Institute of Actuaries of Australia

Financial wellbeing, actions and concerns – preliminary findings from a survey of elderly Australians

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Presented to the Institute of Actuaries of Australia
Biennial Convention
10 - 13 April 2011
Sydney

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Abstract

In this paper we describe a 2010 survey of approximately 3,500 Australians aged 55 and over and report on some preliminary findings. The survey is part of an ARC project which aims to examine how consumer needs and preferences vary over retirement. The purpose of the survey is to supplement extant data sources such as the ABS Household Expenditure Survey (HES). The survey aims to improve our understanding of financial behaviour among elderly Australians and how and why this affects consumption over the course of retirement. Among other things, the survey collected information about financial concerns and strategies, and financial behaviour and consumption choices in the presence of unplanned events. The survey will be analysed in detail throughout 2011 and beyond in order to address the aims of the broader research project. The intention of the current paper is to describe the survey structure, a selection of the data collected, and presents preliminary modelling results for three questions: the likelihood that specific financial strategies are taken in order to manage risk; concerns about specific financial risks in retirement; and, the level of financial literacy of respondents.

Acknowledgements: This research has been funded through an Australian Research Council (ARC) Linkage Grant (LP0776784), and has been supported by AMP and Rice Warner Actuaries (RWA) as linkage partners. We would like to thank the linkage partners for their advice and support throughout the research process, and are grateful to National Seniors Australia (NSA) for providing the sampling frame for the survey. The views and opinions in the paper are those of the authors, and not necessarily shared by the ARC, AMP, RWA or NSA.

Key words: retirement; ageing; financial wellbeing; expenditure patterns

1. Introduction

1.1 Background

In 2010 a survey of elderly Australians was conducted as part of an Australian Research Council Linkage (ARC) Project titled "Expenditure needs and drawdown of retirement savings during later life: how important are demographic factors and financial resources?" The primary aim of the ARC project is to examine the influence of demographic factors and financial resources on elderly consumers' needs and preferences as Australia's population ages.

Increased consumption of public services as a consequence of the ageing population has been a topic of much research (eg. Guest and McDonald, 2003; Productivity Commission, 2005). In contrast, the role of the elderly as private consumers of goods and services has received little attention and has been acknowledged as being an area of much needed research (e.g., Crown, 2001).

Budget standard studies (e.g., Saunders *et al.*, 2005) report on the finances needed for retirees to live a modest or comfortable lifestyle, but don't account for differing consumer needs and preferences as they vary across a range of demographic factors such as age, housing tenure, health, as well as by economic factors such as wealth and pre-retirement income. Some Australian researchers have analysed expenditure behaviour according to social and demographic factors (eg. Harding and Robinson, 1999), but their studies are restricted to comparisons between the elderly and non-elderly, rather than considering the variability in expenditure within the elderly group. The most well-known budget standards for retirees (the Westpac/ASFA standards) are produced for a single age – age 70 – and don't allow for changes in consumption needs with age. That expenditure patterns vary over retirement has been promoted for some time in Australia (eg. ASFA, 1999; Rice, 1998) with identification of three phases of retirement, broadly defined as *Active*, *Passive* and *Frail*, however,

there have been limited attempts (to our knowledge) to empirically quantify the changes in consumption patterns during retirement.[1]

Conventional theories of consumption fail to accommodate the degree of variation in elderly consumption observed in empirical studies. The life-cycle model and permanent income hypothesis together contend that individuals seek to smooth the marginal utility of consumption through periods of saving and dissaving (Modigliani and Brumberg, 1954; Ando and Modigliani, 1963; Friedman, 1957). Empirical studies have contradicted this theory (e.g., the "retirement consumption puzzle") although this area of research remains highly contentious.[2] Advocates of structural approaches to consumption behaviour argue that the economic approach fails to consider the structural and biological aspects of ageing (e.g., Frenzen, *et al.*, 1994). Although social and demographic factors are often included in econometric estimates of consumer demand equations, they are operationalised as 'preference shifters' with little attention paid to *why* such factors are important in explaining expenditure.

One of the key tasks of the current ARC project is to analyse ABS Household Expenditure Survey data in order to examine if, and quantify how, consumption changes with age during retirement after controlling for financial constraints. Consumption patterns are driven by financial constraints and by consumption needs, which in turn are affected by social and demographic factors. While analysis of the HES data can help reveal which 'preference shifters' affect consumption, *why* these affect consumption requires additional data sources. The survey described in this paper attempts to partially address the dearth of research in this area.

1.2 Survey motivation and focus of paper

The survey collects information about elderly Australians' concerns with financial risks in retirement; strategies to manage these risks; their financial actions and consumption choices in the event of both beneficial and adverse real and hypothetical unplanned events; and *why* they have made, or would make, these choices. By analysing this data, it is hoped that we can better understand the financial behaviour of elderly Australians, and how this behaviour affects their consumption choices during retirement. The survey collected information that will allow us to explore the following questions (among others):

- What are the causes of differences between respondent needs and consumption patterns over the course of retirement?
- How do respondent concerns about specific financial risks in retirement match with the strategies that they have taken or intend to take to manage these risks?
- Have respondents changed their superannuation and non-superannuation savings and investments since the GFC, and if so, what changes have they made and *why* have they made these changes?
- To what extent are individuals with different characteristics likely to amend their lifestyle downwards when faced with financial loss?
- How do preferences for short-term consumption versus saving vary when faced with financial gain?
- How do unexpected adverse events change an individual's financial behaviour including consumption patterns?

[1] Atkinson and Hayes (2010) analyse UK consumption data and they provide evidence that expenditure declines at old ages after controlling for income (the data doesn't include asset wealth), however, they don't attempt to quantify the magnitude of decline associated exclusively with age. Preliminary results of analysis of Australian ABS Household Expenditure Survey data reported in Higgins and Rice (2009) and Higgins and Roberts (2009) also show a decline in expenditure with respect to age after controlling for income and wealth. These results will be expanded as part of the ARC research project.

[2] Hatcher (2007) describes a number of frameworks for modelling the effects of retirement on consumption, including a static model, lifecycle model and household production approach.

The survey collected considerable socio-demographic information on the respondents. This information will allow us to examine whether responses to the above questions differ with respect to age, gender, income, wealth, marital status, education, retirement status, self-assessed financial wellbeing and health, financial literacy and engagement, and other respondent characteristics, some of which may provide a measure of the level of risk tolerance and risk aversion.

The current paper presents a vignette of the survey, providing an overview of the survey questions, and preliminary analysis of a small sample of the many results of interest. The complete survey questionnaire is included in Appendix B of this paper. Specifically, we conduct a preliminary analysis of the following questions:

- the likelihood that certain financial strategies (cutting back spending, obtaining professional financial advice, and purchasing guaranteed income stream products) have been taken, or plan to be taken, in order to manage risk;
- the concern shared by respondents about specific financial risks in retirement (concern that inflation erodes savings and investments, and concern of outliving savings);
- the level of financial literacy of respondents, inferred through response to two questions about the relationship between asset classes and risk.

For each question we explore how the responses vary with respect to respondent characteristics by utilising regression techniques. It is stressed that the results presented here are preliminary, and we will be revisiting the analysis in the coming months with the possible inclusion of additional covariates, interactions between covariates, and potentially the use of different modelling strategies.

While the analysis here does not directly shed light on the question of consumption patterns among retirees (reporting on the key survey questions will be left to a later date), the results give some insight into elderly Australian's financial behaviour and literacy. Additionally, in the conference presentation these results will be supplemented by preliminary analysis of a selection of other survey questions.

