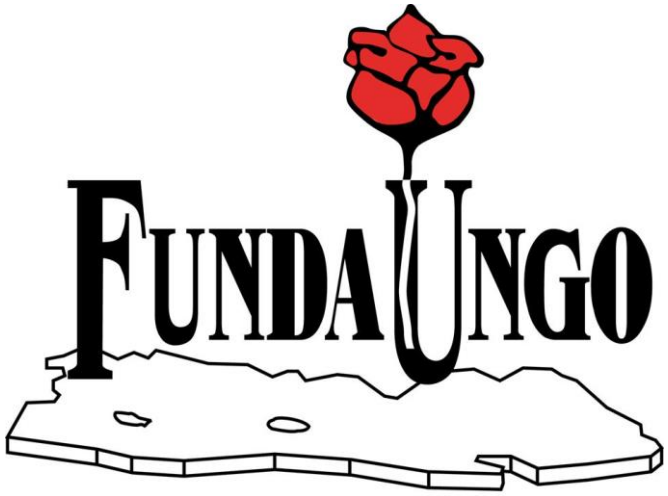


Impact of the demographic transition and its consequences for the achievement of the SDGs in El Salvador

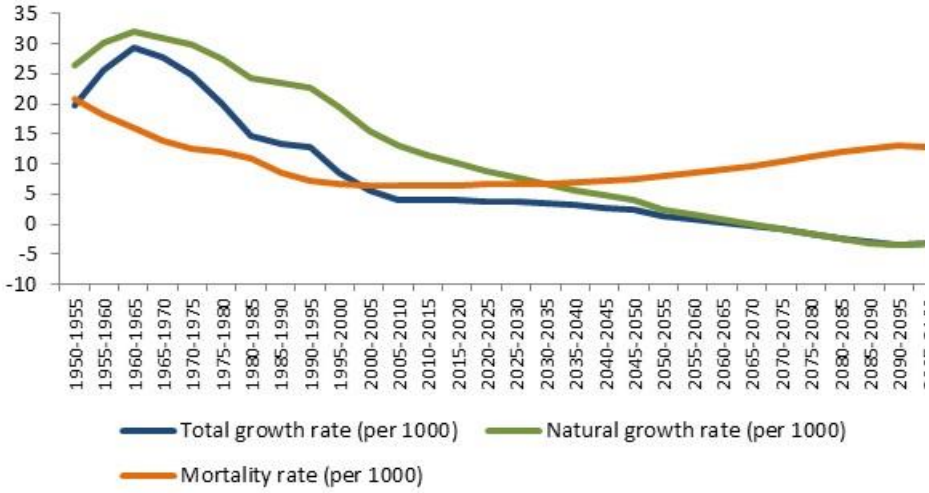
July 2018

Content

1. Demographic transition in El Salvador

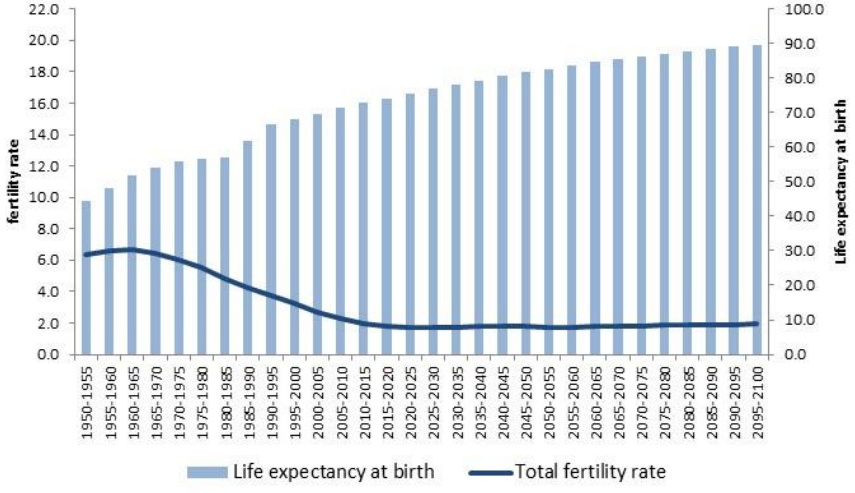
- According to projections, population will reach **7.1** million by 2050
- Fertility: 1960-1965: **6.3**, 2010-2015 **2.0**, 2045-2050: **1.8**
- Mortality: 1950-1955: **20.8**, 2010-2015: **6.4**, 2045-2050: **7.6**
- Life expectancy at birth: 2010-2015: **72.7**, 2045-2050: **81.6**

El Salvador 1950-2100. Population natural and total population growth, mortality



Source: Author´s calculations based on CELADE (2017).

El Salvador from 1950-2100. Total fertility rate and life expectancy at birth



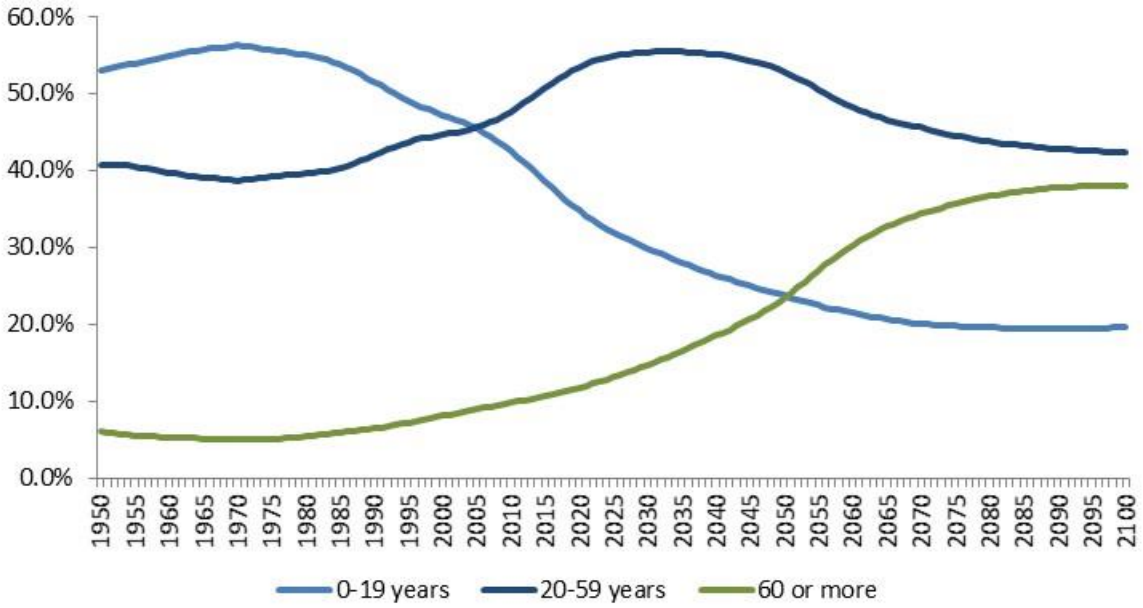
Source: Author´s calculations based on CELADE (2017).

