



Gobierno  
de Chile



# INSIGHTS FROM BEHAVIORAL ECONOMICS FOR THE DESIGN OF THE PENSION PAY-OUT PHASE

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## AGENDA

1. Motivation
2. Pension regulator initiatives
  - Pension Projections: Online simulator
  - Experimental evaluation (product test) of a simplified version of the pension simulator
3. Preliminary results of the experimental evaluation
4. Challenges and Policy Implications



## MOTIVATION

- ❖ Several countries have chosen to move to a DC system with individual savings accounts.
- ❖ DC require much more financial knowledge from its participants than DB.
- ❖ Can we improve pension savings by providing personalized information to participants on how to increase them?
- ❖ In Chile, where the pension system became a DC scheme in 1981, the first cohorts of affiliates are now retiring:
  - Low pension savings is a serious concern.
  - Even with the solidarity pillar in the system.
- ❖ Promote saving culture and Financial education are key in a DC Pension system where the pension outcome is mainly determined by affiliates decisions.



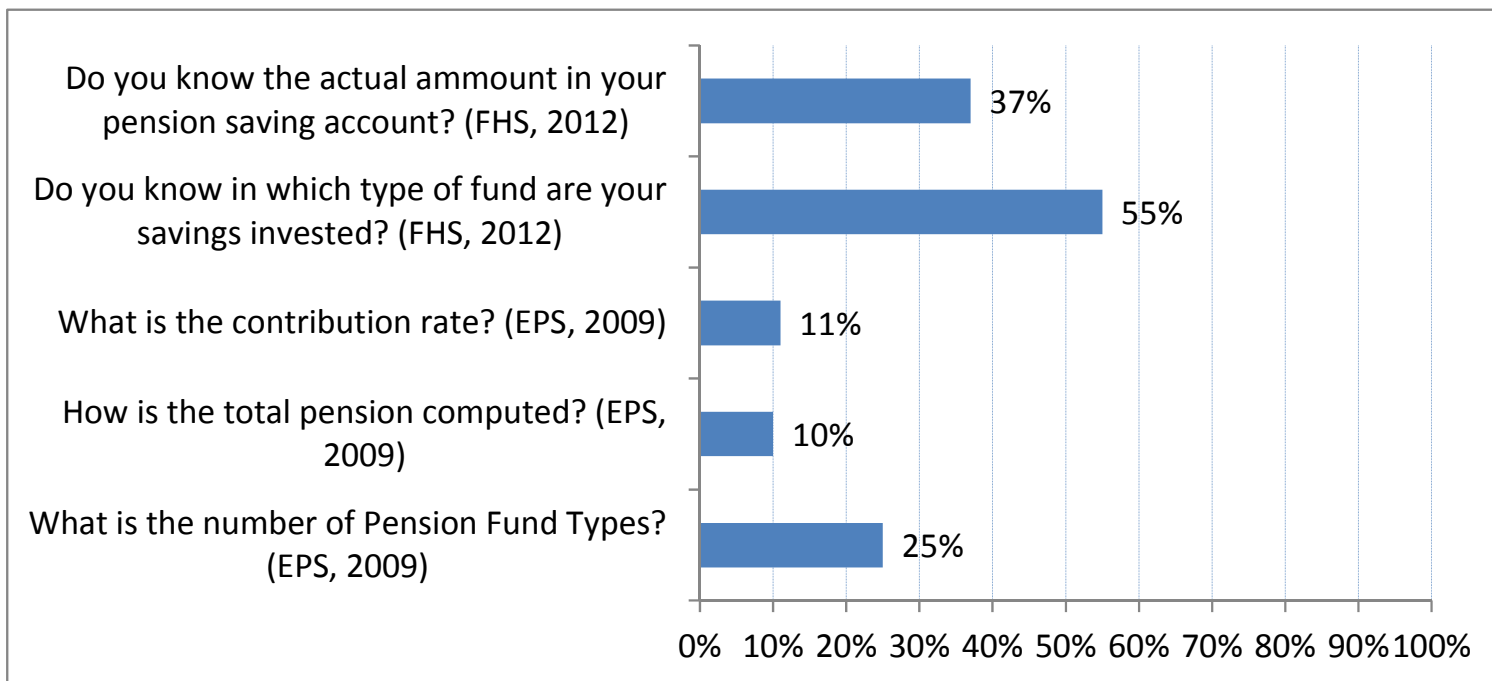
## FINANCIAL KNOWLEDGE AND BEHAVIORAL ECONOMICS