1.3 Summary of findings

1.3.1 Financial strategies

Three-quarters of retirees and pre-retirees have already *cut back spending*, or intend to in the future in order to protect themselves financially. As expected, the likelihood of reducing spending increases markedly as self-assessed financial wellbeing declines. After controlling for wealth, income and financial wellbeing, age still explains variation in retiree behavior - spending is less likely to have been reduced for respondents aged 80 and above, which may suggest that older cohorts have been more successful at smoothing consumption than younger retirees. For pre-retirees, a reduced likelihood of cutting spending is associated with lesser engagement with one's finances, and a higher growth superannuation investment choice (perhaps reflecting greater optimism for financial gains).

Approximately 75% of pre-retirees and retirees have already *obtained professional financial advice*, or intend to obtain such advice in the future. For retirees, greater education and younger age is associated with a greater likelihood of obtaining advice. For pre-retirees, higher income, being single, and better health are associated with a greater likelihood of obtaining advice, however, the impact of these variables is relatively minor. There is also some evidence that the least financially literate, who arguably need the most direction on managing their finances, are those who are least likely to seek professional advice.

A minority has purchased or intends to *purchase a product to provide guaranteed life income* (35% of retirees and 25% of pre-retirees), however, these proportions suggest misinterpretation of the question (only 3% have purchased life annuities according to Doyle *et al.*, 2004). It is possible that many respondents have lumped account-based pensions in with this question, despite such products not

guaranteeing income for life. Over 20% of pre-retirees are unsure whether they will purchase, perhaps reflecting the complexity of the retirement income market and lack of retirement preparation. As expected, appreciation for longevity protection increases when advice is forthcoming - for both retirees and pre-retirees there is a greater likelihood of purchasing or intending to purchase a guaranteed income stream product for those who more frequently access professional financial advice. Increased likelihood is also associated with higher education among retirees, and respondents who take out a greater range of insurance policies, indicative of greater risk aversion, are also more likely to purchase a guaranteed income product.

1.3.2 Financial concerns

Two-thirds of respondents are *concerned that inflation may erode the value of their savings and investments*. Of the eight concerns listed in the survey, this was noted as the greatest concern, and was also of most concern when a similar question was asked to US respondents in a 2009 Society of Actuaries (SOA) survey. In our survey, 59% of pre-retirees and 46% of retirees expressed *concern about outliving their savings*. These values compare extremely closely with results from the SOA.

As expected, respondents with greater financial wellbeing and net wealth are less concerned about inflation eroding their savings, and outliving their savings, than respondents with poorer finances. In all cases, women appear to be more concerned than men, and concern drops off markedly after age 75. Pre-retirees whose superannuation is in growth assets are less concerned than those invested in balanced or conservative assets, likely due to the belief that growth investments will produce superior returns, and exceed, or at least keep pace with, inflation.

Retirees who never consult with professionals for help with financial decision making are less concerned about inflation or outliving their savings than those who use consultants for advice. Moreover, pre-retirees who admit financial illiteracy pertaining to asset risks are less concerned about outliving their savings than those with greater financial knowledge. Together these results support the adage that ‘ignorance is bliss’.

After controlling for self-assessed financial wellbeing, wealth, income and other measures of economic advantage, better health is associated with less concern about inflation or outliving savings. While individuals in poorer health may have lower life expectancies, they may also face greater medical and health expenditure (through gap payments and pharmaceuticals), and reduce savings more quickly compared to persons in excellent health.[3] However, it may also be the case that persons reporting better self-assessed health are more optimistic, and conversely those less healthy may suffer pessimism bias when it comes to the adequacy of their future finances.

1.3.3 Financial literacy

Two questions were asked that tested respondents’ knowledge of the relationship between asset class types and risk. 50% of respondents who answered these questions did so correctly. Men have a higher likelihood of responding correctly, and retirees aged between 60 and 79 are more likely to have answered correctly than respondents aged below 60, possibly reflecting the increased engagement that comes once an individual retires and accesses their superannuation. The group with the lowest level of financial literacy are retirees aged 80 and above. As expected, pre-retirees with higher education and who frequently use financial sources for their financial decision making, are more likely to have answered correctly.

[3] Although Medicare and private health insurance cushion out-of-pocket health costs, through analysis of a survey of private Australian households Temple (2005) finds that those with particularly poor health spend more. However, Temple (2005) also finds *no* significant age profile with respect to out-of-pocket health expenses after controlling for disability and poor health.

For both retirees and pre-retirees, those with conservative and cash superannuation investments are more likely to understand the relationship between asset classes and risk compared to individuals making other asset class selections. This is not surprising - the decision to invest conservatively, and knowingly accept an expected modest return, is likely one that is taken after reflecting on the risks associated with the alternatives. For pre-retirees there is also some evidence that individuals who choose growth have superior knowledge of the relationship between asset classes and risk than those who keep their superannuation in balanced assets.

2. Survey structure

2.1 Survey themes

The survey was structured as separate modules. The themes and a brief description of each module are given below:

Module 1 – Financial wellbeing and risk. Questions are asked about the respondent's financial wellbeing, strategies for managing financial risk after retirement, and the level of concern expressed about the financial consequences of certain events related to ageing.

Module 2 – Expenditure during retirement. Questions are asked about respondent needs and expenditure in retirement compared to prior to retirement. In addition to asking whether needs and consumption has changed for certain categories of goods and services, we ask *why* those changes have occurred.

Module 3 – Superannuation, savings and investment choices. Questions are asked about engagement with superannuation, investment choices, financial literacy pertaining to asset class risks, reactions to the GFC and reasons for making changes to how superannuation and non-superannuation savings are invested.

Module 4 – Unplanned events: financial actions. Questions are asked about whether certain financial actions were taken in the event of significant unplanned events, such as death or illness of a spouse or partner, involuntary unemployment, or major financial loss.

Module 5 – Unplanned events: financial gains or losses. A series of hypothetical questions are asked about the actions, including financing, investment and consumption decisions, that a respondent might take if their savings and income suddenly fell or increased. A question is also posed about a respondent's preference for funds now versus a larger amount in the future, to gauge their individual discount rate.

Module 6 – Habits and intentions. Questions are asked about respondent bequest intentions, insurance, gambling, alcohol and cigarette consumption, household budgeting habits, and engagement with a variety of sources for financial decision making, such as magazines, internet, professionals, family and friends, etc.

Module 7 to 10 – Work and retirement, Income, Wealth and Demographics. The final four modules collect socio-demographic information about working and retirement status, sources and amount of income and wealth, and demographic information.

2.2 Survey design and logistics

The survey was sent to 15,000 National Seniors Australia (NSA) members in August 2010. The membership base of the NSA was stratified by age, gender and geographical location, and 15,000 members were randomly selected from within the stratified bands, such that the targeted numbers in each band were selected in proportion to the actual population numbers according to ABS population statistics. By the end of October 2010, 3,485 completed surveys had been received, representing a response rate of approximately 23 percent. Table 1 gives the number of respondents by age, gender and state/territory, where only those surveyed who had given responses to these questions are included (3,398 of the 3,485). Table 2 compares the respondent statistics with Australian statistics sourced from the ABS, and it is clear that the distribution of respondents is broadly representative of the Australian elderly population by gender, age and location.

