



# ***The Future of Pension Plans in Europe***

Which Future for Pension Plans?

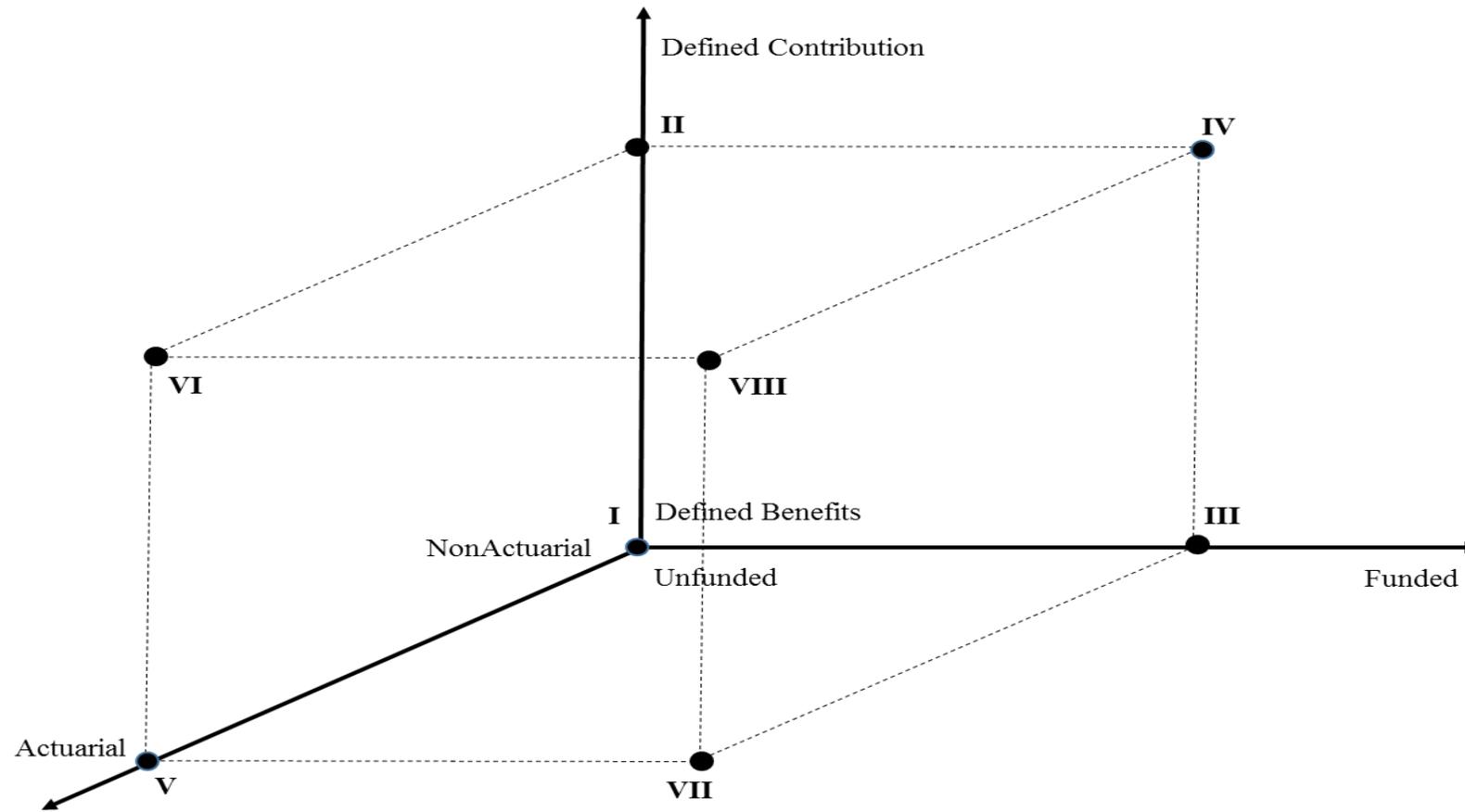
Old-age pension systems: Characterization and Comparability  
The Portuguese Case

# INTRODUCTION

- The main objective of Social Security is to smooth consumption profiles over a person's lifetime and to reduce the poverty rate namely among the elderly. According to Rofman (2005) “this vision is the synthesis of two initially distinct criteria, seeking to replace earned income or to reduce poverty, respectively”.
- Given these objectives, the “pure” systems could be classified as contributive and non-contributive”.
- Contributive old-age pension systems can be traditionally classified according to three dimensions of analysis: funded versus unfunded systems (pay-as-you-go), actuarial versus non-actuarial systems, and defined benefit (DB) versus defined contribution (DC) systems (see Lindbeck and Persson, 2003).



