

# Cost of transition of the Brazilian Pension Program from Paygo to a fully-funded system: an analysis in different macroeconomic scenarios

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# Goal of the paper

- This paper aims to investigate the public cost of an eventual change from the Paygo to the funded pension, in order to analyze its possible implementation in Brazil.
- we perform an actuarial estimation of the present value of the flows of benefits and contributions to determining the value of the transition cost, weighted in different survival rates by age cohort and different interest rates.

# Data

- Age profile of beneficiaries of the brazilian pension system
- Age profile of workers making contributions to the pension system
- Amount benefits paid, by age groups, for diferente benefits;
- Amount of contributions paid
- United Nations mortality forecasts
- Population age structure (United Nations)

# Method

- Followed the method presented in Bommier, et.al (2004)

- $Transition\ Costs = VP_{Benefits} + VP_{Contributions}$

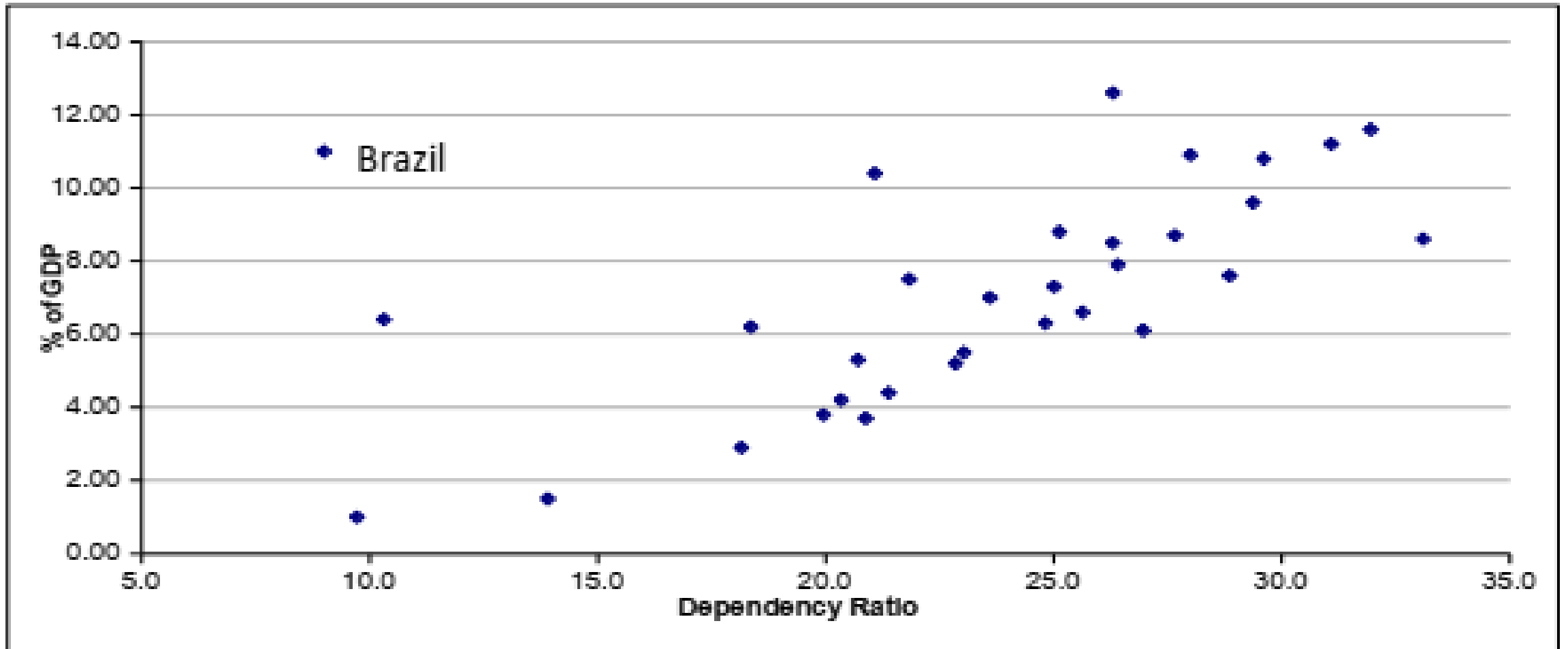
- Where,

- $VP_{Benefits} = \sum_{x,s+x} e^{-rMd_{(x,s+x)}} (p(x, s + x)) \beta(x, s + x)$