Table 1 *Number of survey respondents by gender, age group and state/territory*

Males	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL
age 80+	94	57	42	30	38	8	2	10	281
age 70-79	154	114	73	45	60	19	1	9	475
age 60-69	197	172	133	57	67	24	5	11	666
age 50-59	162	110	83	38	51	17	3	10	474
	607	453	331	170	216	68	11	40	1896

Females	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL
age 80+	56	41	17	14	16	10	0	3	157
age 70-79	106	81	37	24	24	15	0	3	290
age 60-69	160	124	106	51	51	18	8	14	532
age 50-59	169	99	104	67	42	19	7	16	523
	491	345	264	156	133	62	15	36	1502

All	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL
age 80+	150	98	59	44	54	18	2	13	438
age 70-79	260	195	110	69	84	34	1	12	765
age 60-69	357	296	239	108	118	42	13	25	1198
age 50-59	331	209	187	105	93	36	10	26	997
	1098	798	595	326	349	130	26	76	3398

Table 2 *Proportions within each gender, age group and state/territory (%). Corresponding Australian population proportions are in brackets.*

MALES	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	
age 80+	5 (3)	3 (2)	2 (2)	2 (1)	2 (1)	0 (0)	0 (0)	1 (0)	15 (10)
age 70-79	8 (6)	6(4)	4 (3)	2 (1)	3 (2)	1 (0)	0 (0)	0 (0)	25 (18)
age 60-69	10 (10)	9 (7)	7 (6)	3 (2)	4 (3)	1 (1)	0 (0)	1 (0)	35 (31)
age 50-59	9 (13)	6 (10)	4 (8)	2 (3)	3 (4)	1 (1)	0 (0)	1 (1)	25 (42)
	32 (33)	24 (25)	17 (20)	9 (8)	11 (10)	4 (3)	1 (1)	2 (1)	100

FEMALES	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	
age 80+	4 (5)	3 (4)	1 (2)	1 (1)	1 (1)	1 (0)	0 (0)	0 (0)	10 (14)
age 70-79	7 (6)	5 (5)	2 (3)	2 (2)	2 (2)	1 (0)	0 (0)	0 (0)	19 (18)
age 60-69	11 (9)	8 (7)	7 (6)	3 (2)	3 (3)	1 (1)	1 (0)	1 (0)	35 (29)
age 50-59	11 (13)	7 (10)	7 (8)	4 (3)	3 (4)	1 (1)	0 (0)	1 (1)	35 (39)
	33 (33)	23 (25)	18 (19)	10 (8)	9 (10)	4 (3)	1 (1)	2 (1)	100

Some of the more noticeable differences between the survey and the Australian population are a greater proportion of 60-69 year old women, and fewer 50-59 year olds and 80+ in the survey, and the survey is weighted more heavily towards older men, with fewer 50-59 year olds represented.

The data was entered by a professional firm 'Engineering and Scientific Systems Pty Limited' (ESSYS). This included 100% validation for the numerical data entry, and verbatim entry of all text responses[4].

[4] 100% validation implies that every numeric response entered by ESSYS data entry personnel was independently checked by other data entry personnel for errors.

In the analysis in this paper the survey data are weighted by age group and gender in order to adjust for sample representativeness and potential non-response bias. The data were not weighted by state/territory, as the state/territory distribution of responses was very similar to the Australian population estimates.[5] While weighting ensures that the age and gender mix is similar to the broader population, it should be noted that we have not (at this stage) attempted to weight by income or wealth, and it is possible that the respondent sample (being drawn from the NSA membership) differs in these characteristics from the broader Australian population.

3 Analysis of selected survey questions – some preliminary findings

In the remainder of the paper we present analyses of responses for questions in Module 1 pertaining to financial concerns and strategies, and questions pertaining to financial literacy from Module 3. For each question, responses are given for all respondents, and are also presented by gender, age group, and in some cases, retirement status. In all analyses, respondents with a missing value for any question were removed, that is, imputation schemes were not considered at this stage.

While the results of the survey may suggest variation with respect to particular demographic characteristics, the question remains as to whether the variation is statistically significant, and whether there are additional variables, be they socio-demographic or indicators of financial engagement, financial literacy and financial risk tolerance or concern, that explain the variability in responses. Statistical methods can be used to search for significant relationships, and regression modelling is applied to explore and quantify the variability in responses. The variables included in the modelling are given in Table 3.

Income and net wealth were coded as ordered categorical variables from the survey but were converted into continuous variables for the analysis. In addition to the variables above, for the majority of modelling in this paper the data were partitioned into ‘retirees’ and ‘pre-retirees’. Retirement can affect attitudes to consumption, independent of age, due to changes in income sources. While human capital for pre-retirees is a major source of income and savings, at retirement this source disappears, and this shift can have consequences for financial wellbeing, risk aversion, and consumption preferences. Furthermore, when employment ceases, opportunities for leisure consumption increase.

Retirees were classified as respondents who were neither undertaking paid work (full-time, part-time, casual, or self-employed), nor looking for paid work. Pre-retirees were respondents who were working for pay or seeking paid work. For couples, if one person was retired and the other working, they were excluded - only those couples where both were classified as retired, or as not retired, were included in the current analysis.

Much of Module 3 of the survey was only completed for respondents who have superannuation. Both the superannuation allocation and financial literacy questions were asked as part of this module. Because a large proportion of surveyed retirees do not have superannuation (34% of retirees versus 5% of pre-retirees), having either never had it, or having spent or moved their superannuation into different vehicles since retirement, we have excluded the superannuation allocation and financial literacy questions from the retiree models in this paper.[6]

[5] Indeed it was found that the unweighted estimates (ignoring age and gender) are extremely similar to the weighted estimates, giving support to the sampling frame chosen.

[6] If we had included these questions in the modeling, those individuals with ‘NA’ values would have been excluded during the modelling process. This would have removed the 34% of retirees without superannuation, thus biasing the results. In future modelling we will consider separate models for retirees with and without super in order to test whether financial actions, concerns and behaviour differ between these groups.

Table 3 Explanatory variables used in the modelling

Variable	*Levels*	*Type*	*Notes*
Age	Continuous	Continuous	Natural splines with 1, 2 and 3 degrees of freedom were tested in each model[7]
Gender	male, female	Categorical	
Marital status	single/widowed/separated/divorced, married/defacto	Categorical	
Education	university, certificate/diploma, yr12 or below	Categorical	
Self-assessed health	excellent, very good, good, fair/poor	Categorical	
Gambling	$0, >$0 per week	Categorical	
Insurance	0, 1, 2+ policies[8]	Categorical	
Self-assessed financial wellbeing	Very good, fairly good, neutral, poor/very poor	Categorical	
Tenure	own home outright, mortgagor, renting	Categorical	
Superannuation allocation	growth/high growth, balanced, conservative/cash, don't know	Categorical	pre-retirees only models
Financial literacy	correct response, incorrect response, don't know	Categorical	pre-retirees only models
Frequency of tracking savings/investments	at least fortnightly, monthly/quarterly, about once a year, once every two years or less often	Categorical	
Frequency of use of financial sources	at least fortnightly, monthly/quarterly, about once a year, once every two years or less often	Categorical	
Frequency of consultation with professionals	at least quarterly, about once a year, once every two or more years, never	Categorical	
Income	Continuous	Continuous	
Net wealth[9]	Continuous	Continuous	
Home equity[10]	Continuous	Continuous	

Distributions of the explanatory variables are presented in Figure 1. The distributions are partitioned by retirement status. Median age of pre-retirees and retirees are 59 and 72 years, respectively.

As expected, self-assessed financial wellbeing is correlated with net wealth, home equity and income as evidenced in the box-plots in Figure 2. It should be noted that by including financial wellbeing as an explanatory variable in the models in this paper, this may reduce the potential statistical significance of income, net wealth and/or home equity, as some of the variation in these variables is encapsulated by financial wellbeing. However, it is also the case that self-assessed financial wellbeing is not entirely objective, and will vary according to respondents' perceptions and circumstances beyond the readily quantifiable financial variables.

