



Learning to value annuities: The role of information and engagement

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Network for Studies on Pensions, Aging and Retirement



Introduction

Motivation

 Global: greater emphasis on DC (choice of benefits), but some DB systems considering greater flexibility

20C The most common lump sum was between \$10k-\$25k 20D Phased withdrawals are most common inc. stream

 Australia: compulsion and defaults in accumulation to build balances, choice in decumulation (mainly account-based pension, small lump sum, very little annuitization) => policy intention to increase

21 Annuity sales have seen a small renaissance in recent years, though remain a small part of a fragile market



Australians unaware of life annuities and their features

From a 'representative' survey of 920 superannuation fund members aged 50-75*

Q1: Have you ever heard of a product called a life annuity?

37% had never heard of a product called a LIFE ANNUITY

Q2: If you buy a life annuity your account balance will go up and down with the financial markets.

Only 8% knew that the account balance did not go up and down with the financial markets

Q3: Income from a life annuity will last your whole life, regardless of how long you live.

Only 22% knew that a life annuity will 'last your whole life'

*Agnew, Bateman and Thorp (2013)

Little voluntary annuitization globally

• Lifecycle models suggest large utility gains from lifetime annuities (*Maurer* et al 2013 and others)

..... but low observed demand

Explanations: Demand (rational, behavioural), Supply, Regulatory

Demand-side behavioural literature

- -Defaults (Benartzi et al 2011) and heuristics (Bateman et al 2017)
- —Framing (Agnew et al 2008, Brown et al 2018, Bockweg et al 2017)
- -Endowment effect (Bockweg et al 2017)
- -Financial competence and effort (Bateman et al 2018)
- -Complexity and choice bracketing (gap WTP and WTA) (Brown et al 2017, 2019)



We aim to investigate the impact of alternative strategies to help people understand and value life annuities

- Framing of product information (Nudge)
- Opportunities to learn about products, access to online calculator to illustrate impact of decision (Boost) (Motivated by Hertwig & Grune-Yanoff, 2017)
- Also interested in the role of institutional setting (Australia, Netherlands) as a reference point

<u>Hertwig</u> R and T<u>Grüne-Yanoff</u> (2017), Nudging or Boosting: Steering or Empowering Good Decisions, *Perspectives on Psychological Science*.

Pension systems in Australia and the Netherlands - many similarities, but differences in decumulation

Australia

- General revenue financed Age Pension (meanstested)
- Mandatory superannuation guarantee
 - DC
 - choice of benefit: lump sum, phased withdrawal, annuity
- Voluntary saving

The Netherlands

- Non-contributory public pension
- Mandatory pension coverage
 - DB
 - Benefits paid as lifetime pensions

Voluntary saving

Experimental survey design

Designed experimental survey to elicit **understanding/perceptions** and **valuation** of life annuities

Conducted online in July 2017 in Australia and the Netherlands (Survey Sampling International)

- 1,000 Australians (in English), 1,003 Dutch (in Dutch)
- Employed or partner employed; 50-64 (relevant choice)
- +/- 30 mins, paid (A\$7/5 Euro) + bonus \$/Euro for quiz

Survey structure

- 1. Screening (age, gender, employment status, household income [4])
- 2. Experimental task: i). perceptions of life annuity vs. withdrawal product, ii). valuation of life annuity
 - -Between subjects: country (2), marital status (2), income (4), information framing (4:
 - consumption gain/loss, investment gain/loss), endowment (2: WTP/ WTA)
- **3. Covariate collection** demographics, preferences, financial capability, personality traits, health, SLE

Experimental Task - 4 components

- 1) Present <u>Framed</u> product information (lifetime annuity: Lifetime Guaranteed Income Product AND drawdown product: Flexible Account Product)
- 2) Read <u>Neutral</u> detailed information, incentivized product knowledge quiz
- 3) Elicit understanding & perceptions (risk, control) of products
- 4) Elicit value of annuity product using *iMPLs* (6 choice tasks), access to online calculator

1) Four information frames for each product: consumption gain/loss, investment gain/loss - eg 'framed' summary description for 'Lifetime Guaranteed Income' product

Consumption gain

This product provides guaranteed **income** for your regular **expenses** for as long as you and your partner live. The **more** you buy of this product the **more** you have for regular expenditures for the rest of your life.

