

Pension Notes

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Target replacement rate and parametric changes to pension systems



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Executive Summary

Global population aging is challenging pension systems globally and will challenge them even more in the future. Setting a target replacement rate is the first step to strengthening their benefits and sustainability, for the following reasons:

1. To create a *benchmark* for assessing the adequacy of pensions,
2. To adjust society's expectations and encourage an active role for workers,
3. To facilitate parametric adjustments required by pension systems and
4. To generate better communication with workers regarding the construction of their pensions and the decisions they can take to correct any shortcomings in their stated objectives.

The replacement rate is the relationship between pension amounts and workers' income during working life. There are several pension amount and income alternatives to be considered. There is no unanimity regarding the methodology for calculating the replacement rate; for example, whether income should be adjusted for inflation, or how periods with no contributions should be considered for calculating the average income. These definitions are very important for Latin America, due to its inflationary history and high informality rates.

The target replacement rate defined by each country must be consistent with the parameters of its pension system (so as not to generate false expectations) and should not be considered an enforceable individual promise or guarantee, but rather an estimate of the average pensions that workers will receive, which will vary depending on the savings habits and work history of each individual.

The target replacement rate and the main parameters of the pension system must be established in a broadly participatory process, with strong technical support, to achieve social and financial sustainability.

Knowing the replacement rate of the average worker in the country will not suffice for individual members. They would rather know their expected replacement rate, hence the mandatory PAYGO or individually funded savings system should inform them of their progress in constructing their pensions.

Considering the high labor informality in Latin America, it is important to implement or enhance a non-contributory pillar, financed by general taxes. The success of non-contributory programs is due to four main factors: 1) they are fiscally sustainable; 2) they avoid or significantly reduce poverty in old age; 3) they are available to all individuals who meet the requirements for accessing them; and 4) they do not discourage contributions to the contributory pension system or enrolment in the formal labor market.

Introduction

Global population aging caused by rising life expectancy and falling birth rates is challenging pension systems globally (and will be more challenging in the future). To infer the problems facing pension systems, it would suffice to monitor the frequent changes or adjustments announced in the parameters of the pension systems of the most diverse countries.

How should countries face this reality? There is certainly no single correct answer, since countries have structured their pension systems in different ways, with different degrees of population aging and different levels of protection against such aging.

The first step that countries should take to strengthen their pension systems is to establish a target replacement rate, for the mandatory pension systems at least. This is necessary for several reasons analyzed in this Pension Note. It would also be desirable for people to be informed not only of the target replacement rate of the mandatory contributory system, but also to define their own target replacement rate, complementing the pensions they can obtain from the different pillars of the pension system (non-contributory and voluntary), as the case may be. Robust communication in this matter by the authorities and administrators is required to inform, educate and guide members who, in general, have low pension and financial education. Although it is not its intended purpose, this Pension Note also presents some concepts regarding how pension systems can be strengthened or boosted to better cope with population ageing.

Why is it important to define a target replacement rate?

There are several reasons that make it advisable to define a target replacement rate, namely:

1. **To establish a benchmark for assessing the adequacy of pensions.** It is important to define a target replacement rate for pension systems because it provides a key benchmark for assessing the adequacy of pensions provided by systems in relation to workers' previous employment income. Establishing a target replacement rate contributes to increasing the likelihood that workers will achieve sufficient pensions for maintaining adequate standards of living during retirement, considering the income they received while working, provided that the authorities adjust the fundamental parameters of the system, and orient their policies towards the achievement of target pensions and sustainability over time. The effectiveness of reforms and adjustments made to pension systems to ensure the financial security of retirees and the viability of the system as a whole, should be assessed on a regular basis.
2. **To adjust society's expectations and motivate an active role of workers:** If people lack information regarding future pension amount and replacement rate estimates that are considered adequate, they will most probably not make decisions to change or improve their situation. It is impossible to consider a rational, proactive attitude in such a case. In fact, if the replacement rate is approaching 100%, how would it be rational to reduce present consumption to increase future income? The situation is very different when the expected

replacement rate is low or very low, in which case it makes a lot of sense to sacrifice present consumption to some extent for achieving a better old age. The communication of replacement rates also helps to prevent people from having unrealistic pension expectations, given their savings levels, retirement ages and returns on investment. In fact, the gap between expectations and reality is an issue revealed in some studies.¹

3. **To facilitate the parametric adjustments required by pension systems:** Parametric adjustments, such as the increase in the official minimum retirement age, stricter pension calculation formulas and increased contribution rates, are resisted by the population, and their implementation has a significant political cost for governments. Hence, they usually tend to be postponed and passed on to the next government. If there is an institutional framework that enables technically defining the proposed adjustments based on the pension objectives and substantiating the need to make them to maintain or improve pension amounts, the political debate is more likely to materialize the required reforms.
4. **To generate greater communication of workers with their pension system:** It is essential for workers to be aware of their progress in constructing their future pension objectives and that this will depend on the number of years of contributions, the taxable amount of their salaries and the age at which they retire. This communication, together with the design of mechanisms that encourage and facilitate pension savings, is important for promoting greater work formality and continuity in pension contribution payments, as well as an increase in voluntary pension savings.

