Flexible long term care insurance: An experimental study of demand

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Background and Motivation

Background

- High prevalence and costs of long term (aged) care
  - around 3 in 5 will need some form of care
  - av. cost of around $A65,000 pa for residential care (excl. accommodation costs)
- Long term (aged) are costs likely major driver of conservative drawdown by the elderly (and failure to annuitize)
- International variation in policy response, all problematic
  - Private insurance (US)
  - Social insurance (Netherlands)
  - Means tested support (Australia, UK)
- Most policies cover formal care, yet informal care most common

Private markets for long term (aged) care insurance, thin internationally

- Economic theory → long term care insurance should be of great value to risk averse individuals facing uncertain lifetimes
- Low coverage of LTC insurance
- Most studies in the context of expense re-imbursement product
- Explanations for low demand for LTCI include:
  - Informal care, publicly financed care, home equity, poor product design, limited awareness

An alternative is a Long Term Care Insurance (LTCI) income product

- LTC insurance income product
  - Single premium at purchase
  - Trigger → 2 ADLs or cognitively impaired
  - Pays regular income in period of need (whether care is paid for or not) → can be used to pay for formal or informal care
  - Potential to be bundled with life annuities (Life care annuity) → pool people with different risks

- LTC income product may better suit the needs of the insured, particularly those who rely on family members

Key Research Questions

1) What are the determinants of the demand for a LTCI income product? By whom?

2) How does this product interact with annuitization choices? Does access to a LTCI income product release precautionary savings to purchase longevity insurance?

Answer using an online experimental survey of LTC insurance purchase decisions

Experimental Design

Experimental Survey – allocation of retirement accumulation to retirement products

- **Sample:** representative sample of 1,008 Australians aged 55-64, roughly equal gender, wide range of wealth
  - ✓ Exclude: those not eligible to purchase LTC income product - needing help 2+ ADL or dementia
- **Commercial web panel:** $A4 to complete, bonus up to $A3 based on product knowledge recall quiz
- **Experimental survey** (median 30 mins):
  - ✓ Demographics & screening
  - ✓ Experimental task (7 retirement benefit choice sets) – design informed by FOCUS groups, recall quiz
  - ✓ Covariates collection

  Participant attention: incentivised to learn products, 2 IMCs

Experimental task: Subjects learn about 3 retirement benefit products

1. **LTC income product** (Aged Care Income): gender-specific fairly priced. Provides regular income if the insured needs help with 2 or more ADLs or is diagnosed with dementia
2. **Life annuity** (Lifetime Annual Income): gender-specific fairly priced. Provides regular income for life
3. **Investment account** (Account-based pension): withdrawals can be made at any time of any amount