[7] Splines allow the effect of age to be model as a smooth function – the smooth function is allowed to become more "wiggly" as the degrees of freedom (df) increases. df=1 is simply a linear term in age.
[8] The insurance policies that respondents were asked if they owned were: private health insurance, personal life insurance, income protection insurance, personal accident insurance, and trauma insurance.
[9] Net wealth is net liquid wealth and doesn't include home equity.
[10] Home equity is estimated as the value of the respondent's home minus any outstanding mortgage on the home. Non-home owners were assumed to have $0 home equity.

Figure 1 Explanatory variables used in the modelling by retirement status

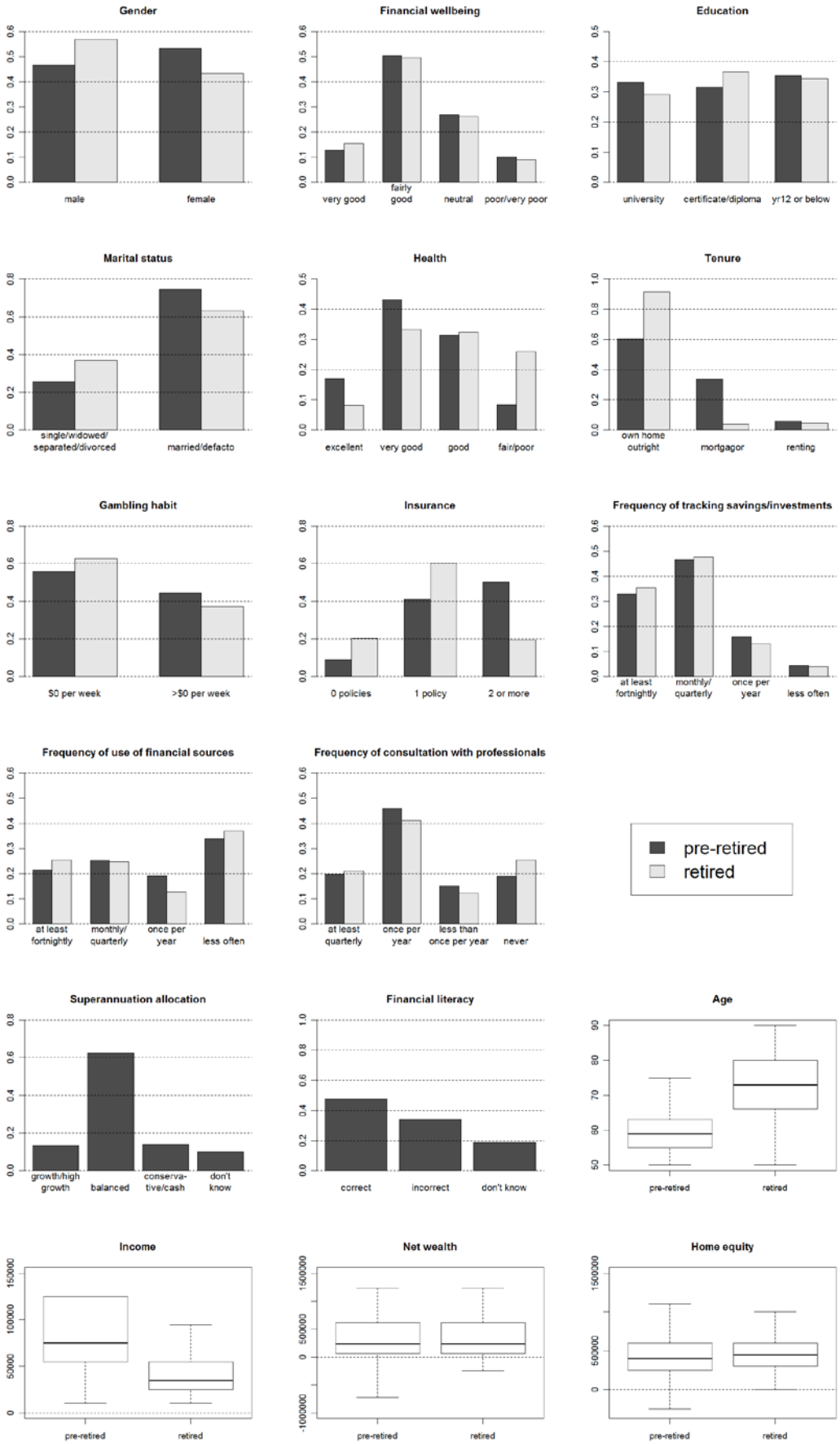
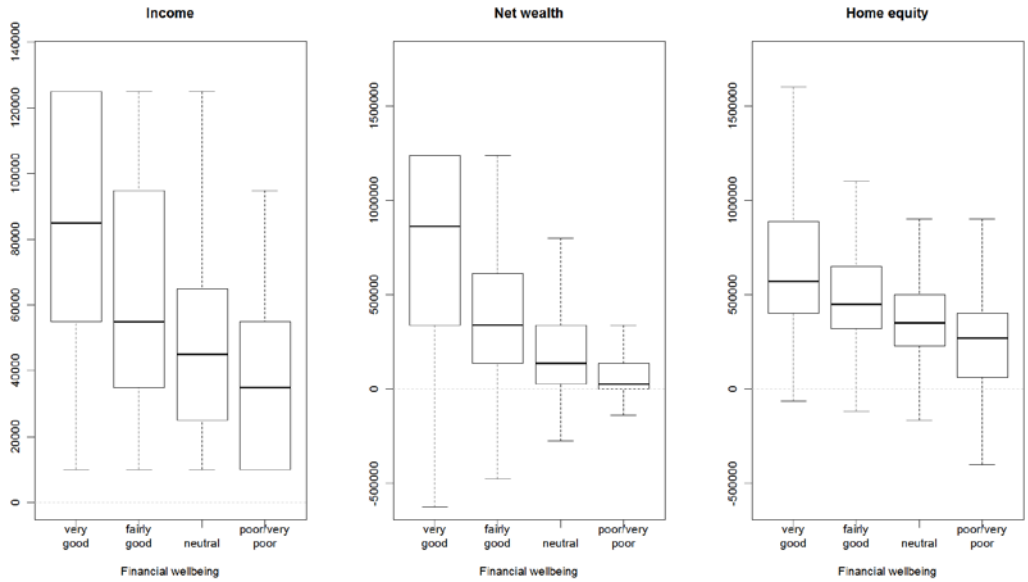


Figure 2 Income, net wealth and home equity by financial wellbeing



In the remainder of the paper each of the survey questions analysed is given along with the response options. This is followed by a summary of the responses and regression modelling results.

3.1 Financial Strategies

Question 1.4

Below is a list of things that some people do to protect themselves financially after they retire, or as they get older. For each, please indicate whether you have done that, plan to do that in the future, or have no plans to do that. To protect yourself financially, have you or do you plan to…

- 1.4.1 - Cut back on spending
- 1.4.2 - Work longer
- 1.4.3 - Obtain professional financial advice
- 1.4.4 - Buy a life annuity or other product to provide guaranteed income for life
- 1.4.5 - Increase contributions to superannuation
- 1.4.6 - Increase savings outside superannuation
- 1.4.7 - Move assets to more conservative asset classes
- 1.4.8 - Take out or increase reverse mortgage or home refinancing
- 1.4.9 - Take out or increase other debt (e.g., credit cards, personal loans)
- 1.4.10 - Completely pay off mortgage
- 1.4.11 - Pay off all credit cards and personal loans
- 1.4.12 - Buy real estate or invest in property (including upsizing or renovations)
- 1.4.13 - Move to a smaller home/less expensive area
- 1.4.14 - Sell household goods, investment property, or other material assets
- 1.4.15 - Approach others for financial support/loan
- 1.4.16 - Increase insurance cover (life,disability,trauma,accident or private health)

Response options:
Already done, Plan to do in future, No plans, Don't know or unsure

While sixteen separate financial actions or strategies were posed, analysis of only three of these is discussed here. Table 4 gives the broad results.