How is the replacement rate defined?

The concept of replacement rate is the relationship between pension amounts and the income received by workers during their working lives. However, there are several alternatives to consider regarding pension amounts (gross or net, i.e., after the payment of taxes and mandatory social security contributions) and above all, salaries (the last salary, the average salary of the last 12 months, the last 10 years and the entire working life, the highest average salary of the best N years, etc.). There is also no clear consensus on whether income should be adjusted for inflation, and the treatment of periods with no contributions for the calculation of the average salary. Both definitions are very important for Latin America, due to its inflationary history and high informality rates.

It is essential for the defined target replacement rate to be consistent with the system's fundamental parameters, so as not to generate false expectations. Furthermore, the target replacement rate cannot be considered an enforceable individual promise or guarantee, but rather an estimate of the

¹ Clapes UC (2018), "[Pensions: from discontent to solutions.](#)"

pensions that members will receive, which will vary depending on their savings habits and employment history. It is therefore crucial to adequately communicate to members the most relevant factors in the construction of a pension and provide them with the guidance and advice necessary for adopting decisions that enable them to eliminate any possible differences between expectations and reality.

For estimated replacement rates to be as close as possible to real replacement rates, their calculation formula must be closely related to the pension calculation formula used in each country. Specifically, in a **contributory PAYGO system**, the formula for calculating pensions should consider the average income in the same period that is considered for defining the target replacement rate. Thus, for example, when said replacement rate is based on the average income of the last 10 or 20 years, that same average of income must also be used in the calculation of pension benefits. However, in practice, the pensions provided by many PAYGO systems in Latin America are greater than those that could be financed actuarially, negating sustainable target replacement rates and generating subsidies for some workers, to the detriment of others. The technical definition of target replacement rates based on reality, labor market trends and life expectancy, would contribute to the timely detection of the gaps between said replacement rates and those currently in place in the PAYGO systems.

In an individually funded system, in turn, since pension amounts are related to the accumulated savings at the end of working life, which in turn depend on the income received during the entire working life of the worker, the target replacement rate should consider the average income over the entire working period, and not only the last few years before retirement. In fact, earlier income has a greater impact than the latter, due to the effect of the return on investments.

As the pension calculation formula in a savings system does not directly consider the number of years of contributions (although they are included in the accumulated savings), the average income must also consider the periods in which the worker did not contribute, assigning them zero value. This better reflects the income that workers actually received to finance their standard of living while active, since otherwise working life income would be overestimated, because periods with no income would not be considered. Furthermore, as an extended period is considered for the calculation of the average income, it would appear to be essential for monthly values to be adjusted to inflation.

As to whether the income, salaries, and pensions to be considered should be gross or net, net values are usually believed to be preferable in both PAYGO and individually funded systems, i.e., after deducting taxes and mandatory contributions, since those are the amounts that people actually receive.

How are target replacement rates and ad-hoc parameters determined?

The target replacement rate and the parameters (contribution rate, retirement age, etc.) that enable their achievement, must be established in a broadly participatory process, with robust technical support, to achieve the reasonable social and financial sustainability of pension systems. Said rate

and the defined parameters must be realistic and achievable, considering the situation and evolution of labor markets and demographic and financial market trends. Policies implemented in pension systems must also be harmonious and consistent with the policies applied in markets closely related to the system. For example, the definition of a high replacement rate, and consequently of significant increases in contribution rates, can be unrealistic and even unattainable in labor markets with high informality rates, with no adequate incentives for encouraging contributions to the contributory pension system.

Given the above, an independent technical entity must be established to periodically review whether the target replacement rate will be met, given existing parameters and, if not, propose changes to the parameters and/or the target replacement rate.

The technical entity must submit a report justifying the replacement rate, indicating the reasons why it cannot be met (if any) and proposing the necessary adjustments to do so. It may submit one or more alternative proposals to achieve said target rate. This report must be public and the Government / Parliament, within the maximum period established therein, must implement the adjustments for achieving the target replacement rate, which must be ratified by the technical entity. Otherwise, the adjustments proposed by the technical entity should be implemented automatically.

