore: An integrated response to aging population challenges Singapore has been responding to the challenges of aging on multiple fronts (9). Singapore has embarked on a number of policies and initiatives to address this including active aging, lifelong learning, and intergenerational solidarity (24). Singapore Health and Healthcare With a great deal of forethought, Singapore has also invested a great deal in health infrastructure, emphasizing primarily on preventive care and the integration of health and social services (12). The government of this country has even implemented a novel housing plan that promotes multi-generational living and supports aging in place (25).

5. Future Research

5.1. Shortcomings of this study This paper is a most comprehensive paper on the economic challenges facing aging populations and possible solutions as discussed above, still it has a few shortcomings. Mostly it is a desk review of

secondary sources and does not do new empirical work. Second, the strategies that the paper proposes are very general and would need to be adapted and further nuanced according to the different dynamics and needs of such processes in individual countries. Of course, the ultimate long-run effects of these manoeuvres could be muffled by any number of intervening covariates including changing technology and the larger global economic and social and political estrangement that this paper does not yet fully take into account.

5.2. Areas for future research Although such findings may be questioned further still to examine the potential impact of specific policies and interventions that might address ageing population challenges rather future research could advance empirical research. This might involve comparisons across countries, studies that span multiple years, or examinations of individual successful efforts. They might also investigate the ways in which new technologies from artificial intelligence to bioengineering could help stave off the economic and social effects of an ageing society. The second future area is academic studies on securities structure development and pension mechanism innovation to cope with the demographic changes for long-term sustainability and fairness in retirement life. Moreover, research on social and cultural determinants of attitudes towards aging and inter-generational solidarity would help in better understanding public receptivity to policies and strategies dealing with the growing challenges of aging populations.

6. Conclusion

6.1. The need to deal with the economic problems of aging populations Dealing with the economic implications of aging populations is one of the great fundamental imperatives of nations globally. The fact

that demographic shifts are changing the face of societies does imply that the way labour markets, healthcare costs, and pension systems come under pressure will get worse (3). The COVID-19 pandemic has laid bare the susceptibility of ageing populations and inspired calls for building more robust healthcare and social welfare systems (26). Failure to respond to these changes will carry significant economic costs; slower growth, widening fiscal pressures, and intergenerational tension (4). This makes it essential to take early and strong policy actions to ward off the negative consequences of population ageing for sustainable long-term economic prospects (9).

6.2. Leveraging multiple impact dimensions to achieve scale sustainably

The needs of ageing populations are so broad that they can only be addressed comprehensively through multifaceted approaches that span the policy space and involve different actors (9). To be successful, governments must have a well-rounded set of policies on labor force participation, health provisioning, pension system reform, and growth (11). This includes targeted policies, investments in education and training, increasing innovation, and building alliances between different sectors (10). A whole-of-government and coordinated way of working can help countries develop frameworks to ensure the well-being, inclusiveness, and productivity of all ages (18).

6.3. The power of aging societies as a driver of innovation and new possibilities

Although aging populations pose great challenges, they also represent an exceptional potential for innovation and growth (9). A changing demographic landscape can also stimulate the creation, nurturing, and uptake of products, services, and technologies which meet the requirements and the preferences of older consumers (10). The impact of this "silver

economy" can translate into new markets, jobs, and economic growth (11). And harnessing the experience and knowledge of older persons can drive intergenerational learning, mentorship, and social cohesion (18). The opportunities that aging societies provide may be harnessed to become drivers of innovation and indications of sustainable growth for countries (9).

In sum, the economic consequences of aging populations are serious and need to be addressed now by policymakers, business, and society generally. Thus, countries around the world need not fear the adverse economic consequences of getting old so long as their approach to population aging is multifaceted, based on smart policies, investment in human capital, and well-timed innovation as a means to deliver sustainable economic growth. At the same time, by acknowledging the opportunities that demography can offer, societies can leverage the knowledge and expertise of older adults to innovate and build a world that is more equitable and wealthier for us all.

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