- ❖ Evidence shows that in Chile the level of financial knowledge is low, including pension related issues.
- ❖ > 50% of individuals do not understand the concept of probability, inflation, and is not able to perform a division (EPS, 2009).
- ❖ Their knowledge on pension related issues is even lower.
- ❖ No active involvement.
- ❖ Inertia. 60% of affiliates in the default investment strategy.
- ❖ Decisions based on past performance.
- ❖ Funds changes with a short horizon view. Fuentes, Searle & Villatoro (2015)
- ❖ Effects: Negative effect on performance, poor planning of savings, sub-optimal decisions, with negative impact on pension outcomes



## FINANCIAL KNOWLEDGE AND BEHAVIORAL ECONOMICS

(% of correct answers)





## PENSION EXPECTATIONS

- ❖ Individuals desire/expect a pension closer to their actual/final salary.
- ❖ In general, actual pension levels do not live up to the expectations of the population.
- ❖ Individuals do not evaluate how their history of contributions or lack of contributions affect their pension forecast.
- ❖ Low degree of knowledge of measures that affiliates can take to have an effect on their pensions. Passive posture/not active decisions taken.
- ❖ There exist high interest of the general population in getting information about pension benefits.

## PENSION SIMULATOR: ON-LINE TOOL



- ❖ One of the specific initiatives taken by the Superintendence in order to increase pension knowledge and awareness is the Pension Simulator.
- ❖ It is publicly available at [www.spensiones.cl](http://www.spensiones.cl)
- ❖ It is a user friendly web tool that gives individuals a pension projection based on personal characteristics and administrative data.
- ❖ It is distinguished by:
  - Bringing expectations of future pension, often unclear, to real numbers.
  - Including the dimension of risk in the final result.
  - Evaluating the effect of changing different parameters such as investment strategy, voluntary savings, retirement age.
- ❖ Antolin & Fuentes (2012) OECD working paper
- ❖ High interest among users. More than 600,000 visits since it was launched in September of 2012. It has more than 15,000 average monthly visits.

## EXPERIMENTAL EVALUATION



- ❖ The SP and J-Pal were awarded a product test grant by the Global Financial Inclusion Initiative-IPA to make an experimental evaluation of the Pension Simulator.
- ❖ **Randomized Control Trial: Personalizing Information to Improve Retirement Savings**
- ❖ Project Timeline: 2014-2016
- ❖ The aim of the experiment is to measure the impact of offering personalized information about pensions on long-term savings and employment decisions.





## EXPERIMENTAL EVALUATION

### ✓ **Baseline**

- ❖ The module includes a survey in which each participant provides information on education, household characteristics, savings outside the system, financial knowledge, etc.
- ❖ Also if the participant was affiliated to the pension system, we have access to their cumulated savings, wage and formal labor supply.

### ✓ **Endline**

- ❖ We match the national ID number of our participants to the administrative records in the SP, to measure changes in formal labor supply, mandatory and voluntary pension savings, age at retirement.
- ❖ We complement this with a phone survey, currently in progress, to try to measure variables not available in the administrative database: informal work, other savings, changes in knowledge and perception of the pension system.



## EXPERIMENTAL EVALUATION

- ❖ We built **8 self-service modules** and installed them in the offices of “**Chile Atiende**”, a government office which centralizes all the interactions that citizens may have with the government, including payments of social benefits.
- ❖ We anticipated that this would allow us to reach a poorer population than the online version of the simulator.
- ❖ We randomly assigned participants (by their national ID number) to having access to their personalized simulation (treatment group) or to some generic pension advice (control group).
- ❖ Then using administrative records, we can follow the behavior of individuals and see the impact on decisions to have been treated.