Structure of experimental task

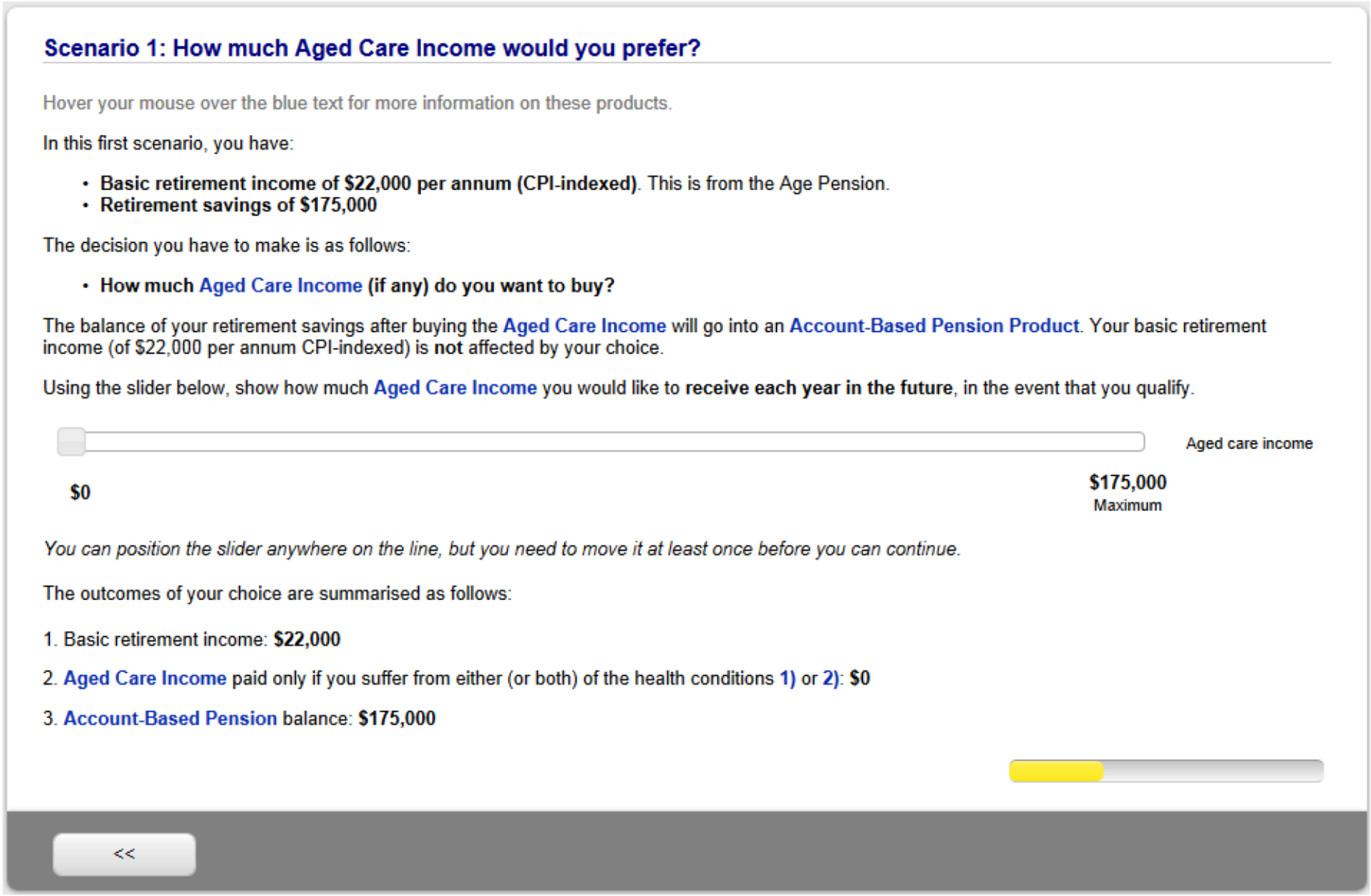
Hypothetical scenario: age 65, about to retire, homeowner, flat rate age pension, no taxes, no default risk, no public LTC support

[4 wealth treatments: $50, $175K, $375K, $1mill]

7 ALLOCATION TASKS

- **Four slider questions (Q1-Q4):** allocation between the LTC income product and an investment account at **pre-determined** annuitization levels (0%, 25%, 50%, 75%)
- **Three choice (best/worst) questions (Q5-Q7):**
  - Elicit whether access to LTCI income product releases precautionary savings → increase demand for longevity insurance (life annuities)

Allocate retirement savings between LTC income product and inv. account, for four given levels of annuitization (0%)



Scenario 1: How much Aged Care Income would you prefer?

Hover your mouse over the blue text for more information on these products.

In this first scenario, you have:

- **Basic retirement income of $22,000 per annum (CPI-indexed)**. This is from the Age Pension.
- **Retirement savings of $175,000**

The decision you have to make is as follows:

- **How much Aged Care Income (if any) do you want to buy?**

The balance of your retirement savings after buying the **Aged Care Income** will go into an **Account-Based Pension Product**. Your basic retirement income (of $22,000 per annum CPI-indexed) is **not** affected by your choice.

Using the slider below, show how much **Aged Care Income** you would like to **receive each year in the future**, in the event that you qualify.