# TAXONOMY OF OLD-AGE PENSION SYSTEM



Source: Based on Lindbeck and Persson's (2003) proposal.



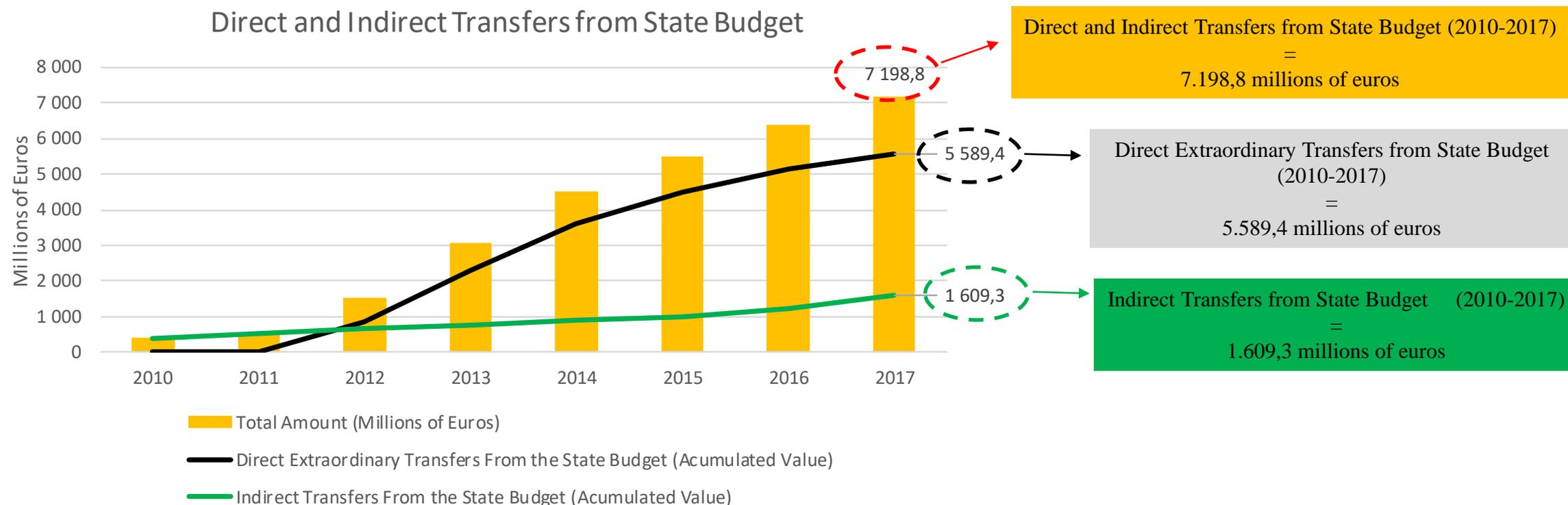
# ALTERNATIVE OLD-AGE PENSION SYSTEM

	<b>Advantages</b>	<b>Disadvantages</b>
<b>Unfunded DB Non-actuarial (Position I in figure 1)</b>	<ul style="list-style-type: none"> <li>✓ Generous model with regard to the benefits (favourable relationship between contributions and pension benefits);</li> <li>✓ Independent of capital market risks;</li> <li>✓ Less exposed to inflation;</li> <li>✓ Protects smaller contributory careers.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Depends on a favourable demographic path;</li> <li>✓ Depends on a favourable labour market;</li> <li>✓ Does not encourage savings;</li> <li>✓ Can generate the creation of implicit debt within the social security system;</li> <li>✓ Increases the politicization of the pension system.</li> </ul>
<b>Funded DC Actuarial (Position VIII in figure 1)</b>	<ul style="list-style-type: none"> <li>✓ Better able to deal with ageing of the population;</li> <li>✓ Limited fiscal liabilities;</li> <li>✓ Removes some labour market distortions;</li> <li>✓ Increases capital market development and even possibly savings;</li> <li>✓ Reduces the politicization of the pension system.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Dependent on the capital market (and associated risks);</li> <li>✓ Less generous model with regard to benefits (i.e. The relationship between contributions and pension benefits is less favourable than in a PAYGO);</li> <li>✓ Penalizes smaller contributory careers;</li> <li>✓ Exposed to inflation;</li> <li>✓ Increase the uncertainty of the worker as regards pension benefits.</li> </ul>



