Costa Rica's Ageing Future

Turning Points and Policy Options: A Look towards 2040 and Beyond

## Turning Points in Costa Rica's Ageing Future

2011: The end of the youth society

During the last century, young people have dominated the Costa Rican demographic scene during the last century. At its peak in 2003, people under age 20 accounted for 40% of the population. But this percentage has been declining, and the largest cohort of Costa Ricans has already been born, around 1989. The year 2011 marked the end of the youth society in Costa Rica: young people are no longer the largest demographic group[1]. A large wave is moving through Costa Rica's population age structure as the large cohorts born when high fertility was the norm advance through their life cycle and move from youth to adulthood to old age. The size of the working age groups will peak in 2022 for ages 20-39 and in 2042 for ages 40-59. The population of older persons will increase rapidly until reaching its peak at about 2.1 million people in 2075 and then beginning to decline as the large birth cohorts of the late 20th century are replaced by successively smaller cohorts.

Population by Age Group
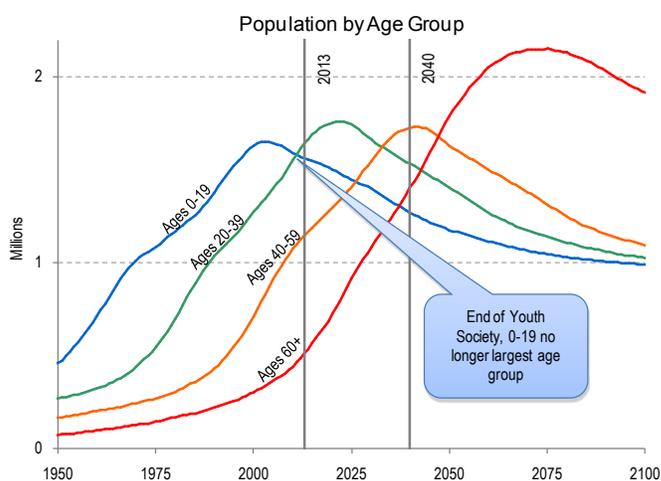
2024: Costa Rica becomes an aged economy

Costa Rica is expected to become an aged economy in 2024. In that year, for the first time in the history of the country, older persons will consume more (of all good and services, both public and private) than youth[2]. Japan became the world's first aged economy in 1996. Currently, there are 19 aged economies, all European economies with the exception of Japan. According to the latest projections based on NTA, in 2040 there will be 73 aged economies, among them Brazil, Costa Rica, Chile, Cuba, and Uruguay. By the end of this century, most of the world's economies will be aged economies, leading to an increased demand for health care and other programs and services for older persons. This will put pressure on governments, as many of these programs are provided by the public sector, and on families caring for older family members.
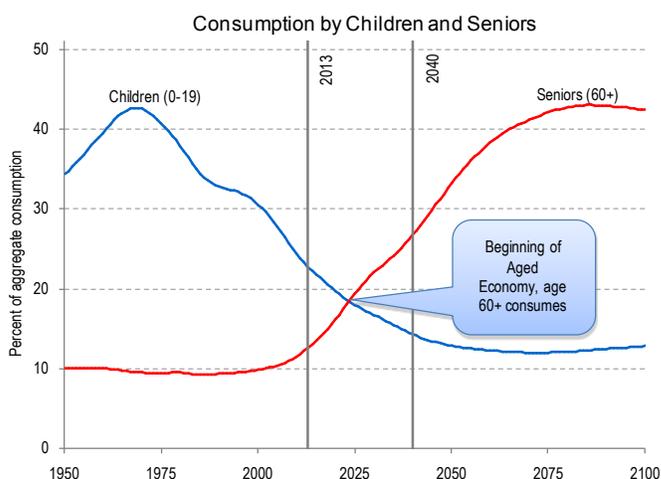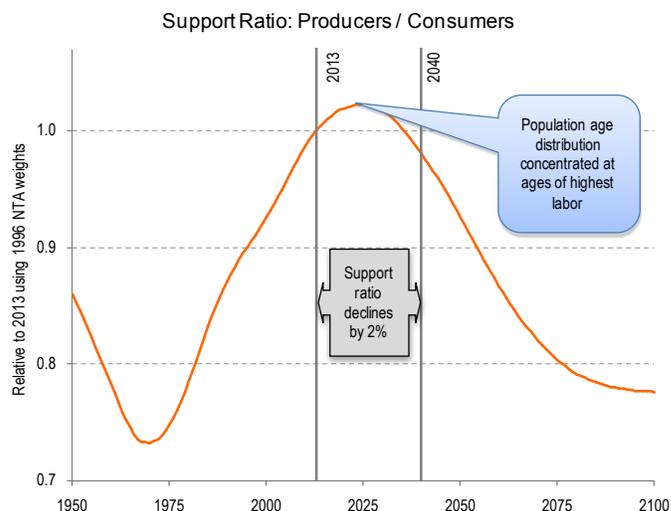
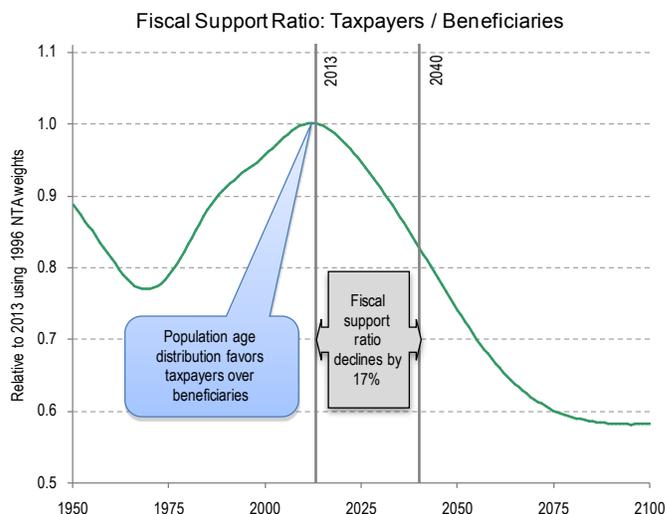

