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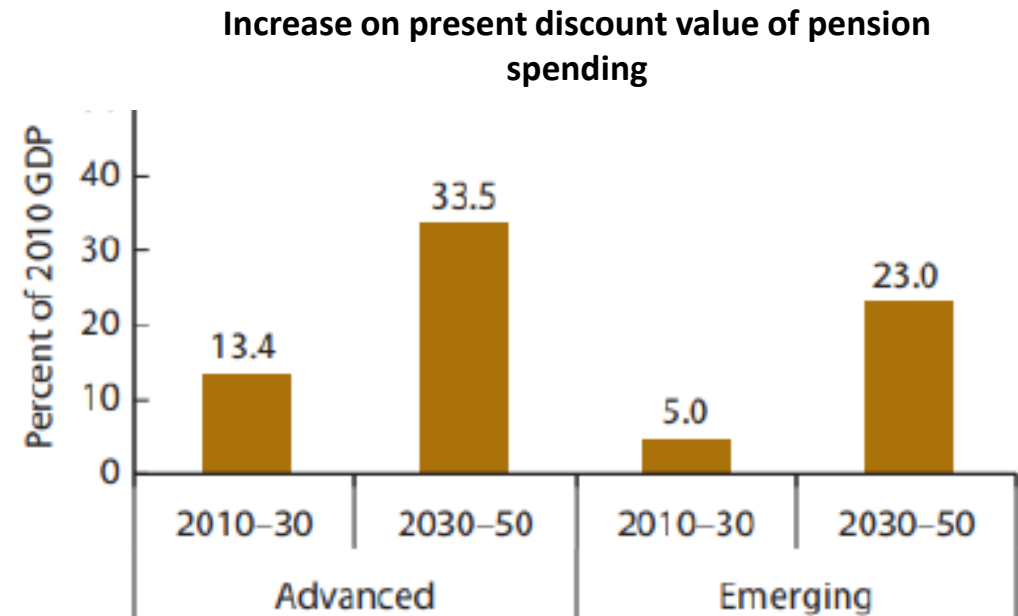
Saving for Retirement Through Consumption: An Application for Portugal

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Introduction

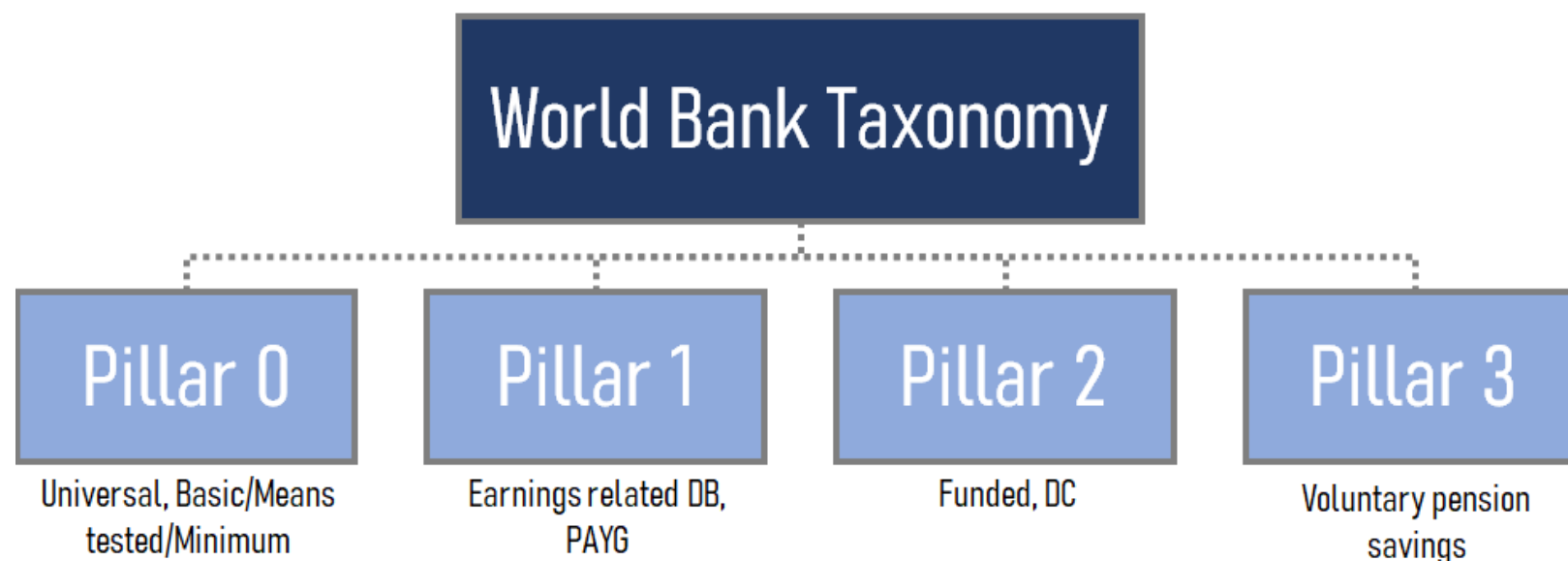
- Since the 1980s, two main challenges facing the sustainability of public pensions have been identified: overtly generous benefits from Pay-As-You-Go (PAYG) pension systems, and population ageing.
- As populations live longer, future generations are forced to carry increasing pension costs.
- This phenomenon is more pronounced for advanced economies like Portugal, compared to emerging countries, prompting calls for reform towards multi-pillar pension systems.



