Online Appendices for "Flexible insurance for informal long-term care: A study of stated preferences

April, 2021

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Online Appendix A Experimental survey questions

Long term care risk, life annuities and precautionary saving

This research study is being carried out by the following researchers:		
Role	**Name**	**Organisation**
Chief Investigator	Professor Hazel Bateman	UNSW Australia
Co-Investigator/s	Professor Susan Thorp Dr Ralph Stevens Mr Shang Wu	The University of Sydney UNSW Australia UNSW Australia
Research Funder	This research is being funded by ARC Grant DP1093842	

What is this research about?
You are invited to take part in this online research study. You have been invited because you fulfil the relevant survey parameters of being age 18 or over.

The aim of the research study is to investigate individuals' financial decisions and aged care arrangements in retirement. We hope to learn more about how people finance their daily living and aged care needs.

Do I have to take part in this research study?
This Participant Information Statement tells you about the research study. It explains the research tasks involved. Knowing what is involved will help you decide if you want to take part in the research.

Please read this information carefully. Before deciding whether or not to take part, you might want to talk about it with a relative or friend.

Participation in this research is voluntary. If you don't wish to take part, you don't have to. Your decision will not affect your relationship with UNSW Australia or The University of Sydney.

What does participation in this research require, and are there any risks involved?
If you decide to take part in the research study, you will be asked to complete an online questionnaire which will ask you to make hypothetical financial decisions about the allocation of your retirement savings, and to answer questions about demographics and personal characteristics. We expect this activity to take up to 25 minutes.

Will I be paid to participate in this project?
You will be paid around 400 Market points if you complete this survey. You also have the opportunity to earn bonus points.

What are the possible benefits to participation?
We hope to use the research findings to find new and better ways to help people with their long term retirement planning.

What will happen to information about me?
By clicking on the 'I agree' button you consent to the research team collecting and using information from the questionnaire you complete for the research study. We will keep your data for 10 years.

It is anticipated that the results of this research study will be published and/or presented in a variety of forums. In any publication and/or presentation, information will be provided in such a way that your research findings may be published, but you will not be individually identifiable in these publications.

Any information obtained in connection with this research study that can identify you will remain confidential. The responses you provide to the questionnaire will be stored on a host server that is used by the School of Risk & Actuarial Studies. No personal information will be collected in the questionnaire so none will be stored as data.

How and when will I find out what the results of the research study are?
You have a right to receive feedback about the overall results of this study. You can tell us that you wish to receive feedback by contacting the 'Research Team Contact' detailed below. This feedback will be in the form of a working paper summarising key results, available on the 'Working papers' page of the UNSW School of Risk & Actuarial Studies website at http://www.business.unsw.edu.au/about/schools/risk-actuarial/research/publications. You will receive this feedback after the study is finished.

What if I want to withdraw from the research study?
Submitting your completed questionnaire is an indication of your consent to participate in the study. You can withdraw your responses any time before you have submitted the questionnaire. Once you have submitted it, your responses cannot be withdrawn because they are anonymous and therefore we will not be able to tell which one is yours.

What should I do if I have further questions about my involvement in the research study?
The person you may need to contact will depend on the nature of your query. If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project, you can contact the following member of the research team:

Research Team Contact

Name	Hazel Batemen
Position	Professor, School of Risk and Actuarial Studies
Telephone	+61 2 9385 3096
Email	h.bateman@unsw.edu.au

What if I have a complaint or any concerns about the research study?
If you have any complaints about any aspect of the project, the way it is being conducted, then you may contact:

Complaints Contact

Position	Human Research Ethics Coordinator
Telephone	+61 2 9385 6222
Email	humanethics@unsw.edu.au
HC Reference Number	HC15273

Please click ">>" to continue.

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Consent Form - Participant providing own consent

The purpose of this survey is to learn more about what matters most to people when thinking about financing aged care in later life.

Please note that due to the nature of this survey you will be asked questions about your personal information such as income and your housing situation. To participate in this survey, you MUST answer these questions as we need your answers to be able to ask you only relevant questions. Your answers to these questions are confidential, and cannot be used to identify you personally.

Declaration by the participant

- ☐ I have read the Participant Information Sheet;
- ☐ I understand the purposes, study tasks and risks of the research described in the project;
- ☐ I have had an opportunity to ask questions and I am satisfied with the answers I have received;
- ☐ I freely agree to participate in this research study as described and understand that I am free to withdraw at any time during the project and withdrawal will not affect my relationship with any of the named organisations and/or research team members.
- ○ I do not wish to participate

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Introduction

Thank you for agreeing to participate in this survey about personal financial decisions and aged and health care in retirement.

The survey will take approximately 20 to 25 minutes to complete.

Please take as much time as you need to answer the questions. Most questions only require you to tick a box. All your answers to the questions are strictly anonymous – that is no one involved in this study can identify you personally, no one will contact you after the survey and no sales solicitation is involved. Your answers will be used for academic purposes only.

This study is being conducted by researchers at UNSW Australia and the University of Sydney. The purpose is to explore better ways to help Australians manage their aged care costs in later life. This is not a policy proposal from the government. However, your answers might be used by the academic researchers to suggest ways to develop financial products to help you and other Australians look forward to a more secure and comfortable retirement.

The survey begins with a few simple questions about you. Please DO NOT USE the “back” and “forward” buttons in your browser, please use the buttons at the bottom of each screen. If you would like to pause the survey to return to it later, simply close the window and click on the original link in the invitation. It will return you to the last point of entry in the survey.

Please click ">>" to continue.

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What is your age?

Are you?

- ○ Male
- ○ Female

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Demographics

In this section of the survey, we will collect some demographic information about you.

Cultural background

Where were you born?

- ○ Australia
- ○ New Zealand
- ○ United Kingdom, Channel Islands, Isle of Man
- ○ North-West Europe (excl. United Kingdom, Chanel Islands, Isle of Man)
- ○ Mediterranean countries
- ○ Eastern Europe
- ○ China
- ○ India
- ○ Asian country other than China and India
- ○ Other (Please specify) [ ]

Marital status

What is your current marital status?

- ○ Never married and not living in a long term (de facto) relationship
- ○ Widowed
- ○ Divorced
- ○ Separated but not divorced
- ○ Married
- ○ Living in long term relationship (de facto)

Which of the following describes your family structure?

- ○ Living alone
- ○ Living with husband/wife or a long term partner without children
- ○ Living with husband/wife or a long term partner with children
- ○ Living with children (one parent family)
- ○ Living with a relative or friend
- ○ Other than the above

We are now going to ask you a few questions about your health.

Has a doctor ever told you that you have dementia?

- ○ Yes
- ○ No

Does anyone ever help you with the following:

	Yes	No
Dressing, including putting on shoes and socks	○	○
Bathing or taking a shower	○	○
Eating, such as cutting up your food	○	○
Getting in or out of bed	○	○
Using the toilet, including getting up and down	○	○

Please answer the following questions regarding some major illnesses:

	Yes	No
Has a doctor ever told you that you have had a heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems?	○	○
Has a doctor ever told you that you have diabetes or high blood sugar?	○	○
Has a doctor ever told you that you have chronic lung disease such as chronic bronchitis or emphysema?	○	○
Has a doctor ever told you that you have had a stroke?	○	○

Would you say your health is excellent, very good, good, fair, or poor?

- ○ Excellent
- ○ Very good
- ○ Good
- ○ Fair
- ○ Poor

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We are now going to ask you some questions about your wealth.

Do you (and your husband/wife/partner) currently:

- ○ Own (or are buying) your own home
- ○ Rent your home
- ○ Other (Please specify) [ ]

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Which of the following categories best describes your net wealth (what you own (your assets) LESS what you owe (your debts))? (If you are married or in a de facto relationship, include only your share of the wealth).

Your assets can include:

- *(Cash and fixed interest) bank accounts, currency, CDs, notes, bonds, debentures, term deposits.*
- *(Equities) shares, units in trusts, mutual funds, warrants, convertibles, derivatives.*
- *(Property excluding your family home) listed and unlisted property trusts, investment properties.*
- *(Superannuation) in defined benefit funds, accumulation schemes, large superannuation funds, self-managed superannuation funds.*
- *(Private businesses) farms, family businesses etc.*
- *(Other) such as collectibles, home contents and vehicles.*

Your debt can include:

- *Outstanding credit card or store card balances*
- *Loans excluding home mortgage: such as car loans, hire purchase agreements, loans to purchase investment properties or other investment loans (such as loans to buy financial assets or shares)*
- *Overdrafts or business loans*
- *Other loans (such as, amounts you borrowed from family or friends)*

- ○ $0 - Less than $99,999
- ○ $100,000 - $249,999
- ○ $300,000 - $499,999
- ○ Greater than or equal to $500,000

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The rest of this survey consists of four sections.

- Section 1 – Allocation of retirement savings – around 13 mins
- Section 2 – Financial Behaviour – around 2 mins
- Section 3 – Life Expectancy and Aged care – around 5 mins
- Section 4 – Personal Characteristics – around 5 mins

Please confirm the following text by clicking on ">>" below after you have read it:

You will earn your Market points by completing this survey. Your total earnings will consist of the **basic earnings** for completing the survey and the **bonus earnings**. Your bonus earnings will depend on the answers you give to the questions in Section 1. However, you will earn your Market points **only** if you complete **all** sections.