Investment loss

This product doesn't allow you to take **any risk**. If the financial markets perform well the value of the product will **not increase**. If you and your partner **die early** then you get **less** than you paid for. The **less** you buy of this product the less you gain when you live long.

2) Neutral detailed information

	Lifetime Guaranteed Income Product	Flexible Account Product
How much income will I receive?	You and your partner will receive a regular income	You can choose how much to withdraw each month
How long do payments last?	Your regular income will be paid for as long as you or your partner live	You and your partner can continue to withdraw as long as your account balance is positive
What happens if I <u>or</u> my partner dies?	If one of you passes away, the surviving spouse will receive the regular income. However, the income will be reduced by one third (similar to age pension)	If one of you passes away, the remaining money in your account will be left to the surviving spouse
What happens if I and my partner die?	If both you and your partner have passed away, there will be no inheritance for your dependents or your estate	If both you and your partner have passed away, the remaining money in your account will be inherited by your dependents or your estate
What happens if the prices of things I buy increase?	Your regular income is automatically adjusted to the price level	The amount you withdraw is not automatically adjusted to the price level. However, you can increase the amount you withdraw when the prices increase
What happens if there are fluctuations in financial markets (such as interest rates or share prices)?	Your regular income will be unchanged	Your account balance will fluctuate with financial markets
What happens if I live longer than expected?	As long as you or your partner live, you will receive a regular income	When you or your partner live long you may run the risk of outliving your account

2) Incentivized product knowledge quiz

Now we would like you to review your knowledge of the retirement income products. You will receive 50 cents in bonus earnings for every correct answer.

Which of the following statements apply to each of the products – Lifetime Guaranteed Income Product and the Flexible Account? Please check the tick box under the product name whenever the statement applies to it.

Each statement applies to only one product.

	Lifetime Guaranteed Income Product	Flexible Account Product
I will receive a regular payment for as long as I live.	۲	0
I will have money in an account which I can access at any time. I can choose the amount I receive.	۲	0
If I die, payments stop and the remaining value of the product will be inherited by my dependents or estate.	۲	0
Payments automatically adjust with price increases.	۲	0
My account could fluctuate with financial markets.	۲	0

Below are the results; showing the correct answer to each statement with a green tick and whether your response was correct or incorrect:

	Lifetime Guaranteed Income Product	Flexible Account	Your Responses
I will receive a regular payment for as long as I live.	\checkmark		Correct
I will have money in an account which I can access at any time. I can choose the amount I receive.		✓	Incorrect
If I die, payments stop and the remaining value of the product will be inherited by my dependents or estate.		✓	Incorrect
Payments automatically adjust with price increases.	\checkmark		Correct
My regular payments could fluctuate with financial markets.		\checkmark	Incorrect

3) Elicit perceptions of products: understanding, risk, control

Think about the Lifetime Guaranteed Income Product. How well do you think you understand the features of the Lifetime Guaranteed Income Product?

Please tick one box on the scale where 0 means 'don't understand at all' and 10 means 'understand very well'.

Don't understand at all										Understand very well
0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	۲	0	0	0

Think about the Flexible Account Product. How well do you think you understand the features of the Flexible Account Product?

Please tick one box on the scale where 0 means 'don't understand at all' and 10 means 'understand very well'.

Don't understand at all										Understand very well
0	1	2	3	4	5	6	7	8	9	10
0	0	0	۲	0	0	0	0	0	0	0

- How risky do you think the xx product is?
- How much control do you think you have with the xxx product?

4) Choice tasks using *iMPL* to elicit valuation of Lifetime Guaranteed Income product vs. Flexible Account product

Random assignment to [WTP, WTA]

- Explain *iMPL* using example
- Six choice sets (randomized) \rightarrow 6 benchmark portfolios (Option A/Option B)
 - -100% annuitization [1] vs. 2/3 annuitization [2/3]

—1 vs. 1/3 —1 vs. 0

- —2/3 vs. 1/3
- —2/3 vs. 0
- —1/3 vs. 0

Access to **Online Calculator** to illustrate impact of choice

Calculator available to assist with *iMPL* choice task

Retirement Calculator

Option B refers to the FIRST ROW you prefer Option B to Option A.

