

POPULATION AGING'S CHALLENGES TO VIETNAM'S ECONOMIC GROWTH AND DEVELOPMENT

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Abstract

Vietnam has an extremely high rate of aging population and a truly short time to adapt to social problems. This change will reduce both the labor force participation rate and the saving rate, and it also raises real concerns about the slowing of future economic growth. Along with that, Vietnam will face an additional challenge of being "old" before "rich", with an income per capita in the group of low, middle-income countries. Using the annual population change survey data, the GSO's population census data and population projections, the author has specifically described the current situation of the aging population in Vietnam and analyzed several key aspects: changes in consumer behaviors, savings; pressure on public spending; human capital; capital accumulation and aggregate factor productivity; and the adjustment of interest rates, exchange rates, and foreign relations, through which population aging will affect Vietnam's economic growth in the coming period. The main conclusion of the author is that population aging presents enormous challenges but not impossible.

Keywords: *population aging, economic policy, labor force participation, life expectancy, retirement age*

1. Introduction

Vietnam, after the period of the current golden population, in the coming decades, a sharp increase in dependency ratio is expected to appear in all sectors. However, due to improved science and technology in the health sector, the population's health status is improved, and the mortality rate rapidly reduced. At the same time, in the 90s of the twentieth century, our country controlled the birth rate and succeeded in controlling population growth. However, this has created a major social challenge: The high proportion of dependents (children and the elderly) reduces the working-age population and increases the cost of care for the elderly and children, thereby reducing the country's economic growth.

Declining fertility and changes in population structure also reduce the working-age population. As the working-age population declines, the demographic dividend becomes a demographic burden for the country. The higher the population aging, the slower the country's economic growth rate is reduced, as the declining working-age population reduces

the workforce, wages and productivity, savings, and investment. Besides, when the age structure changes, the changes in goods and services demand will certainly change and affect a country's total production productivity. The need for goods and services is significant to define both the production structure, the labor market, and the capital, so these factors are directly influenced by the age structure of the country's population.

A lot of research has been done in various institutions on the impact of aging on public finances, yield potential, private savings behavior... However, this article tends to analyze the factors of "general equilibrium" to fully understand the probable impact of population aging on economic growth.

2. Methods

The authors begin with the presentation and analysis of descriptive statistics on population aging size and rate, based on the results of the 2014 Labor Force and Employment Survey, the Population Census, and housing from 1979 to 2019 by the General Statistics Office; Survey of population change from 2010 to 2019 and sociological surveys on the elderly in 2019. Then, the article analyzes the overall impact of population aging on economic growth as well as Adjustment effects across two main channels through which growth can occur: labor supply and human capital accumulation. Finally, the paper emphasizes the vital role of the institutional and policy environment in determining the economic growth impact of the aging population. The author also analyzes many important demographic, behavioral, and policy factors to understand and clarify the effects of population aging on economic growth.

3. Results

3.1. The reality of the aging process in Vietnam

Population aging reflects the process of population structure transformation towards increasing the proportion of the elderly, as shown by the aging index. The Law on Vietnamese Elderly, the Elderly (Elderly) is a Vietnamese citizen aged 60 years or older. In Vietnam, due to the change in the population's age structure following the decreasing trend of the proportion of children under 15 years old and the increase in the proportion of the population aged 60+, the aging index tends to increase rapidly over the past two decades. As a result, the ratio of the elderly population in Vietnam is much higher than the average of the developing countries and growing faster than the global average. The proportion of the elderly population has steadily increased from 7% in 1989 to 11.9% in 2019%. Although this is still lower than the overall global rate of 12.3% in 2015 [1], it is significantly higher than the general rate of the developing countries. Furthermore, the valuation of the population in Vietnam takes place at a faster rate than the world average. The World Population Aging Report 2013 [2] predicts that the total number of older people will be greater than the total number of children globally by 2047 for the first time. Table 1 below

shows that the number and proportion of elderly in Vietnam have increased rapidly since 1979.

Table 14: Number and percentage of the elderly (aged 60+) in Vietnam

Source: 1979-2009 Population and Housing Census, 2012 Annual Population Change Survey, 2009-2049 Vietnam Population Forecast Results.

