

Equilibrium effects of price updating: evidence from a centralized marketplace for annuities

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Motivation

- ▶ Before beginning: in red aspects I especially would like to get feedback on.

This research



- ▶ Aftermarkets: **larsen_efficiency_2021**; **allen_search_2019**
- ▶ Competition in selection markets: **mahoney_imperfect_2017**; **cuesta_price_2018**; **cosconati_competing_2025**
- ▶ Selection in multiple dimensions: **finkelstein_adverse_2004** and Finkelstein and McGarry (2006).

Outline

▶ a

Setting: centralized annuities marketplace

- ▶ SCOMP steps:
 1. Request of balance statement
 2. Request for offers: asks for certain type of contracts (e.g. annuity)
 3. Insurers post initial prices (e.g. \$20 per \$1 of flow) Offer Certificate
 4. Retiree chooses one of the insurers or asks for revised prices
- ▶ Revised prices: bargaining and information disclosure
- ▶ Firms competition 1. financing cost 2. prediction algorithm
- ▶ Profits of firm j :

$$\pi_{ji}(F) = S_i - \mathbb{E}_T^j \left[\sum_{t=1}^T \frac{F}{(1+r_j)^t} | x_i \right]$$

S : stock of savings, F : per period annuity payment, x_i : individual mortality factors

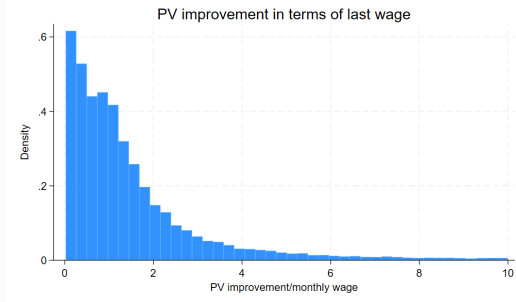
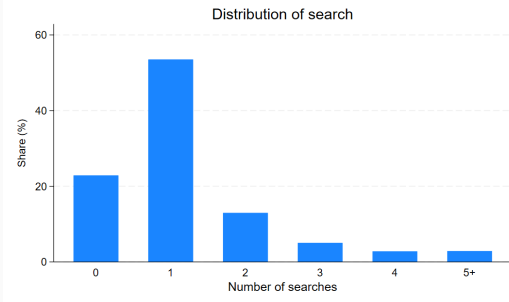
- ▶ SCOMP data at the individual level
 - Posted and revised prices, and consumer decisions
 - Total savings
 - Demographics: age and gender Certificate with initial prices
- ▶ Retirement insurance companies: risk ratings

the particularity of our data is:

Descriptive Evidence

- ▶ Most buyers request external offers and the improvement is sizeable. [Search by income](#)
- ▶ Products are differentiated [Foregone value](#)
- ▶ Firms learn about other firms' prices

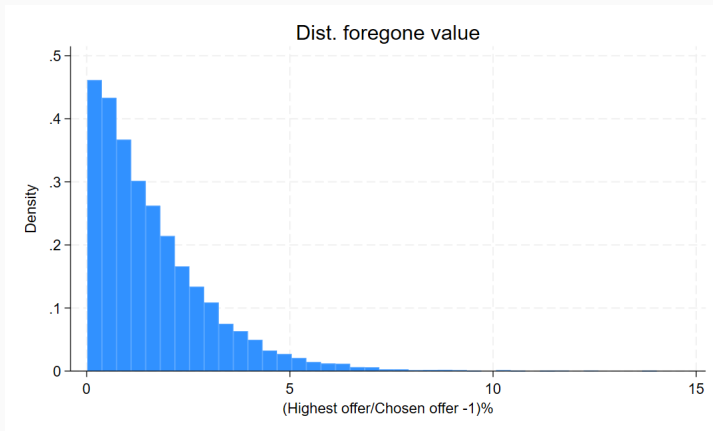
Different use of the aftermarket



- 75% of the purchases are through external offers. [Go back](#)
- [What are the determinants of search? Search direction?]