	Option A	Option B
Income from ages 65 - 80	\$77,665	\$67,047
Income after age 80	\$23,200	\$67,047

The numbers in the table above are in today's dollars and calculated by assuming:

I would like to ensure the Flexible Account provides an income until age:	80
I would like to keep the following amount from the Flexible Account for inheritance or unexpected expenses:	\$0
I would like to spend MORE of the Flexible Account in the first FIVE years of retirement:	⊖Yes No
The Flexible Account provides an average annual return, greater than inflation by:	1%

Adjust the options above to see the effect it has on your choices in this task.

Task 1 of 6

Recall the general product features:

- Lifetime Guaranteed Income Product: This product provides you with a guaranteed return for as long as you live. If the markets perform well the value of the product will not increase. If you die early you get less then you paid for. The more you buy of this product the more you lose when you do not live long.
- Flexible Account Product: This product allows you to choose your investment portfolio. The less risk you're willing to take the lower the
 expected return. Your account balance might be insufficient if you live long. The more you buy of this product the higher your account
 balance if the financial markets perform poorly.

Imagine that you are at retirement and you have retirement savings to allocate between the Lifetime Guaranteed Income Product and the Flexible Account Product. All options are after tax and include public pension payments.

Now suppose you had the following choice:

- Either Option A You and your partner have \$762,198 in your <u>Flexible Account</u> and you would receive a <u>Lifetime Guaranteed Income</u> of \$23,200 per year, for life
- Or Option B You and your partner do not have any amount in your <u>Flexible Account</u> and you would receive a <u>Lifetime Guaranteed Income</u> of some amount per year, for life

What we would like you to do is to cast your eye down the rows of the table and select the ROW for which you prefer the combination of the two products in Option A. You select this row by clicking 'Preferred Option B' in the column at the end of the row.

Option A		Opti	on B	Preferre	d Option
Flexible Account (account balance)	Lifetime Guaranteed Income (per year, including Age Pension)	Flexible Account (account balance)	Lifetime Guaranteed Income (per year, including Age Pensionr)	Option A	Option B
\$762,198	\$23,200	\$0	\$45,124	۲	0
\$762,198	\$23,200	\$0	\$54,205	۲	0
\$762,198	\$23,200	\$0	\$67,047	0	۲
\$762,198	\$23,200	\$0	\$85,209	0	۲
\$762,198	\$23,200	\$0	\$110,894	0	۲

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Repeat FRAMED product information

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Select first row, prefer B to A

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Retirement calculator to assist choice

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Stage 2: refine choice - with 4 more sets of choices between rows 2 and 3

Switching point in Stage 2 is mapped to money's worth → how much they are willing to pay/accept

Results

Regressions

Perceptions:

OLS: Dep. var = difference in *likert* scores for 'understanding', 'risk', 'control'.

Variables of interest: **framing**, **institutional setting**; **financial capabilities**; **engagement** + Controls (demographics, preferences, health, personality etc)

Valuation:

Panel regression: Dep. var = log money's worth ratio (implied by switching point in *iMPL*)

Variables of interest: **framing**, **institutional setting**; **endowment effect** (WTP/WTA), **financial capabilities**; **liquidity** (of benchmark portfolios); **engagement** + Controls (demographics, preferences, health, personality etc)

Engagement variable

A participant is 'less engaged' (LOW) if:

makes 3 or more mistakes in the product knowledge quiz; or

—within 10% fastest survey completions

Perceptions of Lifetime Guaranteed Income vs. Flexible Account product OLS: Dep. var = difference in *likert* scores for 'understanding', 'risk', 'control'

	Under	Understand (LGI-FA)		Riski	Riskiness (FA-LGI)			Control (LGI-FA)		
	NL	AU	Total	NL	AU	Total	NL	AU	Total	
Institutional setting: Australian			-ve***			-Ve***			-ve***	
Australian x LC	W					+ve**			+ve***	
Information framing: Gain frame	+ve**			+ve***		+ve***	-ve*			
Consumption fran	ne			-ve**						
Gain frame x LC	W -ve***		-ve**							
Consumption frame x LC	W									
Financial capabilities: SA Fin Lit		-ve**								
Fin I	_it			+ve**	+ve***	+ve***	-ve*	-ve***	-ve***	
Numera	су			+ve***	+ve***	+ve***	-ve***	-ve***	-ve***	
SA Fin Lit x LC	W			+ve*	+ve*	+ve**			-ve**	

