25th Colloquium of Superannuation Researchers



A cross country study of saving and spending in retirement

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Background



Motivation

- Recent empirical work find that retirees hold on to their wealth and/or continue saving well into their later years
 - Australia (Wu et al. 2017)
 - The Netherlands (Van Ooijen et al. 2015)
 - USA (Dynan et al. 2014)
- Contradicts theoretical findings for the smoothing of consumption over the life-cycle
- Existing literature focuses on (economic) rational explanations: precautionary motive and the bequest motive (De Nardi et al. 2016)
- Behavioral and psychological factors less considered (Shefrin and Thaler 1988; Beshears et al. 2011).



Our aim

- To design and implement an experimental survey of 'retirement saving and spending decisions' to investigate the importance of alternative motives - based on rational, behavioral, and psychological explanations – for saving in retirement
- We field our experimental survey in both Australia and the Netherlands to take into account the different institutional framework for decumulation (ie, the liquidity of pension wealth)



Institutional Background (Australia vs. The Netherlands)

- Common features:
 - Non contributory public pension
 - Mandatory private pensions / superannuation
- Important differences:
 - Australia: DC system with choice of benefit. No requirement to annuitize, retirees mostly take accountbased pensions (non-annuitised benefits)
 - The Netherlands: DB system. Retirement income can only be paid out as a lifetime pension



Experimental design



(online) Experimental Survey

- Preliminary: screening
 - Individuals aged 50-64 and not retired (or at least one of a couple not retired)
 - 4 groups by gross household income
- Section 1: Spending and saving task (8 choice sets, vignettes)
- Section 2: Planning and personality traits
- Section 3: Pension arrangements and financial competence
- Section 4: Demographics and personal characteristics



The household consists of two individuals currently 65 years old who have just retired. **[FUTURE HEALTH EXPECTATIONS]**

The household has a net of tax lifetime income of **[INCOME]** and their wealth at retirement is **[WEALTH].** The household owns the house they live in without a mortgage. They don't want to move or sell their house. If one member of the household dies, the survivor will receive less income but also spend less. The reduction in income is roughly equivalent to the reduction in spending.

At retirement the household has to plan how much they expect to save and spend, based on their current income and wealth. The following table shows five different spending plans, together with income and wealth at different ages (if they survive). If the wealth is exhausted then the household has to adapt their spending to their income. **[IMPLIED ENDORSEMENT].**

PART A Which spending plan do you advise ... based on your preferences <choice of five>

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3 liquidity alternatives

high wealth: low income [AU] (Choice set 1)
middle wealth: middle income (Choice set 2)
low wealth: high income [NE] (Choice set 3)

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household has to adapt their spending to their income. [NO IMPLIED ENDORSEMENT].

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Part A: Which spending plan do you advise?

Part A

Below we describe the financial situation of a hypothetical household. This household consists of two individuals currently 65 years old who have just retired. Both are in good health and expect to stay so at least until they reach the age of 70.

Each household has a net of tax lifetime income of <u>\$36,050 per annum (\$1,387 fortnightly</u>) and their wealth at retirement is <u>\$152,775</u>. The household owns the house they live in, without a mortgage. They don't want to move or sell their house. If one member of the household dies, the survivor will receive less income but also spend less. The reduction in income is roughly equivalent to the reduction in spending.

At retirement the household has to plan how much they expect to save and spend, based on their income and current wealth. The following table shows five different spending plans together with the income and wealth at different ages (if they survive). If their wealth is exhausted then the household has to adapt their spending to their income.

Finally, you can assume that the prices don't change over time.

What plan do you advise the household to choose, based on your own preferences?