Source: Clements et al. (2013)

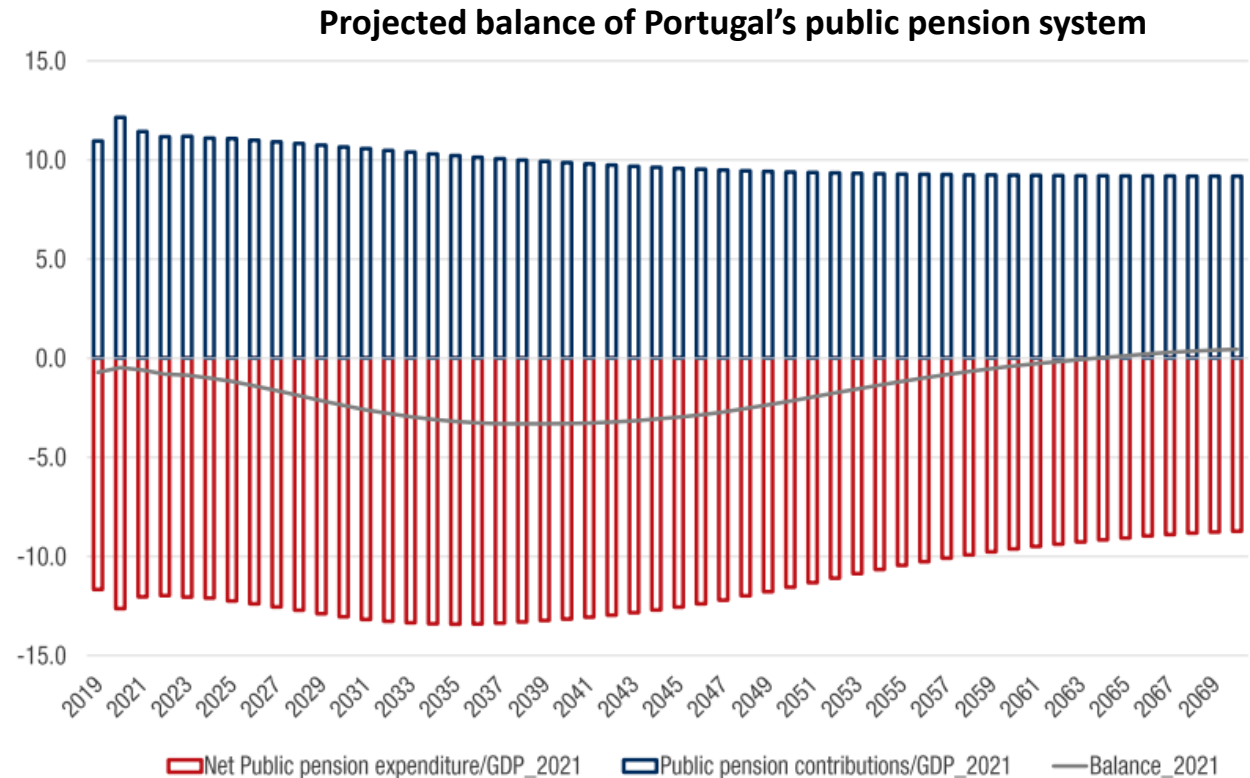
Multi-pillar pension systems

- International organizations like the World Bank called for countries to adopt multi-pillar pension systems:



Challenges to long-term sustainability

- Population ageing, along with other demographic factors, represents a major challenge to the long-term sustainability of public pensions in Portugal.
- GPEARI (2021) projects a deficit in pension expenditures vs. pension contributions from now until 2060...