Unit: million people

Investigation method	Year	Population on 01/04	Number of the elderly (aged 60+)	Percentage of the elderly (aged 60+)	Population growth rate (%) of the period	The growth rate of the elderly (aged 60+) of the period
Census	1979	53.74	3.71	6.9%		
	1989	64.41	4.64	7.2%	19.8%	25.0%
	1999	76.32	6.19	8.1%	18.5%	33.0%
	2009	85.85	7.72	9.0%	12.4%	24.7%
Investigation of fluctuations	2010	86.75	8.13	9.4%		
	2011	87.61	8.66	9.9%		
	2012	88.77	9.06	10.2%		
Forecast	2040	107	22.17	20.7%		
	2049	108.7	26.95	24.8%		

3.2. Challenges of aging for Vietnam's economic development

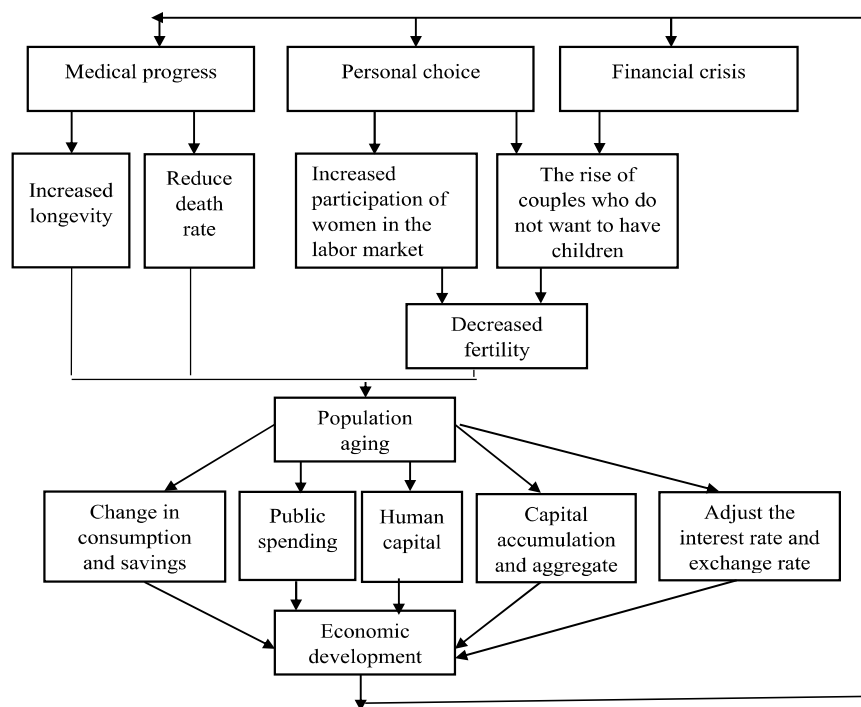
Models and perspectives on the determinants of economic growth are abundant in scholarly literature. Several frameworks highlight the importance of improving productivity in all sectors and the need to shift by sector. That is, reallocating labor from low-productivity agriculture to service and industrial productivity is higher. Others emphasize the contributions to growth in technological progress, human capital, institutions and governance, trade and macroeconomic policy, and random shocks. Others emphasize the feedback effects from economic growth to technical progress and human capital accumulation, which in turn affects economic growth ((Tyers and Shi, 2007) [3])

The article's main point is that the author wants to emphasize that changes in population structure by age can have a significant effect on economic growth. Besides, a few authors such as Prettner (2012) and Lee et al. (2011) confirmed a positive interaction between population aging and economic growth. According to Prettner (2012) [4], the elderly tend to save more. Therefore, they provide more resources for investment, positively impacting economic growth. An increase in life expectancy will positively affect investments, and capital is often recognized as the engine of economic development (Aghion and Howitt, 1992) [5]. However, most documents suggest that there is a negative relationship between population aging and economic growth, such as: Narciso, 2010 [6]; Bloom et al.,