## EXPERIMENTAL EVALUATION

### ✓ Challenges

- ❖ Limited take-up in the first two months of our intervention (September-Mid-November 2014)
- ❖ Then we randomly assigned “monitors” on some days to some offices who would accompany the participant through the module and simulator
- ❖ We obtained much larger take-up through this mechanism (Mid-November 2014-February 2015)



### Control Group: General Information

#### ¿Qué puede hacer para aumentar su pensión?

##### Aumentar el número de veces que cotiza en un año

Si actualmente tiene entre 20 y 50 años y cotiza la mitad del tiempo, cotizar un mes más en el año puede aumentar su pensión entre 8% y 16%.



##### Hacer ahorro voluntario

Si actualmente tiene entre 20 y 50 años, hacer APV por un 1% de su remuneración puede aumentar su pensión entre 7% y 10%.



##### Postergar la edad de retiro

Sin importar su edad actual, al decidir atrasar la jubilación en un año, puede aumentar su pensión en un 8% aproximadamente.



Imprimir

Salir

Si desea más información puede simular su pensión en:  
<http://www.spensiones.cl/apps/simuladorPensiones/>

## EXPERIMENTAL EVALUATION



### Treatment Group: Simulator

Su pensión esperada es

**\$130.795.-**

En el caso de que usted:

- No haga o no continúe haciendo ahorro voluntario
- Cotice 5 meses al año
- Se retire a los 60 años

### ¿Qué puede hacer para aumentar su pensión?

**Aumentar el número de veces que cotiza en un año**

Si en lugar de cotizar 5 veces al año, **cotiza 12 veces al año**, su pensión podría alcanzar:

**\$303.339.-**

**Hacer ahorro voluntario**

Si usted hiciera APV por \$4.000.- al mes (1% de su sueldo), su pensión podría alcanzar:

**\$150.425.-**

**Postergar la edad de retiro**

Si en lugar de retirarse a los 60 años eligiera retirarse a los 61 años, su pensión podría alcanzar:

**\$141.674.-**

[¡Quiero ver más!](#)

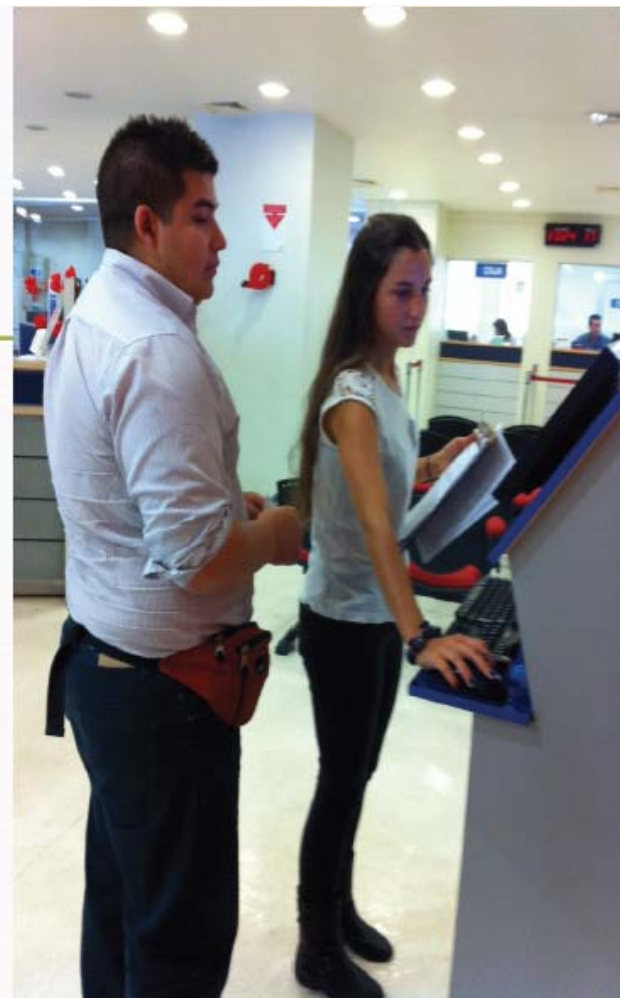
[Imprimir y Enviar](#)

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Este resultado es una simulación y no constituye un monto garantizado por la Superintendencia de Pensiones.