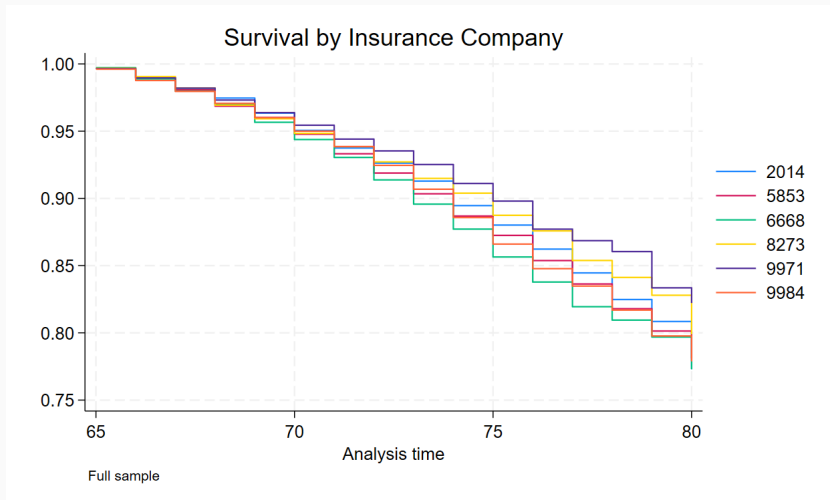
Heterogeneity in preferences

Buyers do not always buy highest annuity. Average foregone value is 1.57 monthly wages.



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	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Increase	Increase	Increase	Increase	Increase	Increase	Has External C
main							
Avg. Gap	0.316*** (0.006)	0.155*** (0.010)	0.155*** (0.010)	0.139*** (0.016)	0.147*** (0.019)	0.071*** (0.020)	
Max. Gap		0.110*** (0.009)	0.110*** (0.009)		-0.021 (0.029)	-0.006 (0.028)	
gap_from_avg							-0.191*** (0.032)
Constant	1.893*** (0.010)	1.375*** (0.082)	1.375*** (0.082)	1.381*** (0.045)	1.387*** (0.046)	1.511*** (0.121)	-2.012*** (0.028)
Observations	14133	14133	14133	2046	2046	2046	16164

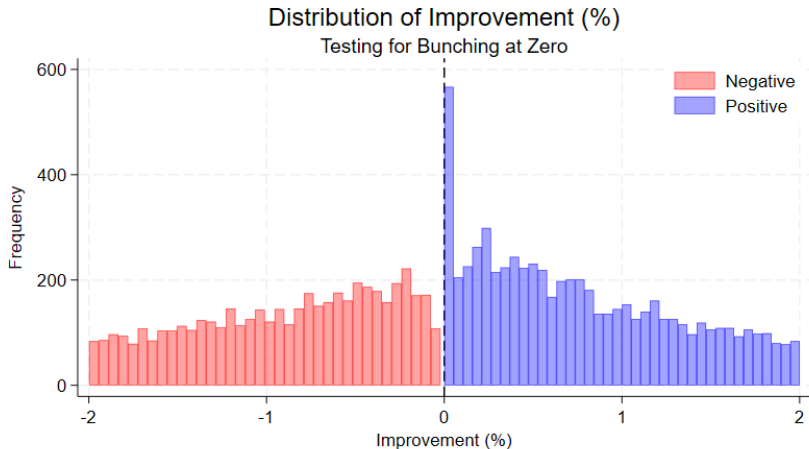
Average: is the difference between the mean of other firms' initial offers and own initial offer

Max Gap: is the difference between the highest other firm's initial offer and own initial offer.

Cols (1)-(3) use the population of initial offers that are not the highest, (4)-(6) only use the highest offer

Cols (4) and (6) include firm fixed effects

Figure 1:



Distribution of $100 * (\text{external offer} / \text{highest initial offer from competitor} - 1)$. Black line at zero.

MODALIDAD RENTA VITALICIA INMEDIATA

RENDA VITALICIA INMEDIATA SIMPLE

Annuitize full wealth, 0 guarantee, 0 deferral

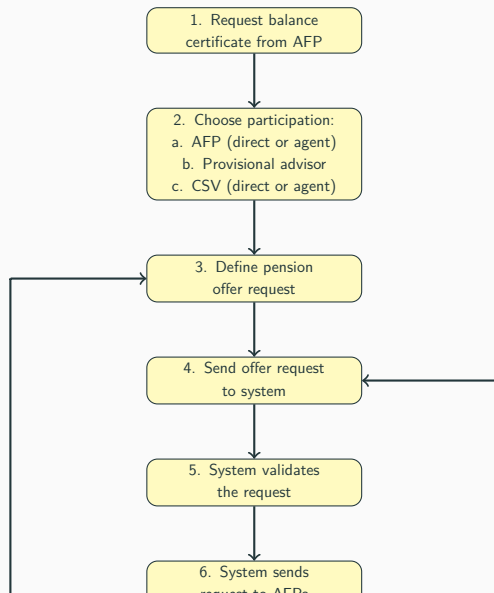
N° Oferta	Compañía de Seguros de Vida Brand Name	Pensión final Mensual sin Retiro de Excedente UF	Pensión final Mensual en UF Considerando un retiro de excedente de 0,00 UF	Pensión con retiro de Excedente Máximo		Clasificación de riesgo de la Compañía de Seguros (2)
				Pensión final Mensual UF	Excedente UF	
43872093	CRUZ DEL SUR	26,61	<- Monthly payment		Risk rating ->	AA-
43872099	RENDA NACIONAL	26,58				BBB-
43872083	METLIFE	26,52				AA
43872100	CORPSEGUROS	26,34				AA-
43872094	PRINCIPAL	26,28				AA
43872097	CORPVIDA	26,26				AA-
43872084	EUROAMERICA VIDA	26,25				AA-
43872090	PENTA VIDA	26,25				AA-
43872091	OHIO NATIONAL	26,24				AA
43872098	SURA	26,21				AA
43872095	CN LIFE	25,90				AA
43872092	BICE VIDA	25,86				AA+
43872085	CHILENA CONSOLIDADA	25,59				AA
43872086	CONSORCIO VIDA	25,36				AA+