Aged care income

$0

$175,000
Maximum

You can position the slider anywhere on the line, but you need to move it at least once before you can continue.

The outcomes of your choice are summarised as follows:

1. Basic retirement income: **$22,000**
2. **Aged Care Income** paid only if you suffer from either (or both) of the health conditions **1)** or **2)**: **$0**
3. **Account-Based Pension** balance: **$175,000**

Allocate retirement savings between LTC income product and inv. account, for four given levels of annuitization (25%)

Scenario 2 - How much Aged Care Income would you prefer?

Hover your mouse over the blue text for more information on these products.

In the previous scenario, you had basic retirement income of $22,000, which is made up of Age Pension only. In this scenario, suppose you have purchased $3,300 Lifetime Annual Income using your retirement savings of $43,750. As a result, you now have:

- **Basic retirement income of $25,300 per annum (CPI-indexed)**. This is made up of Age Pension ($22,000) and Lifetime Annual Income ($3,300).
- **Retirement savings of $131,250**

The decision you have to make is as follows:

- **How much Aged Care Income (if any) do you want to buy?**

The balance of your retirement savings after buying the Aged Care Income will go into an Account-Based Pension Product. Your basic retirement income (of $25,300 per annum CPI-indexed) is **not** affected by your choice.

Using the slider below, show how much Aged Care Income you would like to **receive each year in the future**, in the event that you qualify.

Aged care income

$0

$131,250
Maximum

The slider is positioned at the choice you made in the last scenario (If your previous choice is greater than the maximum amount of aged care income you can buy in this scenario, the slider is positioned at the maximum). You can position the slider anywhere on the line, but you need to move it at least once before you can continue.

The outcomes of your choice are summarised as follows:

1. Basic retirement income: **$25,300**
2. Aged Care Income paid only if you suffer from either (or both) of the health conditions 1) or 2): **$0**
3. Account-Based Pension balance: **$131,250**

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Covariate collection – questions following experimental tasks

Measures of exposure to LTC risk

- **Objective:** gender, age, health state, smoking, received care
- **Subjective**: chance of needing homecare/residential care, awareness of LTC risk, survival expectations

Possible substitutes for the LTC income product

- Source of some/extensive care: family, homecare, residential care
- Marital status, children; financing (homeownership, government)

Utility parameters: risk attitudes, patience, health dependent utility, bequest motive

Knowledge about retirement financial products

- Financial literacy, numeracy
- Knowledge of retirement financial products
- Earnings from 'recall quiz'

