

A Study on the Causes and Solutions to the Global Aging Population

Ziyang Huang^{1,a,*}

¹Salisbury School, Salisbury, Connecticut, 06068, United States

a. paul.huang26@Salisburyschool.org

*corresponding author

Abstract: The global demographic landscape is undergoing significant changes due to increasing life expectancies and declining birth rates, leading to an aging population across many countries. This paper explores the multifaceted causes behind this demographic shift, including healthcare advances, fertility patterns, and improved living conditions. This paper examines the implications of an aging population on economic stability, social structures, and public services. In particular, this paper studies the impact on productivity due to a lack of young population, the pressure on the pension system from the increasing number of the elderly, and the corresponding challenges in the healthcare system. The study also analyzes various policy responses implemented by different nations to address these challenges, focusing on innovative strategies from developed and developing countries. Special attention is given to China's approach, highlighting its pension reforms, healthcare enhancements, and elderly care initiatives. By comparing and contrasting these strategies, this paper aims to offer insights into effective policy frameworks and potential areas for future research in managing the impacts of an aging population.

Keywords: aging population, economic stability, fertility.

1. Introduction

The global economy has experienced a significant variation in the modern era, from rapid technological advancements to globalization, during which the world also faces new problems. One of the problems is the aging population. It has been considered a problem since 1997, when scholars examined population expansion [1]. The definition of the aging population is the process of older people starting to become a more significant proportion of the total population in the world, which has become a severe demographic problem in many countries around the globe. It used to happen only in developed countries. However, it will eventually become a more significant problem, and many countries must consider how to face it. Scholars believe that declining birth rates and increasing life expectancy mainly cause the aging population [2]. It points out that extended life expectancy is desirable, but it is unsuitable for the world to develop sustainably. While the improvements in medical technology and living standards have raised the life expectancy of human beings, the fertility rate keeps declining due to many other factors. As the proportion of the older population keeps increasing, this problem will become more severe.

The aging population is a problem because it might significantly impact the global economy—for instance, the labor market. As the population ages, the shrinking workforce will affect the productivity

of the whole economy. Some scholars have predicted that the working age in the United States will increase over time [3]. They estimate that, by 2030, workers aged 65 to 74 will still work, even with some aged 74. However, in 1990, most workers stopped working at 55 to 64. The change in working age is making a big difference. In addition, a smaller workforce will cause less tax revenue to the government. At the same time, older people need healthcare and social services, which the government needs to pay for them. Thus, this will slow economic growth and increase government pressure.

Another thing that will happen is a shift in demand for the products. Since a significant part of the population will be older adults, their focus will be completely different, significantly impacting many industries. It is inevitable, and this crucial phenomenon attracts people's attention. Understanding why this is happening and its impact on the world's economy could help prepare for the future.

This paper focuses on why this is happening and how countries are solving this problem. Analyzing these factors will provide a better understanding of the global aging problem. Also, analyzing how different countries face this problem will help countries learn from each other and improve their policy solutions.

2. Analysis of the Global Aging

2.1. The Structure of Aging Population

The concept of the aging population is a fascinating study of society's changing structure. This shift is vividly depicted on the population pyramid (see Figure 1), a visual representation of the different age groups within the total population [4]. The pyramid's shape, with a wider base and narrower top, reflects low fertility rates and longer life spans.

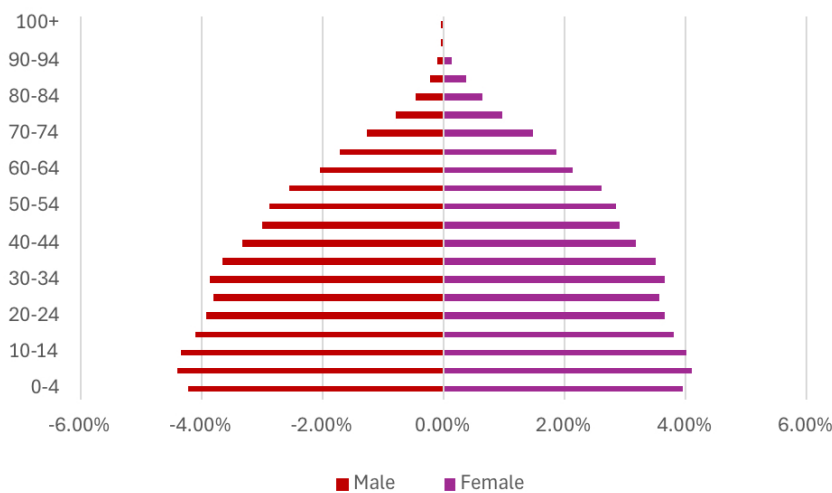


Figure 1: The population pyramid (Data from PopulationPyramid.net).

