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Automatic Enrollment and choices of Pension Plans: an Experimental Study in Brazil

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Introduction

The Big Picture

- Intertemporal myopic behavior -> sub-saving.
- Sub-saving -> threat to well-being in old age.
- Greater responsibility of individuals.
- Behavioral "anomalies" : time inconsistency.
- Gap in the literature: pension plan design and savings decisions.
- Experiments: more and more important.

The Research question

- Which arrangements of DC pension plans are associated with continuity in resource allocation for retirement in Brazil?



Theoretical Framework

- **Intertemporal choices** - Beshears et al., 2013; Clark, 2011.
- **Behavioral Life-Cycle hypothesis** - Shefrin & Thaler, 1988.
- **Nudging Theory** - Thaler & Sunstein, 2008.
- **Pension plan design** - Agnew et al. , 2003; Basu & Drew, 2006; Benartzi & Thaler, 2007; Choi et al. 2003; Kling, Phaneuf & Zhao, 2012; Mullainathan & Thaler, 2000; Shogren & Taylor, 2008.

Subjects and Decisions in the Experiment

The Subjects

- Paid ads on social networks (Facebook[©] and LinkedIn[©]).
- Invited by researchers via social networks (Facebook[©] and LinkedIn[©]). Link to questionnaire in Questionpro[©].

Simulation and Decisions

- Work periods (**1 to 5**) and retirement (**6 to 9**).
- Each period: a hypothetical income of USD 260.00.
- Decision: how much to save and in which of the plans.
- Old-age pension: accumulated values + flat benefit.



Research Design (I)

Scenario-based experiment			
Group	T_0		T_1
Control	R	-	O
Treatment 1	R	X_1	O
Treatment 2	R	X_2	O

R = random distribution of groups

O = observation after treatments

X_1 = automatic enrollment in standard plan and counterpart of employer

X_2 = automatic enrollment in standard plan and counterpart of employer
and presence of risk free plan



Research Design (II)

- **Unspent values: converted into values to be donated**
- **Control group: participant chose, from the initial period, between three plans**
- **Treatment groups: participant was automatically enrolled, in the initial period, in the standard plan + 100% of the contributed value**
- **Treatment 2: Treatment 1 + risk free plan**
- **It was asked, in subsequent periods, how much it would contribute and for which plan**



Results

Distribution of Participants who Completed the Tool

Version	Control	Treatment 1	Treatment 2	Total
Total	77	86	78	241

Results

GENDER	N	%
Female	81	38.9
Male	127	61.1
Total	208	100.0

MARITAL STATUS		
Single	78	37.5
Married	116	55.8
Divorced	11	5.3
Legally Separated	3	1.4
Total	208	100.0

EDUCATION		
High School	13	6.3
Higher Education	43	20.7
Post-graduation	152	73.0
Total	208	100.0

Results

Participants' monthly income (multiples of Brazilian minimum wage)

INCOME (multiples of minimum wage)	N	%
Up to 1	11	5.3
1 a 2	17	8.2
2 a 3	24	11.5
3 a 5	37	17.8
5 a 7	37	17.8
Over 7	82	39.4
Total	208	100.0

Results

Data	Results
Treatment 1 in relation to control (influence of automatic enrollment + parity contribution)	No significant difference between treatment 1 and control (p-value > 0.05)
Treatment 2 in relation to the control (influence of automatic inscription + parity contribution + risk free plan)	With treatment 2 more people remained on the standard plan or on the risk free plan.
Treatment 2 in relation to treatment 1	With treatment 2 more people remained on the standard plan or on the risk free plan.

Synthesis of the Results

- Participants did not prefer **lower risk plan** or **risk free plan**
- In treatment 2 some participants **“migrated” to lower risk plan** (in comparison with the control group)
- Individuals enrolled compulsorily in a supplementary pension plan **changed their decisions in further choices only in treatment 2**
- A risk-free supplementary pension plan **did not receive more individual adhesion** (in comparison to other plans offered)

Final Comments

- **People were not attracted to less risky plans**
- **Compulsory automatic enrollment in a risk-free plan contributes to greater permanence in pension plan**
- **Nudges can contribute to the individuals' longer stay in pension plans**
- **Actuaries must be involved, since the very beginning in pension plan design**





THANK YOU FOR YOUR ATTENTION!

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