It should be noted that the target replacement rate is an estimate of the replacement rate that an average worker in the country is expected to achieve, in terms of income, salary increases, contribution density, start of working life, return on investments, etc. Thus, for example, in its conventions, the ILO has defined reference replacement rates based on contribution density (see Table 1).

Table 1

Years of contributions	Denomination of the benefit according to the ILO conventions	Adequate basic replacement rate according to ILO conventions
45	Full pension	60%
30	Full pension	45%
20	“Partial” pension	30%
15	“Partial” pension	22,5%
11	“Partial” pension	16,5%
<10	It’s not a pension	Social assistance

Source: Salvador Valdés based on ILO Convention 128 (https://s3.us-east-2.amazonaws.com/assets.clapesuc.cl/media_post_5548_857c113d57.pdf)

Information to members or participants

Knowing the replacement rate of the average worker in the country will not suffice for individual members, regardless of whether it is realistic or not. They would rather know their expected replacement rates, or how they are progressing in the construction of their own pensions, since this will depend closely on their work and savings behavior, as well as their retirement age.

Thus, each year the mandatory PAYGO or individually funded pension savings systems must inform their members of the progress in the construction of their pensions.

During the initial years, when there is still not enough information for making an estimate, it must refer to the target replacement rate of the mandatory pension system, the contribution status of members, and relevant information for achieving a good pension.

To the extent that members acquire employment data and information that enables projections to be made, they must be informed of their estimated replacement rate, along with the current value of their average income and the number of contributions recorded so far. This communication contributes to more accurate expectations regarding the pensions that workers will receive, to the timely detection of any gaps in the goals of each worker, and to better informed decision-making to try to close said gaps. Ideally, they should receive suggestions on how to increase their replacement rates, either through additional savings, or by postponing their retirement age. All this information must be complemented with appropriate guidance and advice from the pension managers.

For example, the Chilean Pension Commission provides the public with a simulator that not only estimates pension amounts at retirement age, but also the probability that said pension amount will be achieved. This is complete information, but not easy to understand for people without probabilistic knowledge.

It would be convenient to provide members with low income and/or low contribution densities, which would allow one to presume that they would achieve a low pension amount and might therefore meet the requirements for receiving a non-contributory pension, with additional information regarding said pension and requirements for accessing it. Moreover, considering the non-contributory program may substantially increase the level of replacement rates for low-income workers, as is the case in Chile.

The above illustrates the importance of good communication regarding the pensions provided by the different pillars of the pension system, and not only the contributory system.

Non-contributory pillar

In view of the high labor informality in Latin America (exacerbated by the characteristics of the new gig economy jobs), the increase in life expectancy, delayed entry into the labor market, low mandatory contribution rates, neither contributory PAYGO nor individually funded pension savings

systems will be able to provide sufficient pensions to individuals who fall short of a minimum contribution density.

To avoid poverty in old age for this population group, it is important to implement or strengthen, as the case may be, a non-contributory pillar financed with general taxes.

The success of non-contributory programs is due to four main factors: 1) they are fiscally sustainable; 2) they avoid or significantly reduce poverty in old age; 3) they are available to all individuals who meet the requirements for accessing them; and 4) they do not discourage contributions to the contributory pension system or enrolment in the formal labor market, and ideally stimulate contributions to said system.

Non-contributory pension amounts must therefore be close to the poverty line, in order to meet the second factor, but without negatively affecting the fourth factor. This amount would also facilitate compliance with the first factor (fiscal sustainability). The design of the pillars of the pension system and their interrelation is extremely important.

There are two schemes that have been used to avoid a negative impact of the non-contributory pillar on the PAYGO or individually funded contributory pension system:

- That the non-contributory pension is available to all individuals who meet the age and residence requirements, for a low amount (close to the poverty line). The contributory pension (of greater or lesser amount, depending on the contributions made during working life) is complemented by the non-contributory pension, to improve the overall pension. What is relevant is that each contribution will result in higher income in old age.
- That a minimum non-contributory pension amount be established, granting increases above said minimum, linked to the number of years of contribution to the system.

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Queries: International Federation of Pension Fund Administrators (FIAP).
Address: Avenida Nueva Providencia 2155, Torre B, piso 8, Of.810-811, Providencia. Santiago – Chile
Phone: (56-2) 238Phone: (56-2) 2381 1723; E-mail: fiap@fiap.cl; Website: www.fiapinternacional.org