Lifetime income				
Annual	Fortnightly			
\$36,050	\$1,387			

	Spending						
	Annual	Fortnightly	1	At age 65	At age 75	At age 85	At age 95
Spending Plan 1	\$42,700	\$1,642]	\$152,775	\$86,275	\$19,775	\$0
Spending Plan 2	\$40,650	\$1,563]	\$152,775	\$106,775	\$60,775	\$14,775
Spending Plan 3	\$36,050	\$1,387]	\$152,775	\$152,775	\$152,775	\$152,775
Spending Plan 4	\$31,450	\$1,210]	\$152,775	\$198,775	\$244,775	\$290,775
Spending Plan 5	\$29,900	\$1,150		\$152,775	\$214,275	\$275,775	\$337,275



Part B: Most and least important saving motives, 2 rounds

Part B

You would advise the household to choose the following spending plan.

Lifetime income				
Annual	Fortnightly			
\$36,050	\$1,387			

	Spending				We	alth		
	Annual	Fortnightly		At age 65	At age 75	At age 85	At age 95	
Spending Plan 3	\$36,050	\$1,387]	\$152,775	\$152,775	\$152,775	\$152,775	

Below you see five possible reasons to choose a specific spending plan.

Please indicate which reason is the most important for this household, based on your own preferences, and which saving motive is the least important. Then indicate which saving motive is the 2nd most important and 2nd least important.

The household ...

MOST important reason to save	2nd MOST important reason to save	Reasons to save	2nd LEAST important reason to save	LEAST important reason to save
•	0	wants to ensure that they have enough cash on hand at any time		0
•	0	wants to ensure that they are able to enjoy life now as well as later.	0	0
•	0	wants to ensure that they have enough money to have peace of mind.	0	0
0	0	wants to ensure that they will not outlive their wealth.	0	0
•	0	wants to ensure that they will be able to finance unforeseen health and aged care expenditures.		0



Pre-test to select 10 Saving Motives

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Rational	Behavioral	Psychological
Precautionary	Habit formation: wealth	Autonomy
Precautionary health	Habit formation: savings	Speculation
Life-span risk	Habit formation: spending	Security
Intended bequest	Procrastination	Self-esteem
Liquidity	Silo (mental accounts)	Self-gratification
Intra-household bequest		Political risk
Inter-vivos		



Reduced from 19 to 10 using 2 rounds of best/worst – samples of 100 Australians/100 Dutch

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Inter-vivos		



10 Savings Motives 'You want to ensure that

Precautionary	you will be able to finance any unforeseen expenditures other
	than health and aged care expenditures
Precautionary	You will be able to finance unforeseen health and aged care
(health)	expenditures
Life-span risk	you will not outlive your wealth
(intended) Bequest	you will be able to leave a bequest to your dependents or
	estate
Liquidity	you will have enough cash on hand at any time
Intra-household	if you die, your partner is able to maintain his/her standard of
bequest	living.
Autonomy	you remain financially independent
Security	you have enough money to have peace of mind
Self-gratification	you are able to enjoy life now as well as later
Political risk	you are protected against a change in the superannuation /pension rules



Sample

The Netherlands:

LISS and the DNB Household Survey (via CentERpanel)

1,437 participants

December 2016

Australia:

Commercial web panel provider 'TEG Rewards'

983 participants

March 2017

[aged 50-64, not retired]



Descriptive statistics



Australians vs. Dutch

- Australians more likely to have at least one child at home, to own their home and be more optimistic about life expectancy
- Dutch more likely to be born in the country they live in, consider themselves a member of a religion and be more confident of understanding pension pillars 1 & 2
- Australians perform better in pension knowledge, financial literacy, numeracy questions; are more future orientated, more conscientious, slightly more risk tolerant



Advised Spending Patterns

	high wealth		middle	wealth	low wealth	
	low income		middle	income	high income	
	NLD	AUS	NLD	AUS	NLD	AUS
1. 1.05*[high income]	17%	12%	16%	12%	8%	6%
2. [high income]	42%	29%	46%	29%	57%	34%
[middle income]	26%	30%	30%	37%	28%	39%
4. [low income]	9%	14%	5%	13%	4%	12%
5. 0.95*[low income]	6%	15%	3%	9%	3%	9%

Australians are more conservative

.