Consumption by Children and Seniors

2024: Most productive population

The age structure of a population affects the economy by changing the distribution of people in ages of high labour productivity relative to their consumption. If the current age patterns of production and consumption persist, the age distribution will continue to favour producers in relation to consumers during the coming decades reflected in the increase of the economic support ratio[3] until 2024. This situation represents a potential "demographic dividend" – a surplus generated by the economy that, if invested in health, education, and infrastructure, can move the economy permanently to a path of higher production, consumption and living standards. However, beginning in 2024, it is projected that the economic support ratio will decline steadily as the percentage of older persons in the population increases. This new situation will pose increasing economic challenges for Costa Rica.

Support Ratio: Producers / Consumers

Relative to 2013 using 1996 NTA weights

Population age distribution concentrated at ages of highest labor

Support ratio declines by 2%

2012: Fiscally-strongest population

During the last decades of the past century, changes in the age structure of Costa Rica contributed positively to improve the fiscal situation. However, this favourable outlook recently came to an end as a result of growing fiscal pressures as the number of beneficiaries of public programmes increased relative to the number of taxpayers. The fiscal support ratio, the ratio of taxpayers to beneficiaries, summarizes this trend[4]. This ratio reached its peak in 2012 when the age structure most strongly favoured taxpayers relative to beneficiaries. The fiscal support ratio is projected to decline continuously over the coming decades until it stabilizes at approximately 0.6 taxpayers per beneficiary around 2085, relative to a value of 1 in 2013. Demographic trends in the coming decades will significantly contribute to the fiscal challenges Costa Rica will face.

Fiscal Support Ratio: Taxpayers / Beneficiaries

Relative to 2013 using 1996 NTA weights

Population age distribution favors taxpayers over beneficiaries

Fiscal support ratio declines by 17%

About the National Transfer Account (NTA) Network

The NTA Network brings together researchers from different regions of the world using a new methodology: National Transfer Accounts. NTAs provide a new vision of economic relationships between groups in a national economy: between young and old, between men and women, between rich and poor. For the first time, we can measure the complete set of economic flows between these population groups and determine the roles played by the market (via labour and financial markets), the state (via taxes and benefits), and the family (via transfers within and between households) in defining these economic relationships. The NTAs represent a disaggregation of National Accounts by age, gender, and socioeconomic status. Applying the same NTA framework in all the countries in the NTA network allows for international comparisons of consumption, labour earnings, taxation, savings and other economic flows by age, gender and socioeconomic status. CELADE – the Population Division of ECLAC is responsible for the regional coordination of the NTA Network in Latin America and the Caribbean.

See [online] <www.cepal.org/celade/NTA> for more information about this document and the NTA network in the region, and <www.ntaccounts.org> to learn about the global project.

Policy options for the ageing future

Although policy interventions aimed at delaying population ageing by promoting immigration or increasing fertility can have some effect, their impact tends to be very limited. In order to effectively confront the economic challenges of population ageing, policies should focus mainly on economic and social factors. Three illustrative scenarios that examine policy options for Costa Rica's ageing future are presented in this section. The first reviews the impact of extending working lives, the second explores closing the gender gap in labour earnings, and the third examines raising taxes. The scenarios are all population-driven in that they reflect policies adopted to respond to changes in population age structure. Once the age structure of the population completes its transformation from a child-dominated population to a senior-dominated population (towards the end of the this century), the economic impacts of these policy options also end.