Supuestos

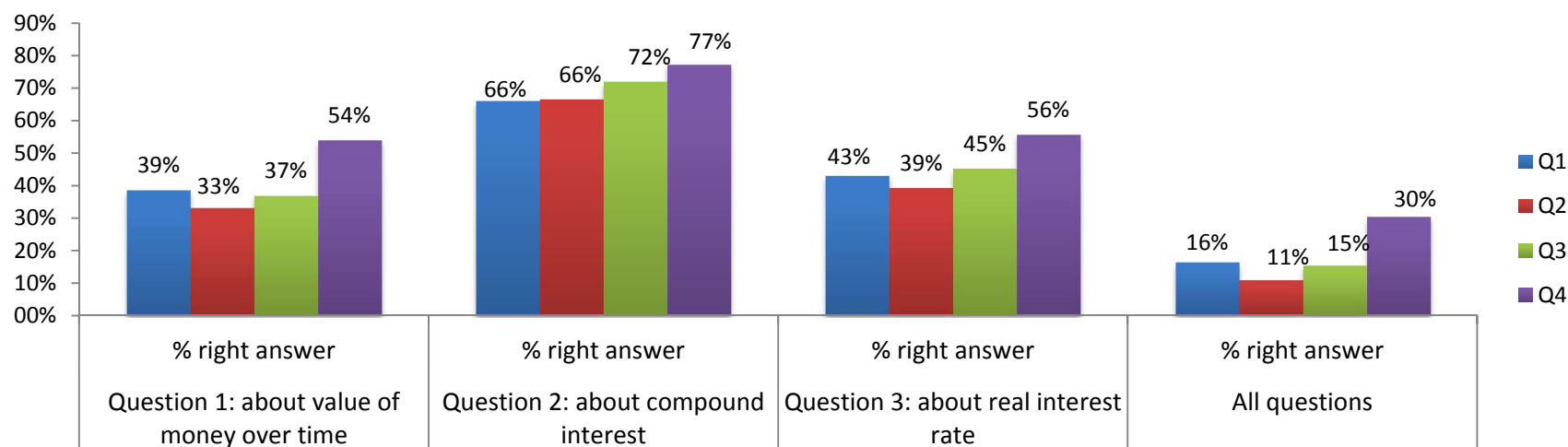
## EXPERIMENTAL EVALUATION





## FINANCIAL KNOWLEDGE IN OUR EXPERIMENTAL SAMPLE

### Answers to questions about overall financial knowledge (SP-JPal Pension Simulator Experiment Survey, 2014-2015) (by quartile of taxable income)