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Section 1 - Allocation of retirement savings

In retirement, there are a wide range of financial decisions that have to be made. We would like to know how you intend to cover your expenses in retirement. In particular, we want to focus on how you will cover (1) your regular living expenses and (2) aged care, if required.

Regular retirement expenses

After retiring, most Australians cover regular expenses with money from up to three sources:

1. If you are eligible, you can get the Age Pension from the government.
2. You can draw from your retirement savings including investments and your superannuation account.
3. You can use your retirement savings to buy a lifetime annual income product from an insurance company.

You can click ">>" to continue in **27** seconds

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Aged-care expenses

The chance of needing aged care varies from person to person, depending on your health and medical history. However, **three out of every five** of us will need some form of care during our lives, mostly at older ages.

Women are more likely to need care than men.

People's needs for assistance can range from help with checking blood pressure, managing medicines, or daily activities like bathing and dressing. Costs can run from **less than $1,000 a year for basic home support, to around $65,000 a year for residential aged care**.

You can click ">>" to continue in **28** seconds

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Chance of needing aged care

What do you think are the chances that you will ever need in-home care?

- ○ Lower than the average for people of your gender
- ○ Higher than the average for people of your gender
- ○ About the average

What do you think are the chances that you will ever need residential care?

- ○ Lower than the average for people of your gender
- ○ Higher than the average for people of your gender
- ○ About the average

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Retirement income products

In this questionnaire, we are going to ask you to make decisions on how you would allocate your retirement savings among financial products which provide income in retirement. Three particular products that we would like you to consider are described below.

(Some features of the products we ask you to think about are similar to products currently available. In this questionnaire you must focus on these hypothetical products only)

Please read these descriptions carefully because your understanding may affect the bonus Market points that you earn from this survey.

You can click ">>" to continue in **29** seconds

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The three retirement income product options are:

1. Lifetime Annual Income:
This product offers regular income payments every year **for the rest of your life**. For every **$1,000** premium you pay now (**one-off** payment), you will receive payments of **$75 (CPI-indexed) each year** for the rest of your life. If you die, the payments stop and **no** money will be paid to your estate.

2. Aged Care Income:
This product offers additional income **if you need aged care**. For every **$1,000** premium you pay now (**one-off** payment), you will receive payments of **$1,000 (CPI-indexed) each year** if at any time you have either (or both) of the following health conditions:

1. You are diagnosed with dementia.
2. You **need help** completing at least two of the following activities: (i) eating, (ii) bathing, (iii) dressing, (iv) toileting, and (v) getting in or out of bed.

If you die, the payments stop and **no** money will be paid to your estate.

3. Account-Based Pension Product:
This product is an investment account where you can deposit your retirement savings and withdraw as and when needed. If you die, any balance **will** be paid to your estate.

For all three products:

- The income you receive would be **on top** of the Age Pension you receive from the government and does not affect the amount of Age Pension.
- Assume you do **not** have to pay any tax.
- The issuer of the product will never default so you are guaranteed to be paid if you qualify.

You can click ">>" to continue in **58** seconds

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Some hypothetical scenarios

We are now going to present you with a series of hypothetical scenarios and ask you to make decisions about the allocation of your retirement savings to the various retirement income product options we have shown you.

(If you need any information about the three products (Lifetime Annual Income, Aged Care Income, Account-Based Pension Product), just hover your mouse over the blue text and a summary table of all three will pop up).

Ignoring your own financial circumstances for the moment, we want you to imagine you

- **Are 65 years old,**
- **Are about to retire,**
- **Own your own home.**

You can click ">>" to continue in **29** seconds

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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.

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**

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.

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**

Scenario 3 - 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 $25,300, which is made up of Age Pension ($22,000) and **Lifetime Annual Income** ($3,300). In this scenario, suppose you have purchased $6,600 **Lifetime Annual Income** using your retirement savings of $87,500. As a result, you now have:

- **Basic retirement income of $28,600 per annum (CPI-indexed)**. This is made up of Age Pension ($22,000) and **Lifetime Annual Income** ($6,600).
- **Retirement savings of $87,500**

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 $28,600 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.

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: **$28,600**

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: **$87,500**

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Scenario 4 - 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 $28,600, which is made up of Age Pension ($22,000) and **Lifetime Annual Income** ($6,600). In this scenario, suppose you have purchased $9,800 **Lifetime Annual Income** using your retirement savings of $131,250. As a result, you now have:

- **Basic retirement income of $31,800 per annum (CPI-indexed)**. This is made up of Age Pension ($22,000) and **Lifetime Annual Income** ($9,800).
- **Retirement savings of $43,750**

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 $31,800 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.

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: **$31,800**

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: **$43,750**

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Aged Care Income and an Account-Based Pension product for different levels of basic retirement income. In the next three scenarios we would like you to choose between different combinations of basic retirement income, Aged Care Income and Account-Based Pension.

Please click ">>" to continue.

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Scenario 5: Retirement income product combinations

Columns A, B and C represent combinations of retirement income products. They are equal in total value, and would be funded from your retirement savings of $175,000.

Which of the following three combinations A, B or C, would be best for you? Which would be worst?

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

	A	B	C
Your annual basic retirement income (Age Pension plus Lifetime Annual Income)	$25,300	$28,600	$31,800
Your annual Aged Care Income if you suffer from either (or both) health conditions 1) or 2)	$24,950	$37,650	$10,950
Your Account-Based Pension balance	$ 106,300	$49,850	$32,800
Which of A, B or C would be BEST for you:	○	○	○
Which of A, B or C would be WORST for you:	○	○	○

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Scenario 6: Retirement income product combinations

Here are another three combinations. They are equal in total value, and would be funded from your retirement savings of $175,000.

Which of the following three combinations A, B or C, would be best for you? Which would be worst?

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

	A	B	C
Your annual basic retirement income (Age Pension plus Lifetime Annual Income)	$25,300	$22,000	$35,125
Your annual Aged Care Income if you suffer from either (or both) health conditions 1) or 2)	$24,950	$38,500	$0
Your Account-Based Pension balance	$106,300	$136,500	$0
Which of A, B or C would be BEST for you:	○	○	○
Which of A, B or C would be WORST for you:	○	○	○

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Scenario 7: Retirement income product combinations

In the last question we noticed that you prefer combination **A**. Now suppose that the **Aged Care Income** product was not available as an option.

Please consider the three new combinations below. They are equal in total value, and would be funded from your retirement savings of $175,000.

Which of the following three combinations A, B or C would be best for you? Which would be worst?

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

	A	B	C
Your annual basic retirement income (Age Pension plus **Lifetime Annual Income**)	$25,300	$28,563	$22,000
Your **Account-Based Pension** balance	$131,250	$87,500	$175,000
Which of would be BEST for you?	○	○	○
Which of A, B or C would be WORST for you?	○	○	○

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Scenario 8: Financing Aged Care Income product

In the last scenario, you made the following choice:

- **Basic retirement income of $28,563 per annum (Age Pension plus Lifetime Annual Income)**
- **Account-Based Pension balance of $87,500**

If you were to buy the **Age Care Income** product, you could finance this either by reducing your **Lifetime Annual Income** and/or by reducing your **Account-Based Pension** balance.

Columns A, B and C represent the three possible ways to finance your **Aged Care Income product**. The total costs are equal in total value. Which of the following three options in columns A, B or C, would be best for you? Which would be worst?

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

	A - reducing Lifetime Annual Income	**B - reducing both Lifetime Annual Income and Account-Based Pension balance**	**C - reducing Account-Based Pension product**
Your annual basic retirement income (Age Pension plus **Lifetime Annual Income**)	Decrease (--)	Decrease (-)	Keep the same
Your **Account-Based Pension** balance	Keep the same	Decrease (-)	Decrease (--)
Explanation	For each $1,000 increase in **Age Care Income** each year, you reduce your **Lifetime Annual Income** by each year	For each $1,000 increase in **Age Care Income** each year, you reduce your **Lifetime Annual Income** by $37.50 and your **Account-Based Pension balance** by $500	For each $1,000 increase in **Age Care Income** each year, you reduce your **Account-Based Pension balance** by $1,000
Which of A, B or C would be BEST for you:	○	○	○
Which of A, B or C would be WORST for you:	○	○	○

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In the final scenario of this section, we will ask you to choose which type of benefit you would prefer to cover aged care costs.

Please click ">>" to continue.

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Scenario 9: Aged care benefits – do you prefer fixed payments or cash reimbursements?

In the scenarios so far the age care income product has paid fixed annual payments. Now imagine that there are two alternative ways you can receive a benefit to cover aged care costs. The price you would pay would be the same regardless. The benefits you would receive are also projected to be the same.

- **Option A** - **Fixed Payments**: You will receive regular fixed payments (CPI-indexed) if you suffer from either (or both) of the health conditions **1)** or **2)**. That is, you **will** receive the full payment even if you do not have to pay that much for your care (for example, if the care is provided by your family members). However, if your aged care expenses exceed the Age Care Income payments, you need to **pay for** the shortfall.
- **Option B** - **Reimbursements**: You will be reimbursed for the full costs of care that you have incurred. However, you **will not** receive any payments if you do not have to pay for the costs of care.

Which option do you prefer?