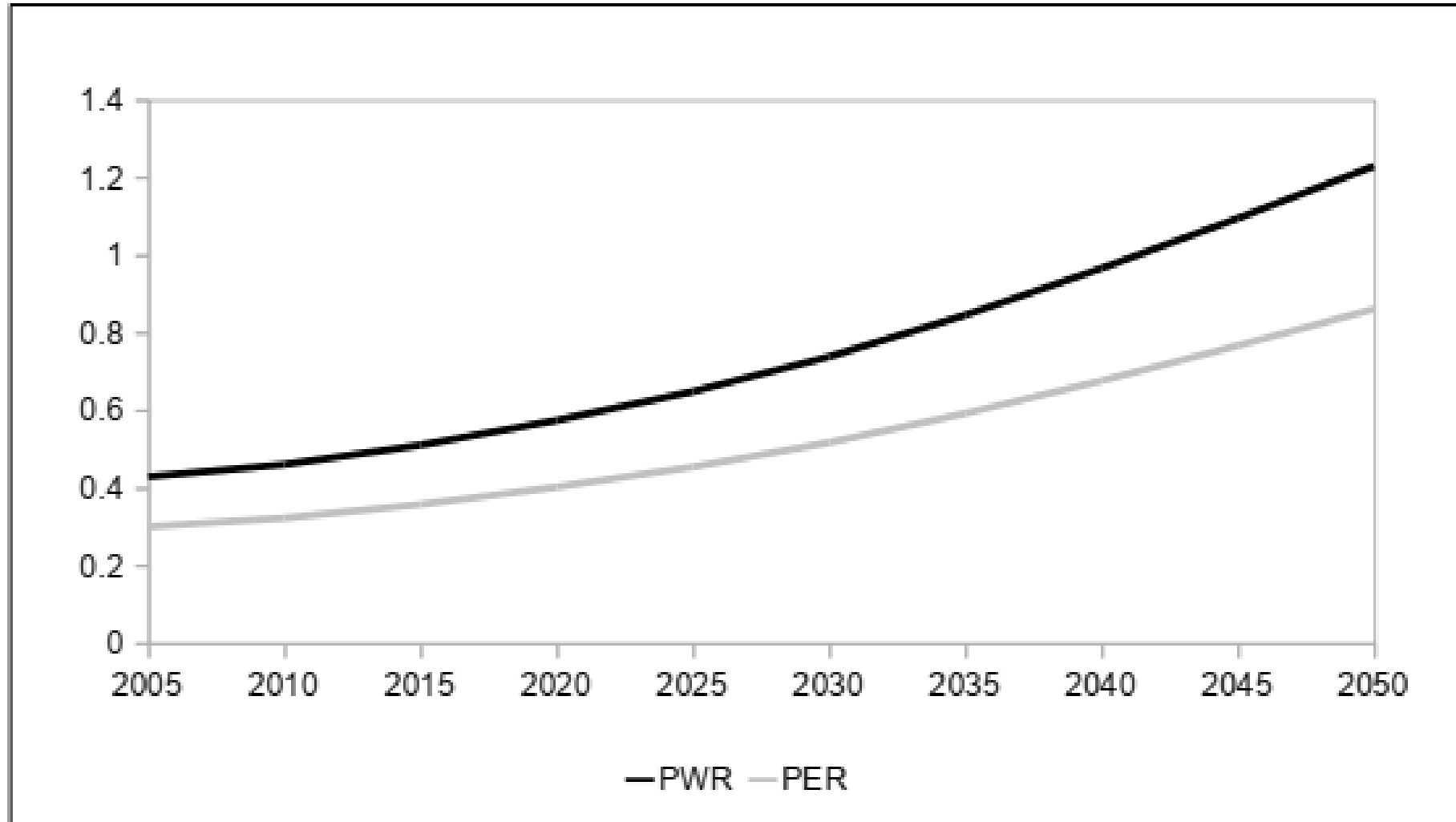
- $VP_{Contributions} = \sum_{x,s+x} e^{-rMd_{(x,s+x)}} (q(x, s + x)) (\delta(x, s + x))$