Perceptions of Lifetime Guaranteed Income vs. Flexible Account product Strong country/institutional effects for familiar product - except less engaged

	Under	Understand (LGI-FA)		Riski	Riskiness (FA-LGI)			Control (LGI-FA)		
	NL	AU	Total	NL	AU	Total	NL	AU	Total	
Institutional setting: Australian			-ve***			-ve***			-ve***	
Australian x LC						+ve			+ve	
Information framing: Gain frame	+ve**			+ve***		+ve***	-ve*			
Consumption fram	me			-ve**						
Gain frame x LC)W -ve***		-ve**							
Consumption frame x LC	W									
Financial capabilities: SA Fin Lit		-ve**								
Fin	Lit			+ve**	+ve***	+ve***	-ve*	-ve***	-ve***	
Numera	су			+ve***	+ve***	+ve***	-ve***	-ve***	-ve***	
SA Fin Lit x LO	W			+ve*	+ve*	+ve**			-ve**	

Perceptions of Lifetime Guaranteed Income vs. Flexible Account product Framing only relevant to Dutch: gain frame assists understanding (except less engaged)

	Under	Understand (LGI-FA) Riskiness (FA-LGI)			-LGI)	Control (LGI-FA)			
	NL	AU	Total	NL	AU	Total	NL	AU	Total
Institutional setting: Australian			-ve***			-ve***			-ve***
Australian x LOW						+ve**			+ve***
Information framing: Gain frame	+ve**			+ve***		+ve***	-ve*		
Consumption frame				-ve**					
Gain frame x LOW	-ve***		-ve**						
Consumption frame x LOW	/								
Financial capabilities: SA Fin Lit		-ve**							
Fin Lit				+ve**	+ve***	+ve***	-ve*	-ve***	-ve***
Numeracy	,			+ve***	+ve***	+ve***	-ve***	-ve***	-ve***
SA Fin Lit x LOW	7			+ve*	+ve*	+ve**			-ve**

	Under	Understand (LGI-FA)			ness (FA	-LGI)	Control (LGI-FA)		
	NL	AU	Total	NL	AU	Total	NL	AU	Total
Institutional setting: Australian			-ve***			-ve***			-ve***
Australian x LOW	/					+ve**			+ve***
Information framing: Gain frame	+ve**			+ve***		+ve***	-ve*		
Consumption frame				-ve**					
Gain frame x LOW	-ve		-ve						
Consumption frame x LOW	/		C						
Financial capabilities: SA Fin Lit		-ve**							
Fin Lit				+ve**	+ve***	+ve***	-ve*	-ve***	-ve***
Numeracy	/			+ve***	+ve***	+ve***	-ve***	-ve***	-ve***
SA Fin Lit x LOW	/			+ve*	+ve*	+ve**			-ve**

Valuation: distribution of money's worth of Lifetime Guaranteed Income Product (annuity) from 2,003 participants in 6 within-subject treatments



Summary statistics: Average logged money's worth of annuities by population subgroup - show substantial heterogeneity

		Full sample	Low engaged	Engaged
Institutional se	tting:			
	Australia	-0.017*	0'031	-0.029***
	Netherlands	0.011	-0.021	0.019*
Endowment:	WTP	-0.088***	-0.144***	-0.074***
	WTA	0.082***	0.163***	0.063***
Framing:	Gain	0.013	0.071***	-0.000
	Loss	-0.019**	-0.056***	-0.010
	Consumption	0.004	-0.021	0.010
	Investment	-0.010	0.028	-0.021**
Gender:	Female	-0.020**	-0.015	-0.021**
	Male	0.013	0.021	0.010
Marital status:	Single	0.086***	0.065**	0.092***
	Couple	-0.044***	-0.026	-0.048***

Summary statistics: Average logged money's worth of annuities by population subgroup

		Full sample	Low engaged	Engaged
Institutional se	tting:			
	Australia	-0.017*	0'031	-0.029***
	Netherlands	0.011	-0.021	0.019*
Endowment:	WTP	-0.088***	-0.144***	-0.074***
	WTA	0.082***	0.163***	0.063***
Framing:	Gain	0.013	0.071***	-0.000
	Loss	-0.019**	-0.056***	-0.010
	Consumption	0.004	-0.021	0.010
	Investment	-0.010	0.028	-0.021**
Gender:	Female	-0.020**	-0.015	-0.021**
	Male	0.013	0.021	0.010
Marital status:	Single	0.086***	0.065**	0.092***
	Couple	-0.044***	-0.026	-0.048***