2010 [7]; Lisenkova et al., 2012 [8]; Walder and Döring, 2012 [9]. According to these authors, an individual's physical abilities, preferences, and needs will vary with age. Therefore, inequality in the age structure (higher proportion among the elderly) is expected to affect a country's productivity level. With the emphasis on the two main causes of population aging due to health advancement, socio-economic development that increases life expectancy and decreases fertility, the authors generalize the effects of aging. The coming population growth is mainly through the following factors:

- Spending pressure on public finances
- The effect of the factor “life cycle” on consumption and personal saving behavior
- Labor capital
- Potential effects on capital accumulation (TFP) and Total Factor Productivity (TFP)
- The role of adjustment to interest rates and exchange rates and changes in the external balance

Diagram 1: Factors interacting between population aging and economic development



3.3. Cost's pressures on public finances

Despite the uncertainties associated with all population projections, such as the thrust or pattern of demographic change that has largely been identified over the next 50 years, aging has always been an essential feature of the population. These changes and pressure on public spending in areas of budget management, such as spending on health and pensions, are associated with the development of a person's life cycle.

As the population ages, there is a significant increase in age-related public expenditures. Moreover, it is also worrying that if the government has no experience managing this issue, they will find it challenging to keep the budget for existing pensions and health care. These difficulties appear at present when Vietnam is in the "golden population" phase. When the demographic is relatively favorable in terms of public finance, the cost of health and pensions is calculated by % GDP, has been steadily increasing over the past few decades.

Current demographics are favorable in terms of public finances: Generally, current public finances can benefit from demographic growth (demographic dividends), with a low birth rate of the two recent decades, tend to reduce government spending. Indeed, this has something to do with the post-World War II generation of «BabyBooms» who are at their peak in their ability to make money and making a solid contribution to revenue. However, this could bring subjective feelings to the government and prevent the implementation of necessary reforms and contingencies as demographics begin to change radically over the next 10 years.

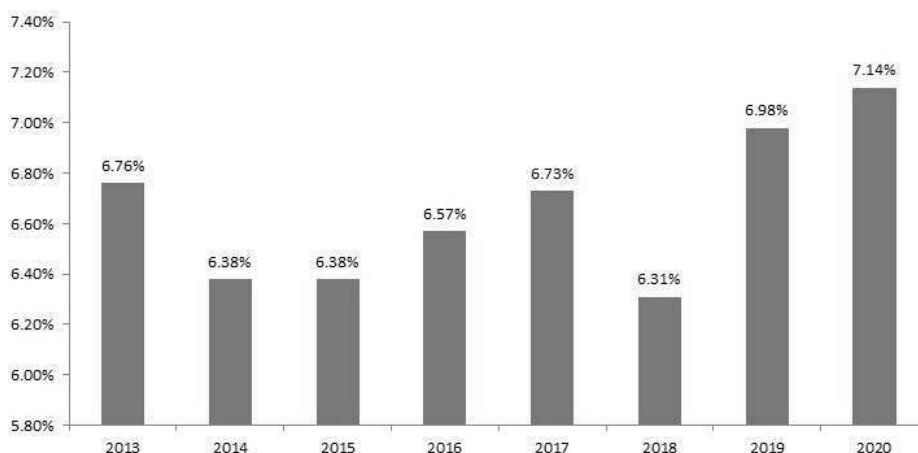
Health and pensions reform will not be easy: The government needs to face the implications of controlling spending on health and pensions over the next 10 to 50 years. As seen, these increases in expenditures are the main culprits explaining the inevitable increase in the share of government spending in GDP, but only a fraction of this pressure comes from the effects of aging, and the rest comes from other non-demographic factors.

- In recent years, as the share of children in the population has decreased, the proportion of people over 60+ has increased to over 10%, pension spending as a percentage of GDP has increased, partly explained by changes in the old-age dependency ratio and the remainder are due to other non-demographic factors such as: increased benefits and expanded pension eligibility, years of insurance contributions, related State general expansion of social welfare.

- Population aging has a clear impact on current pension systems. Policymakers have long recognized that deficits in the pension system will quickly reach unsustainable levels if no changes are made in distributing benefits and contribution rates. But policy changes from increasing contributions to social security will be a financial burden on the workforce in the future and could cause a negative response to labor supply.