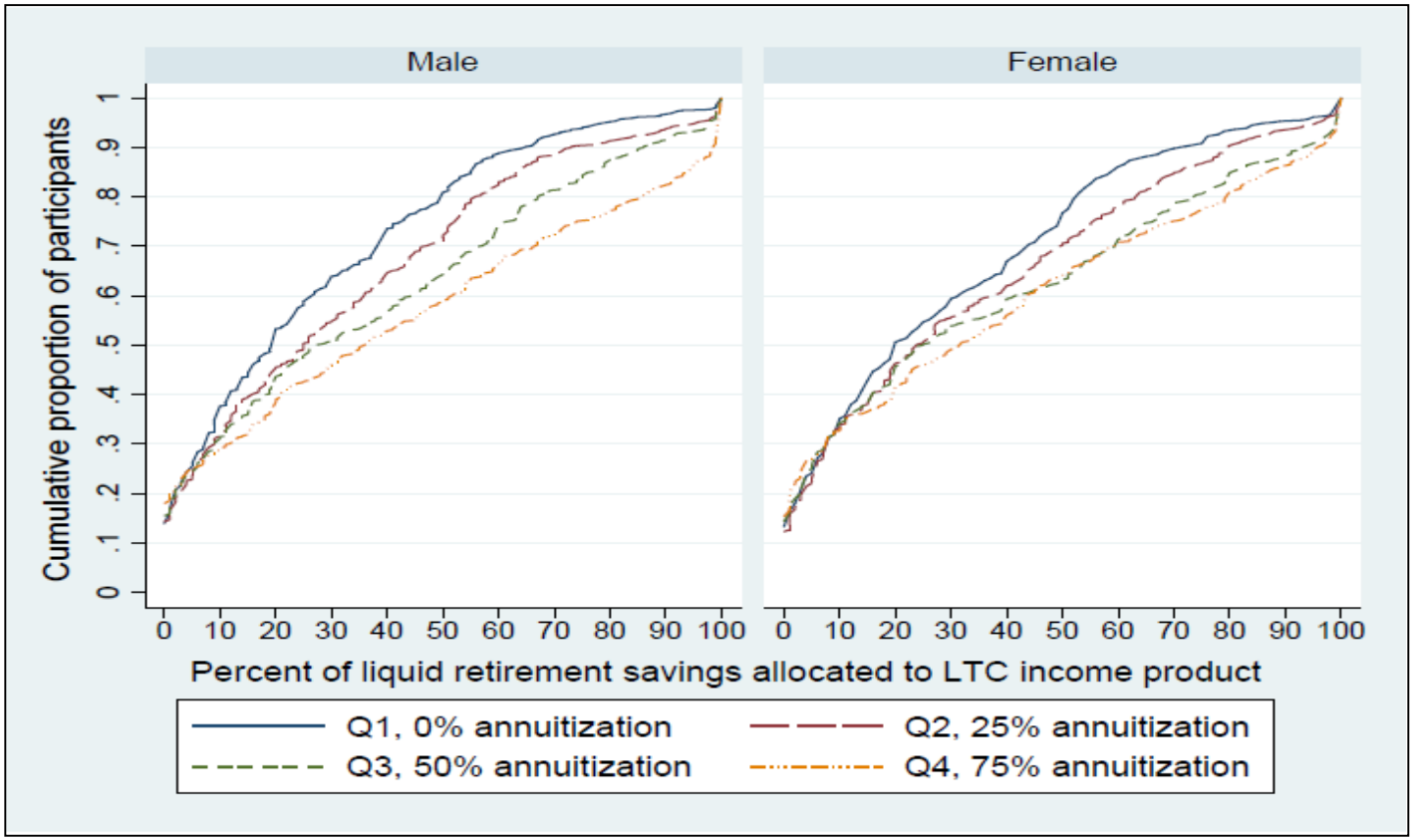
Awareness of financial risks in retirement

- Financial planning for retirement/LTC
- Providing care

Demographics: wealth, income, education, work status, ethnicity

Descriptive Statistics, Estimation and Results

Strong demand for Long Term Care income product



- around 85% would buy, increases with annuity coverage
- median annual LTC income ranges from $50,700 ($35,300) at 0% annuitization to $18,800 ($11,800) at 75% annuitization for males (females)

RQ1 - Demand for Long Term Care income product – modelling framework

Data from Q1-Q4: random effects models

- purchase decision: logit

$$\log\left(\frac{\Pr(Z_{ij}=1|X_i,A_j)}{1-\Pr(Z_{ij}=1|X_i,A_j)}\right)=X_i'\beta+\delta_j A_j+\nu_i, \qquad (1)$$

- amount of LTC-contingent income, given purchase: OLS of log dollar

$$\log(Y_{ij}|Y_{ij}>0,X_i,A_j)=X_i'\beta+\delta_j A_j+\nu_i+\epsilon_{ij}, \qquad (2)$$

where

- $Z_{ij}=1$ if subject i purchased the LTC income product in question j ($j=1,2,3,4$) and 0 otherwise
- X_i: vector of covariates for subject i
- A_j: ordinal variable for pre-determined level of annuitization
- ν_i: unobservable effects for subject i and $\nu_i \sim N(0,\sigma_\nu^2)$
- $\epsilon_{ij} \sim N(0,\sigma_\epsilon^2)$