- This is also caused by a consistent drop in household savings since the 1980s and recent economic crises.

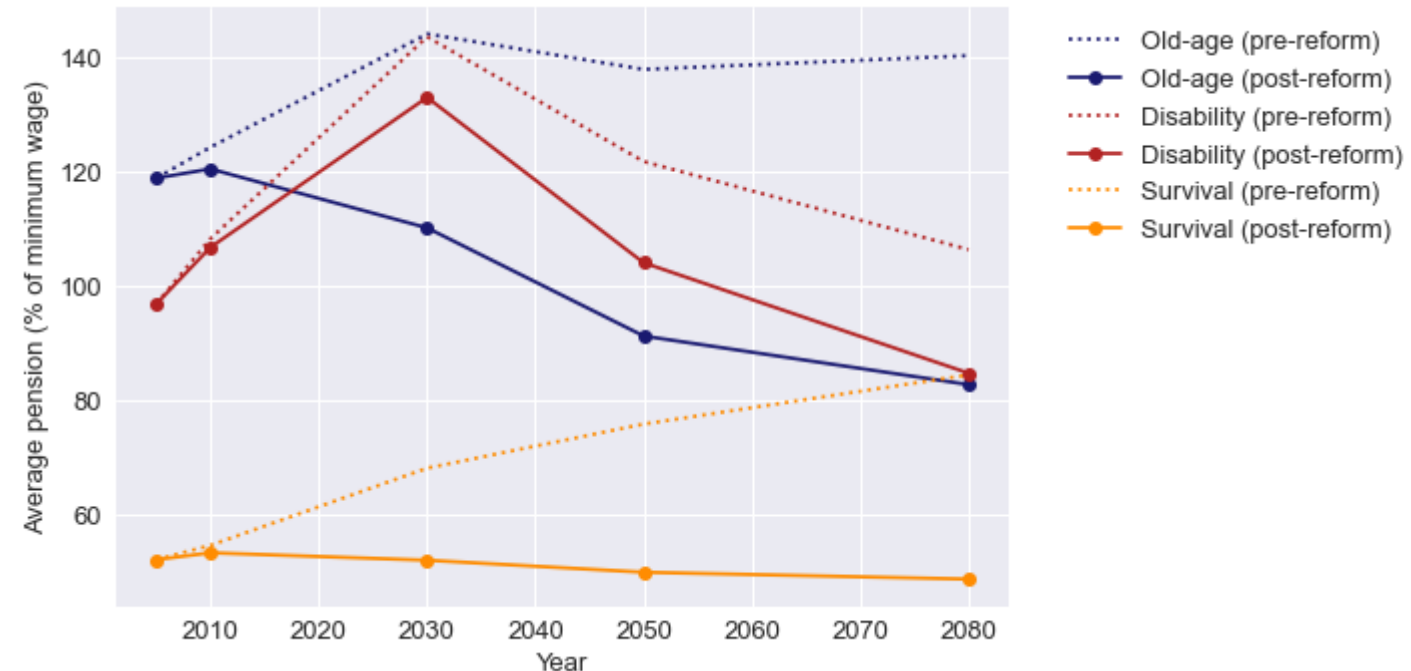


Source: GPEARI (2021)

Challenges to long-term sustainability

- As a result, in 2007 a major pension reform was introduced in Portugal that maintained the PAYG system, while introducing important parametric changes.
- These changes included extending the work life and reducing projected retirement benefits.
- At the time, it was argued that these changes would incentivize private savings, but this has not yet been the case...