The proportion of older people is measured on the percentage of people aged 65 or above. It has increased vastly in recent decades, especially in developed countries. For example, Japan, the most aging country, has about 30% of its population aged 65 or above. The same thing happens in Europe, such as Germany and Italy. Relatively, developing countries, such as China and India, have experienced less of the aging population. However, that day will not extend; the trend keeps moving, and the aging population is inevitable.

Gender imbalance will be another critical factor in the structure of the aging population. China is one of the prominent gender imbalance countries [5]. However, this also happens in other countries.

Moreover, women generally live longer than men, which can cause women to have a large proportion in the eldest group. The gender imbalance is already happening in many places, and it is apparent mainly in those aged above 80. It is likely that older women live alone and may require more social and healthcare services.

2.2. Factors Attributed to Aging Population

In recent decades, technology has significantly improved from horsecars to fusion cars to electric cars. These all show the advancement of technology. In these improvements, medical technology was the central part of the constitution of the aging population. The most visual output will be the significantly increased life expectancy. For example, according to the United Nations, the Chinese life expectancy in 1970 was about 55; however, the life expectancy for the Chinese increased to about 78 in 2020. It has increased from 1970 by 141%. The increased life expectancy is a significant improvement. There are several causes of the increasing life expectancy. Recently, the quality of life for most people has indisputably risen. As technology becomes more advanced, people can access better healthcare. At the same time, people's daily lives are also provided with nutrients. Thus, life expectancy is increasing in several realms. However, older adults could live longer after retirement with better medical technologies [6]. Thus, the number of old adults in the population will increase relative to early years.

The increasing life expectancy itself would not be a problem. However, low fertility has played an essential role in the aging crisis. For instance, according to the United Nations, China had a fertility rate of 6 in 1970 and kept declining to 1.28 in 2020. The declining fertility shows that women have far more kids now than in 1970 [7]. The change is most visible in the population pyramid in the long term; it seems like a rhombus instead of a pyramid. Focusing on the population of "rhombus," it is not hard to find two things happening simultaneously: more old people and fewer newborns. These two factors are commonly believed to cause an aging population. Many people consider this as a temporary problem. However, technology is working in advancement, while the fertility rate tends to decline, especially in some countries [8]. Thus, this will always be a problem in the future if there are no more changes.

Social and economic factors may also play a role in the aging population. As people in developed countries have better education opportunities, the cost of raising a child will significantly increase. As the cost of raising children is far higher, it will be harder for low-income families to afford the cost. The high cost of rearing newborn children contributes to the declining fertility rate [9]. Furthermore, improved living conditions and healthcare will make people less willing to have a baby, because the baby can mainly do nothing but waste money.

3. Economic Impact

As discussed in the previous section, the growing aging population will significantly reduce the workforce, leading to a decline in economic productivity. This will result in slower economic growth and a diminished capacity to meet the needs of an aging population, posing significant economic challenges. When fewer workers exist, industries struggle to maintain production levels, lowering overall output. According to the International Labor Organization (ILO), a 1% decrease in the working-age population can result in a 0.5% reduction in the growth of Gross Domestic Product (GDP). This trend is particularly concerning in countries with aging populations, such as Japan and several European countries, where the shrinking labor force contributes to slower economic expansion. For instance, Japan's labor force has been declining by approximately 1% annually, leading to a potential annual GDP reduction of 0.6% to 0.7% without substantial productivity gains or increases in labor force participation. Thus, the decline in the labor force has become a significant problem affecting the economy.