Money's worth ratio regressions - 1 dep var: logged money's worth ratio

	Nethe	rlands	Aust	ralia	Sam	ple	_
Institutional settings							_
Australian					-0.012	(-0.34)	Institutional setting no
Australian LOW					0.128**	(2.03)	engaged
Endowment effect							Product endowment
WTP treatment	-0.146**	* (-3.80)	-0.140**	* (-3.39)	-0.132***	(-4.68)	important for
WTP treatment LOW	-0.106	(-1.18)	-0.246**	** (-2.79)	-0.197***	[*] (-3.17)	well informed
Information framing							reduces the
Gain framing	0.035	(0.90)	-0.022	(-0.53)	0.007	(0.27)	endowment effect
Consumption framing	0.011	(0.28)	0.014	(0.35)	0.014	(0.50)	
Gain framing LOW	0.100	(1.06)	0.038	(0.43)	0.089	(1.40)	Valuation unaffected
Cons. framing LOW	-0.073	(-0.78)	-0.082	(-0.93)	-0.088	(-1.38)	by information - framing

Money's worth ratio regressions - 2 dep var: logged money's worth ratio

	Nether	lands	Aust	ralia	Sam	ple	_
Financial capabilities							_
SA Fin Lit	-0.018	(-0.92)	0.001	(0.05)	-0.008	(-0.53)	Financial capabilities
Fin Lit	0.034	(1.13)	0.015	(0.49)	0.026	(1.18)	engaged
Numeracy	-0.035	(1.62)	-0.002	(-0.08)	-0.018	(-1.16)	
SA Fin Lit LOW	-0.014	(-0.51)	0.066**	* (2.41)	0.014	(0.74)	Helps less engaged
Fin Lit LOW	-0.089	(-1.63)	-0.038	(-0.67)	-0.065*	(-1.68)	value annuities
Numeracy LOW	0.123***	(2.69)	-0.007	(-0.13)	-0.063*	(1.84)	
Liquidity (Base 1:2/3)							- Austrolionet willing to
1:1/3	-0.026	(-1.49)	0.038*	** (1.97)	-0.020	(-1.20)	pay more for income if
1:0	-0.016	(-0.85)	0.021	(1.08)	-0.024	(-1.38)	they keep some
2/3:1/3	-0.015	(-0.75)	0.037*	(1.76)	-0.015	(-0.81)	liquidity
2/3:0	-0.019	(-0.92)	0.034	(1.59)	-0.019	(-1.03)	
1/3:0	-0.046**	(-2.06)	0.003	(0.13)	-0.048**	[*] (-2.46)	

Money's worth ratio regressions - other results

Higher value for Lifetime Guaranteed Income Product (annuity):

- Perceptions (annuity having lower risk, more control)
- Income (Australians);
- Savings habit (Australians); Patience (Dutch)
- Single
- Lower value for Lifetime Guaranteed Income Product (annuity):
- Homeowner (Dutch)
- Self assessed planning knowledge (Australian)

Risk preference, Health & SLE variables insignificant

Discussion

Discussion

Nudges - such as information framing (consumption/investment; gain/loss) influence 'perceptions' of life annuities and drawdown products (Dutch), but not valuation

Financial capabilities - important for product perceptions, but not valuation (except for the 'less' engaged)

Institutional setting (Dutch/Australian) - important for product perceptions, but not valuation (except for the 'less' engaged)

Discussion

Endowment effect - very important for valuation (gap between WTP and WTA significantly lower for 'engaged' participants - who took time with survey and scored well in product quiz) \rightarrow **Boost** helps with valuation

Liquidity - important for Australians \rightarrow willing to pay more for annuities if keep some liquidity

Policy implications:

- Product framing Nudge and enhancing financial capabilities can assist product understanding and perceptions of insurance features of annuities
- Provision of multiple opportunities to learn about products and implications of purchase (via online calculator) - Boost - assist product valuation
- Australians prepared to pay more for annuities if part of a hybrid product