# EXAMPLE - SUSTAINABILITY

	2010	2011	2012	2013	2014	2015	2016	2017
Direct Extraordinary Transfers From the State Budget (Acumulated Value)	0,0	0,0	856,6	2 287,0	3 616,0	4 510,2	5 159,8	5 589,4
Indirect Transfers From the State Budget (Acumulated Value)	386,0	518,5	662,9	766,5	879,7	998,9	1 228,9	1 609,3
Total Amount (Millions of Euros)	386,0	518,5	1 519,5	3 053,5	4 495,7	5 509,1	6 388,7	7 198,8



Source: Contas da Segurança Social (2010-2017) and Own Calculations



# EXAMPLE - ADEQUACY

Total Amount of Remuneration (Adjusted by inflation)

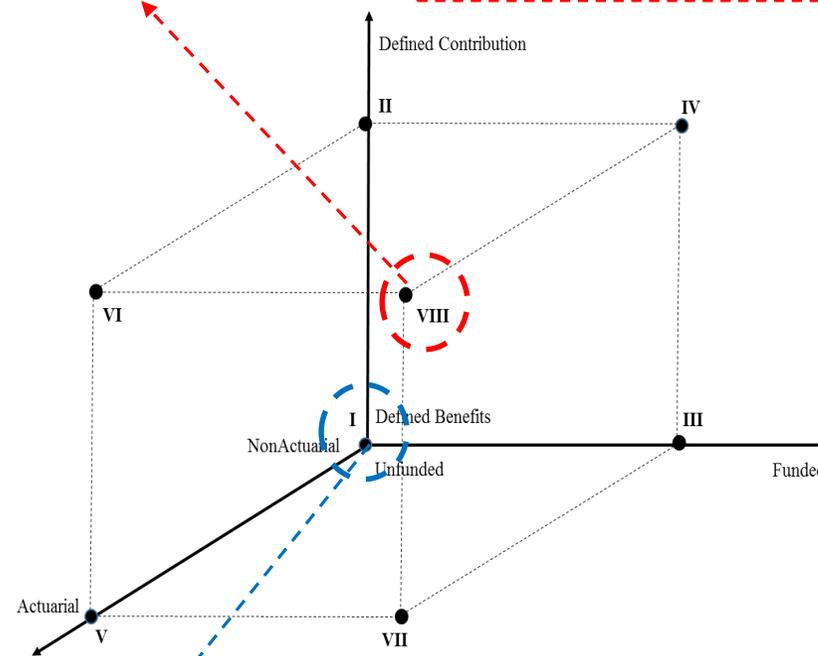
€1.003.662

Total Amount of Contributions to Old Age Component (Adjusted by inflation)

€142.433

Discount rate = 3%  
Mortality table TV 99/01

$$R = \frac{C}{a_{65}^{(1)}} = \frac{€142,433}{14.69169} = €9,695$$



Decree-Law No 187/2007 of 10 May (pensions starting up to 31 December 2016 with social security registration until 31 December 2001)

$$Pension\ Benefits = \frac{P_1 \times n_w^1 + P_2 \times n_w^2}{n_w} \times 14 = €35.000$$



# CONCLUSION

- European societies face profound demographic and economic changes.
- These demographic and economic changes have a major impact on European traditional PAYGO systems with defined and non-actuarial benefits.
- In this context some European countries have adopted a notional account defined contribution system (NDC), financed through a PAYGO scheme.
- This “hybrid” system is, on one hand, better able to deal with ageing of the population compared to a “pure” pay-as-you-go system and, on the other hand, more generous than a traditional funded system with defined contribution and actuarial benefits.
- There are no perfect models.
- The reform process should consider the context in which it is being carried out, since the adoption of a given model may have different impacts, depending on the context.





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