1. Demographic transition in El Salvador

El Salvador demographic transition

- In 2007 people over 60 years represented **11.3%** of the total population
- It is expected that by 2050, people over 60 years will represent **23.4%** of the total population
- Age groups older than 39 years of age will gain weight in the Economic Active Population, up to represent **52.22%** of it in 2050

El Salvador 1950-2100. Changes in age structure, census and projections (%)



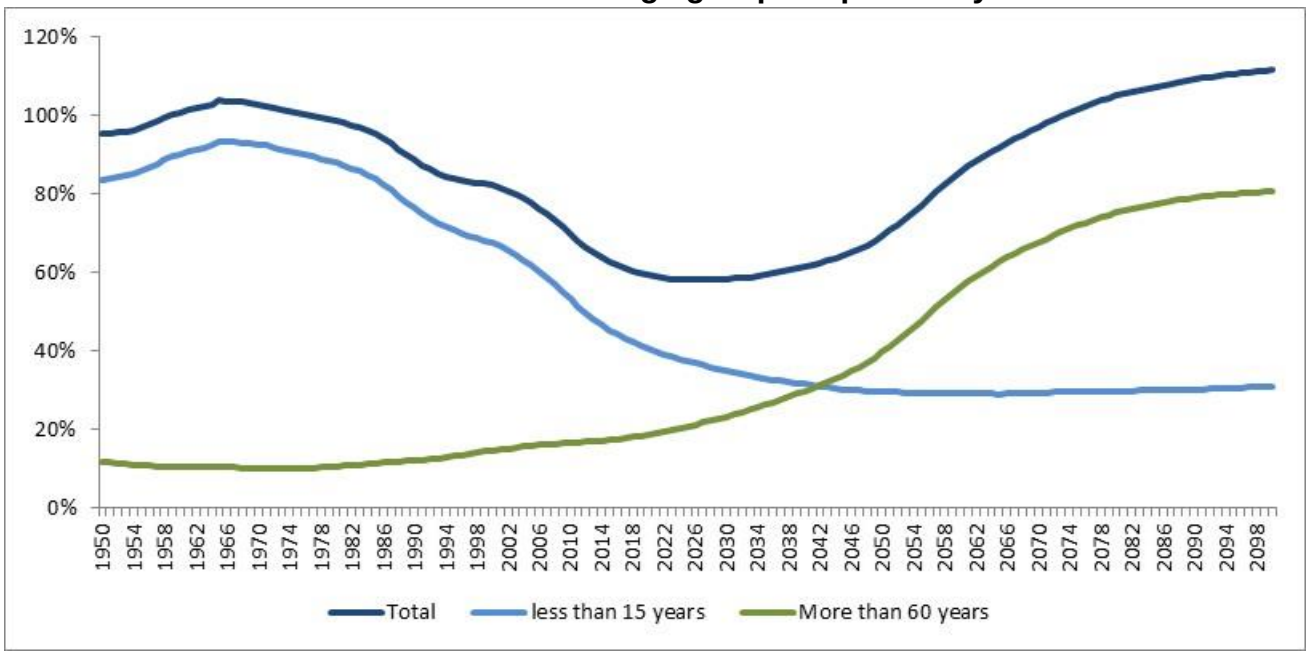
Source: Author´s calculations based on CELADE (2017).

1. Demographic transition in El Salvador

El Salvador demographic transition

- Since 2032-2033 the dependency ratio will reverse its decline
- The main reason for this lies in the growth of the dependency ratio of people over 60, which is steadily growing, even it is expected to surpass the dependency ratio of young to mid decade of 2040s.

El Salvador 2005-2100. Total and age groups dependency ratios



Source: Author´s calculations based on CELADE (2017).

2. SDGs prioritized by El Salvador

In 2016, the government authorities of the country undertook a prioritization exercise of the 2030 Agenda, in which they selected nine SDGs that will be given priority in the medium term

Source: Taken from UNPD

2. SDGs prioritized by El Salvador

2. SDGs prioritized by El Salvador

In addition, El Salvador's authorities consider SDG 8, decent work and economic growth, "[...] as a fundamental objective to achieve the other SDGs through inclusive growth and decent work" (GOES, 2017: 11). Therefore, the efforts aimed at fulfilling this objective become fundamental. On the other hand, within the non-prioritized SDGs, 29 goals have been selected, so that, in total, El Salvador will prioritize 117 goals by 2019 (GOES, 2017)

2. SDGs prioritized by El Salvador

Under this context the research questions are:

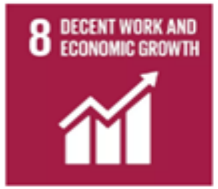
1. Is El Salvador taking advantage of its demographic dividend?

2. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

3. Is the social protection system sustainable in the long term given the demographic transition of the country?

2. SDGs prioritized by El Salvador

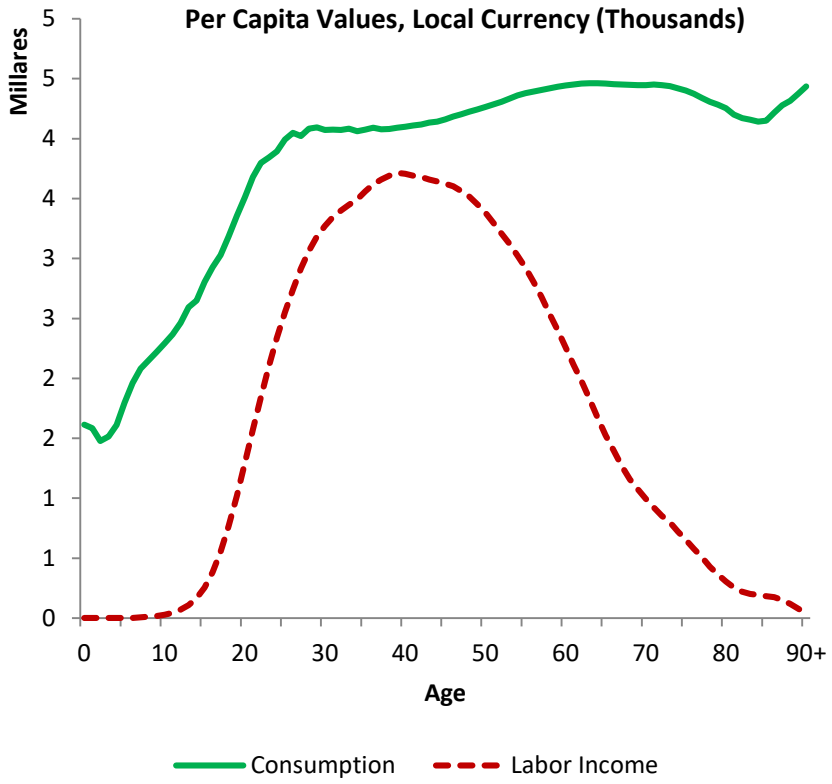
SDGs selected for analysis in this research:



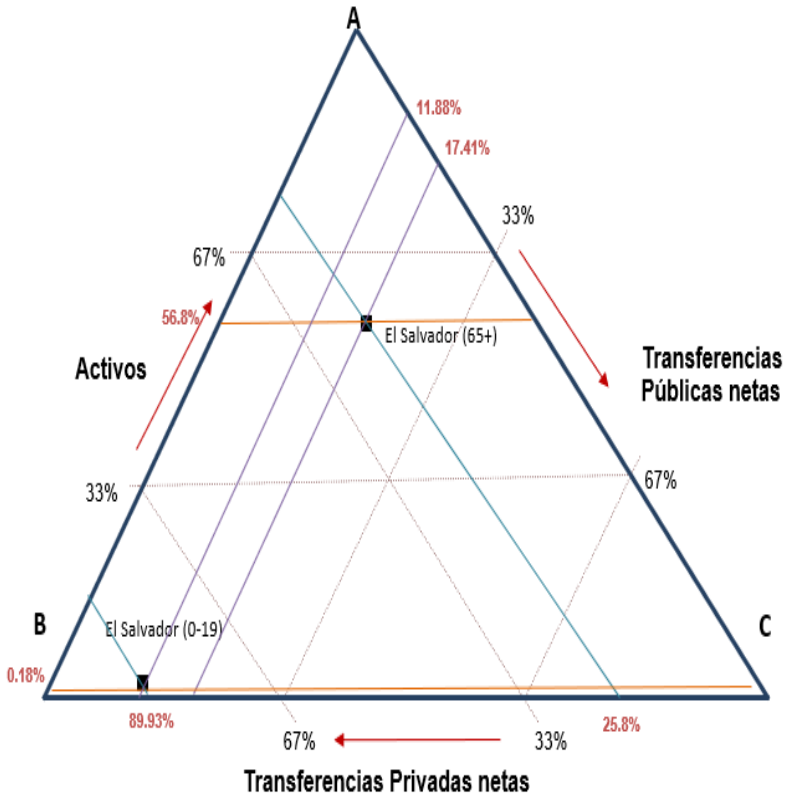
2. SDGs prioritized by El Salvador

We used the NTA (2010) to assess the impact of the Demographic transition on the selected SDGs

El Salvador 2010. Life cycle deficit



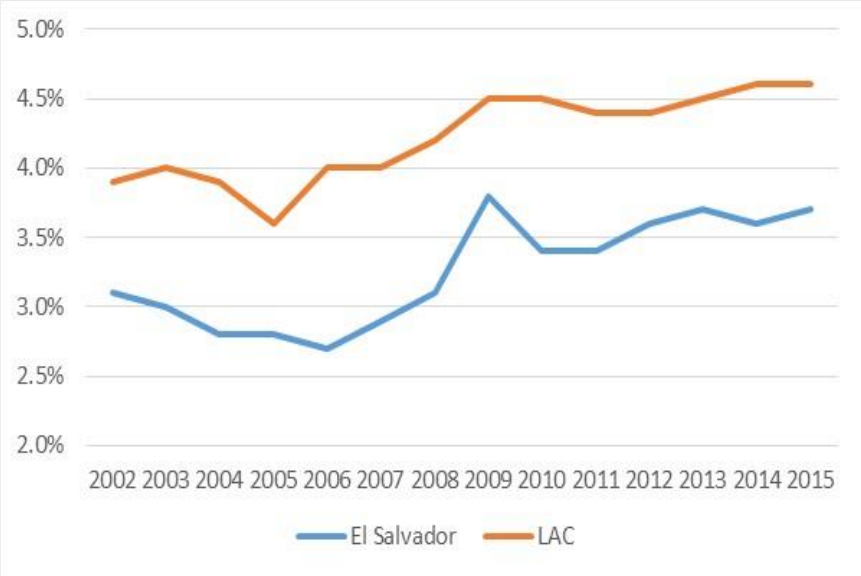
El Salvador 2010. Supporting mechanisms



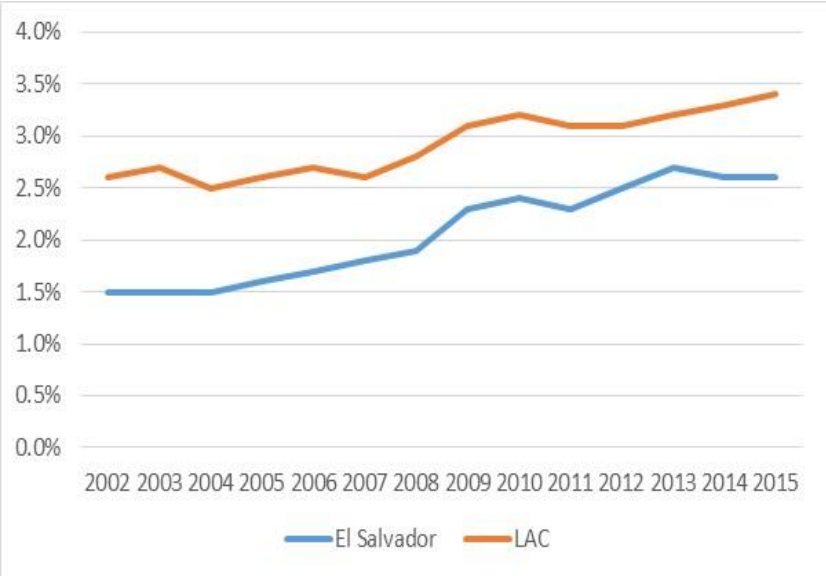
Source: Author´s calculations based on Peña and Rivera (2016).

3. Is El Salvador taking advantage of its demographic dividend?

El Salvador and LAC 2002-2015. Public spending on education (% GDP)



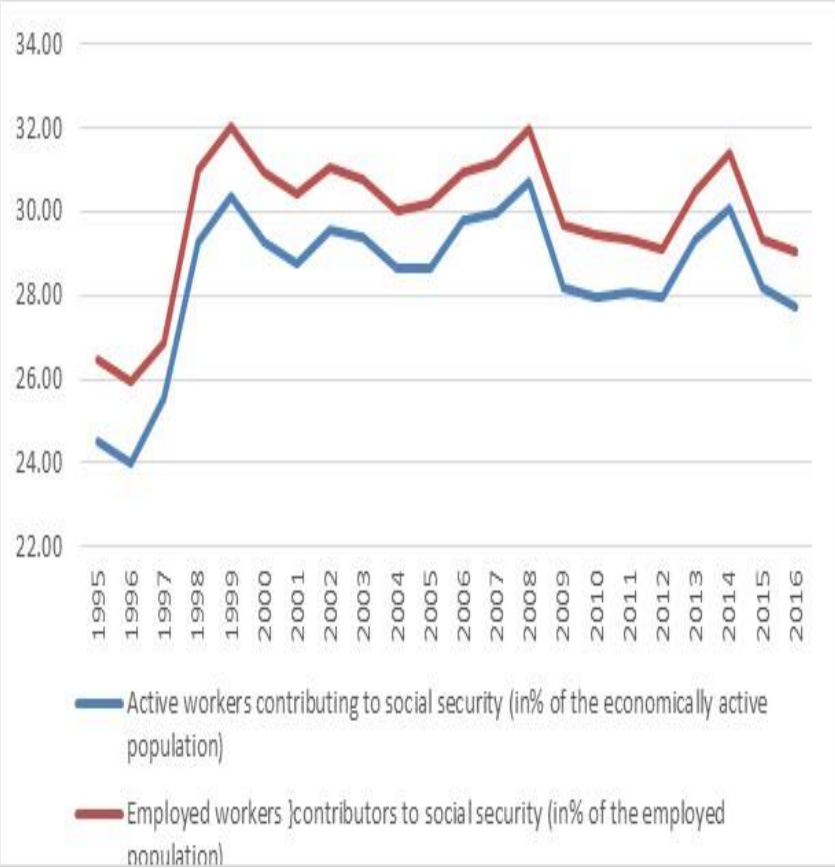
El Salvador and LAC 2002-2015. Public spending on health (% GDP)