Questions

Some detailed slides

Perception of Lifetime Guaranteed Income Product vs. Flexible Account product

		Understanding	r 5		Riskiness			Control	
	\mathbf{NL}	AU	sample	\mathbf{NL}	AU	sample	\mathbf{NL}	AU	\mathbf{sample}
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Institutional settings									
Australian			-0.174 * **			-0.621 * **			-1.921 * **
			(-2.97)			(-3.37)			(-8.79)
Australian LOW			-0.160			0.738 * *			1.502 * **
<u></u>			(-1.09)			(2.51)			(5.01)
Information framing	0.1 50	0.0050	0.0010	0.000	0.0010	0.000			0.400
Gain framing	0.153 * *	-0.0272	0.0649	0.603 * **	* 0.0219	0.322 * *	-0.531*	0.0573	-0.188
	(2.10)	(-0.41)	(1.31)	(2.69)	(0.10)	(2.02)	(-1.75)	(0.23)	(-0.95)
Consumption framing	-0.0501	0.0335	0.0000306	-0.536 * *	(0.0153)	-0.252	0.501	0.0421	0.267
C I C I LOW	(-0.68)	(0.53)	(0.00)	(-2.37)	(0.07)	(-1.57)	(1.63)	(0.17)	(1.35)
Gain framing LOW	-0.685 * *	* 0.0996	-0.296 * *	-0.417	-0.0119	-0.216	(0.347)	-0.347	-0.0618
Communities from in a LOW	(-2.98)	(0.62)	(-2.13)	(-0.94)	(-0.03)	(-0.78)	(0.79)	(-0.91)	(-0.21)
Consumption framing LOW	(1.325)	-0.123	(0.0995)	-0.0945	-0.0742	-0.0137	-0.464	-0.131	-0.348
Financial conchilition	(1.54)	(-0.76)	(0.69)	(-0.22)	(-0.20)	(-0.05)	(-1.00)	(-0.54)	(-1.21)
SA for lit	0.00702	0.0706	0.0455.	0.0701	0.120	0.115	0.0205	0 162	0.0020
SA III III	-0.00703	-0.0790 * *	-0.0455*	-0.0791	-0.130	-0.115	(0.0395)	(1.94)	(0.0920)
Fin lit	(-0.17)	(-2.32)	(-1.09)	(-0.65)	(-1.09)	(-1.57)	(0.24)	(1.24)	(0.91)
	(-0.53)	(-0.43)	(-0.85)	(4.38)	* 0.430 * ** (9.65)	(4.07)	(-1.82)	-0.004 * **	(-3.49)
Numeracy	(-0.55) -0.0561	(-0.43)	(-0.03)	(4.38) 0.345 * *:	(2.03) * 0.401 * * *	0 385 * **	(-1.62) -0.644 * **	(-3.31)	(-3.49)
rumeracy	(-1, 19)	(0.40)	(-0.62)	(2.64)	(3.21)	(4.27)	(-3.98)	(-3.68)	(-5.20)
SA fin lit LOW	-0.0410	0.0468	0.00446	(2.04)	(0.21) 0.273*	(4.21) 0.258 * *	-0.280	-0.147	(-0.20)
	(-0.47)	(0.91)	(0.09)	(1.66)	(1.91)	(2.35)	(-1.49)	(-1.00)	(-2.34)
Fin lit LOW	0.138	0.0238	0.0971	-0.429*	-0.204	-0.309*	0.728 * **	0.197	0.468 * *
	(1.13)	(0.25)	(1.27)	(-1.74)	(-0.83)	(-1.79)	(2.71)	(0.77)	(2.55)
Numeracy LOW	0.147	-0.0353	0.0319	-0.0747	0.0227	-0.0245	0.303	0.487 * *	0.374 * *
	(1.27)	(-0.39)	(0.43)	(-0.30)	(0.10)	(-0.14)	(1.26)	(2.10)	(2.22)
Experimental design	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Retirement income replacement rat	e Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health & life expectancy	- Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Saving & planning	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Personality Traits	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1.003	1.000	2.003	1.003	1.000	2.003	1.003	1,000	2.003
**	-,000	-,000	-,000	-,000	-,000	-, 000	-,000	-,	-, 300