Projected pension benefits after 2007 reform

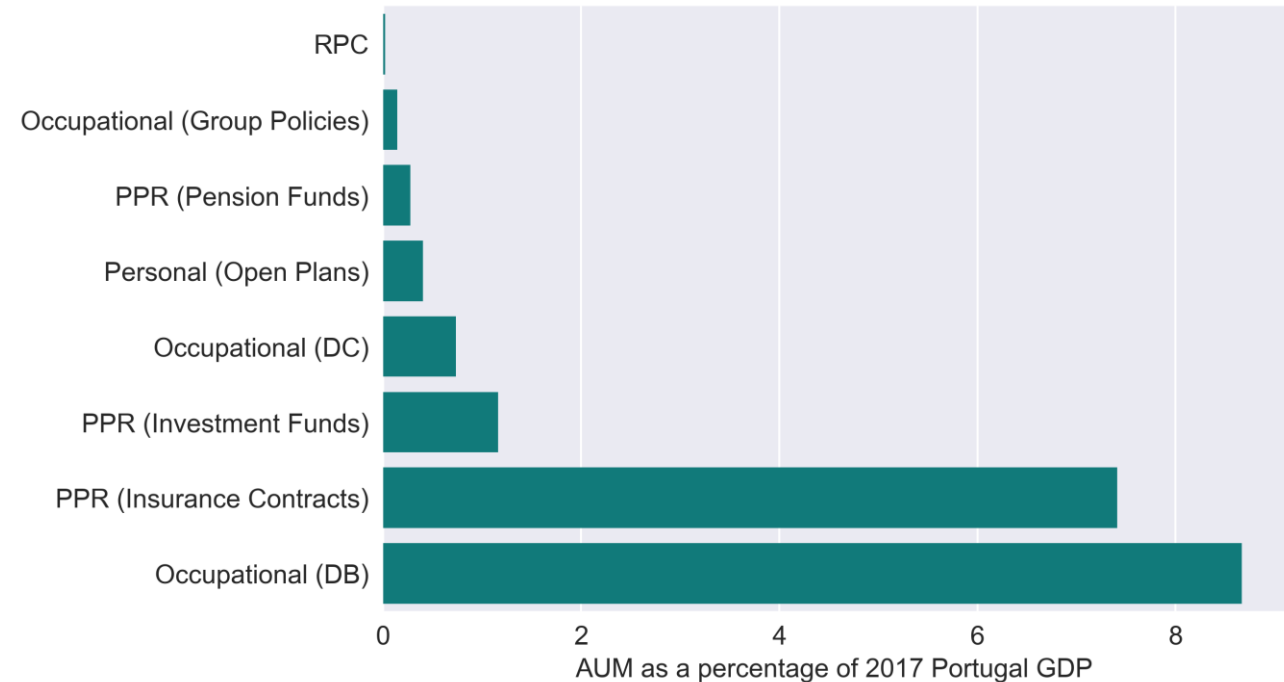


Source: Pinheiro & Cunha (2007)

Overview of Pensions in Portugal

- Pillar 0 – established through recent reforms, such as the creation in 2008 of the Solidarity Subsystem
- Pillar 1 – Covered by Social Security in Portugal, a welfare contribution system
- Pillar 2 – Non-compulsory occupational pensions, traditionally negotiated by syndicates
- Pillar 3 – Includes privately managed savings schemes (PPR) and public voluntary pensions (RPC/Regime Público de Capitalização)