Table 4 Selected financial strategies - results by retirement status

	Retirees				Pre-retirees			
	Already done	**Plan to do in future**	**No plans**	**Unsure**	**Already done**	**Plan to do in future**	**No plans**	**Unsure**
Cut back on spending	67	8	23	2	38	37	19	5
Obtain professional financial advice	65	3	29	3	50	24	20	6
Buy a life annuity/ guaranteed income product	33	2	60	4	14	11	54	21

As expected, a greater proportion of retirees have already cut back on spending compared with pre-retirees, however, the total proportion who had already cut back spending, or intend to cut back spending in the future, are identical for both retirees and pre-retirees (75%). A greater proportion of pre-retirees has already obtained, or intends to obtain professional financial advice compared with retirees (74% versus 68%).

The proportion that has purchased, or intends to purchase, a life annuity or guaranteed income product, is small for both retirees and pre-retirees (35% versus 25%), yet these proportions are much greater than the actual take-up rates of life annuities in Australia, estimated at 3 per cent (Doyle *et al.*,2004). It is possible that many respondents have lumped account-based pensions in with this question, despite such products not guaranteeing income for life.

The barrier to take-up of annuities and other guaranteed income products possibly reflects the underdeveloped annuity marketplace in Australia, costly loadings on annuity products (Doyle *et al.*,2004), the existence of longevity protection through the government provided Age Pension, and behavioural tendencies, such risk aversion (whereby financial losses tend to impose greater pain than the pleasure obtained from a commensurate financial gain), mental accounting (such that individuals may see annuities as a gamble on life expectancy), ambiguity aversion (whereby uncertainty about survival prospects leads to aversion to income stream products), and hyberbolic discounting (such that discount rates in the short-term are seen as greater than in the long-term, thereby undervaluing long-term income streams) (e.g., see Hu and Scott, 2007; Corrigan and Matterson, 2009).

Notably, a large proportion of pre-retirees (21%) are unsure whether they will purchase, perhaps reflecting a lack of knowledge about the relative advantages of doing so given their personal circumstances. While not explored in this paper, a relevant question is whether those who have expressed uncertainty about purchasing a guaranteed income product have sought financial advice, or whether they intend to seek advice in the future.

Of the three strategies considered, 'cutting back on spending' is the only strategy with an observed gender difference, with a greater proportion of women claiming to have already cut back than men, and a greater proportion of men having 'no plans' to cut back spending. As expected, there is clear variation with age; this variation is also reflected in the plot by retirement status where the close correlation between age and retirement is observed.

For the modelling in this paper the four responses were combined into two: the categories 'already done' and 'plan to do in the future' were combined into one category, and 'no plans' was treated as the other category, with 'unsure' being removed from the analysis. This enabled the use of logistic regression for modelling the responses.[11] The regression coefficients and standard errors for models fitted to pre-retirees and retirees for each of the three strategies are given in Table A1 in Appendix A.

[11] In future research we will preserve all four response levels and use multinomial logistic regression or proportional log odds to allow a deeper analysis of the survey responses.

In all subsequent figures in this paper, unless explicitly stated otherwise, the variables were kept constant at the levels given in Table 5. These are at, or near, median levels of responses for the surveyed pre-retirees and retirees.

Figure 3 Financial strategies by gender, age group and retirement status

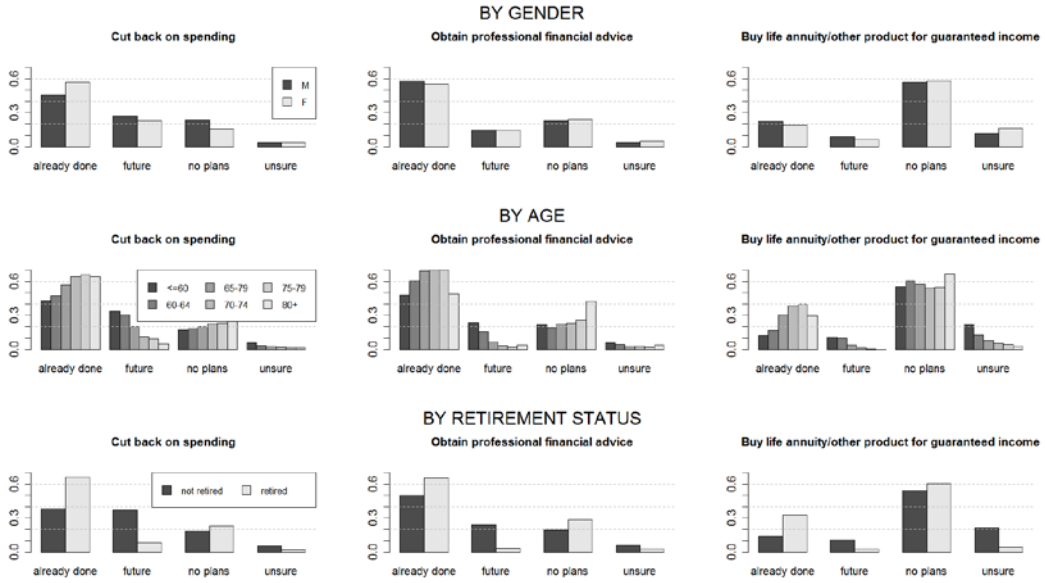


Table 5 Variable levels for use in figures.

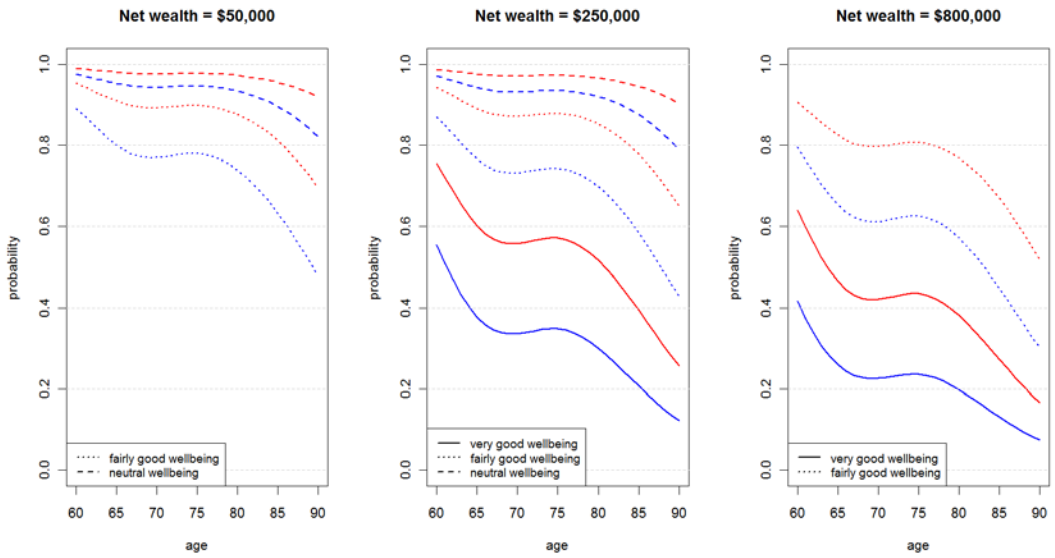
Variable	Pre-retirees	Retirees
Super allocation	balanced	.
Financial literacy	correct	.
Health	very good	very good
Gender	male	male
Marital status	married/defacto	married/defacto
Education	certificate/diploma	certificate/diploma
Tenure	own home outright	own home outright
Gambling	$0	$0
Insurance	1 policy	1 policy
Financial wellbeing	fairly good	fairly good
frequency of tracking savings/investments	monthly/quarterly	monthly/quarterly
frequency of use of financial sources	monthly/quarterly	monthly/quarterly
frequency of consulting with professionals	once per year	once per year
Income	$75,000	$35,000
Net wealth	$250,000	$250,000
Home equity	$450,000	$450,000
Age	59	72

3.1.1 Cut back on spending

In addition to gender, age and retirement status, one would expect that financial wellbeing would affect the likelihood of reducing spending, with those with fewer financial resources being more inclined to cut back spending in order to make ends meet. This was supported by the model fit for both pre-retirees and retirees.