Regression results - **objective** measures of exposure to LTC risk

Dep. variable	**Pr. Purchase LTC income**			**Log amount LTC income**		
	Sample	**Males**	**Females**	**Sample**	**Males**	**Females**
Objective measures						
Female	-	-	-	-0.459***	-	-
Age	-	-	-	-	-	-
Health state (1)						
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	+0.434***
Current smoker	-	-	-	-0.297***	-	-0.423**
Received care	-	-	-	-	-	-

Regression results for **objective** measures of exposure to LTC risk → not signif influence purchase decision

Dep. variable	Pr. Purchase LTC income			Log amount LTC income		
	Sample	Males	Females	Sample	Males	Females
Objective measures						
Female	-	-	-	-0.459***	-	-
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Health state (1)						
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Current smoker	-	-	-	-0.297***	-	-0.423**
Received care	-	-	-	-	-	-

Regression results for **objective** measures of exposure to LTC risk → not signif influence purchase decision, explain little variation in income amount

Dep. variable	**Pr. Purchase LTC income**			**Log amount LTC income**		
	Sample	**Males**	**Females**	**Sample**	**Males**	**Females**
Objective measures						
Female	-	-	-	-0.459***	-	-
Age	-	-	-	-	-	-
Health state (1)						
2	-	-	-	-	-	-
3	-	-	-	-	-	-
4	-	-	-	-	-	+0.434***
Current smoker	-	-	-	-0.297***	-	-0.423**
Received care	-	-	-	-	-	-

Regression results for **subjective** measures of exposure to LTC risk

Dep. variable	**Pr. Purchase LTC income**			**Log amount LTC income**		
	Sample	**Males**	**Females**	**Sample**	**Males**	**Females**
Subjective LE	-	-0.002*	-	-	0.009*	-
Chance needing home care						
Lower than average	-	-	-	-	-	-
Higher than average	-	-	-	-	-	-
Chance needing residential care						
Lower than average	-0.025*	-0.056**	-	-	-	-
Higher than average	0.015**	+oo***	0.026**	0.441***	0.465**	-
Awareness of LTC risk						
Set aside money	0.025**	0.058**	-	0.245***	0.388***	-

Regression results for **subjective** measures of exposure to LTC risk → do signif influence purchase decision and income amount

Dep. variable	Pr. Purchase LTC income			Log amount LTC income		
	Sample	Males	Females	Sample	Males	Females
Subjective LE	-	-0.002*	-	-	0.009*	-
Chance needing home care						
Lower than average	-	-	-	-	-	-
Higher than average	-	-	-	-	-	-
Chance needing residential care						
Lower than average	-0.025*	-0.056**	-	-	-	-
Higher than average	0.015**	+oo***	0.026**	0.441***	0.465**	-
Awareness of LTC risk						
Set aside money	0.025**	0.058**	-	0.245***	0.388***	-

Regression results for measures of availability of **informal care**

Dep. variable	Pr. Purchase LTC income			Log amount LTC income		
	Sample	Males	Females	Sample	Males	Females
Availability of (low level) informal care						
Informal care only	-	-	-	-0.202*	-0.374**	-
Informal care + other sources	-	-	-	-0.246**	-	-
Availability of (high level) informal care						
Informal care only	-	0.052*	-	0.230**	-	0.366**
Informal care + other sources	-	-	-	0.265***	-	0.411***
Non-partnered	-	-	-	-	-	-
No. children	-	-	-	-	-	0.108***
Non-homeowner	-	-	-	-	-	-

Regression results for measures of availability of **informal care** → LTC income product substitutes (low level care) for males and complements (high level care) for females

Dep. variable	**Pr. Purchase LTC income**			**Log amount LTC income**		
	Sample	**Males**	**Females**	**Sample**	**Males**	**Females**
Availability of (low level) informal care						
Informal care only	-	-	-	-0.202*	-0.374**	-
Informal care + other sources	-	-	-	-0.246**	-	-
Availability of (high level) informal care						
Informal care only	-	0.052*	-	0.230**	-	0.366**
Informal care + other sources	-	-	-	0.265***	-	0.411***
Non-partnered	-	-	-	-	-	-
No. children	-	-	-	-	-	0.108***
Non-homeowner	-	-	-	-	-	-