AUM by plan type in Portugal as of 2017

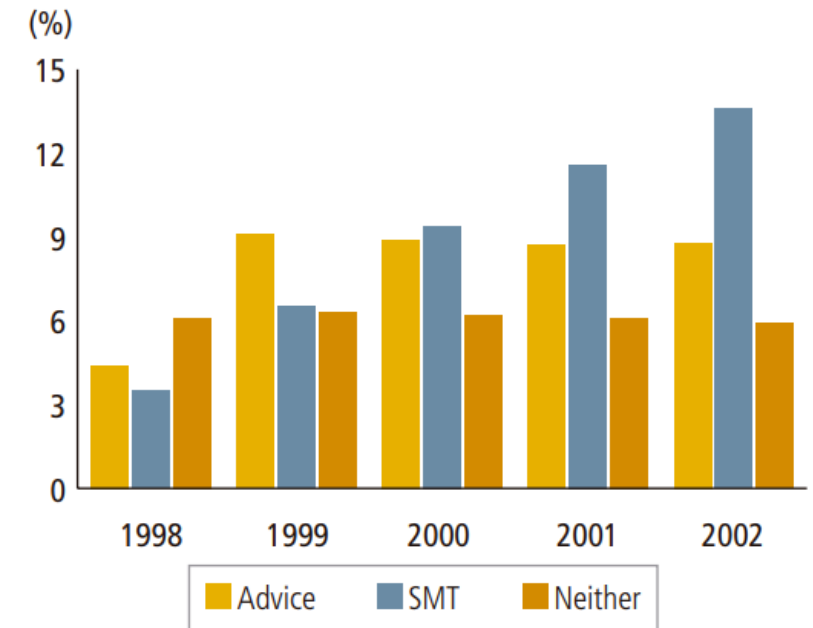


Source: OECD (2019)

Introducing behavioral science

- We propose that one way to promote household savings in Portugal and improve retirement outcomes, is through advances in behavioral science.
- Studies like Samuelson & Zeckhauser (1988) and Benartzi & Thaler (1988) have found biases in individuals that affect their decision making for retirement planning.
- One of the first programs to tap into these biases is the Save More Tomorrow Program (SMT) by Thaler & Benartzi, which allowed employees to commit in advance a portion of their salaries to increase retirement savings.
- Participants in the SMT program consistently increased their savings rate over the evaluated period.

Average savings for SMT participants



Source: Benartzi (2008)

Saving Through Consumption

- Saving Through Consumption is another application of behavioral science, where consumers set aside, or are granted, a percentage of their consumption expenditures towards a special retirement account.
- The system can be implemented through a financial app, and has been successfully implemented in Spain (Pensumo) and Mexico (Miles for Retirement).
- Miles for Retirement will be used as a template since it allows users to automatically enroll a public or private pension account, and includes other nudging mechanisms.