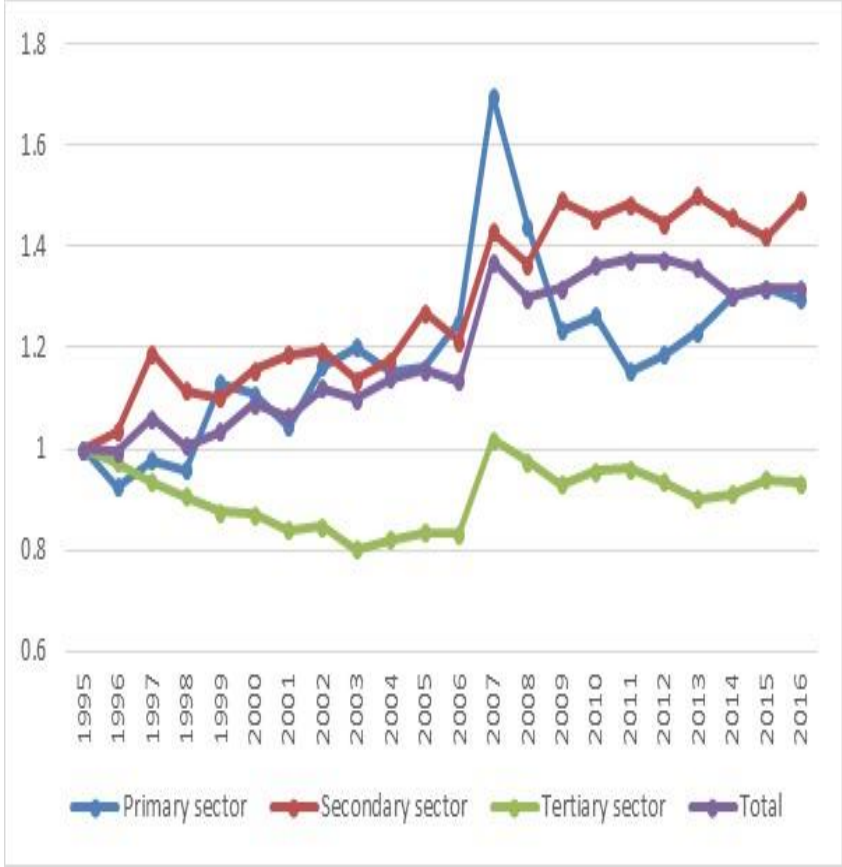
Source: Author´s calculations based on ECLAC (2018).

3. Is El Salvador taking advantage of its demographic dividend?

El Salvador 1995-2016. Access social security (% GDP)



El Salvador 1995-2016. Productivity index by sector



Source: Author´s calculations based on IDB (2018) and Central Bank of Reserve of El Salvador.

3. Is El Salvador taking advantage of its demographic dividend?

The production per effective consumer is defined as follows:

$$\frac{Y_t}{N_t} \equiv \frac{L_t}{N_t}\frac{Y_t}{L_t} \quad (1)$$

Support ratio

L_t is the effective number of workers

N_t is the number of effective consumers

The effective number of workers and consumers can be defined as follows:

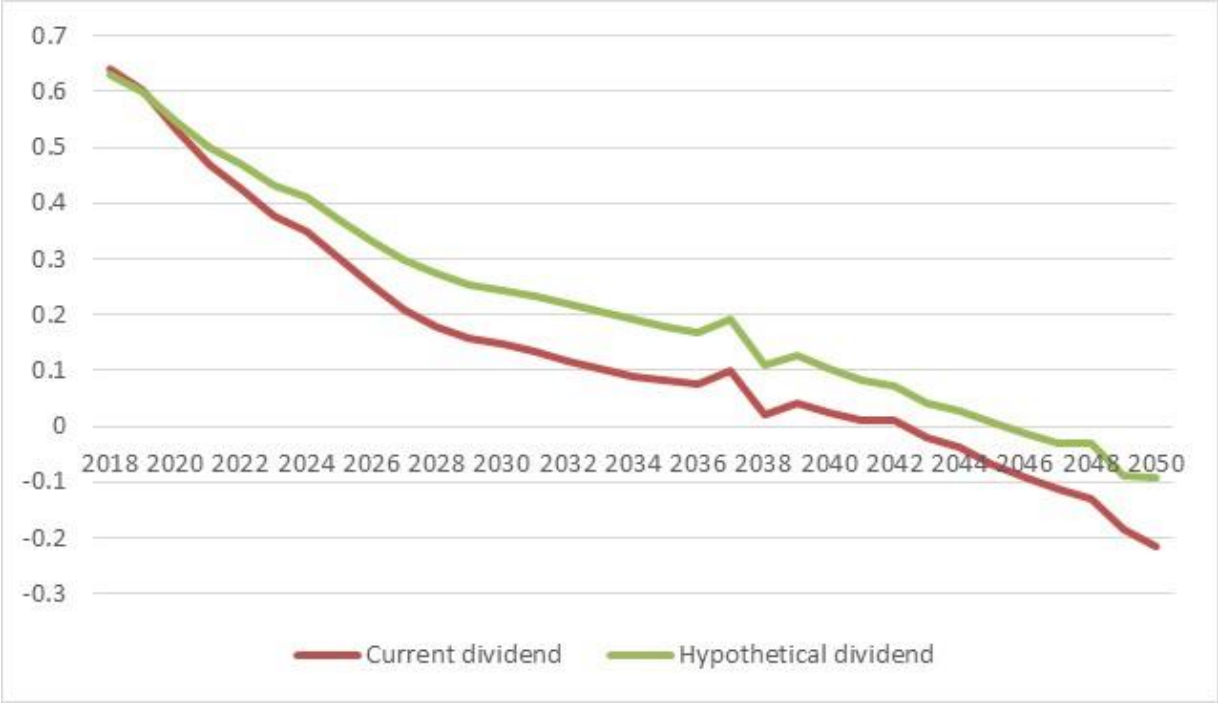
$$L_t = \sum_{x=0}^{w} \gamma(x) P_t(x) \; y \; N_t = \sum_{x=0}^{w} \varphi(x) P_t(x) \quad (2)$$

$$\frac{\dot{L}_t}{L_t} - \frac{\dot{N}_t}{N_t} \quad (3)$$

3. Is El Salvador taking advantage of its demographic dividend?

Simulating the impact of an increase in the access to social security from 26.95% to 50.00% on the Demographic dividend

El Salvador 2018-2050. current and hypothetical demographic dividend



Source: Author´s calculations based on IDB (2018) and Central Bank of Reserve of El Salvador.