Answer the question

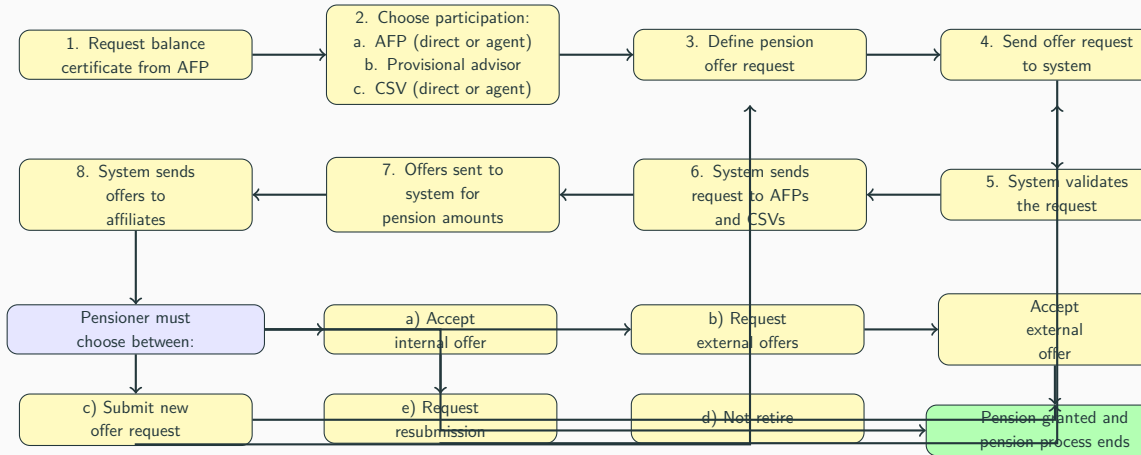
- ▶ Equilibrium model of search and revised prices
 - First stage: sellers post initial prices and consumers buy or search
 - Second stage: If buyer searches is matched with a seller and they bargain
- ▶ Desiderata:
 - Imperfect-assymmetric competition Evidence
 - Differentiated products Evidence
 - Adverse selection

[How to model selection with competition?]

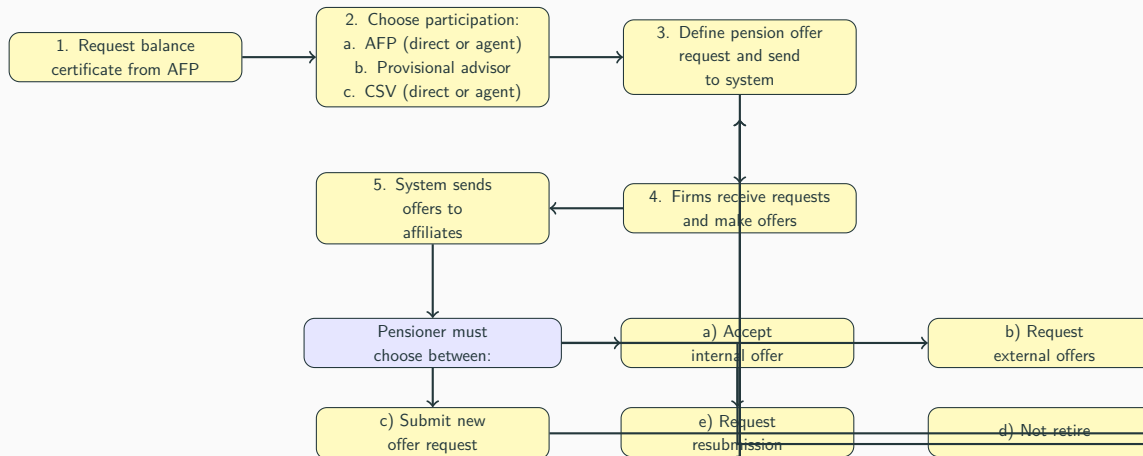
SCOMP Process Flow Diagram



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