# Results

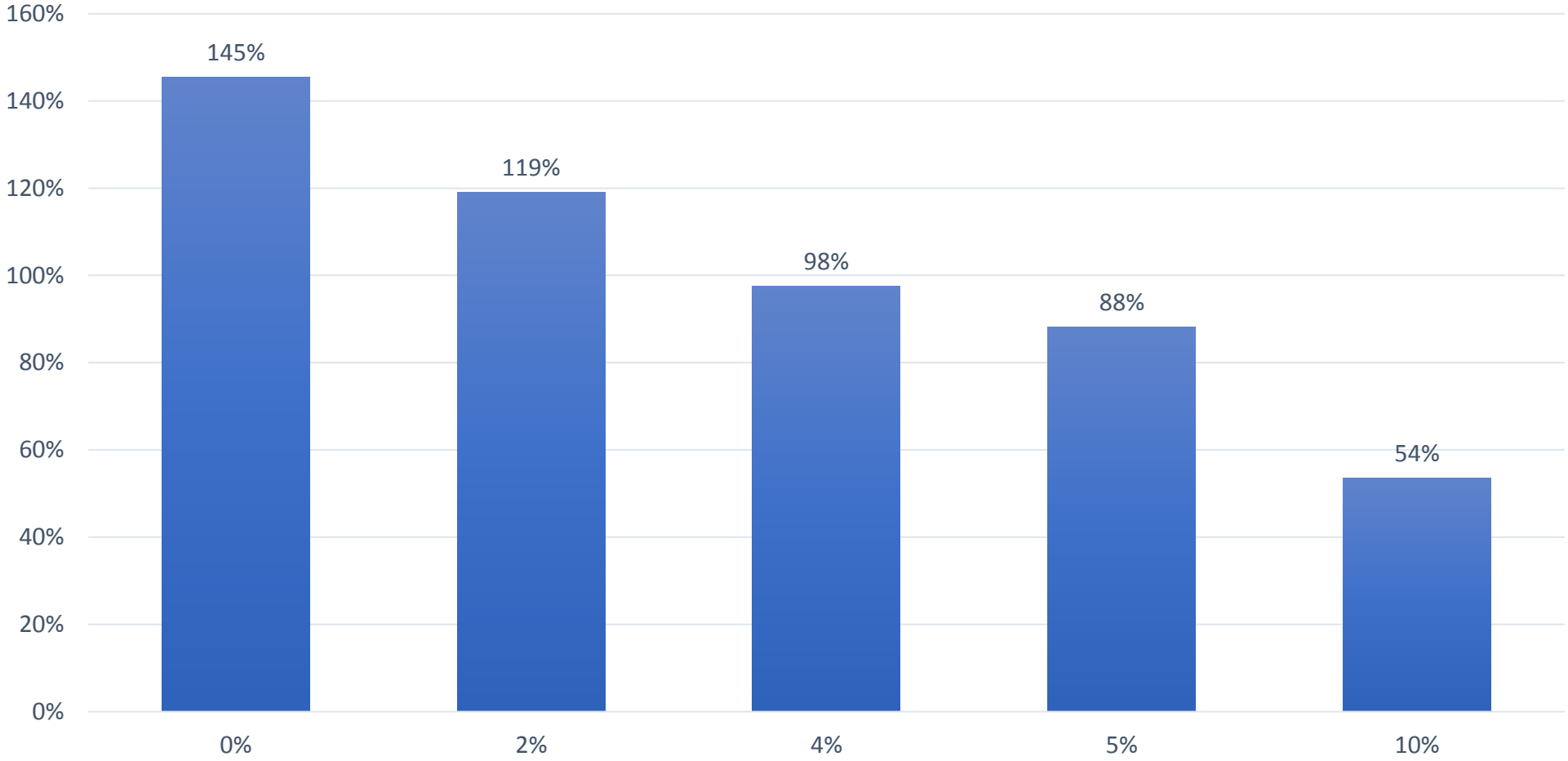
# % of GDP and Dependency Ratio (circa 2015)