3. Is El Salvador taking advantage of its demographic dividend?

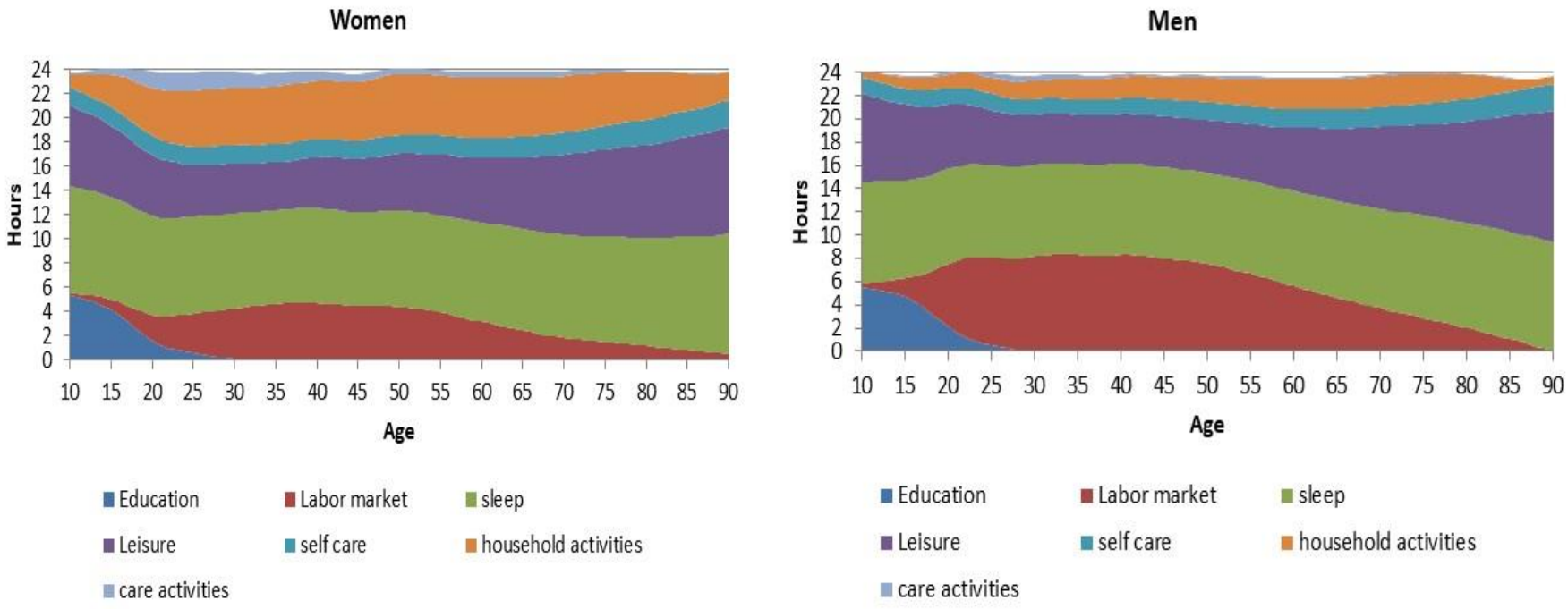
El Salvador 1970-2050. current and hypothetical demographic dividend (%)

GDP growth rate 2%		1970-2033	2018-2033	2034-2050
Accumulated dividend	Current	22.35	4.997	-0.403
	Hypothetical	24.44	6.028	1.05
dividend average growth rate	Current	0.349	0.312	-0.024
	Hypothetical	0.382	0.377	0.062

Source: Author´s calculations based on IDB (2018) and Central Bank of Reserve of El Salvador.

4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

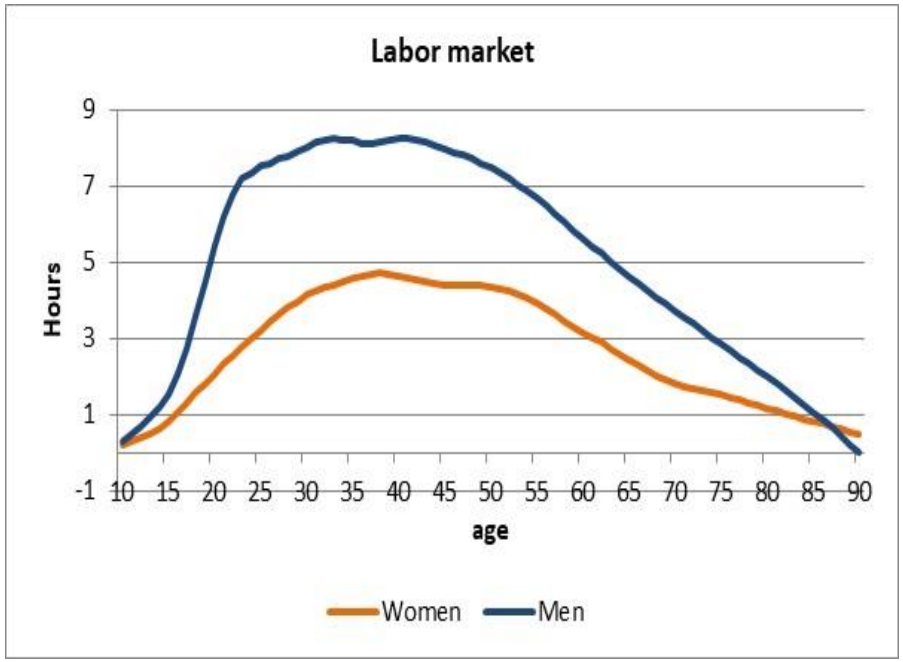
El Salvador 2010. Distribution of time between women an men

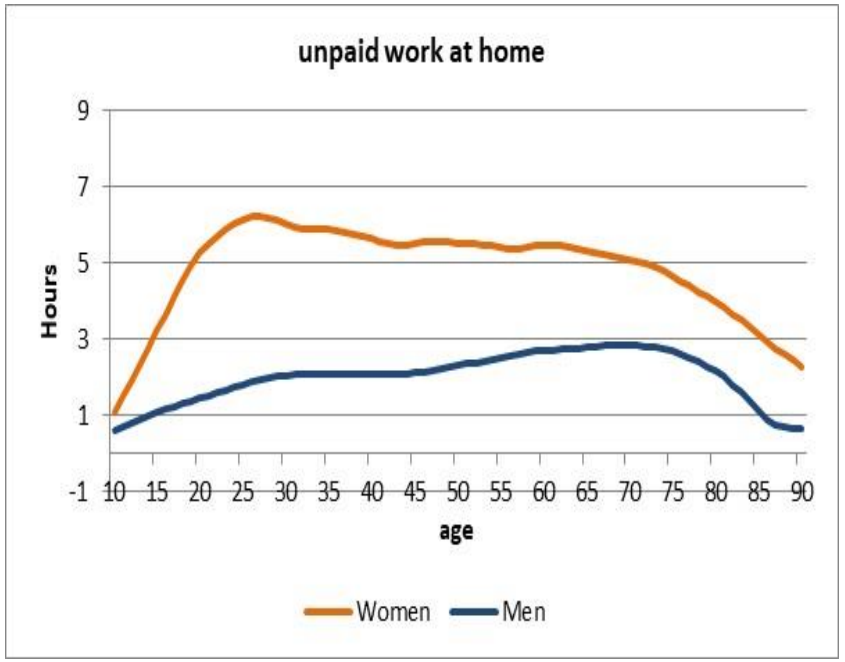


Source: Author´s calculations.

4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

El Salvador 2010. Daily hours dedicated to the labor market and unpaid production