The scenarios are based on several simplifying assumptions in order to assess the sustainability of current policies and practices as me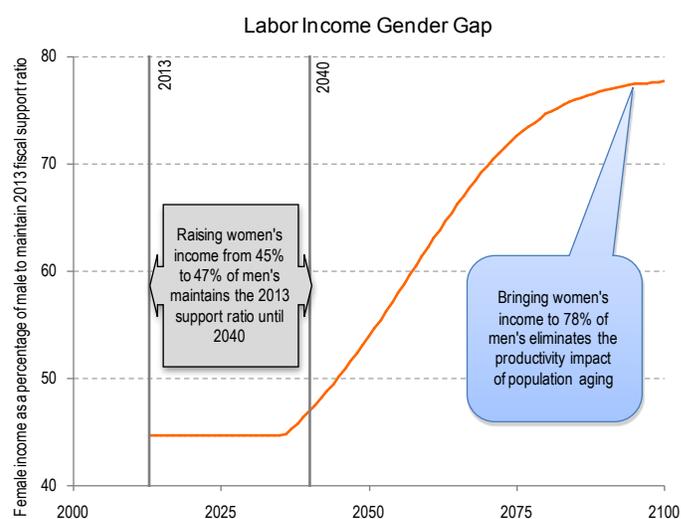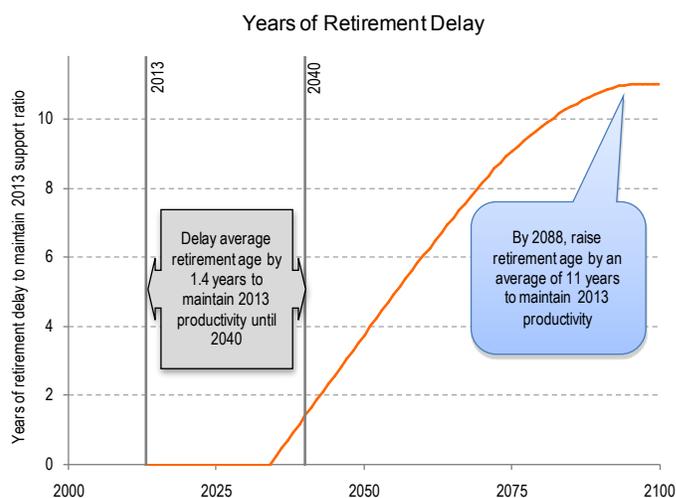asured by the economic support ratio and the fiscal support ratio. They assume no changes in the levels of coverage and benefits of public services. Each scenario evaluates one policy option. Logically, countries have an array of different policy options available to them. These options are not mutually exclusive and usually a mix of options form the basis of national policy. The estimates generated in the context of the NTA project which examine economic activity by age, gender, and socioeconomic status provide a rich source of information for further analysis of these and other national policy options.

Delay retirement to maintain productivity

One way to counteract the effects of population ageing on productivity is to induce people to extend their working lives and delay retirement. In Costa Rica's case, a modest increase of 1.4 years in average age at retirement would mitigate the effects of population ageing on the productivity through 2040[5]. Additionally, this delay in retirement would potentially help government finances. The option to extend working lives may be reasonable in a context of increasing healthy life expectancy and social protection policies aimed at supporting those for whom the delay in retirement would be an undue hardship. Looking at a longer-term horizon, however, the impact of population strengthens and the delays in retirement required to counteract productivity losses are higher. It would require a full 11 years of additional working years to maintain population productivity at current levels if this were the only policy option used. Over this same period, life expectancy at birth is projected to increase by about 9 years.

Years of Retirement Delay

Delay average retirement age by 1.4 years to maintain 2013 productivity until 2040

By 2088, raise retirement age by an average of 11 years to maintain 2013 productivity
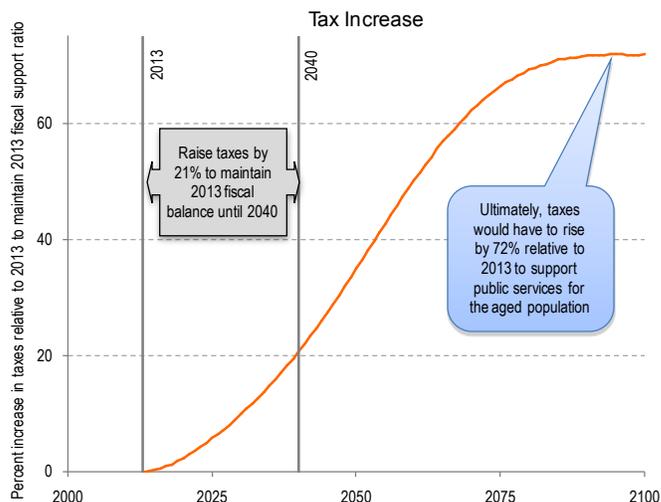
Close the gender gap to maintain productivity