Figure 4 displays the fitted probabilities of cutting back, or intending to cut back, spending as a strategy for financial protection for retirees. Red lines in the figure refer to females; blue are males.[12]

Figure 4 Retirees - probability of reducing spending.



Self-perception of one's own financial wellbeing has a much greater impact on the probability of cutting back on spending than actual household net wealth. This can be seen in Figure 4, where the probabilities vary considerably with respect to self-rated financial wellbeing. Notably, the probabilities also vary with age and gender. While Figure 3 shows that a greater proportion of older persons have cut back spending compared with younger retirees, it is also evident that a greater proportion have no plans to cut back.

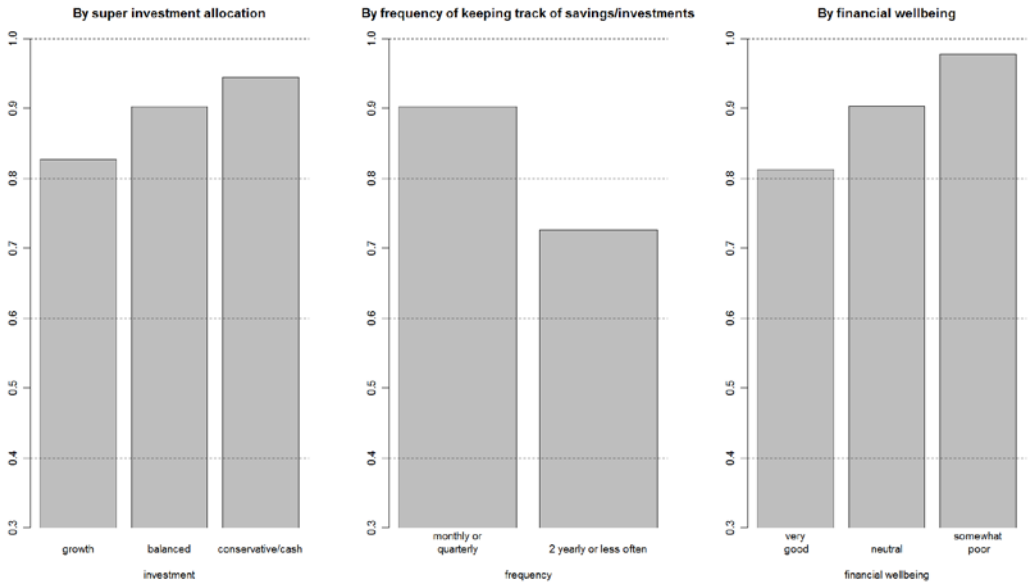
That the reduction, or planned reduction in spending, is closely related to self-assessed financial wellbeing, suggests that the reduction in spending observed in the data is to an extent forced by financial constraints. However, after controlling for self-assessed financial wellbeing and net wealth, it is also clear that there is a strong relationship with age for retirees. This may reflect that older cohorts have lower consumption habits and expectations, and have learned to smooth consumption and live within their means more successfully than younger retirees. It is expected that analysis of other sections of the survey beyond this paper will shed more light on this observation.

For pre-retirees, financial wellbeing is both statistically and materially significant, as is the frequency of tracking savings/investments (at the 10% significance level). Those who never or infrequently track their finances are overconfident or optimistic about their financial position, and are considerably more likely to have not reduced, nor planned to reduce their savings, when compared with those who regularly track their finances.

It is also apparent that pre-retirees who have invested their superannuation in growth assets are less likely to have reduced, or intend to reduce, spending, than those with a conservative asset allocation. This may reflect expectation of high returns and an optimistic outlook among investors in growth assets, or higher awareness of the relationship between growth and returns. While self-assessed health, gambling and home equity are statistically significant for pre-retirees at the 10% level they are not materially significant.

[12] While marital status is not significant for retirees, gender is. For both singles and couples, the likelihood of reducing spending depends on the gender of the respondent.

Figure 5 Pre-retirees - probability of reducing spending.



Future analysis of this question will involve including responses to Question 1.5 (i.e., level of concern about financial consequences of certain possible future events) as potential explanatory variables. For example, it is hypothesised that respondents with greater concerns about inflation and/or outliving their savings, would be more likely to cut back their spending. In this way, we can evaluate whether the risk management strategies taken in Question 1.4 are in response to concerns expressed in Question 1.5, or whether a disconnect exists between financial concerns and actions taken.

3.1.2 Obtain professional financial advice

Apart from Q6.10 (frequency of consultation with professionals) which is clearly significant, the only other significant and material determinants for retirees are age and education; less education is associated with a decreased likelihood of seeking professional financial advice, and there is a large drop in the likelihood of using or intending to use advice for the most elderly (for the median retiree, the likelihood of obtaining advice falls by approximately 20% between age 70 and 85). While one would expect the likelihood of obtaining advice in the future to fall with age (as uncertainty about future needs falls as life expectancy declines), it is somewhat surprising that the proportion who have already obtained advice is considerably lower for those aged over 80. It is possible that this is because many in this age group would have retired prior to the introduction of the SG, and the complexity of financial decision making in the absence of compulsory superannuation is reduced.

For pre-retirees, individuals with the following characteristics are more likely to have obtained or intend to obtain professional advice: singles, higher income earners, and those in excellent health. Conversely, those less likely to seek advice are those who are married/de-facto, with low income and poorer self-assessed health. However, despite the statistical significance these variables have only a minor impact on the likelihood of obtaining financial advice for the median respondent.