# Evolution of the relation between pensioner per worker and pension costs (% wage), Brazil, 2005 - 2050

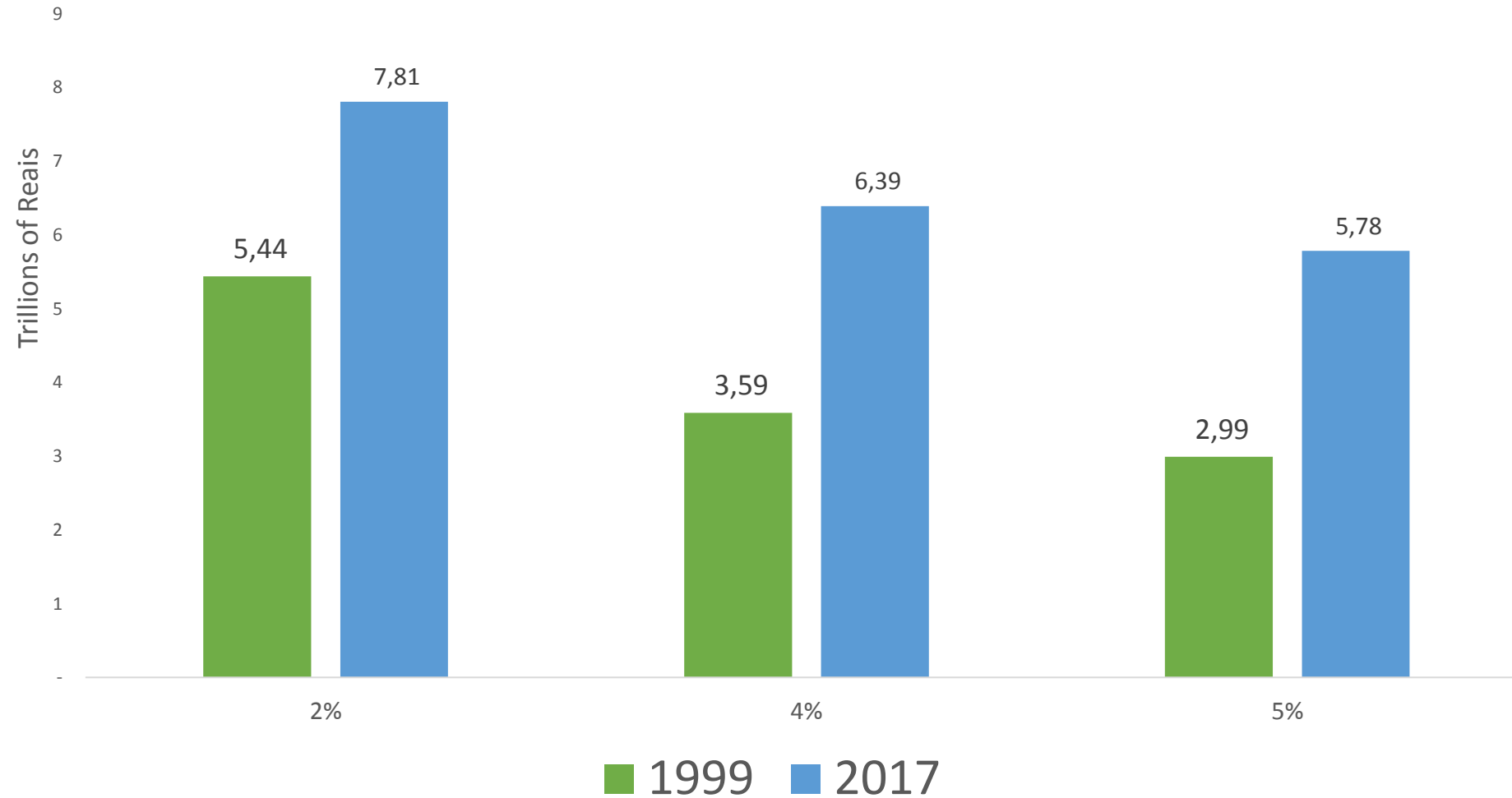


# Transition costs, as % of GDP





# Comparison with Holzman (2001)



# Discussion

- Such a magnitude of implicit debt has significant economic impacts and its effectiveness is questionable. First, by making the debt implicit in the explicit, the transparency of information towards taxpayers would be greater, reducing the information asymmetry (Cremer, Lozachmeur and Pestieau, 2004);
- The increase in the propensity to save would be neutralized by the need to contribute at higher rates in the capitalized regime - Giambiagi and Afonso (2019), for example, a minimum rate of 12% was estimated if the reform were implemented in Brazil.
- In addition to this effect, once the contributions previously allocated to a single pension fund started to be allocated to different funds, of a private nature, the government reserve focused on the pension area would reduce equalizing the increase in the offer of private savings.