5. Population Ageing: Trends and Policy Implications

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The aging process stems from the significant rise in life expectancy, which initially began with the sharp decline in infant mortality and later expanded to include all age groups (a "top-down" process). Concurrently, cultural shifts tied to the secularization of modern societies have caused substantial changes in personal choices concerning family formation and reproductive behaviors, ultimately leading to reduced fertility (a "bottom-up" process) (Livi Bacci, 2017). At the individual level, population aging indicates a favorable state where people experience a healthy and long life with a number of children close to their desired number. Collectively, it reflects improvements in quality of life due to better hygiene, adequate nutrition, medical advances, and greater physical and psychological well-being (Caselli, 2015).

When examining the median age, which divides a population into two equal halves, and life expectancy at birth – the average number of years a person is expected to live in a given country or region – we can observe a generalized trend of population aging across the globe. This process shows a convergence, although it occurs at varying rates and timelines depending on the region or country.

As a consequence of the demographic transition, societies are witnessing a rise in the number of older individuals and in the percentage of the population that is elderly, alongside a decline in fertility rates. This is reflected in the total fertility rate (TFR) – the average number of children per woman – which has already fallen below 2 in Asia and Northern America, and significantly below 2 in Europe.

This change is evident in the age structure of populations, as the traditional "age pyramid" is slowly evolving into a rectangular shape. Countries such as Italy, Japan, France, the United States, and China have already undergone this transition, while others are just starting or are in the process of doing so. Nonetheless, the result will be consistent across all nations: as a natural consequence of demographic transition, populations will age.

It is important to note that the relationship between life expectancy at birth and income shows a clear positive cor-

relation, especially as countries transition from low to higher income levels. Initially, life expectancy rises sharply with increases in Gross Domestic Product (GDP), as greater material wealth typically improves access to healthcare, nutrition, and better living conditions. However, as income continues to grow beyond a certain point, the impact on life expectancy decreases, reflecting diminishing returns of material well-being on survival. For instance, despite African Americans being wealthier than the people of Kerala, India, their life expectancy is lower, highlighting that wealth alone does not guarantee better survival outcomes: factors such as gender, education, race, social class, and specific individual behaviors also come into play (Livi Bacci, 2017).

To this end, volunteer activities and civic participation are essential, as well as the involvement of self-sufficient and healthy elderly individuals in caring for other family members, such as grandchildren. These contributions represent a crucial element in facilitating the balance between work and family life, providing practical and emotional support that can ease the burden on families and promote intergenerational well-being (Juni, 2024).

Future generations of elderly will differ significantly from today's, as each new cohort entering old age tends to be healthier. We will also have more single-person households, with varying capacities to handle physical limitations, reduced autonomy, financial difficulties and exclusion from social relations, which are influenced by numerous factors. These include demographic aspects (age, gender, country of residence, immigrant status, and social status), personal life achievements (education, marital status, income, having children and social networks), and broader institutional factors (social welfare programs, country's GDP and income inequality.

To account for the increase in life expectancy and improvements in health conditions, we can differentiate between the Third Age (Young-Old), characterized by disability-free life expectancy, and the Fourth Age (Old-Old), which is associated with the prevalence of chronic diseases and disabilities. Additionally, to provide a more realistic and comprehensive understanding of life expectancy, new indicators have been introduced, including Years of Good Life (YoGL), Healthy Life Years (HLY) at age 65, Quality-Adjusted Life Years (QALYs), and Well-Being-Adjusted Life Years (WELLBYs).

In this regard, "active ageing" is a central policy promoted by the European Union (EU). It encourages older adults who are healthy to live independently and remain engaged in paid employment. This approach aims to recognize and enhance the contributions of the elderly to society, emphasizing their continued value and participation (Foster & Walker, 2021). To this end, volunteer activities and civic participation are essential, as well as the involvement of self-sufficient and healthy elderly indi-

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Who bears the costs of population aging? In welfare societies, the state primarily funds these costs through intergenerational solidarity, such as pension systems. Additionally, private pension schemes, income from personal savings, and secondary income sources (for younger retirees) also contribute. However, as the number of elderly increases, so does the economic burden, influencing the sustainability of the labor market, healthcare system, formal and informal care, innovation capacity, and public debt pressure. For instance, in Europe, there is a significant imbalance in the percentage of GDP allocated to the elderly compared to families and children. This disparity varies between countries, depending on the degree of population aging and the specific policies in place.

Therefore, pension reforms should aim to raise the retirement age. Moreover, new savings and investment strategies should be developed. It is also essential to strengthen human capital and education, boost youth and female employment, and invest in labor productivity growth.

According to United Nations projections, a decline in the total population, particularly among the working-age group (ages 20–64), will make the role of immigrants in European societies increasingly vital. Between 2023 and 2035, the working-age population in Europe is expected to decrease by 25.1 million with migration (WM) and by 35.4 million without migration (ZM), the latter representing a hypothetical scenario in which Europe is entirely closed to immigration but maintains the same fertility and mortality rates as in the migration scenario. From 2023 to 2050, the working-age population is forecasted to decline by 66.6 million with migration and by 92.1 million without it.

It is widely recognized that immigration alone cannot reverse long-term demographic trends. The number of immigrants needed annually to offset the effects of population aging and low fertility is unrealistic and unsustainable from multiple perspectives (Bagavos, 2019). Therefore, it is essential to implement policies that promote increased fertility, such as supporting couples in balancing family and work responsibilities, as well as improving gender equity both at home and in the workplace, thus increasing female labor force participation (Wesolowski et al., 2020). Nonetheless, the demographic significance of immigration has been important in the past and will become even more so in the future (Gesano & Strozza, 2011). In fact, the foreign-born population has

already helped mitigate overall population decline in many European countries that are destinations for immigrants (Bagavos, 2022).

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