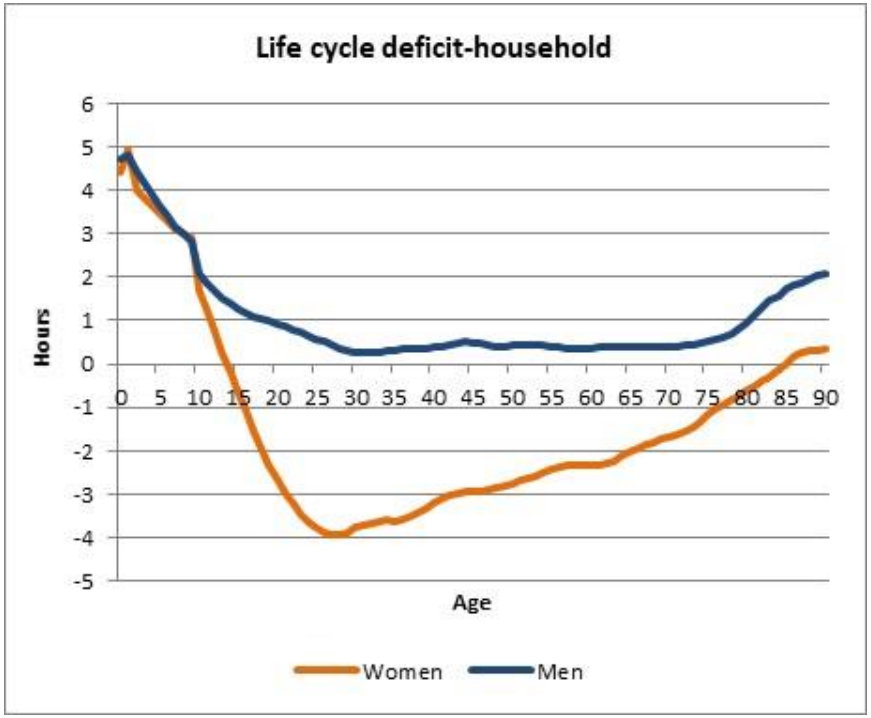


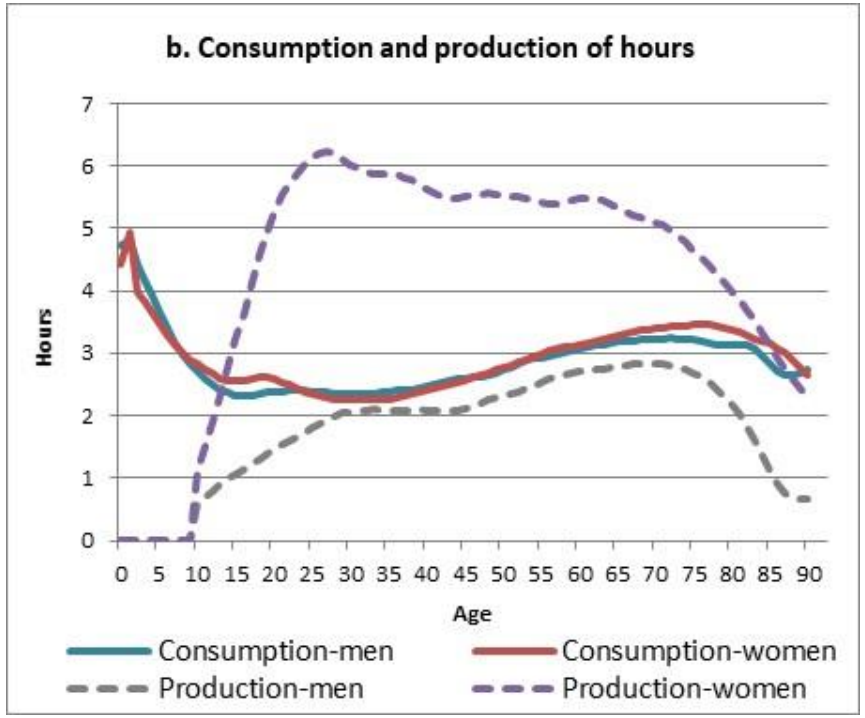


Source: Author´s calculations.

4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

El Salvador 2010. Life cycle deficit of the house by sex



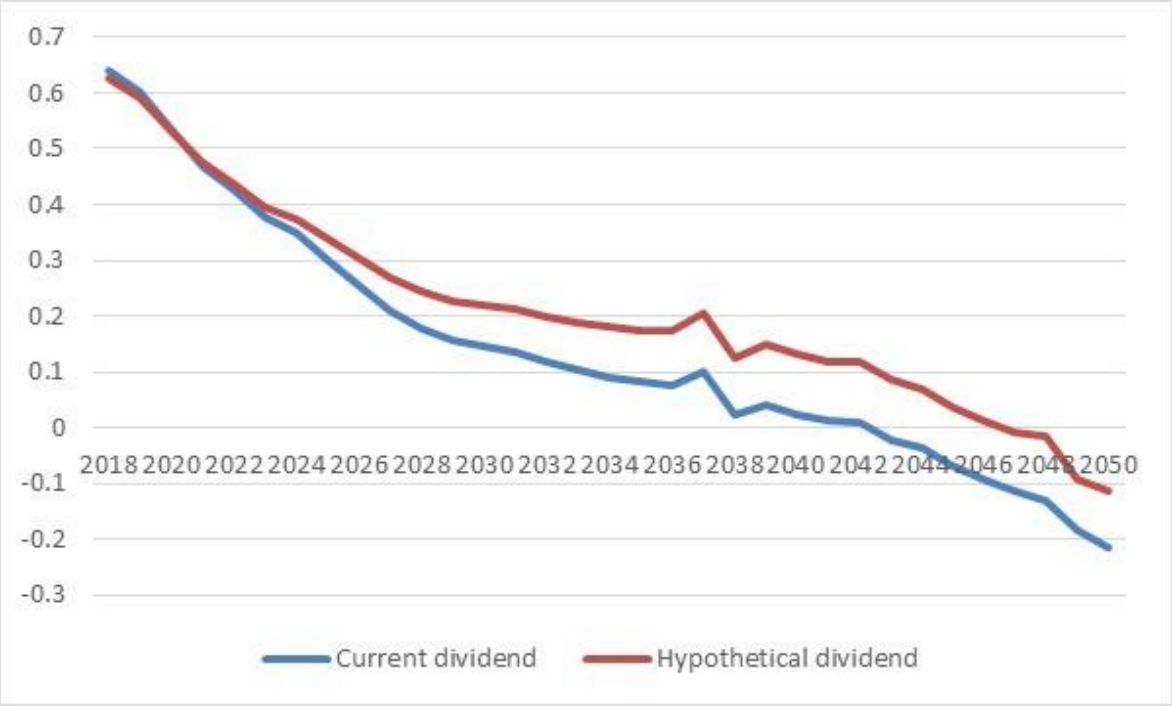


Source: Author´s calculations.

4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

Simulating the impact of an increase in women participation in the labor market from 42.18% to 50.00% on the Demographic dividend

El Salvador 2018-2050. current and hypothetical demographic dividend



Source: Author´s calculations.

4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

El Salvador 1970-2050. current and hypothetical demographic dividend (%)

GDP growth rate 2%		1970-2033	2018-2033	2034-2050
Accumulated dividend	Current	22.35	4.997	-0.403
	Hypothetical	24.06	5.634	1.356
dividend average growth rate	Current	0.349	0.312	-0.024
	Hypothetical	0.376	0.352	0.08

Source: Author´s calculations based on IDB (2018) and Central Bank of Reserve of El Salvador.

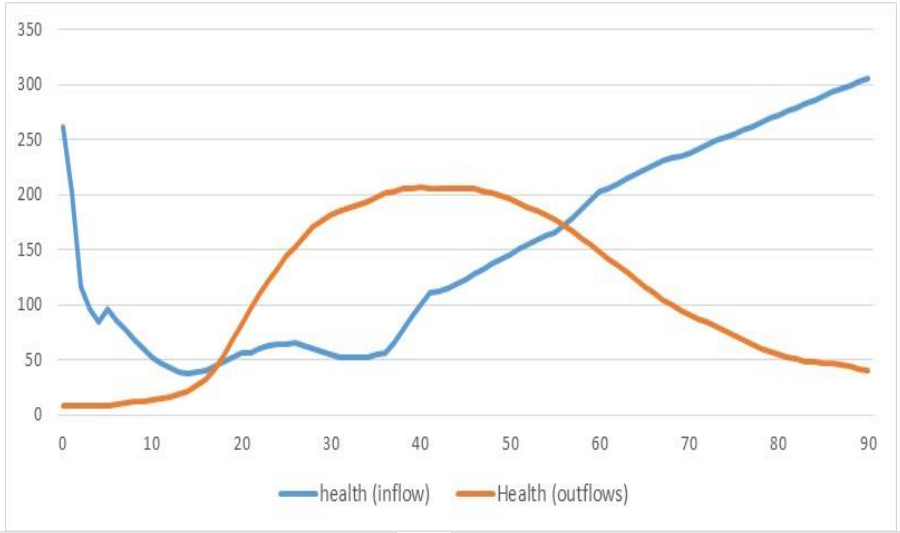
4. What is the contribution of unpaid productive work and its relation to the gender dividend in El Salvador?