- ○ I would prefer fixed payments - Option A
- ○ I would prefer reimbursements - Option B

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Retirement income product choices: Review of your product knowledge

Now we would like to review your knowledge of the retirement income products.

Which of the following statements apply to each of the products - Lifetime Annual Income, Aged Care Income and the Account-Based Pension product? Please tick the check box under the product name whenever the statement applies to it.

You may tick one or more boxes for each column and row.

	Lifetime Annual Income	Aged Care Income	Account-Based Pension product
I will have money in an account which I can access	☐	☐	☐
If I die, payments stop	☐	☐	☐
I will receive a regular income for as long as I live	☐	☐	☐
In the event I have dementia and/or difficulties with two daily living activities, I will receive additional regular income	☐	☐	☐
I can invest my money to earn investment returns	☐	☐	☐
None of the above apply	○	○	○

<< >>

Has a doctor ever told you that you have dementia?

- ○ Yes
- ○ No

Does anyone ever help you with the following:

	Yes	No
Dressing, including putting on shoes and socks	○	○
Bathing or taking a shower	○	○
Eating, such as cutting up your food	○	○
Getting in or out of bed	○	○
Using the toilet, including getting up and down	○	○

Have you seen these questions previously in this survey?

- ○ Yes
- ○ No

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Section 2: Financial behaviour

In this section of the survey, we will ask you about your risk attitude, level of patience and when you would like to spend your money.

Risk attitude

1. How do you see yourself: **Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?**

Please tick one box on the scale where 0 means 'not prepared to take risks' and 10 means 'fully prepared to take risks'.

Not prepared to take risks										Fully prepared to take risks
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

2. How do you see yourself: **Are you generally a person who is fully prepared to take risks in *financial matters* or do you try to avoid taking risks in *financial matters*?**

Please tick one box on the scale where 0 means 'not prepared to take risks' and 10 means 'fully prepared to take risks'.

Not prepared to task risks										Fully prepared to take risks
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

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Section 2: Financial behaviour

Patience

3. How do you see yourself: **Are you generally an impatient person, or someone who always shows great patience?**

Please tick one box on the scale where 0 means 'very impatient' and 10 means 'very patient'.

Very impatient										Very patient
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

Spending in different health conditions

4. People's general spending behaviour may be different when they are not healthy. How do you see yourself: **Are you generally like person A or person B?**

- **Person A**: Spend as much as possible while being in good health and spend little while being in bad health.
- **Person B**: Spend as much as possible while being in bad health and spend little while being in good health

Please tick one box on the scale where 0 means 'Person A' and 10 means 'Person B'.

Person A										Person B
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

<< >>

Section 3: Life expectancy and aged care

In the following questions we will ask you about life expectancy, health and aged care.

Subjective longetivity

According to Australian Bureau of Statistics, Australian females at your age on average are expected to live to age 90, to what age do you think you will live?

Smoking behaviour

Which of the following best describes your smoking behaviour? *(By smoking we mean more than 100 cigarettes in your lifetime. Do not include pipes or cigars)*

- ○ Ever smoked, currently smoking
- ○ Ever smoked, currently not smoking
- ○ Never smoked

<< >>

Section 3: Life expectancy and aged care

How many children do you have that are still alive?

Please count all natural children, fostered, adopted and stepchildren.

<< >>

Section 3: Life expectancy and aged care

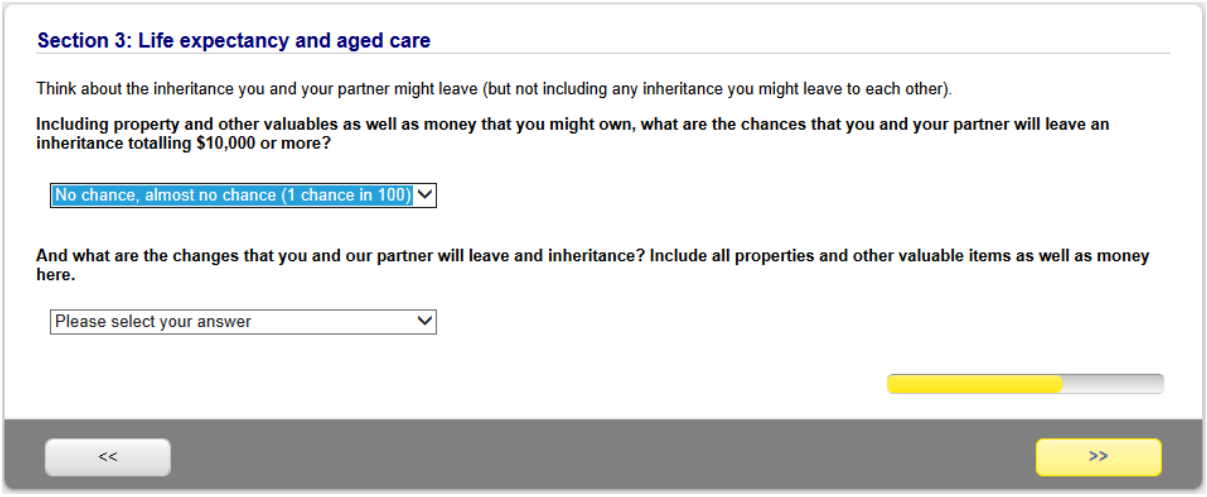
Think about the inheritance you and your partner might leave (but not including any inheritance you might leave to each other).

Including property and other valuables as well as money that you might own, what are the chances that you and your partner will leave an inheritance totalling $10,000 or more?

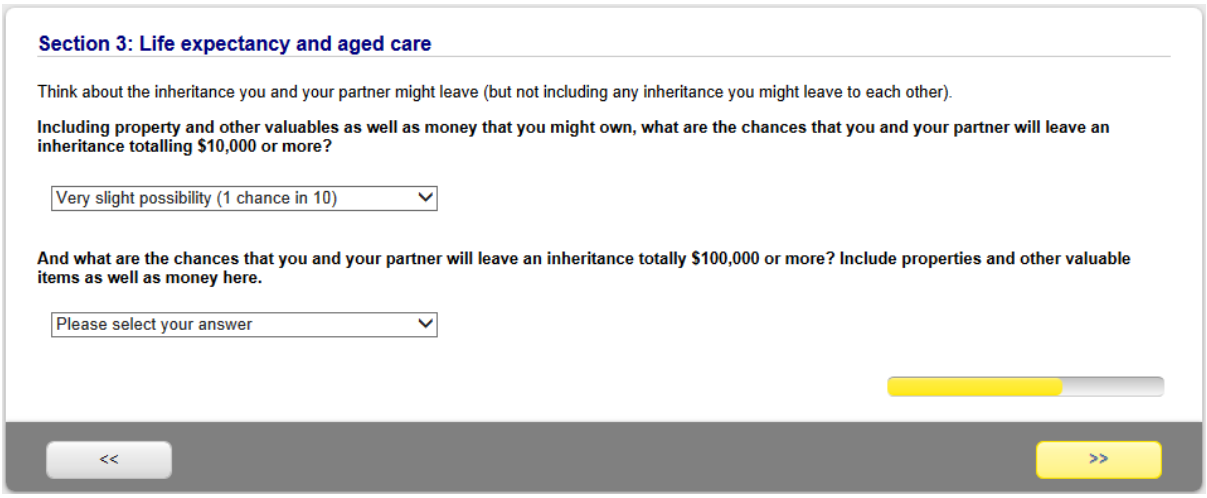
Please select your answer

<< >>

IF NO CHANCE



IF <> NO CHANCE



Section 3: Life expectancy and aged care

Exposure to care and health insurance

In the last five years, have you ever received assistance or services provided by any medically-trained person who came to your home to help you?

- ○ Yes
- ○ No

In the last five years, have your parents, siblings or other close relatives ever received assistance or services provided by any medically-trained person who came to their home to help them?

- ○ Yes
- ○ No
- ○ Don't know

Did you look after any sick or disabled adult in the past week (including your partner or other people in your household)?
(By 'look after' we mean the active provision of care)

- ○ Yes
- ○ No

Not including Medicare, are you covered by any private health insurance plan, whether in your own name or through another family member?

- ○ Yes, in own name
- ○ Yes, through another family member
- ○ No, not insured

<< >>

Section 3: Life expectancy and aged care

Potential to receive aged care and aged care planning

When getting older, you may need help with daily living activities (eg, bathing, dressing, feeding) and/or domestic tasks (eg, shopping, gardening, cleaning, cooking). Have you given a thought about who will provide care or support for you before you participated in this survey?

- ○ Yes
- ○ No

Have you given a thought about how you will pay for the aged-care expenses before you participated in this survey?

- ○ Yes
- ○ No

<< >>

Section 3: Life expectancy and aged care

If you were to need *some* help with daily living activities (e.g., bathing, dressing, feeding) and/or domestic tasks (e.g., shopping, gardening, cleaning, cooking), who do you expect will provide that help?

Select all that apply.

- ☐ Spouse/partner
- ☐ Children/extended family
- ☐ Friends and neighbours
- ☐ An aged care provider, in my home
- ☐ An aged care provider, in residential care
- ☐ Personal carers/gardeners/cleaners etc. that I hire myself
- ☐ Other (Please specify) _____

If you were to need *extensive* help with daily living activities (e.g., bathing, dressing, feeding) and/or domestic tasks (e.g., shopping, gardening, cleaning, cooking), who do you expect will provide that help?