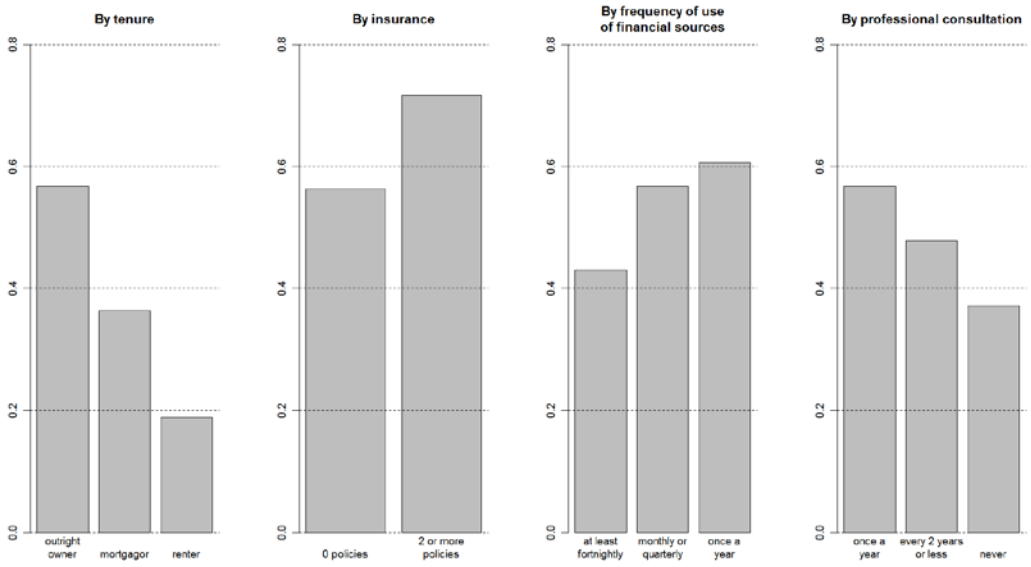
In addition, there is some, albeit limited evidence (at the 14% significance level) that pre-retirees who stated that they didn’t know the answer to the financial literacy questions are more likely not to have obtained, nor plan to obtain, professional financial advice. An implication is that those who arguably need it the most – those who admit financial illiteracy – may be those most unlikely to seek advice, indicating a lack of interest and financial engagement. This observation is raised further in this paper in analysis of Questions 3.11 and 3.12.

3.1.3 Buy a life annuity or other product to provide guaranteed income for life

For retirees, those with mortgages or renting are less likely to purchase, or consider purchasing, a guaranteed income stream product than outright home owners (as stated above, many have clearly misinterpreted this question, and may have assumed that the question included account-based pensions or other income stream products without life guarantees). Both insurance and frequency of professional consultation are also clearly material. Those who take out a higher number of insurance policies and those who more regularly use professional consultants to aid their financial decision making, are more likely to purchase or consider purchasing. Both activities (insurance and the use of consultants) may indicate greater risk aversion.

Frequency of use of financial sources is also statistically significant, and the effect suggests that those who rely on financial sources most frequently are less likely to have purchased (or consider purchasing) an income stream product. It is possible that individuals who engage frequently with financial sources for their decision making (such as newspapers, magazines, and the internet) may have a greater desire for flexibility in their investment decisions rather than commuting to an income stream. Furthermore, information on the benefits and options of income stream products can be difficult to acquire without professional advice.

Figure 6 Retirees – probability of purchasing guaranteed income stream product

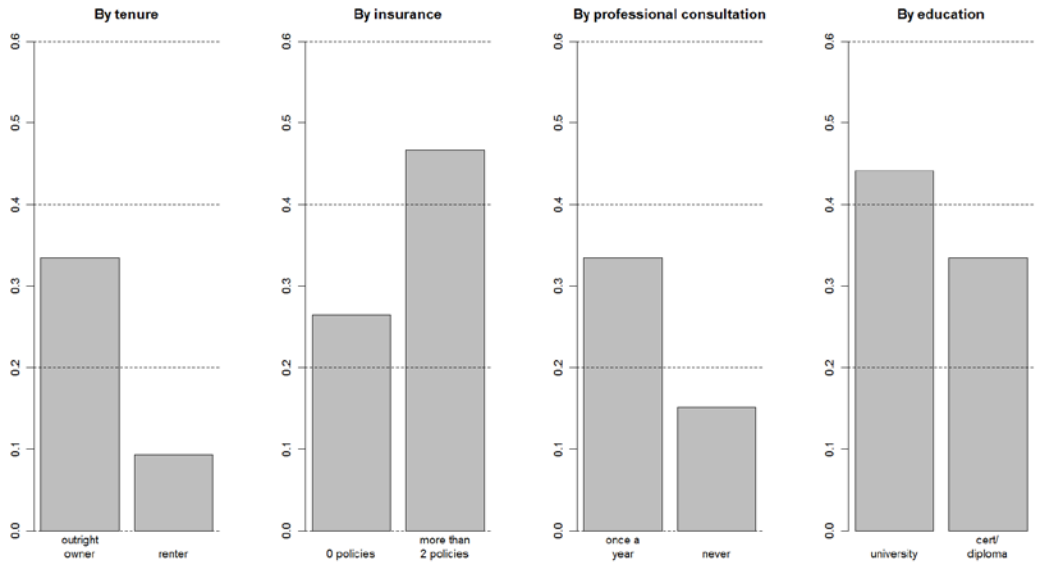


The results are very similar for pre-retirees - professional consultation, tenure, and insurance are all significant, albeit the latter two at the 10% level of significance.

A rational expectation is that financial awareness should correlate with recognition of the need for longevity protection. It is, therefore, not surprising that education is associated with a higher likelihood of purchasing (or intending to purchase) an income stream product. Moreover, it is noted that financial literacy is statistically significant at just above the 10% level of significance for pre-retirees, such that greater financial literacy is associated with a higher probability of purchasing.

It is further hypothesised that those who express greatest concern about outliving their savings should be those who ideally intend to consider purchase of an annuity or other income stream product. While this could be examined by comparing responses to Question 1.5 with those of 1.4, this has not been undertaken for the current paper but will be included in future research.

Figure 7 Pre-retirees – probability of purchasing guaranteed income stream product



3.2 Financial Concerns

Question 1.5

Please indicate how concerned you are about each of the following (ranging from very concerned to not at all concerned). How concerned are you that …

- 1.5.1 - You might not have enough money to pay for a long stay in a nursing home or a long period of nursing care at home.
- 1.5.2 - You might not have enough money if your spouse or partner requires a nursing home or long term care at home.
- 1.5.3 - Your spouse/partner may not be able to maintain the same standard of living after your death, if you should die first.
- 1.5.4 - You might not be able to keep the value of your savings and investments up with inflation.
- 1.5.5 - You might not be able to maintain a reasonable standard of living for the rest of your life.
- 1.5.6 - You might not be able to afford to stay in your current home for the rest of your life.
- 1.5.7 - You might not be able to leave money to your children or other heirs.
- 1.5.8 - You might outlive your savings.

Response options:
Very concerned, Somewhat concerned, Not too concerned, Not at all concerned

Of the eight potential concerns listed in Question 1.5, the top concern is that inflation will erode the value of savings. Nearly 66% of all respondents said they were very concerned or somewhat concerned about this possibility (67% for pre-retirees and 64% for retirees). A close second was 60% of respondents expressing a concern that a reasonable standard of living might not be maintained for life, though the responses varied considerably depending on retirement status (66% of pre-retirees versus 52% of retirees). Notably, a greater proportion of pre-retirees were concerned about both this risk and the risk that they might outlive their savings. This may reflect the fact that savings must last longer for younger respondents, a larger proportion of whom are pre-retirees.

These findings are not unique to Australia. Inspiration for Question 1.5 came from a US survey into risks and processes of retirement sponsored by the Society of Actuaries. In Table 6 a selection of results from the current survey are given alongside the corresponding 2009 US results (in brackets). As was found in the Australian survey, in the US survey inflation was the biggest concern among both retirees and pre-retirees.