Other problems will also show up as a result of the aging population. For example, healthcare has been known as the insurance that the country provides for old adults. It makes life more convenient, and older people have insurance to pay less for health care. However, it starts to be wrong when too many of them exist. Countries must also throw tons of money into health insurance to ensure everyone can enjoy it equally [10]. Furthermore, the increasing prevalence of chronic diseases among the elderly is placing a significant burden on healthcare infrastructure. The rising demand for long-term care services is straining the medical system and increasing the need for nursing homes and other care facilities. Meeting these needs will undoubtedly challenge countries, particularly those with limited resources.

It may challenge the pension system, too. When the proportion of the aging population grows, more people require a pension. At the same time, however, the number of workers who contribute to the pension system decreases. This imbalance in expenditure and income in pensions may cause a vicious circle in which working-age people must pay higher taxes to rebalance their living expenditure and income. In contrast, people who can take a pension face a reduction in the benefits of the pension system, which the countries can hardly afford the essentials needed for these older adults. This increased demand for pensions will also challenge the pension system, and some countries are already under pressure. Moreover, when other factors cause inflation, the price of goods for basic living needs will increase. As a result, the pension may never be enough. It cannot give old people a comfortable retirement life. All these factors may contribute to the social burden, which will stimulate the problem of low fertility. Lastly, it will worsen the economy even more.

4. Policy Solutions

Countries worldwide have developed different strategies to deal with the aging population. For example, Japan, one of the fastest-aging countries in recent decades, has been working on increasing the working age to offset the negative economic impact. Its government has implemented a policy that prolongs the average retirement age. In the meantime, Japan is also improving its education system to form a population with more talented people, changing from focusing on the population's quantity to its quality. However, there is still a long way to go before the rising fertility rate finally happens, which Japan still needs to improve.

China, similar but different, also faced a significant aging population, though the reason for this may differ from others. Many scholars believe China's aging population is due to the one-child policy. In response, China implemented several policies and opened up the limitations to mitigate the problem. However, despite the policy's relaxation to a two-child policy in 2016 and further to a three-child policy in 2021, the effects of decades of strict birth control are deeply ingrained in the demographic structure. Many couples now choose to have fewer children due to economic pressures and changing societal values. Meanwhile, China extends the working age, which every country is doing, to save more labor by releasing the shrinking workforce.

Moreover, China is working on its pension system, ensuring it can sustain the increasing number of older people who need it. However, a solution still needs to be found to reform the pension system. Scholars study two social security systems, the defined contribution and defined benefit systems [11]. They find that population aging tends to lower the preferred legal retirement age under a defined contribution system, while under a defined benefit system, it delays the retirement age. However, the government needs to face more risks.

Furthermore, China is also focused on technology. By developing better healthcare systems and using technology to help elderly people, China could support them in solving this problem. Also, by using better technology, it is possible to replace the insufficient labor force with artificial intelligence. Doing so will increase productivity and solve the problem of the lack of labor force.

In comparison, although Germany is also doing the same thing in extending the working age, it has some differences in facing the aging population. It has promoted immigration of skilled or talented workers to mitigate the shrinking workforce problem and improve its aging situation. With almost zero growth in its population, Germany has done more and is facing a super-aging crisis. For instance, it has created social welfare for raising a kid. In other words, the country has treated raising a kid as having another job. Its pension system and social welfare provide extra care for families, which improves fertility. Though excellent welfare could release the problem, it can also increase the financial burden. The financial burden has recently reduced welfare and other treatments in the economy, leading the country to find other ways to solve its aging crisis.

5. Conclusion

In conclusion, the global aging population presents significant challenges that require multifaceted solutions tailored to each country's unique circumstances. The primary causes of this demographic shift, including increased life expectancy and declining fertility rates, have profound implications for economies worldwide. The shrinking workforce and rising demand for healthcare and pensions are straining economic systems, leading to slower growth and increased governmental pressure. Various countries have adopted different strategies to address these issues. Japan focuses on extending the retirement age and improving workforce quality, while China is attempting to mitigate its aging crisis through policy adjustments, pension reform, and technological advancements. Germany, on the other hand, emphasizes skilled immigration and family-friendly policies to counterbalance its aging population. While these solutions show promise, they also highlight the global complexity and urgency of addressing the aging population. Sustainable approaches will require balancing economic demands and social welfare, ensuring that aging populations can be supported without overwhelming the younger generations and the economy. Furthermore, this paper only examines the problem from a recent perspective. A more profound and insightful study of this aging problem will provide a helpful and insightful view.

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