Select all that apply.

- ☐ Spouse/partner
- ☐ Children/extended family
- ☐ Friends and neighbours
- ☐ An aged care provider, in my home
- ☐ An aged care provider, in residential care
- ☐ Personal carers/gardeners/cleaners etc. that I hire myself
- ☐ Other (Please specify) _____

Which of the following statements best describes your thoughts about financing your aged care expenses?

- ○ I've made sure I've got enough money/assets to pay for care when I need it
- ○ I will need some help from my family to pay for my aged care costs
- ○ I will need some help from the government to pay for my aged care costs
- ○ I expect the government to pay all my aged care costs
- ○ Can't say - don't know what aged care services I may need or how much they will cost

<< >>

Has a doctor ever told you that you have dementia?

- ○ Yes
- ○ No

Does anyone ever help you with the following:

	Yes	No
Dressing, including putting on shoes and socks	○	○
Bathing or taking a shower	○	○
Eating, such as cutting up your food	○	○
Getting in or out of bed	○	○
Using the toilet, including getting up and down	○	○

Have you seen these questions previously in this survey?

- ○ Yes
- ○ No

<< >>

Section 4: Personal characteristics

In this final section of the survey, we will collect some socio-economic information about you

Education

What is the highest level of school you have completed?

- ○ Year 12 or equivalent
- ○ Year 11 or equivalent
- ○ Year 10 or equivalent
- ○ Year 9 or equivalent
- ○ Year 8 or equivalent
- ○ Year 7 or equivalent
- ○ Year 6 or below
- ○ Did not go to school

What is the highest post school qualification you have?

- ○ PhD
- ○ Master Degree or equivalent
- ○ Graduate Diploma and Graduate Certificate from university or equivalent
- ○ Bachelor Degree or equivalent
- ○ Advanced Diploma and Diploma from university/TAFE or equivalent
- ○ Certificate or equivalent from TAFE or equivalent
- ○ None of the above

<< >>

Section 4: Personal characteristics

Work status

Which of the following best describes your current work status?

- ○ Employed full time
- ○ Employed part time
- ○ Unemployed
- ○ Not in the labour force - Stay-at-home parent or caregiver
- ○ Not in the labour force - Full-time student
- ○ Not in the labour force - Retired
- ○ Not in the labour force - Other

Income

Which of the following categories best describes your weekly (annual) gross *personal income* (before tax)?

- ○ Negative income
- ○ Nil income
- ○ $1-$199 ($1-$10,399)
- ○ $200-$299 ($10,400-$15,599)
- ○ $300-$399 ($15,600-$20,799)
- ○ $400-$599 ($20,800-$31,199)
- ○ $600-$799 ($31,200-$41,599)
- ○ $800-$999 ($41,600-$51,999)
- ○ $1,000-$1,249 ($52,000-$64,999)
- ○ $1,250-$1,499 ($65,000-$77,999)
- ○ $1,500-$1,999 ($78,000-$103,999)
- ○ $2,000 or more ($104,000 or more)

<< >>

Section 4: Personal characteristics

Which of the following categories best describes your weekly (annual) gross *household income* (before tax)?

- ○ Negative income
- ○ Nil income
- ○ $300-$399 ($15,600-$20,799)
- ○ $400-$599 ($20,800-$31,199)
- ○ $600-$799 ($31,200-$41,599)
- ○ $800-$999 ($41,600-$51,999)
- ○ $1,000-$1,249 ($52,000-$64,999)
- ○ $1,250-$1,499 ($65,000-$77,999)
- ○ $1,500-$1,999 ($78,000-$103,999)
- ○ $2,000-$2,499 ($104,000-$129,999)
- ○ $2,500-$2,999 ($130,000-$155,999)
- ○ $3,000-$3,499 ($156,000-$181,999)
- ○ $3,500-$3,999 ($182,000-$207,999)
- ○ $4,000-$4,999 ($208,000-$259,999)
- ○ $5,000 or more ($260,000 or more)

<< >>

Financial Literacy and Numeracy

This section includes questions to measure your general financial competence. Please answer the questions without using a calculator.

Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- ○ More than $102
- ○ Exactly $102
- ○ Less than $102
- ○ Do not know

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- ○ More than today
- ○ Exactly the same
- ○ Less than today
- ○ Do not know

Buying shares in a single company usually provides a safer return than buying units in a managed share fund.

- ○ True
- ○ False
- ○ Do not know

<< >>

Financial Literacy and Numeracy

Imagine that we rolled a fair, six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up even?

Please enter a number between 0 to 1000 in the box.

[ ] times

In a lottery, the chance of winning a $500 prize is 1%. What is your best guess of how many people would win the prize if 1,000 people each buy a single ticket in the lottery?

Please enter a number between 0 to 1000 in the box.

[ ] people

In a raffle, the chance of winning a car is 1 in 1,000. What percent of tickets in the raffle win a car?

Please enter a percentage.

[ ] %

<< >>

Product knowledge

Have you heard of the following:

	Yes	No
Bank/credit union transaction acounts	○	○
Bonds	○	○
Shares (Stocks)	○	○
Private health insurance	○	○
Life insurance policies	○	○
Superannuation accounts	○	○
Account-based (or allocated) pension	○	○
Lifetime annuity	○	○
Fixed term annuity	○	○
Aged care insurance	○	○

<< >>

Regarding a lifetime annuity, which of the following statements are always true?

Select all that apply.

- ☐ It is a type of life insurance product
- ☐ As a purchaser, you exchange a lump sum for regular income payments
- ☐ Income from this product lasts your whole life regardless of how long you live
- ☐ The estate receives a lump sum payment when the purchaser dies
- ☐ Purchasing this product results in regular income payments at interest rates higher than an equivalent term deposit

Regarding aged care insurance, which of the following statements are always true?

Select all that apply.

- ☐ As a purchaser, you pay a single/regular premium in exchange for benefits that help you cover (or reduce) the cost of long-term aged care or support expenses
- ☐ The insurance covers costs of residential care only
- ☐ The premium of the insurance is higher if you are older
- ☐ There is a chance that you will not be able to purchase aged care insurance if you have difficulties with one or more activities of daily living (such as bathing, eating, and dressing)
- ☐ With regular premium payments, you may not get your payments back or receive any benefits if you surrender your insurance by discontinuing payment of the regular premiums

<< >>

Retirement planning

Are you intending to retire before age 65?

- ○ Yes
- ○ No
- ○ Do not know

Which of the following statements best describes your thoughts about the financial aspects of retirement?

- ○ I've not thought about what savings I will need for retirement
- ○ I've checked out my current savings position and started to think about what I will need for retirement
- ○ I've a firm idea of what I need for retirement and I'm not on track to reach my savings goal
- ○ I've a firm idea of what I need for retirement and I'm on track to reach my savings goal

For many households, overall spending changes dramatically upon retirement. Please indicate below what your experience has been (if you are retired), or what your expectations are (if not retired)

- ○ My household had (or expects to have) no change in spending at retirement
- ○ My household has spent (or will spend) more after retirement than before
- ○ My household has spent (or will spend) less after retirement than before

<< >>

Thank you

How clear do you think the questions in this survey are?

Completely clear	Mostly Clear	Sometimes clear	Sometimes confusing	Mostly confusing	Completely confusing
1	2	3	4	5	6
○	○	○	○	○	○

This concludes the survey. You have earned a bonus of 50 Market points and will be rewarded within 20 days. Please provide any additional feedback about the survey you have just completed. Thank you for your time!

Please click the button on the bottom right to submit your responses.

<< Submit Responses

Online Appendix B Financing long-term care in Australia

In most cases, long-term care is referred to as "aged care" in Australia. The 2016 Census identified just over 3.6 million Australians aged 65 or above, which represented 15.3% of the population. About one-fifth of this group needed help with one or more ADLs (CEPAR, 2014).

Similar to the US and the UK, the publicly financed aged-care system in Australia is means tested (Department of Health, Australian Government, 2019a). This system compares with the tax-funded schemes popular in Nordic countries and social insurance in other OECD countries. Unlike the US, but similar to the UK (Dilnot, 2011), there is no private market for long-term care insurance in Australia. Subject to approval from an eligibility assessment authority as required by the Aged Care Assessment Team (ACAT), people who need care either in their own home or in a residential care facility receive financial support from the Australian government. The amount of support is determined by means-testing rules, which are integrated with the means-tested public pension (the Age Pension).[1] In aggregate, the Australian government's expenditures on aged care were around 1.1% of GDP in 2019-20 (The Treasury, Australian Government, 2019) and are projected to increase to 1.7% of GDP in the next half-century (The Treasury, Australian Government, 2015). However, the total costs of aged care includes these public expenditures, out-of-pocket private expenditures, and costs associated with informal care. Costs differ depending on whether the individual receives care in their own home or in a residential facility.