Regression results for measures of availability of **informal care** → LTC income product substitutes (low level care) for males and complements (high level care) for females

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Informal care + other sources	-	-	-	0.265***	-	0.411***
Non-partnered	-	-	-	-	-	-
No. children	-	-	-	-	-	0.108***
Non-homeowner	-	-	-	-	-	-

Regression results for other covariates

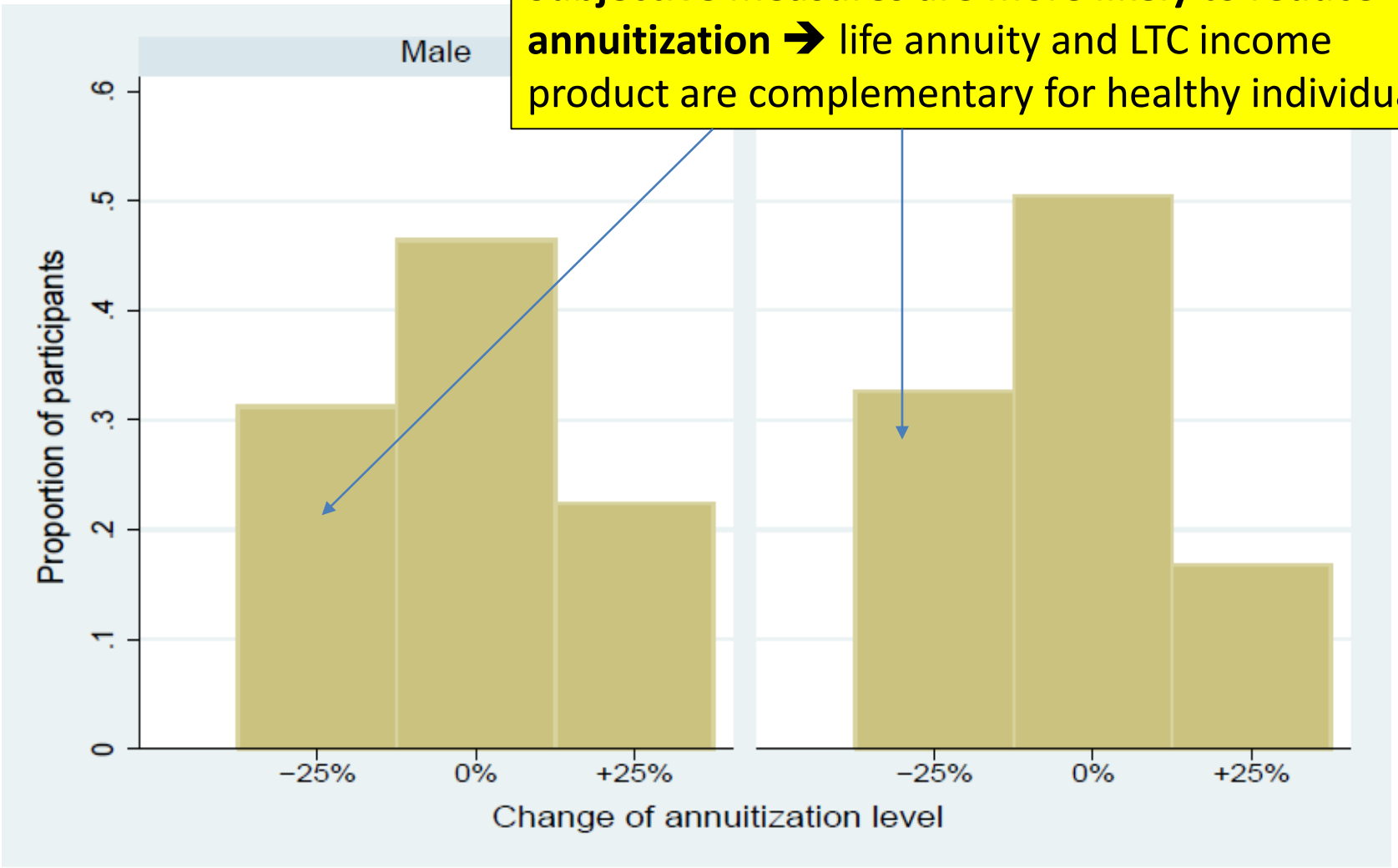
Dep. variable	Pr. Purchase LTC income			Log amount LTC income		
	Sample	Males	Females	Sample	Males	Females
Individual capability and knowledge						
Mistakes - Fin Lit	0.013**	-	0.026**	0.115***	0.108*	0.105*
Mistakes - Numeracy	0.011**	-	-	0.102***	-	0.127**
Earnings, recall quiz	-0.011**	-0.023**	-	-0.083***	-0.065*	-0.107***
Knowledge annuity	-	-	-	-	-	-
Knowledge LTCI	-0.005*	-0.016**	-	-	-	-
General product knowledge	0.006*	0.013*	-	-	-	-
Chance of $100K bequest						
	-0.000**	-	-0.001**	-	-	-0.003**
Willingness, take risks	0.017***	0.013	0.026**	0.126**	0.056	0.164*
Willingness, take risks^2	-0.002**	-	-0.003**	-0.012**	-	-0.015*