Perception of Lifetime Guaranteed Income Product vs. Flexible Account product

		Understanding			Riskiness			Control	
	\mathbf{NL}	AU	sample	\mathbf{NL}	AU	\mathbf{sample}	NL	AU	sample
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Institutional settings									
Australian			-0.174 * **			-0.621 * **			-1.921 * **
			(-2.97)			(-3.37)			(-8.79)
Australian LOW			-0.160			0.738 * *			1.502 * **
			(-1.09)			(2.51)			(5.01)
Information framing									
Gain framing	0.153 * *	-0.0272	0.0649	0.603 * **	0.0219	0.322 * *	-0.531*	0.0573	-0.188
	(2.10)	(-0.41)	(1.31)	(2.69)	(0.10)	(2.02)	(-1.75)	(0.23)	(-0.95)
Consumption framing	-0.0501	0.0335	0.0000306	-0.536 * *	0.0153	-0.252	0.501	0.0421	0.267
	(-0.68)	(0.53)	(0.00)	(-2.37)	(0.07)	(-1.57)	(1.63)	(0.17)	(1.35)
Gain framing LOW	-0.685 * *	* 0.0996	-0.296 * *	-0.417	-0.0119	-0.216	0.347	-0.347	-0.0618
	(-2.98)	(0.62)	(-2.13)	(-0.94)	(-0.03)	(-0.78)	(0.79)	(-0.91)	(-0.21)
Consumption framing LOW	(1, 24)	-0.123	(0.0995)	-0.0945	-0.0742	-0.0137	-0.464	-0.131	-0.348
	(1.34)	(-0.76)	(0.69)	(-0.22)	(-0.20)	(-0.05)	(-1.06)	(-0.34)	(-1.21)
SA 6p lit	0.00702	0.0706	0.0455.	0.0701	0.120	0.115	0.0205	0 162	0.0020
SA III III	(-0.17)	-0.0790 * *	-0.0455*	(-0.65)	(-1.00)	(-1.27)	(0.24)	(1.24)	(0.0920)
Fin lit	(-0.17)	(-2.32)	(-1.09)	(-0.03)	(-1.09)	(-1.57)	(0.24)	(1.24)	(0.91)
1.111 110	(-0.53)	(-0.43)	(-0.85)	(4.38)	(2.65)	(4.97)	(-1.82)	(-3,31)	(-3.49)
Numeracy	-0.0561	0.0137	-0.0183	0.345 * **	0.401 * **	0.385 * **	-0.644 * **	-0.499 * **	-0.554 * **
i ameraey	(-1.19)	(0.40)	(-0.62)	(2.64)	(3.21)	(4.27)	(-3.98)	(-3.68)	(-5.20)
SA fin lit LOW	-0.0410	0.0468	0.00446	0.291*	0.273*	0.258 * *	-0.280	-0.147	-0.270 * *
	(-0.47)	(0.91)	(0.09)	(1.66)	(1.91)	(2.35)	(-1.49)	(-1.00)	(-2.34)
Fin lit LOW	0.138	0.0238	0.0971	-0.429*	-0.204	-0.309*	0.728 * **	0.197	0.468 * *
	(1.13)	(0.25)	(1.27)	(-1.74)	(-0.83)	(-1.79)	(2.71)	(0.77)	(2.55)
Numeracy LOW	0.147	-0.0353	0.0319	-0.0747	0.0227	-0.0245	0.303	0.487 * *	0.374 * *
	(1.27)	(-0.39)	(0.43)	(-0.30)	(0.10)	(-0.14)	(1.26)	(2.10)	(2.22)
Experimental design	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Retirement income replacement rat	$\mathbf{e} Y es$	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health & life expectancy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Saving & planning	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Personality Traits	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,003	1,000	2,003	1,003	1,000	2,003	1,003	1,000	2,003