People who receive care in their own home are required to pay a basic daily fee, a means-tested care fee, and fees for any additional services that are not covered by their care package (e.g., haircuts at home). The basic daily fee was set at 17.5% of the single Age Pension until 30 June 2019 and is now set between 15.68% and 17.5% depending on the consumer's home care package level.[2] The means-tested care fee is subject to an income test. There is an Income Free Area which excludes a certain amount of annual income from the income test in home care fees. This corresponds to yearly income less than A$27,463.80 for singles and combined yearly income less than A$42,588.00 for couples from September 2019. Individuals who earn below this amount (typically full pensioners) do not need to pay any care fees, with all costs paid by the government. The amount of income-tested fees is limited by a A$5,550.90 annual cap for people with income below A$53,060.80 and A$11,101.81 for income above this amount. The costs of additional services that are not covered by the home-care package are out-of-pocket.

[1] All amounts and means testing rules are for September 2019 (see Department of Health, Australian Government, 2019b). Thresholds are indexed and adjusted twice per year, with new rates published by the government in March and September of each year.

[2] From 1 September 2019, this fee corresponds to between A$9.52 and A$10.63 per day.

People who receive care in a residential facility are required to pay a basic daily fee, a means-tested care fee, an accommodation payment, and fees for any additional services. The basic daily fee is 85% of the single basic rate of age pension. From September 2019, this fee corresponded to A$51.63 per day. Both the care fee and accommodation payment are means tested by income and assets with the value of family home included in the assets test (up to a capped amount) unless the home is occupied by a spouse or dependent children. Combined, these corresponded to A$168,351 in September 2019. The results of both tests are used to determine the amount of the care fee and the accommodation payment payable by care users. Similar to home-care users, an annual cap applies to the means-tested care fees for residential care. The annual cap is A$27,463.80 of the amount paid in means-tested care fees. The means-test rules apply to the accommodation payment such that age pensioners will have their accommodation costs paid in full or in part by the Australian government. Other people will need to pay the accommodation price they negotiate with their aged-care facility. The accommodation can be paid as a daily accommodation payment (DAP) or a refundable accommodation deposit (RAD). The maximum RAD that can be charged without prior approval of the Aged Care Pricing Commissioner is A$550,000. The cost of additional services — such as more food options, daily newspapers, and access to discretionary services such as podiatry — are out-of-pocket.

On top of these provisions, the system also provides a lifetime stop-loss scheme on the amount of care fees paid out-of-pocket, although individuals are still liable to pay the daily fees, the accommodation payment, and fees for any additional services. There is a lifetime cap, amounting to A$66,610.90 as of September 2019. Individuals are not required to pay more than this amount for means-tested care fees (both for home care and residential care) in their lifetime.

The Australian government also provides support to informal care givers through a Carer Allowance (a supplement to cover some costs of caring) and a Carer Payment (for those unable to work as a result of caring). Around a quarter of a million Australians aged 65 or above receive informal care from those who received a Carer Payment. In total, these cost the government an additional A$7 billion that is estimated to grow annually at a rate of over 6% in real terms over the next 20 years (National Commission of Audit, Australian Government, 2014).

Online Appendix C Wealth group assignment

Table C1: Categorization of wealth groups

The table reports four wealth groups based on participants' self-reported net wealth and corresponding assigned hypothetical retirement savings. Net wealth equals total assets less total liabilities, excluding the family home and its mortgage.

Net wealth	Wealth group	Hypothetical retirement savings
Less than A$100,000	1	A$50,000
A$100,000 to less than A$250,000	2	A$175,000
A$250,000 to less than A$500,000	3	A$375,000
A$500,000 or higher	4	A$1,000,000

Online Appendix D Financial product pricing

We priced the life annuity and the long-term care income product at actuarially fair value that was based on gender and a risk-free, real interest rate of 3%. We took both the mortality probabilities and health transition probabilities for pricing the life annuity and the long-term care income product from estimates by Brown and Warshawsky (2013), who use data from the Health and Retirement Study (HRS) 1998 (Wave 4) to 2008 (Wave 9). Brown and Warshawsky (2013) estimate the transition probabilities of a continuous-time Markov Chain of 11 health states, including death.[3] We use the first four states to describe the current health of survey participants (see Table D1). The remaining seven states (those with more than one limitation or death), together with the first four describe how participants' health evolves over time. The health transition probabilities are gender- and age-dependent. We use these estimated health transition probabilities to price the life annuity and the long-term care income product.[4] Because the hypothetical scenario in the experiment asked people to make the decisions as if they were 65, every one of the same gender faced the same price for the long-term care income product.[5]

Table D1: Classification of health states

The table explains the classification of health states (1 - 4). Heart problems refer to heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems. Lung disease refers to chronic lung diseases like chronic bronchitis and emphysema.

Health state	History of major illness	Self-reported health	Disability status
1	None	Good to Excellent	0 ADL
2	None	Poor to Fair	0 ADL
	None	All	1 ADL
3	Heart problems or diabetes, but not both	All	0-1 ADL
4	Heart problems and diabetes, or lung disease, or stroke	All	0-1 ADL

[3]This actuarial health transition model is similar to the one developed by Robinson (1996), which is widely-used in the literature (Brown and Finkelstein, 2007, 2008) as well as by insurance companies, regulators, and government agencies.

[4]We note that the health transitions are estimated from US data while the survey is fielded to a sample of Australians. This is because there is no available Australian data to estimate a similar multi-state health transition model in retirement. For comparison, Brown and Finkelstein (2008) estimate that the probability of using long-term care for a 65 year-old American male (female) is 40 (54)%, while the probability of requiring care for a 65 year-old Australian male (female) is 48 (68)% according to the Productivity Commission (2011).

[5]The long-term care income product is not priced according to a purchaser's current health, because the differences in actuarially fair prices across health states are small (Brown and Warshawsky, 2013).

Online Appendix E Other covariates

In this section, we describe how we construct the control variables displayed in Table 5 but not discussed in the body of the paper.

E.1 Measures for utility parameters

The extent to which individuals are willing to purchase insurance against long-term care risk is likely to depend on their risk attitudes. Following Dohmen et al. (2011), we measure risk attitudes by asking participants to rate their willingness to take risks (WTR) in the financial context[6] on a scale from 0 to 10, where 0 indicates not willing to take any risks and 10 indicates fully prepared to take risks.[7]

We also include a variable *Patience* as a proxy for time preference. Using a similar question to willingness to take risks, participants reported their level of patience on a scale from 0 to 10, with 0 indicating very impatient and 10 indicating very patient.

Recent studies show that the marginal utility of consumption might be health contingent. However, it is not clear whether it is higher or lower in poor health states (Viscusi and Evans, 1990; Finkelstein et al., 2009; Ameriks et al., 2015; Finkelstein et al., 2013). To control for this, we measure the utility of consumption in bad health relative to that in good health using a survey question that is similar to the risk attitude question. We describe two persons – person A who 'prefers to spend as much as possible in good health and as little as possible in bad health' and person B who prefers the opposite. We asked participants to assess whether they are generally like person A or person B, on a scale from 0 (being like person A) to 10 (being like person B). This allows us to create the variable *Utility in bad health* as a proxy for the level of marginal utility of consumption in long-term care states relative to non-long-term care states.

There is no consensus in the literature about how (non-strategic) bequest motives affect the demand for long-term care insurance. On the one hand, a traditional view is that bequest motives increase the demand for long-term care insurance for two reasons (Pauly, 1990). First, they reduce the attractiveness of spending down wealth to receive means-tested publicly financed care. Second, long-term care insurance

[6] In the survey, we also asked risk attitudes in general. The correlation between the two measures of risk attitudes is 0.787. Being a female, older, and poorer relates to a higher risk aversion under both measures. Following Dohmen et al. (2011), we test the ability of both measures in predicting smoking and purchasing private health insurance using a horse race. However, both measures are not significant in predicting smoking and purchasing private health insurance behavior. We choose to use risk attitude in financial context as it relates more closely to our experimental tasks.

[7] Although the survey questions used to measure risk attitudes are not incentive compatible, earlier studies have shown its behavioral validity in predicting economic decisions in many contexts such as holding stocks and smoking (Dohmen et al., 2011).

reduces the exposure of the level of bequests to the risk of expensive long-term care costs. On the other hand, Lockwood (2014) shows that bequest motives decrease the demand for long-term care insurance, because the existence of bequest motives reduces the opportunity costs of holding precautionary savings to self-insure against long-term care risk. To measure the strength of bequest motives, we asked participants to rate the chance of leaving a $100,000 inheritance (*Chance of $100K bequest*) to their children (i.e., excluding any inheritance to their spouses) on a scale from 0 ('almost no chance') to 10 ('practically certain').[8]

Demand for long-term care insurance is influenced by its product design (Brown and Finkelstein, 2007; Ameriks et al., 2018). Therefore, the demand for the long-term care income product may also be influenced by an individual's preference over the type of long-term care insurance. As the long-term care income product is an income-indemnity policy, its demand may be lower if an individual prefers an expense-reimbursement policy. To take this into account, we elicited the preferences of participants over these two types of long-term care insurance in Q9 while keeping the costs and benefits of the policies the same. We construct a binary variable *Prefer reimbursement* coded as 1 if expense-reimbursement is preferred by the participant and 0 otherwise.