Regression results for other covariates

Dep. variable	Pr. Purchase LTC income			Log amount LTC income		
	Sample	Males	Females	Sample	Males	Females
Individual capability and knowledge						
Mistakes - Fin Lit	0.013**	-	0.026**	0.115***	0.108*	0.105*
Mistakes - Numeracy	0.011**	-	-	0.102***	-	0.127**
Earnings, recall quiz	-0.011**	-0.023**	-	-0.083***	-0.065*	-0.107***
Knowledge annuity	-	-	-	-	-	-
Knowledge LTCI	-0.005*	-0.016**	-	-	-	-
General product knowledge	0.006*	0.013*	-	-	-	-
Chance of $100K bequest						
	-0.000**	-	-0.001**	-	-	-0.003**
Willingness, take risks	0.017***	0.013	0.026**	0.126**	0.056	0.164*
Willingness, take risks^2	-0.002**	-	-0.003**	-0.012**	-	-0.015*

RQ2 – How does the LTC income product interact with annuitization choices? Responses to question - if LTC income product not available – how do you adjust portfolio allocation?

Individuals with **low LTC risk in Objective and Subjective measures are more likely to reduce annuitization** ➔ life annuity and LTC income product are complementary for healthy individuals



Conclusions

Key conclusions

- Strong stated demand for LTCI income product
- No selection effects on objective measure of exposure to LTC risk
- Strong demand from those with access to and preference for (high level) informal care
  - Different effects by gender (M: subst. F: compl)
- Access to LTC income product allows release of precautionary savings to purchase longevity insurance (for healthy individuals)