- As for health spending, Oxley and MacFarlan (1994) [10] estimate that “health needs related to population aging, income growth, and insurance coverage can only explain one share of growth in public spending on health in general. However, this may be due to developments related to the provision of medical services”. In addition, public spending on health has also increased significantly to address and responds to pandemics, or the impacts of climate change and environmental pollution on human health. As the Covid-19 pandemic is a testament to this.

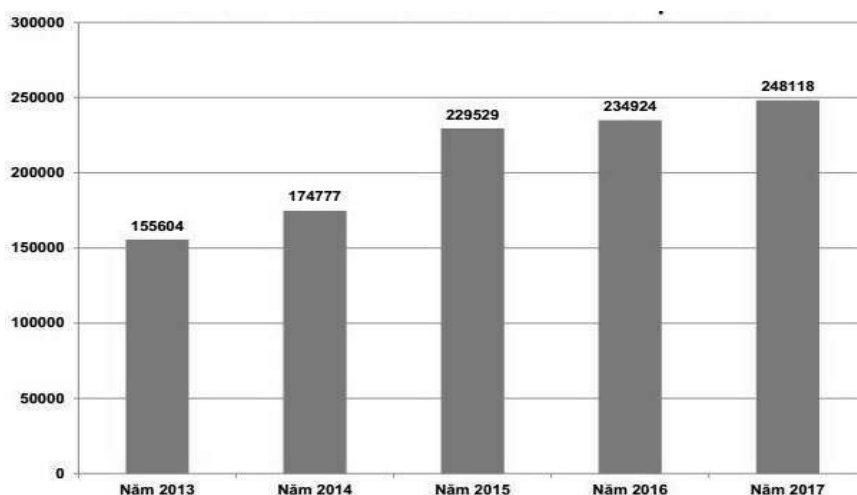
Table 1: Total state budget expenditure on health in the period 2013-2020 (%)



Source: <https://nhipsongdoanhnghep.cuocsongantoan.vn/vi-mo/chi-ngan-sach-cho-y-te-cao-nhat-7-nam-chi-tien-tui-van-vuot-khuyen-cao-3554439.html>

Education expenditure: The bottom line to do here is that a reduction in budget spending on education is expected, reflecting a decrease in the proportion of children in the general population, which expected failed to materialize. The imbalance between figures and expenditure essentially reflects the large fixed cost factor inherent in all public education systems Masson, Bayoumi and Samiei (1995) [11]. Therefore, hoping to recoup spending for higher pensions and healthcare, does not seem to be coming.

Table 2: State budget expenditure for the education and training sector in the period 2013-2017 (billion VND)



Source: <https://www.giaoduc.edu.vn/5-nam-ngan-sach-cho-giao-duc-tang-92500-ty-dong.htm>

3.4. Changes in personal savings and consumption behavior

Demographic changes and personal savings behavior: Many studies are related to

the aging population and its impact on savings rates. For example, life cycle models of savings behavior show that an important component in determining the aggregate savings rate is the population's demographic profile and the tendency to save and the rate of savings. The overall dependence is expected to be negatively correlated. According to this view, savings rates are expected to be high when a large portion of the population is employed, with the savings accumulated to finance consumption after retirement. Likewise, savings rates are lower when a large part of the population is very young or above retirement age.

Personal consumption behavior: The elderly population is also the consumer group; although the consumption of this group is lower than that of other groups, but this population also contributes to the development of production of goods, and services for the elderly. Elderly groups have a longer working time and hold more assets because they have savings, the elderly can pay consumption from their own assets, so if the viewpoint that they are people dependent is not "satisfactory".

3.5. Lack of human capital

Population aging is an inevitable and aging rule that leads to more aging out of the workforce each year than young people entering the labor force, resulting in the size of the labor force is narrowing, in the long run, there will be a shortage of labor force. Along with that, the aging of the population leads to the aging of the workforce, which will lead to a decrease in productivity and labor efficiency because the aging workforce will be less agile and dynamic in approaching public science technology, job change training, or even the labor productivity of physical strength. In Viet Nam, the data only show that the aging index of the four key economic regions is the highest in the country, which will potentially risk a lack of local human resources in these regions. The current golden population structure of Vietnam also requires the exploitation and utilization of potential labor resources, requiring the State to actively create jobs and promote vocational training to meet the needs of the labor market is increasingly competitive.