E.2 Individual capability and knowledge about retirement financial products

Bateman et al. (2018) show that financial literacy, numeracy, and knowledge about retirement financial products are important factors in explaining individuals' choices of retirement benefits. Agnew et al. (2008) find that individuals with high financial literacy are more likely to self-insure against longevity risk in an annuity choice experiment. Our experimental survey uses the standard financial literacy questions (Lusardi and Mitchell, 2011) and numeracy questions (Lipkus et al., 2001). Both measures consist of three questions. We include them in our analysis by constructing the variables *No. of mistakes in FL* and *No. of mistakes in N*, the number of mistakes in the financial literacy and numeracy questions, respectively.

To measure knowledge about retirement financial products, we construct a continuous variable *Earnings from recall quiz* to control for participants' understanding of the three products introduced in the survey. In addition, we measure knowledge of commercial financial products in general, as well as specific knowledge of life annuities and long-term care insurance. We create a self-reported variable *General product knowledge* as the number of products the participant reported as having heard of out of ten real

[8]Following the HRS, we also asked the chance of leaving any and $10,000 inheritance in the survey. After an analysis on these three measures, we use the $100,000 measure because the heterogeneity in the responses is larger.

world financial products. Another two variables, *Knowledge of life annuity* and *Knowledge of long-term care insurance*, measure the proportion of correct answers to two questions testing the detailed knowledge of commercial life annuity products and long-term care insurance policies respectively. Furthermore, we construct a binary variable *No private health insurance* for participants who had not purchased private health insurance. This is to control for the possibility that people who have private health insurance have more knowledge about long-term care insurance.

E.3 Retirement planning

We also include several variables for retirement planning, since people who have actually made financial plans may be subject to the status quo effect (Kahneman et al., 1991), tending to stick with their real-world plans in the experimental tasks. This may reduce the demand for the long-term care income product (which is not offered in the real world), while both the life annuity and the investment account are actual and available product choices for retirement benefits.

We create a binary variable *Intend to retire before 65* taking a value of 1 if it was the case for the participant and as 0 otherwise. Another binary variable *Financial planning for retirement* is also included, which is coded as 1 if the participant had given at least some thought about the financial aspects of retirement and as 0 otherwise. A continuous variable *Retirement spending change* is also created to measure the projected percentage change (or the experience of change for retired participants) of consumption upon retirement.

Online Appendix F Other determinants of demand for the long-term care income product

Analysis in Section 4 focuses on the influence of long-term care risk factors and availability of informal care on the demand for the long-term care income product as well as those variables selected using LASSO in the reduced model. In this section, we discuss the effects of other categories of covariates in the full model. Online Appendix E describes how we construct these covariates. Table F1 in reports the effects of these variables on the demand for the long-term care income product when the level of survival-contingent income is fixed. Table F2 focuses the effects when participants are able to choose the level of survival-contingent income.

Regarding measures of utility parameters, results in Table F1 show that willingness to take risk in a financial context has an inverse-U shape effect on the demand for the long-term care income product. This inverse-U shape relationship is found for both the probability of purchasing and the purchased amount of long-term care (health)-contingent income. Thus for people with low risk aversion, the less willing they are to take risk the higher their demand for the long-term care income product. For people with high risk aversion, the less willing they are to take risk the lower the demand for the long-term care income product. The turning point is around 5 on the scale from 0 to 10.

Theory predicts that lower willingness to take risk should lead to a higher demand for insurance, ceteris paribus. However, Clarke (2016) shows theoretically that when insurance benefits are imperfectly correlated with the purchaser's net loss, demand for the insurance is low for very risk averse individuals. This is due to basis risk, the insurance could both worsen the worst possible outcome (suffer a loss without adequate benefits) and improve the best possible outcome (no loss but receive benefits). Giné and Yang (2009) and Cole et al. (2013) find empirical evidence supporting this argument in the market for wealth index insurance, where the insurance benefits depend on a wealth index rather than the actual losses of the purchaser. This is similar to our case: as a flexible long-term care insurance, benefits of the long-term care income product depend on the disability status of the insured, rather than the costs of long-term care (thus an imperfect correlation).

However, when individuals are able to choose the amount of survival-contingent income (Table F2), we find willingness to take risk does not explain the preferences for health-contingent income against survival-contingent income. The likely reason for this is that the demand for the long-term care income product is measured relative to the demand for life annuities which is also affected by willingness to take

risk. In this case, the reasons for the inverse-U shape relationship do not hold.

We also find that utility in bad health does not affect the demand for the long-term care income product. Moreover, we find that strength of bequest motives significantly reduces the probability of purchasing the long-term care income product and has a negative (but not significant) impact on the purchased amount of health-contingent income. Note that despite statistical significance, the variable is not economically significant. The estimated average partial effect of the bequest motive suggests that a one percentage point increase in the chance of leaving a $100,000 bequest decreases the chance of purchasing long-term care insurance by less than 0.1 percentage point. Consistent with Brown and Finkelstein (2007) and Ameriks et al. (2018), we also find a strong negative impact of preferring an expense-reimbursement long-term care insurance on the demand for the long-term care income product, suggesting that demand for long-term care insurance is influenced by its product design. This is not apparent in the preferences for health-contingent income against survival-contingent income, because the negative impact of preferring an expense-reimbursement long-term care insurance also reduces the demand for life annuities (as they are also an income product).

We observe that in general participants with better financial literacy, numeracy, and knowledge about retirement financial products have a lower demand for the long-term care income product. This implies that they are more capable and likely to self-insure against long-term care risk using the investment account, which is consistent with the finding in Agnew et al. (2008). The most important factors are numeracy and recall quiz earnings, which show a significant and negative impact on the demand for the long-term care income product in the full models reported in both Tables F1 and F2. These factors are also found to be the important factors in explaining individuals' choices of retirement benefits in Bateman et al. (2018). Finally, we find retirement planning has little impact on the demand for the long-term care income product.

Table F1: Determinants of demand for the long-term care income product given income streams (full model)

The table reports the estimated coefficients for random effects probit models in columns (1), (2), and (3) and for random effects OLS models in columns (4), (5), and (6). The dependent variable for columns (1), (2), and (3) is a binary variable that equals one if a participant chose to purchase the long-term care income product in Q1-Q4 and zero otherwise. The dependent variable for columns (4), (5), and (6) is the natural logarithm of the amount of annual health-contingent income chosen by participants who chose to purchase the long-term care income product in Q1-Q4. A reduced model comprising a subset of variables is reported in Table 3 of the paper. $+\infty$ indicates that the associated independent variables perfectly predicts the purchase of the long-term care income product. Robust standard errors (Huber-White) are shown in parentheses. Asterisks for σ_ν indicate significance of the random effects that are derived from likelihood ratio tests (for columns (1) (2) (3)) and Breusch and Pagan Lagrangian multiplier test (for column (4) (5) (6)). *, **, and *** indicate significance at 10, 5, and 1 percent levels, respectively.

Dependent variable:	Purchase long-term care income product			Log (annual health-contingent income)		
	Sample (1)	Male (2)	Female (3)	Sample (4)	Male (5)	Female (6)
Objective measures of exposure to long-term care risk						
Female	0.001			-0.459***		
	(0.008)			(0.077)		
Age	-0.000	0.001	0.000	-0.013	-0.018	-0.018
	(0.001)	(0.003)	(0.002)	(0.013)	(0.018)	(0.018)
Health state: base case = 1						
2	-0.007	-0.067	0.028*	0.073	0.134	0.077
	(0.018)	(0.055)	(0.016)	(0.133)	(0.163)	(0.198)
3	0.001	-0.015	0.017	0.005	0.021	-0.040
	(0.010)	(0.023)	(0.017)	(0.095)	(0.115)	(0.158)
4	0.003	0.001	0.012	0.122	-0.040	0.434***
	(0.011)	(0.023)	(0.023)	(0.111)	(0.155)	(0.157)
Current smoker	-0.006	0.003	-0.014	-0.297***	-0.206	-0.423**
	(0.011)	(0.025)	(0.019)	(0.105)	(0.129)	(0.170)
Received care	-0.012	-0.063	0.021	0.142	-0.045	0.299
	(0.023)	(0.062)	(0.019)	(0.144)	(0.201)	(0.192)
Subjective indicators of exposure to long-term care risk						
Subjective life expectancy	-0.001	-0.002*	-0.000	0.004	0.009*	-0.004
	(0.000)	(0.001)	(0.001)	(0.004)	(0.005)	(0.007)
Chance of needing homecare: base case = average						
Lower than the average	0.007	-0.004	0.009	-0.032	0.003	-0.130
	(0.011)	(0.023)	(0.022)	(0.104)	(0.131)	(0.185)
Higher than the average	-0.019	-0.109	0.015	-0.203	-0.121	-0.161
	(0.037)	(0.107)	(0.030)	(0.179)	(0.224)	(0.319)
Chance of needing residential care: base case = average						
Lower than the average	-0.025*	-0.056**	-0.015	-0.039	-0.207	0.176
	(0.014)	(0.027)	(0.025)	(0.101)	(0.129)	(0.177)
Higher than the average	0.015**	$+\infty$***	0.026**	0.441***	0.465**	0.097
	(0.006)	(n.a)	(0.012)	(0.169)	(0.188)	(0.339)
Awareness of long-term care risk						
Financial planning for long-term care: base case = do not know needs and costs						
Have set aside money but may need help	0.025**	0.058**	0.022	0.245***	0.388***	0.194
	(0.010)	(0.023)	(0.015)	(0.082)	(0.113)	(0.121)
Expect to rely on government	0.012	0.034	0.022	-0.026	0.102	-0.127
	(0.016)	(0.035)	(0.026)	(0.138)	(0.163)	(0.244)
Care provider	-0.005	0.021	-0.021	-0.077	-0.108	-0.043
	(0.009)	(0.021)	(0.016)	(0.081)	(0.107)	(0.118)
Availability of informal care and home ownership						
Source of some (low) care: base case = no informal care						
Informal care only	-0.002	-0.012	0.006	-0.202*	-0.374**	-0.004
	(0.014)	(0.035)	(0.021)	(0.116)	(0.154)	(0.173)
Informal care and other sources	0.006	0.037	-0.010	-0.246**	-0.225	-0.181
	(0.012)	(0.027)	(0.023)	(0.115)	(0.163)	(0.168)
Source of extensive (high) care: base case = no informal care						
Informal care only	0.016	0.052*	-0.011	0.230**	0.208	0.366**
	(0.011)	(0.027)	(0.029)	(0.110)	(0.141)	(0.174)
Informal care and other sources	0.012	0.034	0.006	0.265***	0.078	0.411***
	(0.011)	(0.028)	(0.016)	(0.099)	(0.137)	(0.144)
Non-partnered	0.009	0.043*	0.002	-0.034	-0.035	0.010
	(0.010)	(0.026)	(0.017)	(0.092)	(0.133)	(0.127)
Number of children	0.001	-0.001	0.003	0.030	-0.046	0.108***
	(0.003)	(0.007)	(0.005)	(0.025)	(0.036)	(0.034)

