Hi everyone I am Lucas Condeza and I will present “Equilibrium effects of price updating: evidence from a centralized marketplace for annuities”. Looking forward to receive comments and is very preliminary, hence what I did is I made comments in the slides about aspects I would like to receive feedback on.

**Slide2**

In insurance markets it is common to receive an initial offer and then to ask for revised offers. For example, when shopping for loans firms give consumers a loan estimate and then the consumer can use the LE of one firm to request a revised offer from competing firms.

Similarly when buying a car, buyers can shop around and request revised offers where they can use the offers of the competitors to negotiate better terms.

* If being asked why I am not considering bargaining. I would say that the auto dealership has commitment power because is a player that is playing a repeated game whereas the buyer is making a one time purchase.

Given this scenario our research question is what is the impact welfare of the revised offers. Specifically, what are the welfare implications of prohibiting revised prices.

Prohibiting revised offers has an ambiguous effect on welfare because there are two main effects. The direct impact is that buyers can no longer improve their initial offers, reducing their choice set. The indirect impact is that if firms know they will not be able to revise their offers, then they might change their initial offers.

Therefore, the equilibrium effect of prohibiting revised offers is ambiguous.

**Slide 3**

This research studies a centralized marketplace for annuities in Chile, called SCOMP. This setting is useful to answer our research question because it allows firms to revise their offers, but recently policymakers decided to prohibit offers revisions; and their motivation was that the possibility of revision created incentives for firms to not make their best offers. We study the equilibrium impacts of the elimination of the revised offers.

**Slide 4 Literature**

Our work relates to three strands of literature on selection markets, which are markets exhibiting adverse selection.

The first one is the effect of search friction in selection markets.

There is also a growing literature on competition in selection markets that studies the interaction between selection and market power.

And the third literature to which we speak is on the design of marketplaces when there is selection.

**Slide 6: “Setting: annuities”**

Before jumping into the institutional context, I will briefly explain what annuities are. They transform a stock of savings into a stream of payments until death. They are commonly bought by retirees to insure against longevity risk – the risk of outliving their savings

The profits for firm j when selling an annuity can be expressed as shown in the equation: the firm receives the stock of savings S, and pays out a flow F per period, discounted at the firm's financing cost r\_j. The expected value depends on buyer mortality factors x\_i.

I want to note that the expectancy operator is firm dependent because firms have different mortality tables, whereas x\_i is not firm dependent because in our setting all firms observe the same information about the buyer.

Firms are heterogeneous along two dimensions: they use different algorithms which are mortality tables and, they face different financing costs r\_j.

**Slide 7: SCOMP process.**

“Here’s the institutional timeline. First, a buyer requests a balance statement, which states the amount of savings, then requests offer for a specific contract type, we will focus only on simple annuities. Then the firms make initial offers {show the SCOMP certificate}

Then the buyer chooses between accepting one of the initial offers, submitting a new offer request, which involves doing the whole process again or requesting a revised offer.

In case the buyer requests a revised offer, he chooses the firms from which to request the revised offer, then firms make the revised offers, and the buyer chooses among the whole set of offers, which includes the initial and revised offers.

There are three important institutional features about the revised offers.

First, only firms which made an initial offer can make a revised offer.

Secondly, firms cannot lower their initial offer.

Thirdly, when requesting a revised offer the buyer is requested the certificate with the initial offers, hence firms are able to observe the initial offers.

**Slide 8: Data**

We observe SCOMP data at the individual level, which means the initial and revised offers and the consumer decision. We do Not observe the request. We also observe the demographics and savings of the buyer.

At the firm level we observe the risk ratings, given that the payment to the buyer is into the future he might care about the bankruptcy probability of the insurer.

There are two features of the data I would like to highlight; the first one is that we observe many offers for each buyer. This is uncommon given that in most of the literature on selection markets i) the buyer might not request an offer from each firm and ii) even for the offers requested, they are not recorded in the data unless they are accepted.

Secondly, we observe the same information about the buyer as the firm, which is the gender, age and savings.

**Slide 10**

To motivate the model I will present four pieces of evidence and connect them to a modeling decision.

First, not all buyers request revised offers, which can be rationalized by the existence of search costs.

Secondly, in some cases do not choose the highest offer, which can be rationalized by differentiation.

Third, there is sorting into firms. This could be caused by different factors, but one possibility is that firms differ in the precision of their algorithm.

Finally, the way firms are revising their offers can be rationalized by firm learning

**Slide 11**

Let me start with the first piece of evidence: the prevalence and magnitude of revised offers.

Looking at the left panel, we see the distribution of the number of revised offers a consumer gets. Around 55% of buyers get exactly one revised offer, while approximately 23% do not request any revised offers at all.

This heterogeneity in search behavior is important – if requesting revised offers were costless, we would expect all buyers to search. The fact that nearly a quarter don't search at all suggests meaningful search costs exist in this market.

The right panel shows the distribution of PV improvements as share of the last monthly salary. The measured as the PV of the increment between the initial and revised offers. offer minus the initial offer

from searching, measured as the present value gain in terms of monthly wages. We see substantial benefits from search, with most improvements concentrated between zero and two monthly wages, though there's a long right tail with some buyers gaining up to 10 times their monthly wage.

The key takeaway is that 75% of purchases are made through revised offers rather than initial offers. Given these patterns, we incorporate search costs into our model to rationalize why not everyone searches despite the sizeable potential gains.

S12.

conditional on not choosing the highest offer what share can be explained by the risk-rating.

s15 all the point are disconnected.

introducing the points.

One slide foro what the experiment is,

s14. selection bias should be a concern.

make clear that I am focusing on the firm in the model and make it as simple as possible in every other respect.

s15.

s16 explain what are the demand. is the expected prob of accepting

explain that I am focusing on consumers with a given c\_j.

- clarify at the start the relationship between profits in slide 6 and the model.

/////////meet comments

s2: talk about the economic tradeoff, why would the possibility of revision justify making worse offers in the first stage?

-survival slide

firm ID should be ABCD

does risk rating predict selection

- slide learning

correct dummy notation

add max

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-> revised offer: is only for original firms (explain)

model: take derivative and assign names

why is heterogeneity in survival plot, firm algorithms

with bids I can trace dist of mg costs even for firms that have non-accepted offer

histograms-> add average

\* which firms update? this can tell me about why they update and whether info is being revealed in such a way that the revision is good.