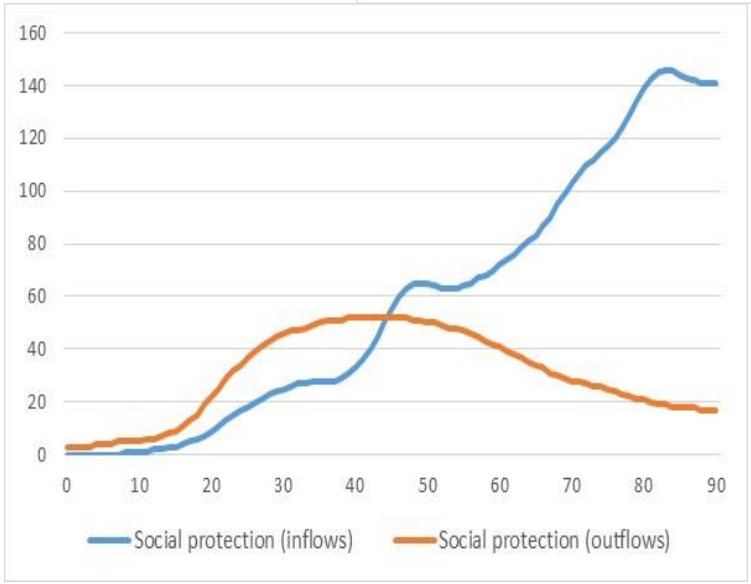
El Salvador 2010. Personnel necessary to meet care demand

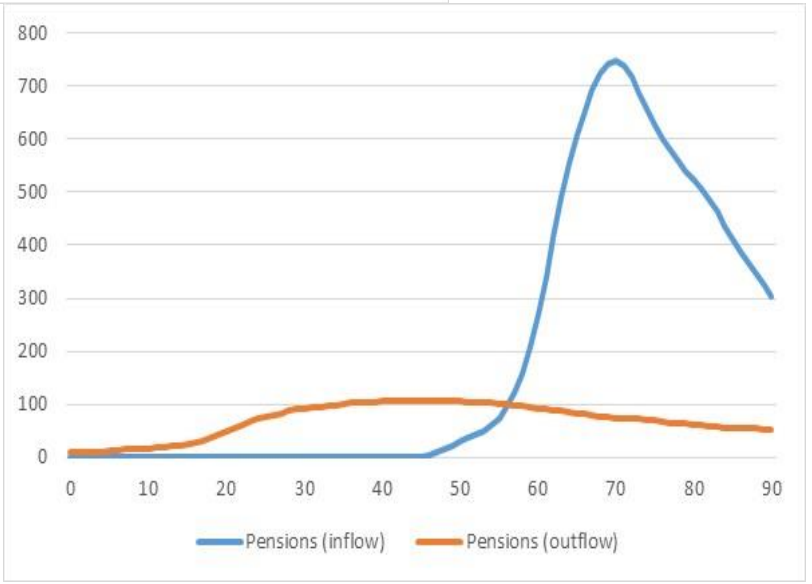
Activity	Total hours of care per day (demand) (A)	People to meet demand for care (8 hours a day) (B)	Number of people to care for 10 people at a time (C)
Care of children (inside and outside the household)	440,248	55,031	5,503
Care of adults and elderly (inside and outside the home)	20,928	2,616	262

Source: Author´s calculations.

5. Is the social protection system sustainable in the long term given the demographic transition of the country?







Source: Author´s calculations based on Peña and Rivera (2016).

5. Is the social protection system sustainable in the long term given the demographic transition of the country?

Based on Miller (2006) it is posible to obtain a simple projection of public budgets and assess the impact of the Demographic transition on the public funds

$$\beta(t) = sum\{b(a,t) * \exp(r * t) * p(a,t)\}$$

Where β (t) is the projection of the budget, b (a, t) is the average of transfers - in kind and in cash - received from the government by age a in period t, r is the labor productivity growth rate, and p (a, t) is the total population at age a at time t.

5. Is the social protection system sustainable in the long term given the demographic transition of the country?

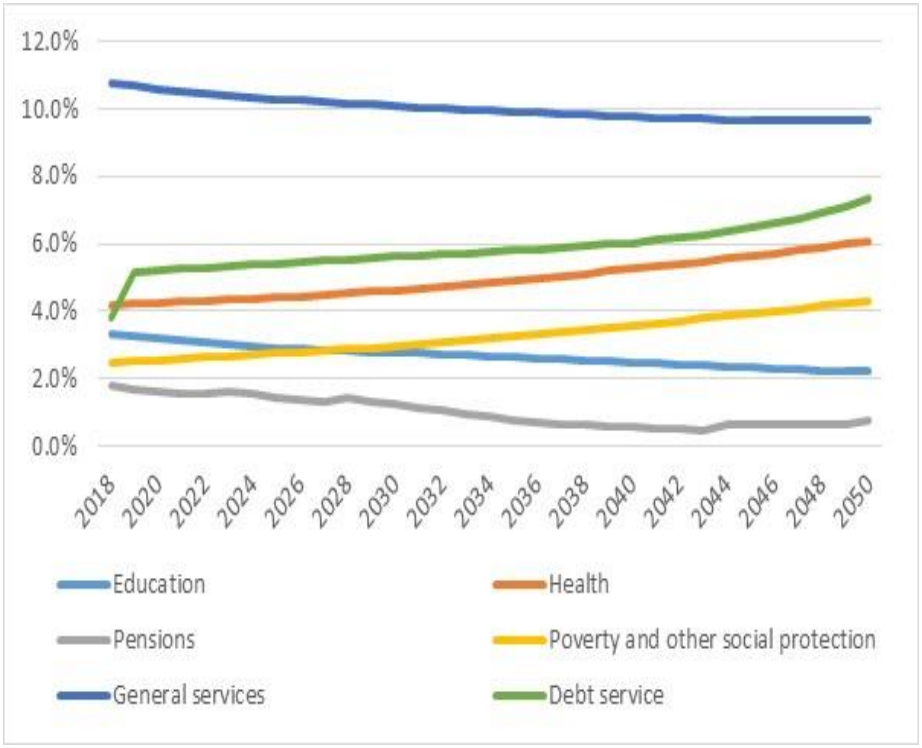
Assumptions:

- To obtain GDP growth, a fixed proportion between GDP and the aggregate of labor income is used -which grows based on labor productivity.
- To reflect an increase in health and poverty priorities and another type of social security, as part of an SDG compliance agenda, it will be assumed that its growth is 1 percentage point higher than the growth in labor productivity.
- Pensions will grow according to the projections of financial flows prepared by the Superintendence of the Financial System (2018)