In Costa Rica, women in the most productive working ages (between 30 and 49) only bring home 45% of what men earn. This gap reflects lower labour force participation of women, fewer hours of work per week, and lower wages per hour worked. Many women specialize in home production, performing unpaid work that benefits the family and the productivity of other workers in the family. From the perspective of the national economy, however, overall productivity would increase if women's participation in the formal labour market were closer to that of men. Reducing the 2013 gender gap in labour earnings by increasing labour earnings of women from 45% to 78% of what men earn would completely counteract the negative impact of population ageing on economic productivity during this century[6]. Measures to close the gender gap, such as (1) investing in women and girls' education, (2) instituting family leave policies that support working mothers, and (3) fighting gender discrimination in the workplace are a key set of policy options to maintain the support ratio in the face of population ageing.

Labor Income Gender Gap

Raising women's income from 45% to 47% of men's maintains the 2013 support ratio until 2040

Bringing women's income to 78% of men's eliminates the productivity impact of population aging

Increase taxes to maintain fiscal balance

The fiscal support ratio forecast showed that, based on current tax and benefit programs, population ageing will quickly strain Costa Rica's public finances. One way to solve this problem is to raise taxes to meet the growing demand for public programs, such as pensions and health care programs for older persons. If the tax increase were the only policy change implemented, a very large tax increase of 21% would be needed to maintain the current fiscal balance through 2040[7]. In the longer term, the tax increase necessary to offset the full impact of populating ageing on government budgets rises to 72%.

Tax Increase

Raise taxes by 21% to maintain 2013 fiscal balance until 2040

Ultimately, taxes would have to rise by 72% relative to 2013 to support public services for the aged population

Notes on Data and Methods:

Data for the analysis were taken from Luis Rosero-Bixby, Paola Zúñiga-Brenes, and Andrea Collado, "NTA Data for Costa Rica, 2004", National Transfer Accounts Project, 2012.

For detailed methodological information, see Gretchen Donehower (2013), "Methods used for estimations for Ageing Futures Series", NTA Project, [online] <www.cepal.org/celade/NTA>.

[1] Population estimates and projections were obtained from United Nations, World Population Prospects: The 2010 Revision, [online] <http://esa.un.org/unpd/wpp/Excel-Data/ population.htm>.

[2] We estimate and project aggregate consumption (public and private goods and services) by multiplying the NTA estimate of average consumption by age for 2004 by the population age structure in each year over the period 1950-2100. Details on the NTA estimates for Costa Rica in 2004 are available in Luis Rosero-Bixby, Paola Zúñiga-Brenes, and Andrea Collado (2011), "Transfer accounts in Costa Rica's mixed economy under rapidly changing demographic conditions", Population Aging and the Generational Economy: A Global Perspective, R. Lee and A. Mason, Cheltenham, Edward Elgar, p. 500-512.

[3] The economic support ratio is the ratio of the sum of the population by age, weighting each age by average labour earnings estimated from the NTA, and the sum of the population by age, weighting each age by average consumption estimated from the NTA. The calculation assumes that the patterns of labour income and consumption by age remain fixed at their 2004 levels, and that only the size and age distribution of the population changes.

[4] The fiscal support ratio is calculated in the same way as the economic support ratio (see note 3), but the numerator is weighted by average taxes paid by age and the denominator is weighted by average benefits received by age. This is a useful and easy to calculate indicator. Using data derived from the NTA, it is possible to obtain more realistic long-term budget forecasts.

[5] The analysis is based on calculating the economic support ratio. If the support ratio falls below the 2013 level, the labour income schedule by age is shifted to the right, from the point of peak labour income, representing a delay in average retirement by one year, until the support ratio is at or above the 2013 level.

[6] The gender gap is measured using data on labour force participation, hours worked and average wage by gender from Socio-Economic Database for Latin America and the Caribbean (CEDLAS and The World Bank), (see [online] <http://sedlac.econo.unlp.edu.ar/eng/statistics-by-gender.php> access in December 2012). The analysis involves calculating the reduction in the gender gap necessary to maintain the economic support ratio at its 2013 level.

[7] The tax rate increase necessary to maintain the fiscal support ratio at 2013 levels is the inverse of the fiscal support ratio.