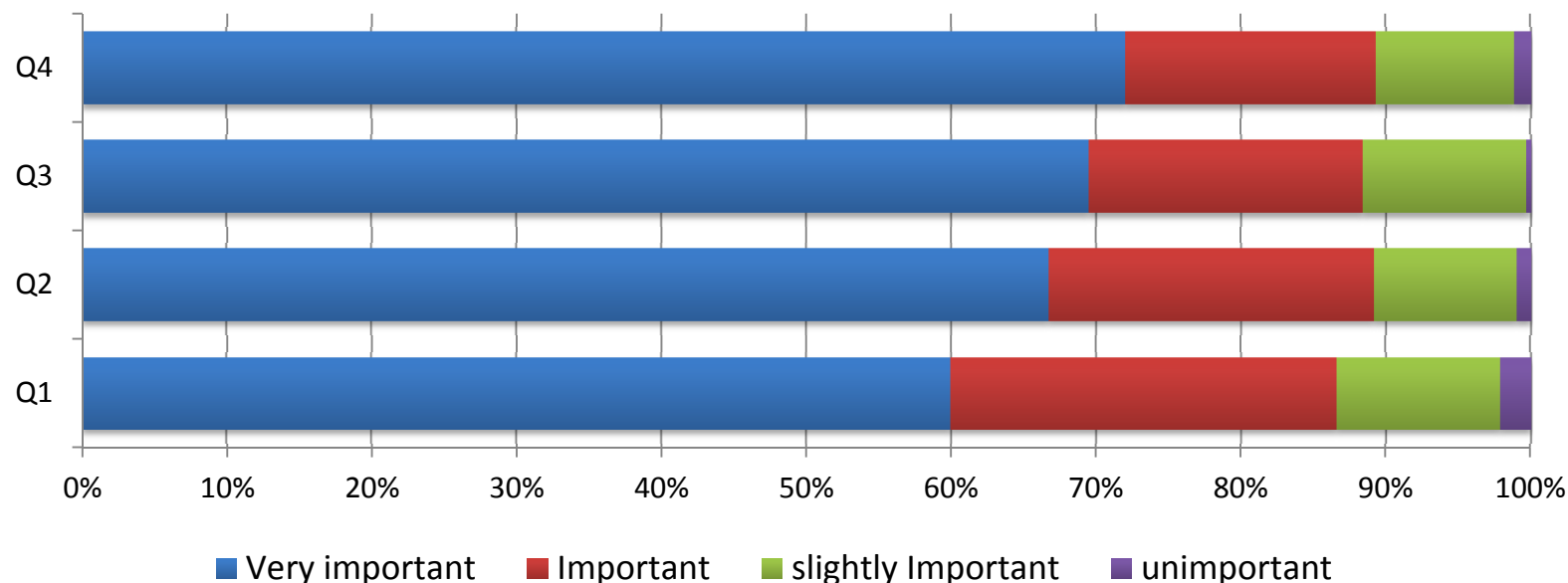


❖ Only 18% of respondents correctly answer the 3 questions.



## FINANCIAL KNOWLEDGE IN OUR EXPERIMENTAL SAMPLE

### Importance of pension income relative to other sources of income in old age (SP-JPal Experiment Survey, 2014-2015) (by quartile of taxable income)



- ❖ 67% said that pension income will be very important since they will not have other sources of income.



# PARTICIPANTS PROFILE



## Demographics

Gender Composition			
	All Affiliates	Participants	On-line simulator
Women	46.67%	51.73%	30.64%
Men	53.33%	48.27%	69.36%

Age Composition			
	All Affiliates	Participants	On-line simulator
25%	28	28	34
50%	38	39	48
75%	49	49	58
Mean	38.92	38.98	46.20
Std. Dev.	12.51	12.21	13.16

## Labor force Participation

Average Wage per month (CLP)			
	All Affiliates	Participants	On-line simulator
25%	217,500	235,815	448,630
50%	339,811	354,003	921,312
75%	635,020	603,393	1,610,097
Mean	499,060	501,838	1,202,951
Std. Dev.	415,481	423,108	13,500,000

Number if months with Contributions (out of last 12)			
	All Affiliates	Participants	On-line simulator
25%	7	5	12
50%	12	11	12
75%	12	12	12
Mean	9.35	8.57	10.74
Std. Dev.	3.67	4.34	3.35

# PARTICIPANTS PROFILE



## Pension Saving

Fraction with Voluntary Savings			
	All Affiliates	Participants	On-line simulator
Without APV	87.94%	85.42%	64.55%
With APV	12.06%	14.58%	35.45%

Accumulated Pension Savings (UF)			
	All Affiliates	Participants	On-line simulator
25%	26.3	42.8	262.7
50%	124.3	160.3	1198.7
75%	409.5	475.9	3061.5
Mean	378.2	432.0	23775.6
Std. Dev.	728.3	734.8	1642437.0

## GROUPS PROFILE



	Treatment	Control	Difference
Female	0.53	0.50	-0.03
Age	38	40	1.58***
Head of Household	0.68	0.71	0.03
Working	0.79	0.79	0.00
In labor force	0.88	0.89	0.01
Current wage	498,613	507,120	8,507
Affiliated	0.93	0.93	0.00
Months contributed	8.94	8.89	-0.06
Pension Savings	459.1	405.4	-53.7*
Financial knowledge	0.186	0.181	0.00