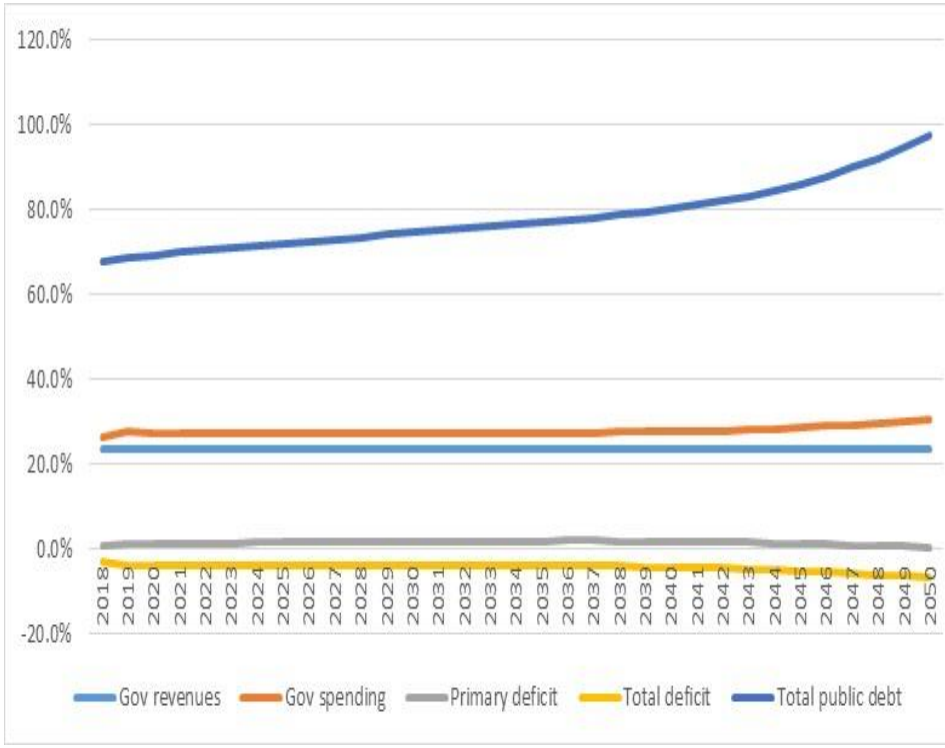
5. Is the social protection system sustainable in the long term given the demographic transition of the country?

Assuming there is no reduction in public spending or increase in public revenue

Budget projection by expenditure components (in percentages of GDP). El Salvador 2018-2050



Budget projection by fiscal indicators (in percentages of GDP). El Salvador 2018-2050

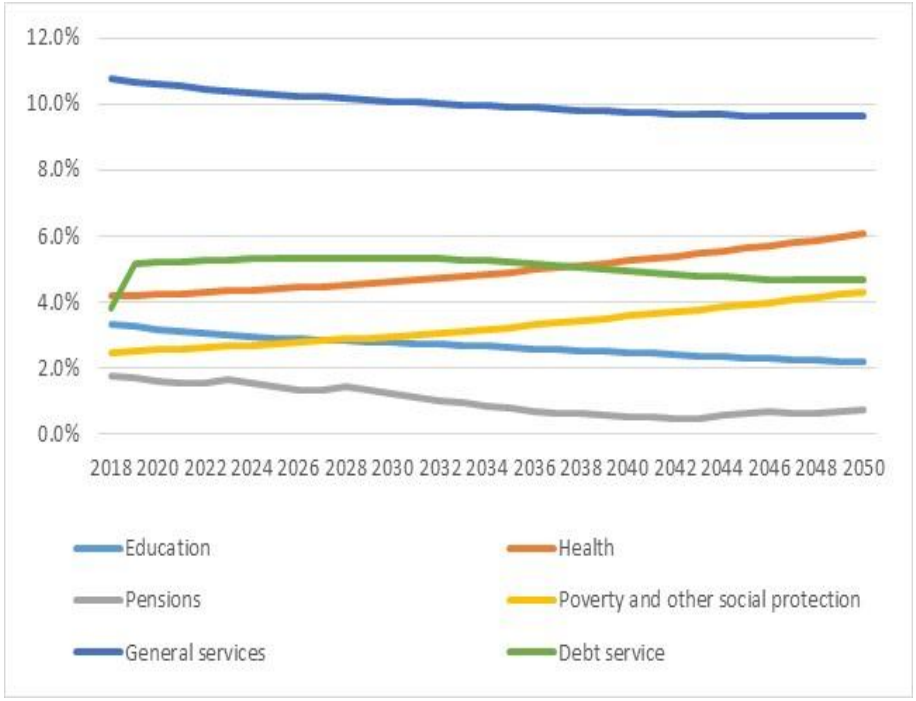


Source: Author´s calculations based on Miller (2006) and Peña and Rivera (2016).

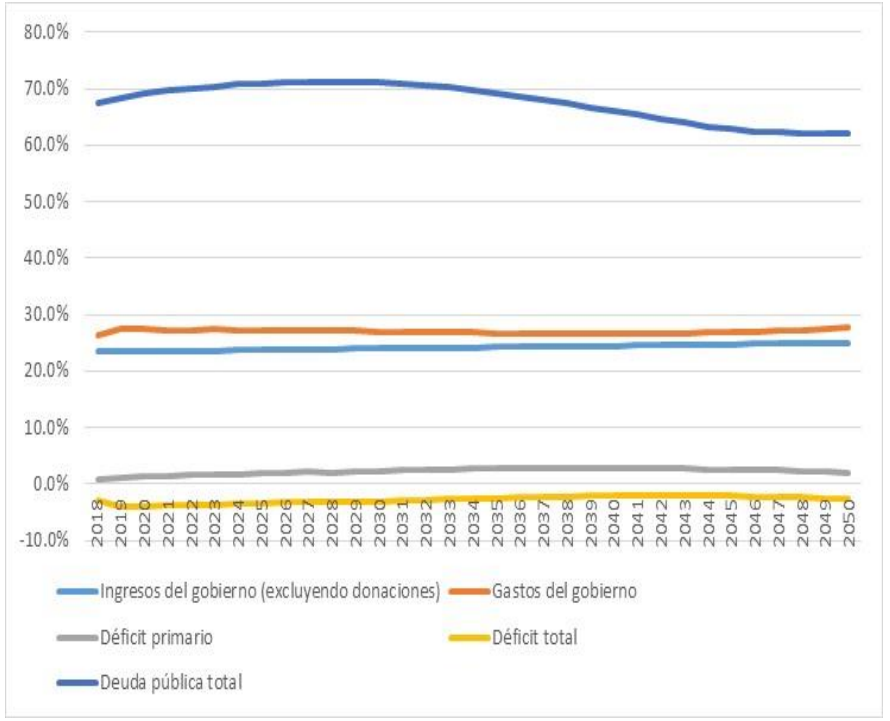
5. Is the social protection system sustainable in the long term given the demographic transition of the country?

In this alternative scenario, an increase in public sector income is considered at a rate of 0.05% per year from 2018 to 2050

Budget projection by expenditure components (in percentages of GDP). El Salvador 2018-2050



Budget projection by fiscal indicators (in percentages of GDP). El Salvador 2018-2050



Source: Author´s calculations based on Miller (2006) and Peña and Rivera (2016).

6. Recommendations

- strategies of diversification and productive transformation are important to expand the national production frontier and thereby increase the country's economic growth

- increase the formation of human capital through public spending

- strengthen the Salvadoran social protection system, mainly by promoting the creation of decent employment, but also by creating a comprehensive social protection system.

6. Recommendations

- El Salvador should encourage women's labor participation, preventing unpaid productive work inside the home from being an obstacle to their participation
- create public and private programs that encourage attention to the demand for care (for example, creating day care centers in public institutions and promoting the creation of business day care centers that depend on the size of the company)
- Programs that encourage co-responsibility in terms of unpaid productive work between men and women