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Table F1 – continued

Dependent variable:	Purchase long-term care income product			Log(annual health-contingent income)		
	Sample (1)	Male (2)	Female (3)	Sample (4)	Male (5)	Female (6)
Non-homeowner	-0.013	0.015	-0.049*	-0.038	0.060	-0.215
	(0.011)	(0.024)	(0.026)	(0.103)	(0.121)	(0.169)
Measures of utility parameters						
Willingness to take risk (WTR)	0.017***	0.013	0.026**	0.126**	0.056	0.164**
	(0.006)	(0.011)	(0.011)	(0.051)	(0.072)	(0.075)
WTR^2	-0.002**	-0.001	-0.003**	-0.012**	-0.005	-0.015*
	(0.001)	(0.001)	(0.001)	(0.006)	(0.007)	(0.008)
Patience	0.000	-0.001	0.001	-0.024	-0.021	-0.024
	(0.002)	(0.004)	(0.003)	(0.015)	(0.019)	(0.024)
Utility in bad health	-0.001	0.001	-0.002	-0.002	0.018	-0.018
	(0.002)	(0.004)	(0.003)	(0.017)	(0.022)	(0.027)
Chance of $100K bequest	-0.000**	-0.000	-0.001**	-0.001	0.001	-0.003**
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Prefer reimbursement	-0.018**	-0.021	-0.025*	-0.275***	-0.350***	-0.209*
	(0.008)	(0.019)	(0.014)	(0.075)	(0.100)	(0.113)
Individual capability and knowledge about retirement financial products						
No. of mistakes in Financial literacy	0.013**	0.016	0.026**	0.115***	0.108*	0.105*
	(0.006)	(0.014)	(0.012)	(0.044)	(0.062)	(0.061)
No. of mistakes in Numeracy	0.011**	0.013	0.012	0.102***	0.083	0.127**
	(0.005)	(0.010)	(0.008)	(0.037)	(0.053)	(0.053)
Earnings from recall quiz	-0.011***	-0.023***	-0.007	-0.083***	-0.065*	-0.107***
	(0.004)	(0.008)	(0.005)	(0.025)	(0.035)	(0.037)
General product knowledge	0.006*	0.013*	0.004	-0.007	0.005	-0.011
	(0.003)	(0.007)	(0.006)	(0.025)	(0.028)	(0.045)
Knowledge on life annuity	-0.002	-0.007	-0.000	0.018	0.008	0.058
	(0.003)	(0.008)	(0.006)	(0.030)	(0.041)	(0.047)
Knowledge on long-term care insurance	-0.005*	-0.016**	-0.000	-0.022	-0.043	-0.024
	(0.003)	(0.006)	(0.006)	(0.027)	(0.036)	(0.041)
No private health insurance	0.004	0.000	0.007	0.035	0.037	-0.007
	(0.009)	(0.020)	(0.015)	(0.079)	(0.103)	(0.123)
Retirement planning						
Intend to retire before 65	-0.000	0.000	-0.000	-0.001	0.000	-0.002
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Financial planning for retirement	-0.008	-0.013	-0.015	-0.075	-0.058	-0.095
	(0.011)	(0.025)	(0.019)	(0.090)	(0.118)	(0.140)
Retirement spending change	-0.000*	-0.001**	-0.000	0.003*	0.004**	0.001
	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)	(0.002)
Demographics and other controls						
Not born in Australia	0.003	0.007	-0.003	0.027	0.118	-0.056
	(0.008)	(0.020)	(0.015)	(0.083)	(0.120)	(0.118)
Bachelor degree or above	-0.004	0.026	-0.030*	-0.040	0.010	-0.091
	(0.008)	(0.021)	(0.017)	(0.081)	(0.108)	(0.123)
Work status: base case = full time						
Part time	0.003	-0.006	0.012	-0.152	-0.062	-0.132
	(0.010)	(0.027)	(0.018)	(0.107)	(0.146)	(0.161)
Unemployed/not in labour force	-0.003	-0.005	-0.003	-0.146	-0.131	-0.044
	(0.010)	(0.023)	(0.020)	(0.100)	(0.128)	(0.159)
Retired	-0.003	-0.018	-0.012	-0.298**	-0.010	-0.483***
	(0.014)	(0.038)	(0.027)	(0.128)	(0.186)	(0.179)
Household gross income	0.000	0.000	0.000	0.000	0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Wealth group: base case = 1						
2	0.001	0.011	-0.012	1.120***	1.113***	1.125***
	(0.011)	(0.027)	(0.023)	(0.100)	(0.136)	(0.151)
3	0.015	0.035	0.014	1.807***	1.737***	1.846***
	(0.011)	(0.028)	(0.018)	(0.110)	(0.151)	(0.157)
4	-0.008	-0.009	-0.000	2.371***	2.230***	2.538***
	(0.014)	(0.035)	(0.022)	(0.123)	(0.166)	(0.179)
Level of Annuitization: base case = 0%						
25%	0.001	-0.002	0.006	-0.127***	-0.081***	-0.175***
	(0.004)	(0.008)	(0.007)	(0.021)	(0.030)	(0.028)
50%	-0.006	-0.011	-0.006	-0.426***	-0.359***	-0.497***
	(0.004)	(0.009)	(0.008)	(0.028)	(0.041)	(0.038)
75%	-0.015***	-0.031***	-0.013	-1.003***	-0.860***	-1.150***
	(0.005)	(0.011)	(0.008)	(0.034)	(0.047)	(0.049)
N	4032	1932	1960	3443	1753	1690
Log likelihood	-983.712	-494.137	-463.635			
R^2 (overall)				0.508	0.504	0.525

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Table F1 – continued

Dependent variable:	Purchase long-term care income product			Log(annual health-contingent income)		
	Sample (1)	Male (2)	Female (3)	Sample (4)	Male (5)	Female (6)
σ_ν	2.675***	2.612***	2.462***	1.057***	1.018***	1.086***

Table F2: Determinants of the optimal mix of income streams (full results)

The table displays estimates of coefficients from an OLS regression of a participant's preferred ratio of health-contingent income to survival-contingent income. The data for test estimation comes from Q6 of the choice task. A selected part of results in this table is reported in the paper (See Table 4). Robust standard errors (Huber-White) are shown in parentheses. *, **, and *** indicate significance at 10, 5, and 1 percent levels, respectively.