Choice sets 1-3 (vary liquidity): ranking of saving motives

	high wealth		middle wealth		low wealth	
	low income		middle	income	high income	
	NLD AUS		NLD	NLD AUS		AUS
1. precautionary	6	5	6	5	6	5
precautionary (health)	4	4	2	4	3	4
3. life-span risk	9	8	9	8	9	8
(intended) bequest	10	10	10	10	10	10
5. liquidity	2	7	4	7	2	7
6. intra-household bequest	5	6	5	6	5	6
7. autonomy	3	2	3	2	4	2
8. security	8	3	8	3	8	3
self-gratification	1	1	1	1	1	1
10. political risk	7	9	7	9	7	9



Choice sets 5-8 (vary health status): ranking of saving motives

	both healthy		one healthy one ADL		one healthy one dead		one ADL one dead	
	NLD	AUS	NLD	AUS	NLD	AUS	NLD	AUS
1. precautionary	6	6	5	5	6	6	6	6
precautionary (health)	5	4	1	1	4	5	1	1
3. life-span risk	9	8	9	8	9	8	9	8
(intended) bequest	10	10	10	10	10	10	10	10
5. liquidity	3	7	3	7	3	7	3	7
6. intra-household bequest	2	5	6	6	2	2	2	4
7. autonomy	4	2	4	3	5	4	5	5
8. security	8	3	8	4	8	3	7	3
9. self-gratification	1	1	2	2	1	1	4	2
10. political risk	7	9	7	9	7	9	8	9



Estimation and 'some' results



Methodology

Estimate a Random Effects Ordered Probit Model

The importance of a saving motive is determined by:

- Individual characteristics (planning and personality traits, pension arrangements and financial competence, demographics)
- Treatment (liquidity, health status)
- Advised spending pattern
- A set of nuisance parameters
- An individual specific term to capture unobserved individual characteristics



What affects the importance (ranking) of saving motives?

	Precautionary	Precautionary (Health)	Life Span Risk	Intention Bequest	Liquidity
Male		-ve ***		+ve ***	
Partner		-ve *			
Children				+ve ***	
Homeowner					
Religious		+ve *			+ve **
High SLE					
Ret plan	-ve ***			-ve **	-ve **
Pension capability	+ve **	+ve ***		-ve ***	
Pension know					
Risk tolerant	-ve ***	-ve *			
Finance self contr		-ve *			
Future oriented	+ve ***	+ve **			-ve ***
conscientiousness	+ve **		-ve **	-ve ***	
Australia	-ve **	-ve ***	+ve ***	+ve **	-ve ***

What affects the importance (ranking) of saving motives?

	Intra Hhold Bequest	Autonomy	Security	Self Gratification	Political Risk
Male	+ve **				
Partner	+ve ***				
Children					
(high) income				+ve ***	-ve ***
Homeowner				+ve **	-ve **
Religious				-ve ***	
Born country			-ve *	+ve *	
High SLE					
Pension capability					-ve ***
Pension know	-ve **				
Risk tolerant		+ve **			
Finance self contr	+ve *				-ve ***
Future oriented				-ve *	
conscientiousness				+ve **	
Australia	-ve ***		+ve ***		-ve ***

Some comments

- A variety of covariates are associated with the importance of the alternative saving motives
- Country-specific effects remain important

Interactions (not shown) suggest:

- Most saving motives are not affected by the interaction between liquidity (proxy for institutional setting) and advised spending pattern
- However, major life events (health status/widowhood) do have an impact (on spending patterns) and saving motives
 - EG Expectation one of couple dies within 10 years, increases importance of precautionary saving motive (irrespective of institutional setting)



Predictive probabilities for reference persons who hold on to wealth (or decrease wealth slowly) indicate that the most important reasons for this behaviour are:

Australia

- Self gratification
- Autonomy
- Precautionary health
- (Security)

Netherlands

- Self gratification
- Precautionary health
- Intra household bequest
- (Liquidity, Autonomy)

Our results suggest that **'intended bequest'** and **'life span risk'** are unlikely to be important for the reference person – irrespective of 'country of residence', advised spending pattern, institutional setting.



Thank You