3.6. Impacts on capital accumulation and aggregate factor productivity

Capital accumulation: Savings and investment have an important role in helping offset the effects of increased dependence, with higher savings leading to higher investment efficiency and long-term higher growth. In this way, the negative impact on living standards resulting from a decrease in labor supply can be offset by the rate of increase in labor productivity resulting from increased capital. However, this increased investment to drive long-term growth is likely to be cut off, as the rate of national saving is expected to decline due to demographic and non-demographic factors. It is clear that technical progress plays a large role, and it is important to accept those larger savings, which can convert into greater physical and human properties. These increasing options can be available to deal with the adverse effects of the aging process. Therefore, cautious action is required to increase the national saving rate in the medium to long term.

Total Factor Productivity (TFP) is an indicator reflecting the production results

brought about by improving the efficiency of capital and labor, thanks to the impact of new technology, streamlining production processes, improving management... However, it seems complicated to determine with certainty whether the demographic change will be positive or negative for productivity. According to some studies, that could be detrimental to productivity growth if the aging workforce becomes less active and creative. At the same time, other researchers have a different view that technology changes can be promoted to offset the negative effects of labor scarcity Simon (1986) [12] and Wattenberg (1987) [13].

3.7. Interest rates, exchange rates, and external relations balance

The development of savings and investment affects potential growth and interest rates, exchange rates, and international capital movements. The global and regional movements are also variables that are later driven by various pressures on the savings/investment fronts. Collectively, when the savings/investment imbalance arises at the world level, such tensions manifest in real interest rate volatility. In contrast, regional tensions lead to changes in exchange rate and net foreign asset position. Among the many factors that can put the savings/investment balance that demographics could cause in the coming decades, the following stand out for particular attention:

- Adverse effects on private and public savings: These pressures will vary between countries, and this difference will inevitably create a strain on exchange rates and current accounts.
- Negative effect on output growth: If this happens less investment will be required as slower growth in output will automatically translate it into a needed decrease in the growth rate of reserves.
- Changes in the relative share of the output of developed and developing countries

4. Discussion and Conclusion

The population is both a productive force and a force of consumes social wealth. The size and structure of the population will determine the size and structure of production and consumption and therefore play a crucial role in the socio-economic development. Population aging has been occurring in several countries, including Vietnam, posing many challenges to economic growth, with the important premise that labor supply, productivity and savings change with life cycle:

- First, preliminary estimates of the effect of population aging on labor force participation rates and the simultaneous impact of changes in labor force participation rates on the growth economy
 - In addition to fundamental resource constraints, the dominance of the informal sector in Vietnam makes the design and implementation of pension, and social security systems, that becomes more and more difficult.
 - The next problem that Vietnam faces is the rapid aging of the population, so the pension system and the healthcare system face unprecedented challenges.
 - In another situation in Vietnam, the family remains the mainstay of care for the

elderly. However, as life expectancy becomes longer, a family structure may be disrupted, leading to a public transfer system, will change the rate of budget spending for the health system, construction of infrastructure of the State.

To adapt to an aging society or to actively step into aging, it is required to join the entire political system and especially the conditions of policies and laws of the Party and State. In particular, the policy environment plays an important role in the impact of aging on economic growth. New approaches will be needed if countries consider the natural dynamics individuals face to adjust their behavior in the context of population aging. Through analysis and inquiry, the authors have a few recommendations:

Firstly: One of the often encouraged policies is the change of retirement incentives so that people can fulfill their desire to work longer to meet higher life expectancy expectations. More flexible old-age pension arrangements combined with an increase in formal retirement age will encourage long-term workforce participation. Along with that, legal and cultural efforts are also needed to prevent employment discrimination. Lifelong education programs can support these efforts by helping people, especially the elderly, adapt their skills and knowledge to the needs of a changing economy.

Second: Investing in improving the health of those 60+ is an essential policy choice, and health care and healthy lifestyle changes for the young and middle age are also a long-term policy. This approach reduces the burden on the health care and social security systems and allows people to work longer by reducing the incidence of illness into fewer end-of-life years.