Dependent variable:	health-contingent income / survival-contingent income		
	Sample (1)	Male (2)	Female (3)
Objective measures of exposure to long-term care risk			
Female	-1.392***		
	(0.432)		
Age	-0.086	-0.121	-0.037
	(0.057)	(0.100)	(0.064)
Health state: base case = 1			
2	0.091	0.042	0.461
	(0.584)	(0.999)	(0.511)
3	-0.212	0.115	-0.377
	(0.509)	(0.738)	(0.604)
4	0.701	0.564	0.819
	(0.667)	(1.082)	(0.596)
Current smoker	-0.505	-1.498**	0.359
	(0.408)	(0.631)	(0.535)
Received care	-0.449	-0.699	-0.283
	(0.760)	(1.141)	(0.544)
Subjective indicators of exposure to long-term care risk			
Subjective life expectancy	0.007	0.029	-0.012
	(0.018)	(0.026)	(0.027)
Chance of needing homecare: base case = average			
Lower than the average	0.251	0.381	-0.299
	(0.468)	(0.748)	(0.457)
Higher than the average	-0.499	0.921	-1.946**
	(0.676)	(1.180)	(0.908)
Chance of needing residential care: base case = average			
Lower than the average	-0.647	-1.374**	0.301
	(0.413)	(0.669)	(0.395)
Higher than the average	2.264**	3.188**	0.507
	(1.054)	(1.529)	(1.000)
Awareness of long-term care risk			
Financial planning for long-term care: base case = do not know needs and costs			
Have set aside money but may need help	0.387	0.552	0.433
	(0.336)	(0.594)	(0.396)
Expect to rely on government	-0.534	-0.533	-0.525
	(0.369)	(0.625)	(0.493)
Care provider	0.277	-0.285	1.067**
	(0.382)	(0.615)	(0.453)
Retirement planning			
Intend to retire before 65	-0.002	-0.003	-0.003
	(0.005)	(0.009)	(0.003)
Availability of informal care and home ownership			
Source of some (low) care: base case = no family care			
Informal care only	-0.883*	-0.397	-1.385***
	(0.496)	(0.912)	(0.483)
Informal care and other sources	-0.299	0.503	-1.099**
	(0.571)	(1.061)	(0.474)
Source of extensive (high) care: base case = no family care			
Informal care only	2.120***	2.312**	1.841***
	(0.595)	(0.982)	(0.711)
Informal care and other sources	0.607	-0.437	0.876*
	(0.513)	(0.959)	(0.465)
Non-partnered	0.472	0.949	-0.043
	(0.457)	(0.809)	(0.379)
Number of children	0.089	0.077	0.094
	(0.118)	(0.211)	(0.126)
Non-homeowner	0.158	1.014	-0.699
	(0.501)	(0.860)	(0.429)
Measures of utility parameters			
Willingness to take risk (WTR)	0.110	0.205	0.246
	(0.200)	(0.325)	(0.280)
WTR^2	-0.013	-0.015	-0.030

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Table F2 – continued

Dependent variable:	health-contingent income / survival-contingent income		
	Sample (1)	Male (2)	Female (3)
	(0.023)	(0.036)	(0.031)
Patience	0.076	0.207*	-0.060
	(0.065)	(0.109)	(0.060)
Utility in bad health	0.053	0.156	-0.053
	(0.105)	(0.174)	(0.115)
Chance of $100K bequest	-0.003	-0.004	-0.004
	(0.005)	(0.010)	(0.004)
Prefer reimbursement	-0.021	0.313	-0.270
	(0.413)	(0.693)	(0.382)
Individual capability and knowledge about retirement financial products			
No. of mistakes in Financial literacy	0.260	0.280	0.149
	(0.254)	(0.443)	(0.290)
No. of mistakes in Numeracy	0.601***	0.675**	0.525**
	(0.203)	(0.321)	(0.223)
Earnings from recall quiz	-0.344***	-0.648***	-0.088
	(0.124)	(0.218)	(0.123)
General product knowledge	0.252	0.399*	0.016
	(0.158)	(0.221)	(0.210)
Knowledge on life annuity	-0.166	-0.269	-0.002
	(0.162)	(0.290)	(0.155)
Knowledge on long-term care insurance	-0.139	-0.175	-0.135
	(0.115)	(0.162)	(0.152)
No private health insurance	0.153	0.187	0.335
	(0.403)	(0.611)	(0.459)
Retirement planning			
Intend to retire before 65	-0.002	-0.003	-0.003
	(0.005)	(0.009)	(0.003)
Financial planning for retirement	-0.046	0.254	-0.297
	(0.382)	(0.653)	(0.430)
Retirement spending change	0.007	0.005	0.006
	(0.010)	(0.015)	(0.011)
Demographics and other controls			
Not born in Australia	0.590	0.800	0.253
	(0.524)	(0.958)	(0.414)
Bachelor degree or above	0.190	0.559	-0.280
	(0.447)	(0.837)	(0.450)
Work status: base case = full time			
Part time	-0.701	-0.596	-0.672
	(0.618)	(1.008)	(0.792)
Unemployed/not in labour force	-0.896	-0.925	-0.943
	(0.609)	(0.905)	(0.788)
Retired	-1.132	-0.748	-1.633*
	(0.692)	(1.221)	(0.854)
Household gross income	0.001	0.004	-0.003
	(0.005)	(0.009)	(0.005)
Wealth group: base case = 1			
2	1.240***	1.402***	0.611*
	(0.271)	(0.500)	(0.345)
3	2.958***	3.669***	2.222***
	(0.387)	(0.718)	(0.452)
4	5.474***	6.950***	3.891***
	(0.737)	(1.142)	(0.838)
Constant	3.888	2.630	3.742
	(3.407)	(5.866)	(4.070)
N	1008	518	490
R^2	0.183	0.226	0.209

Table F3: Regression of participants' responses to the withdrawal of the long-term care income product (full results)

The table reports estimation of the multinomial logit model of the probability that participants decrease (case 1), do not change (base case), or increase (case 2) annuitization when the long-term care income insurance product is withdrawn. The data for the estimation comes from Q7 of the choice task. The sample includes participants who chose partial annuitization in the presence of the long-term care income product in Q7 of the choice task. Independent variables that are significance at 5% level for at least one column are reported Table 5 of the paper. Robust standard errors (Huber-White) are shown in parentheses. *, **, and *** indicate significance at 10, 5, and 1 percent levels, respectively.

Base outcome: No change on annuitization	Decrease by 25%	Increase by 25%
	(1)	(2)
Objective measures of exposure to long-term care risk		
Female	-0.067	-0.171
	(0.290)	(0.321)
Age	-0.041	0.004
	(0.048)	(0.054)
Health state: base case = 1		
2	0.621	0.413
	(0.513)	(0.543)
3	-0.006	-0.034
	(0.359)	(0.402)
4	-1.072**	0.030
	(0.478)	(0.443)
Current smoker	-0.556	-0.298
	(0.398)	(0.459)
Received care	-0.420	-0.100
	(0.644)	(0.637)
Subjective indicators of exposure to long-term care risk		
Subjective life expectancy	-0.014	-0.016
	(0.016)	(0.018)
Chance of needing homecare: base case = average		
Lower than the average	-0.454	-0.375
	(0.405)	(0.445)
Higher than the average	0.935	0.817
	(0.821)	(0.815)
Chance of needing residential care: base case = average		
Lower than the average	1.074***	0.687
	(0.405)	(0.442)
Higher than the average	-0.590	0.523
	(0.881)	(0.849)
Awareness of long-term care risk		
Financial planning for long-term care: base case = do not know needs and costs		
Have set aside money but may need help	-0.195	-0.683**
	(0.284)	(0.317)
Expect to rely on government	-0.794	-0.023
	(0.580)	(0.642)
Care provider	0.052	0.597*
	(0.303)	(0.329)
Availability of informal care and home ownership		
Source of some (low) care: base case = no informal care		
Informal care only	-0.628	-0.248
	(0.453)	(0.496)
Informal care and other sources	-0.852*	-0.931*
	(0.446)	(0.499)
Source of extensive (high) care: base case = no informal care		
Informal care only	0.247	-0.174
	(0.451)	(0.515)
Informal care and other sources	0.274	0.298
	(0.357)	(0.410)
Non-partnered	-0.156	0.355
	(0.365)	(0.403)
Number of children	0.123	0.100
	(0.113)	(0.128)
Non-homeowner	0.452	-0.134
	(0.399)	(0.486)
Measures of utility parameters		
Willingness to take risk (WTR)	0.014	0.114*
	(0.053)	(0.060)

continued on next page

Table F3 – continued

Base outcome: No change on annuitization	Decrease by 25%	Increase by 25%
	(1)	(2)
Patience	0.025	-0.069
	(0.054)	(0.060)
Utility in bad health	0.071	0.033
	(0.063)	(0.071)
Chance of $100K bequest	0.004	-0.000
	(0.004)	(0.004)
Prefer reimbursement	0.260	-0.547*
	(0.270)	(0.314)
Individual capability and knowledge about retirement financial products		
No. of mistakes in Financial literacy	-0.025	0.382*
	(0.188)	(0.206)
No. of mistakes in Numeracy	0.096	0.001
	(0.134)	(0.156)
Earnings from recall quiz	0.047	0.085
	(0.090)	(0.099)
General product knowledge	0.118	-0.131
	(0.116)	(0.116)
Knowledge on life annuity	-0.154	0.070
	(0.118)	(0.129)
Knowledge on long-term care insurance	0.042	0.168
	(0.097)	(0.107)
No private health insurance	-0.547*	-0.031
	(0.306)	(0.337)
Retirement planning		
Intend to retire before 65	-0.002	0.002
	(0.003)	(0.004)
Financial planning for retirement	0.598	1.016**
	(0.406)	(0.516)
Retirement spending change	-0.011*	0.004
	(0.006)	(0.007)
Demographics and other controls		
Not born in Australia	-0.083	-0.113
	(0.311)	(0.350)
Bachelor degree or above	0.060	-0.423
	(0.290)	(0.336)
Work status: base case = full time		
Part time	-0.566	-0.556
	(0.390)	(0.456)
Unemployed/not in labour force	-0.033	0.129
	(0.347)	(0.390)
Retired	0.219	-0.082
	(0.452)	(0.549)
Household gross income	0.002	0.000
	(0.003)	(0.003)
Wealth group: base case = 1		
2	-1.154***	0.317
	(0.435)	(0.570)
3	-2.818***	-0.092
	(0.486)	(0.585)
4	-2.533***	-0.065
	(0.474)	(0.595)
Constant	1.582	-1.420
	(3.066)	(3.498)
N	-389.964	
Log likelihood	445.000	

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