Perception of Lifetime Guaranteed Income Product vs. Flexible Account product

	Understanding				Riskiness		Control			
	NL	AU	sample	NL	AU	sample	\mathbf{NL}	AU	\mathbf{sample}	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Institutional settings										
Australian			-0.174 * **			-0.621 * **			-1.921 * **	
			(-2.97)			(-3.37)			(-8.79)	
Australian LOW			-0.160			0.738 * *			1.502 * **	
			(-1.09)			(2.51)			(5.01)	
Information framing										
Gain framing	0.153 * *	-0.0272	0.0649	0.603 * **	0.0219	0.322 * *	-0.531*	0.0573	-0.188	
	(2.10)	(-0.41)	(1.31)	(2.69)	(0.10)	(2.02)	(-1.75)	(0.23)	(-0.95)	
Consumption framing	-0.0501	0.0335	0.0000306	-0.536 * *	0.0153	-0.252	0.501	0.0421	0.267	
	(-0.68)	(0.53)	(0.00)	(-2.37)	(0.07)	(-1.57)	(1.63)	(0.17)	(1.35)	
Gain framing LOW	-0.685 * *	* 0.0996	-0.296 * *	-0.417	-0.0119	-0.216	0.347	-0.347	-0.0618	
	(-2.98)	(0.62)	(-2.13)	(-0.94)	(-0.03)	(-0.78)	(0.79)	(-0.91)	(-0.21)	
Consumption framing LOW	0.325	-0.123	0.0995	-0.0945	-0.0742	-0.0137	-0.464	-0.131	-0.348	
	(1.34)	(-0.76)	(0.69)	(-0.22)	(-0.20)	(-0.05)	(-1.06)	(-0.34)	(-1.21)	
Financial capabilities										
SA fin lit	-0.00703	-0.0796 * *	-0.0455*	-0.0791	-0.130	-0.115	0.0395	0.163	0.0920	
	(-0.17)	(-2.32)	(-1.69)	(-0.65)	(-1.00)	(-1.37)	(0.94)	$(1 \ 94)$		
Fin lit	-0.0335	-0.0203	-0.0336	0.687 * **	0.435 * **	0.561 * **	-0.398*	-0.604 * **	* -0.497 * **	
	(-0.53)	(-0.43)	(-0.85)	(4.38)	(2.65)	(4.97)	(-1.82)	(-3.31)	(-3.49)	
Numeracy	-0.0561	0.0137	-0.0183	0.345 * **	0.401 * **	0.385 * **	-0.644 * **	-0.499 * **	* -0.554 * **	
	(-1.19)	(0.40)	(-0.62)	(2.04)	(0.21)	(4.27)	(-3.30)	(-3.00)	(-0.20)	
SA fin lit LOW	-0.0410	0.0468	0.00446	0.291*	0.273*	0.258 * *	-0.280	-0.147	-0.270 * *	
	(-0.47)	(0.91)	(0.09)	(1.66)	(1.91)	(2.35)	(-1.49)	(-1.00)	(-2.34)	
Fin lit LOW	(1.138)	(0.0238)	(1.07)	-0.429*	-0.204	-0.309*	0.728 * **	(0.77)	0.468 * *	
Numero er LOW	(1.13) 0.147	(0.25)	(1.27) 0.0210	(-1.74)	(-0.83)	(-1.79)	(2.71)	(0.77)	(2.55)	
Numeracy LOW	(1.27)	(0.0355)	(0.42)	(-0.20)	(0.10)	-0.0245	(1.96)	(2.10)	(0.374 * * (0.00))	
Experimental design	(1.27) Ves	(-0.39) Vee	(0.43)	(-0.30)	(0.10) Vee	$\left(-0.14\right)$	(1.20) Vee	(2.10) Vee	(2.22) Ves	
Betirement income replacement	t rato Vee	Vee	Vee	Ves	Vee	Vee	Vee	Vee	Vee	
Health & life expectance		Vee	Vee	Vee	I es Vec	Vee	I es Vee	Vee	Vee	
Source & planning	Vee	Vee	Vee	Vee	Vee	Vee	Vee	Vee	Vee	
Develity Traits		I es Vee	r es Vee	I es Vee	I es Vee	Vee	I es Vee		I es Vee	
Demographic	r es Vee	I es Vee	r es Vee	r es Vee	I es	i es Vee	res	Ies	I es	
	r es	res	r es	res	res	res	r es	res	r es	
N	1,003	1,000	2,003	1,003	1,000	2,003	1,003 1	.,000	2,003	

Product perceptions - other results

- Perceived better understanding of LGI product: higher household income; non-homeowner (Australian); better self-assessed health; less willingness to take financial risk; lower conscientious score (Australian); being male (Australian); fewer children
- Perception that LGI product is less risky than FA product: higher household income (Dutch); lower wealth; higher SLE (Australian); less willingness to take financial risk (Dutch), Education (Bachelor degree)
- Perception that LGI product provides more control than FA product: expectation to outlive partner (Australian); less willingness to take financial risk (Australian); not having a Bachelor degree (Dutch)