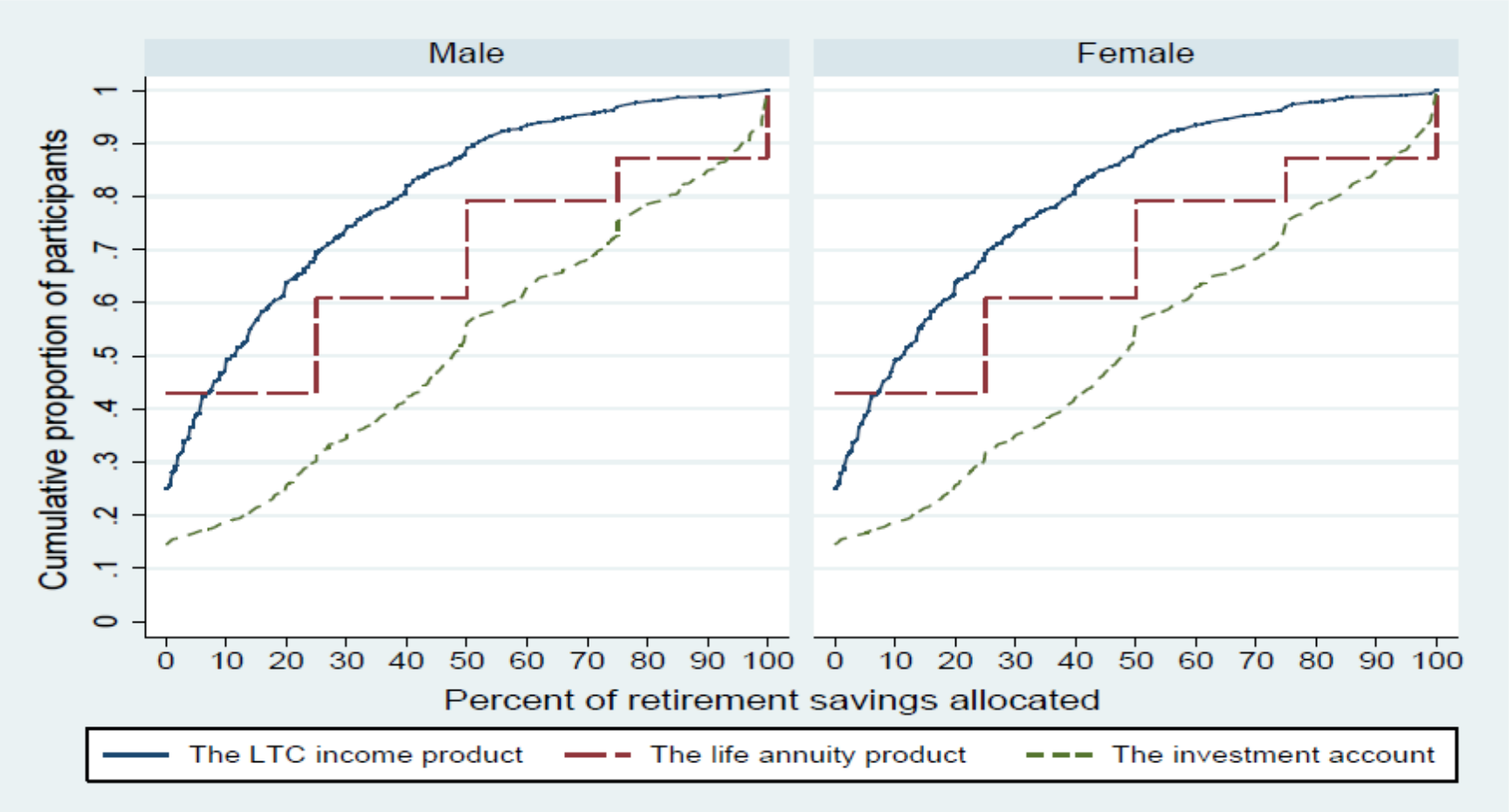
Practical issues

- Supply side:
  - Moral hazard → attain disabled status to access LTCI income
  - Initial assessment, monitoring of disabled status

- Demand side:
  - Efficacy of providing 'cash' payments to elderly, cognitively impaired (role for 'cash and 'counselling'?)
  - Communication of a 'complex' product to potential purchasers
  - Payment of single premium

Questions

Preferred distribution of allocation of retirement savings to LTC income product, life annuity, liquid investment account



Precautionary savings for long term care risk – who chooses what?

Dep. variable	Decrease by 25%	Increase by 25%
Objective measures of exposure		
Health state 4 (most unhealthy)	- 1.072**	0.030
Subjective indicators of exposure		
Chance of needing residential care (lower than average)	1.074***	0.687
Awareness of LTC risk		
Have set aside money	-0.195	-0.683**
Financial planning for retirement	0.598	1.016**
Demographics (Wealth group, base = 1)		
2	-1.154***	0.317
3	-2.818***	-0.092
4	-2.533***	-0.065