Illustration of the main components of Miles for Retirement

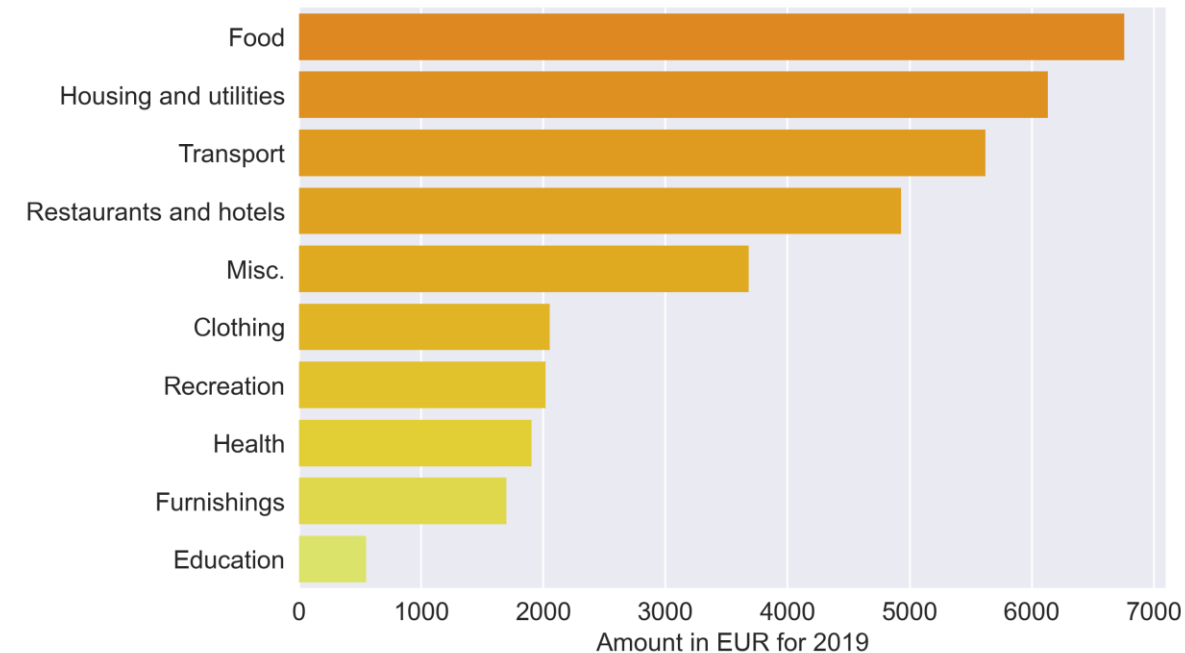


Source: Hernández et al. (2020)

Saving Through Consumption in Portugal

- Saving Through Consumption could be implemented in Portugal by allowing individuals to use their private pension accounts or the public RPC.
- Users would set a percentage to be deducted from their purchases each time they use the “app”.
- Additionally, users could receive contributions from brand loyalty programs, though these were not quantified in the projections.
- After analyzing yearly household consumption, we will refer to the “user” as a household, which as of 2019 spent approximately €18.547 on what we label discretionary spending.

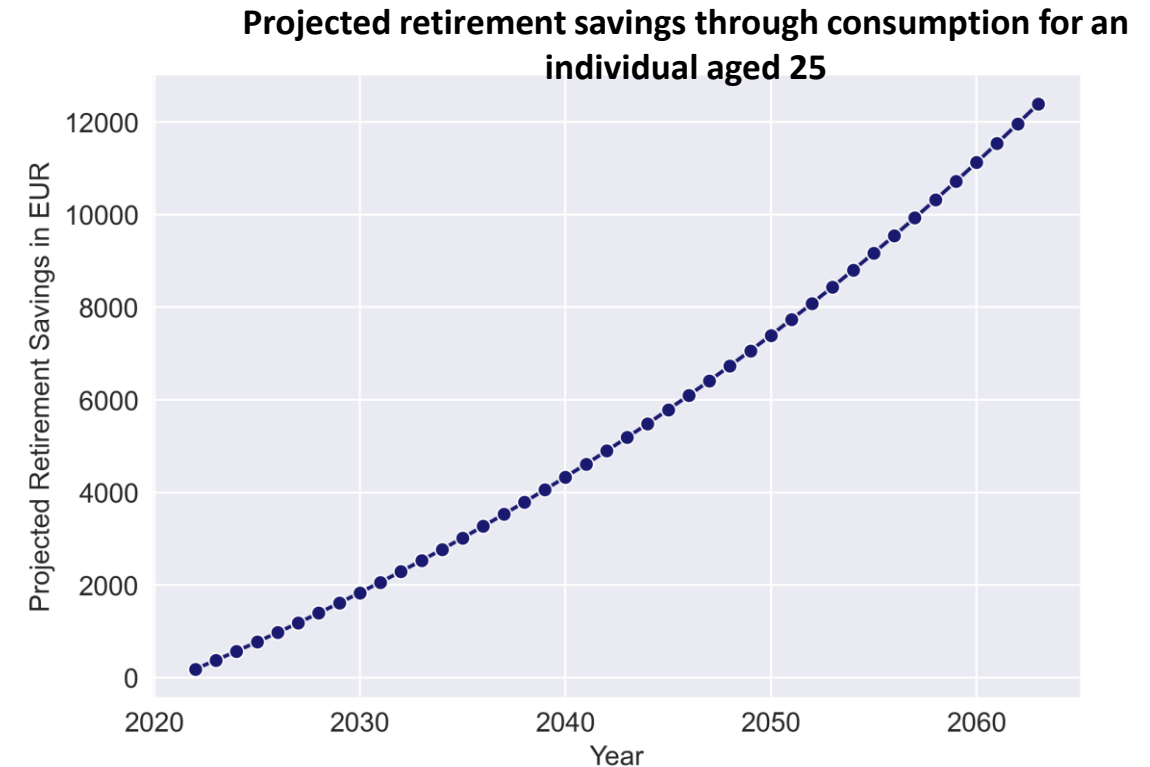
Average consumption of Portuguese households by item