❖ Very high balance between the two groups despite the lack of stratification.

$$N_c = 1,282$$

$$N_t = 1,298$$



## SOME INITIAL CONSIDERATIONS

- ❖ This project seems to provide new valuable information to the participants.
- ❖ While the average estimated pension is not far from the expected value individuals expect, many strongly overestimate or underestimate their pension prospects
- ❖ Suggests the need to interact our treatment effect by what type of “news” is provided to the participants.
- ❖ Scaling-up this project would face some challenges as take-up is low without a human helper, which is a result by itself.

## PRELIMINARY FINDINGS



### ❖ Pension expectations:

- 20% of users has pension expectations closer to the one simulated by the simulator.
  - 47% expect a higher pension (77% higher on average).
- 
- ### ❖ The group with the larger difference between expected and projected replacement rates is the one under 35 years of age, precisely the individuals with more “room” to improve their pension through current decisions.

## PRELIMINARY FINDINGS



### ❖ Results so far:

- In the aggregate, voluntary contributions increase. Average effect in a small sample for a short period of time suggests that there is increased savings into the pension funds.
- The negative impact on mandatory contributions occurs only for those who expected a smaller pension than the simulated.
- The positive impact on voluntary contributions occurs only for those who expected a higher pension than the simulated.



## PRELIMINARY FINDINGS

### Voluntary Savings \$

Variables	1 month	2 months	3 months
Treatment	0.124*** (0.058)	0.0881 (0.0604)	0.135** (0.0639)
Constant	-0.501** (0.241)	-0.547** (0.257)	-0.517* (0.303)
Observations	2,396	2,396	2,074
R2	0.545	0.492	0.469

### Voluntary Savings \$

Variables	1 month	2 months	3 months
T1	0.167*** (0.0611)	0.120** (0.061)	0.113** (0.0669)
T2	0.0904 (0.116)	0.0632 (0.123)	0.137 (0.131)
T3	0.108 (0.11)	0.0699 (0.114)	0.114 (0.118)
Observations	2,330	2,330	2,013
R2	0.538	0.485	0.468

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Where:

$$X : \frac{\text{Simulated Pension} - \text{Expected Pension}}{\text{Expected Pension}}$$

T1:  $X < \text{percentile}(33\%)$

T2:  $\text{percentile}(33\%) \leq X < \text{percentile}(66\%)$

T3:  $X \geq \text{percentile}(66\%)$

## PAY-OUT PHASE



- ❖ Participants need to have the right information in advance to take decisions on savings to improve their pension outcomes.
  - A Pension simulator or other type of personalized information can be very useful on this.
- ❖ Retirement age is a key variable participants need to choose.
  - Legal retirement age in the case of Chile is a minimum requirement. Freely to choose a retirement age above the legal.
  - For early retirement participants need to fulfill some conditions.
- ❖ SCOMP significantly improve the decision making in the pay-out phase
  - Eliminating information asymmetries between participants and providers
  - Information and pricing on all pension products available: PW, Annuities, PW + Annuities combined, Deferred annuities, etc.
- ❖ Different options for pension products suited for different profile of individuals is not a problem if it is accompanied by the right financial education.





## CHALLENGES AND POLICY IMPLICATIONS

- ❖ The regulator in the case of Chile is actively involved in providing more and better information to members, including initiatives in financial education.
- ❖ Future initiatives need to include:
  - ❖ Continue the efforts to increase financial education and awareness.
  - ❖ Individuals need to be able to understand and evaluate the information received.
  - ❖ Communicate the long term perspective of pension savings.
  - ❖ Improve the necessary information and tools available in order to promote active participation and affiliates wellbeing during retirement.
  - ❖ Improve the regulation of the entities in order to deliver adequate information with reasonable assumptions.
  - ❖ Encourage self-regulation of these entities to guide member decisions based on realistic scenarios and information.



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