Third: Policies and laws against gender discrimination and increased child care support have helped expand the working environment for women in many countries worldwide. Pressure to raise wages is likely to increase women's participation in the workforce. This could be complemented by policies that enable mothers to combine work and home, such as State-funded child care and more flexible working hours. Of course, the second approach also encourages the upbringing of children, with long-term effects on the age structure.

Fourth: Immigration for developed countries can also make a big difference. However, for Vietnam, the uncontrolled labor export and the brain drain of a high-quality workforce have a huge impact on the quality of the labor force. Therefore, policies on salaries, bonuses, subsidies, and remuneration for employees also play a crucial role.

Fifth: A more important policy consideration addresses the funding gap caused by latent intergenerational transfers in the pension and health systems. Policies that can help reduce the elder's "dependence" include adjusting premiums and benefits or switching to total funding or individual account systems, whereby individuals can withdraw less. Most pensions from investments are made during employment and they also have a larger amount to withdraw when they retire. Moving to such a system would require large organizations to efficiently and securely attract enough personal savings and investment and financial reserves to pay for the transition of the old generation.

5. References

1. “Tin hoạt động.” <http://ifgs.vass.gov.vn/Tin-hoat-dong/Gia-hoa-dan-so-va-nguoi-cao-tuoi-o-Viet-Nam--Thuc-trang--du-bao-va-mot-so-khuyen-nghi-chinh-sach-110615.html> (accessed Mar. 23, 2021).
2. “Công bố Báo cáo toàn cầu về dân số thế giới năm 2013 | Báo Công an nhân dân điện tử.” <http://cand.com.vn/Xa-hoi/Cong-bo-Bao-cao-toan-cau-ve-dan-so-the-gioi-nam-2013-242835/> (accessed Mar. 23, 2021).
3. R. Tyers and Q. Shi, “Demographic Change and Policy Responses: Implications for the Global Economy,” 2007, doi: 10.1111/j.1467-9701.2007.01004.x.
4. “Population aging and endogenous economic growth | SpringerLink.” <https://link.springer.com/article/10.1007/s00148-012-0441-9> (accessed Mar. 19, 2021).
5. P. Aghion and P. Howitt, “A Model of Growth Through Creative Destruction,” National Bureau of Economic Research, w3223, Jan. 1990. doi: 10.3386/w3223.
6. A. Narciso, “The impact of population ageing on international capital flows,” Nov. 04, 2010. <https://mpra.ub.uni-muenchen.de/26457/> (accessed Mar. 19, 2021).
7. “Implications of population ageing for economic growth | Oxford Review of Economic Policy | Oxford Academic.” <https://academic.oup.com/oxrep/article-abstract/26/4/583/453716> (accessed Mar. 19, 2021).
8. “Population ageing and the labour market: Modelling size and age-specific effects - ScienceDirect.” <https://www.sciencedirect.com/science/article/abs/pii/S0264999313003660> (accessed Mar. 19, 2021).
9. B. Aigner-Walder and T. Döring, “The Effects of Population Ageing on Private Consumption — A Simulation for Austria Based on Household Data up to 2050,” *Eurasian Econ. Rev.*, vol. 2, no. 1, pp. 63–80, Jun. 2012, doi: 10.14208/BF03353833.
10. “Health Care Reform Controlling Spending and Increasing Efficiency,” OECD Economics Department Working Papers 149, Apr. 1994. doi: 10.1787/338757855057.
11. P. R. Masson, T. Bayoumi, and H. Samiei, “International evidence on the determinants of private saving,” *World Bank Econ. Rev.*, vol. 12, no. 3, pp. 483–501, 1998.
12. J. Parsons, “Theory of Population and Economic Growth. By J. Simon. Pp. 232. (Basil Blackwell, Oxford, 1986.) £19.50.,” *J. Biosoc. Sci.*, vol. 20, no. 1, pp. 121–122, Jan. 1988, doi: 10.1017/S0021932000017314.
13. B. J. Wattenberg, *The birth dearth*. New York, NY: Pharos Books, 1987.