Source: PORDATA (2022)

Projected retirement savings (baseline)

- Assume that a user aged 25 sets a 1% savings target in their app. The user's spending is projected to grow at 1.25% per year, in line with projected GDP per capita growth between 2030 and 2040 by the European Commission.
- The contributions will be sent to the user's pension account in the middle of each year, assuming a constant yearly return rate of 1%
- Upon reaching the current Portuguese retirement age of 66, the user's savings will have accumulated to a total of €12.390.

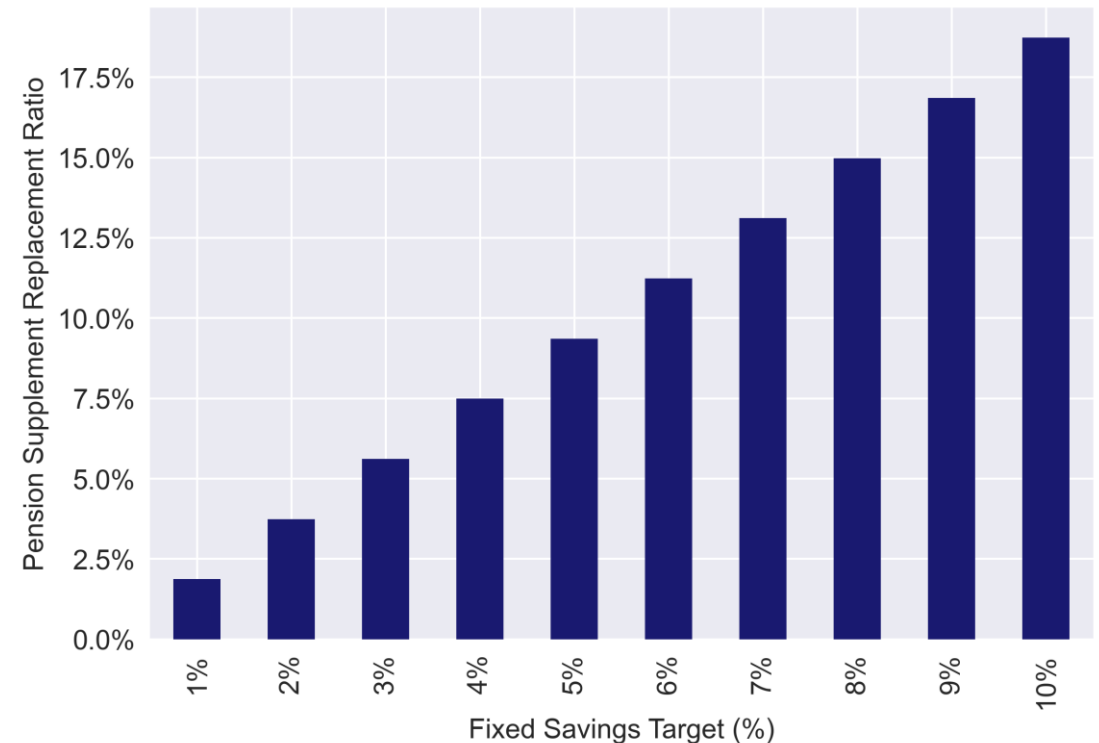


Source: Author estimation

Projected retirement savings (baseline)

- We can use this total to estimate the pension supplement the user will receive by saving through consumption.
- Assumptions: 1% discount to value a whole life annuity the user receives upon retiring at age 66, 2018-2020 Portuguese HM mortality tables (no sex differential), and yearly salary growth of 1.5% to estimate the replacement ratios.
- The figure to the right shows the replacement ratios the user can achieve by setting higher savings targets.

Projected replacement ratios using different savings targets

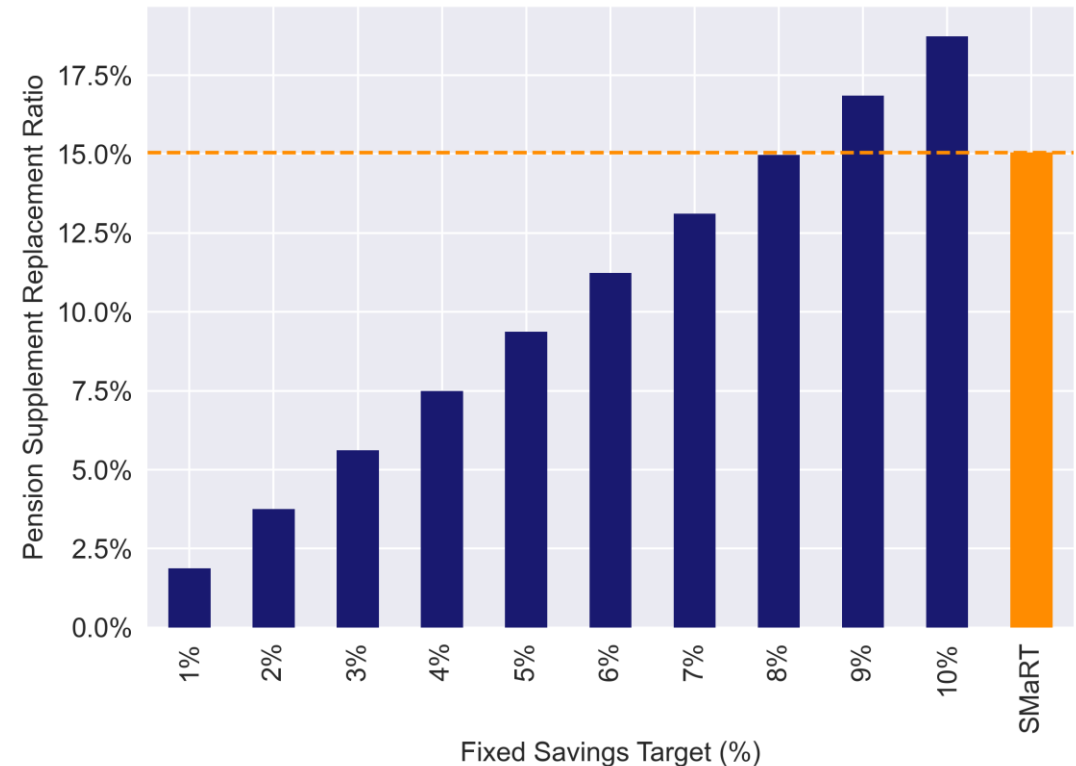


Source: Author estimation

Projected retirement savings (SMT target)

- Users could set automatic yearly increases to their savings target until reaching a certain threshold, turning this model into an application of the SMT program.
- For example, suppose a user starts with a savings target of 1%, and increases this target by 0,5% each year until reaching a maximum of 10%.
- These gradual increases prevent users from feeling loss aversion. The projected pension supplements using this "SMT" savings target is shown in gold, achieving a 15% replacement ratio.

Projected replacement ratios using SMT savings targets



Source: Author estimation

Conclusions

- Although our model uses relatively simple assumptions, it does highlight the significant retirement savings that can be achieved by implementing saving through consumption.
- In particular, by setting higher savings targets or the proposed SMT targets, Portuguese households can achieve pension supplements with significant replacement ratios to complement Social Security and private plans.
- The key for this implementation would be a simple and electronic enrollment to user's pension accounts, in particular to the RPC.
- Saving through consumption represents an innovative approach to stimulate retirement savings, which can alleviate the challenges longevity poses to the Portuguese pension system.

CONGRESSO



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Thank you!