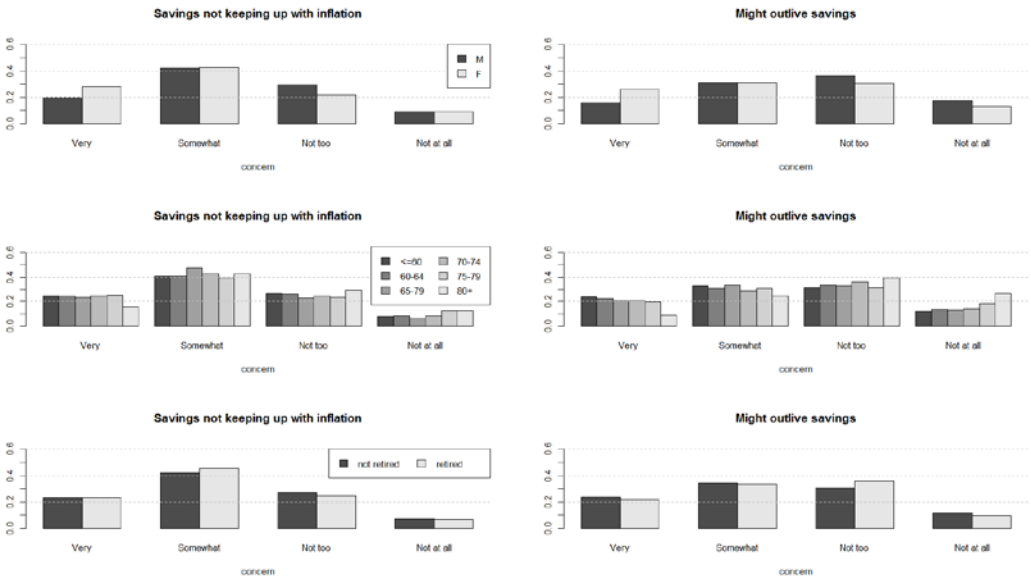
Table 6 Selected financial concerns - results by retirement status

	Retirees		Pre-retirees	
	Very concerned / somewhat concerned	**Not too concerned / not at all concerned**	**Very concerned / somewhat concerned**	**Not too concerned / not at all concerned**
Unaffordable nursing care	54 (46)	46 (54)	50 (56)	50 (44)
Savings not keeping up with inflation	64 (58)	36 (41)	67 (71)	33 (28)
Reasonable standard of living for life	52 (44)	48 (54)	66 (56)	34 (44)
Cannot afford to stay in current home	38 (32)	62 (68)	41 (32)	59 (67)
Cannot leave money for children	23 (28)	77 (72)	25 (35)	75 (65)
Might outlive saving	46 (46)	54 (54)	59 (58)	41 (42)

(source for the US results: Society of Actuaries, 2010)

Two of these concerns, namely 'savings not keeping up with inflation', and 'outliving saving' are studied in more detail in this paper. The breakdown of the responses by gender, age and retirement status are given in Figure 8. There is evidence from Figure 8 that a greater proportion of women appear to be 'very concerned' compared to males, and as expected, there is a drop in concern that savings will last as age increases. Logistic regression was carried out, with 'very concerned' and 'somewhat concerned' as one category and 'not too concerned' and 'not at all concerned' as the other category. The regression coefficients and standard errors for fitted models to pre-retirees and retirees are given in Table A2 in Appendix A.

Figure 8 Financial concerns by gender, age group and retirement status



3.2.1 Concern that inflation erodes savings and investments

As expected, both pre-retirees and retirees with greater financial wellbeing and net wealth have more financial security and are less concerned about their savings and investment eroding with inflation than persons with poor finances. Additionally, among retirees female respondents express more concern than male respondents, however, the magnitude of the effect is relatively small.

After controlling for wealth and financial wellbeing, respondents in excellent or very good health are substantially less concerned about inflation risk than those with fair/poor health. There is a similar relationship between better health and less concern about outliving one's savings. This unexpected observation is discussed in the following section. There is also some evidence that superannuation asset allocation has a bearing on concern about inflation. Pre-retirees with their superannuation invested in growth assets are less likely to be concerned than those with balanced or conservative investments. This may be due to the general belief that growth assets outperform other asset classes over the long-term.

Among retirees married/defacto retirees are more concerned than singles, possibly as a consequence of higher expenditure demands for couples, however the effect has only a minor impact on probabilities as can be seen in Figure 10. For retirees, those who never consult with professionals are the least concerned. Moreover, retirees who keep track of their savings and investments less regularly also express less concern, suggesting that concern is greatest among those most engaged with their finances. Finally, age is also significant for retirees, though concern is approximately constant until age 75 after which it declines.

Figure 9 Pre-retirees – concern that inflation erodes savings and investments

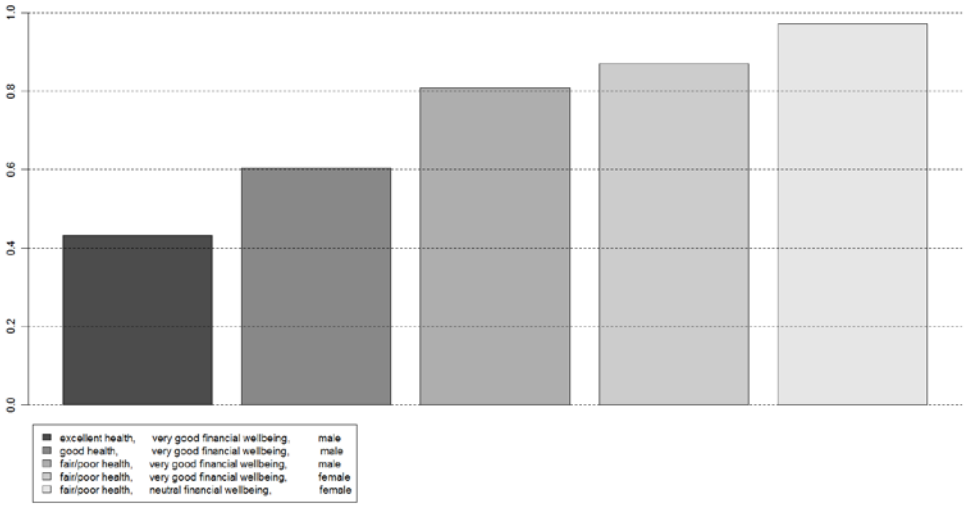
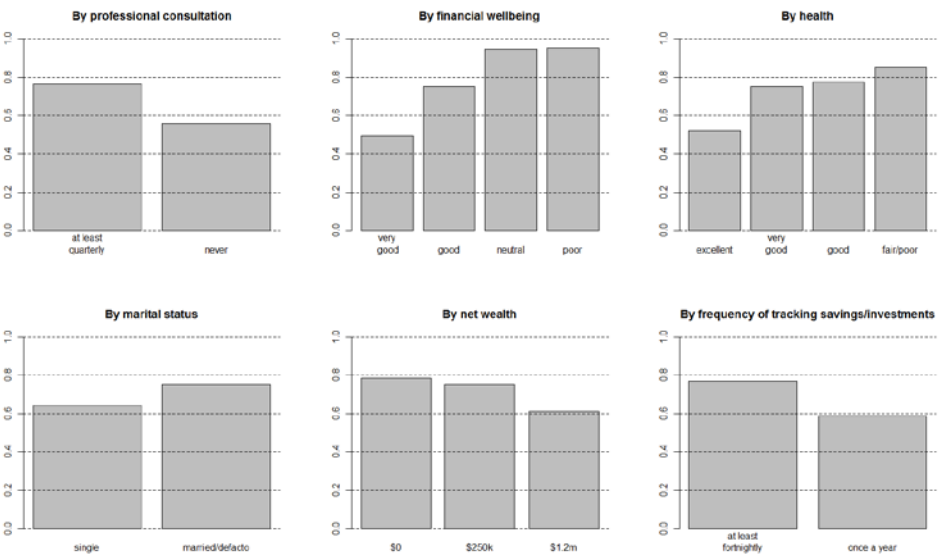


Figure 10 Retirees – concern that inflation erodes savings and investments



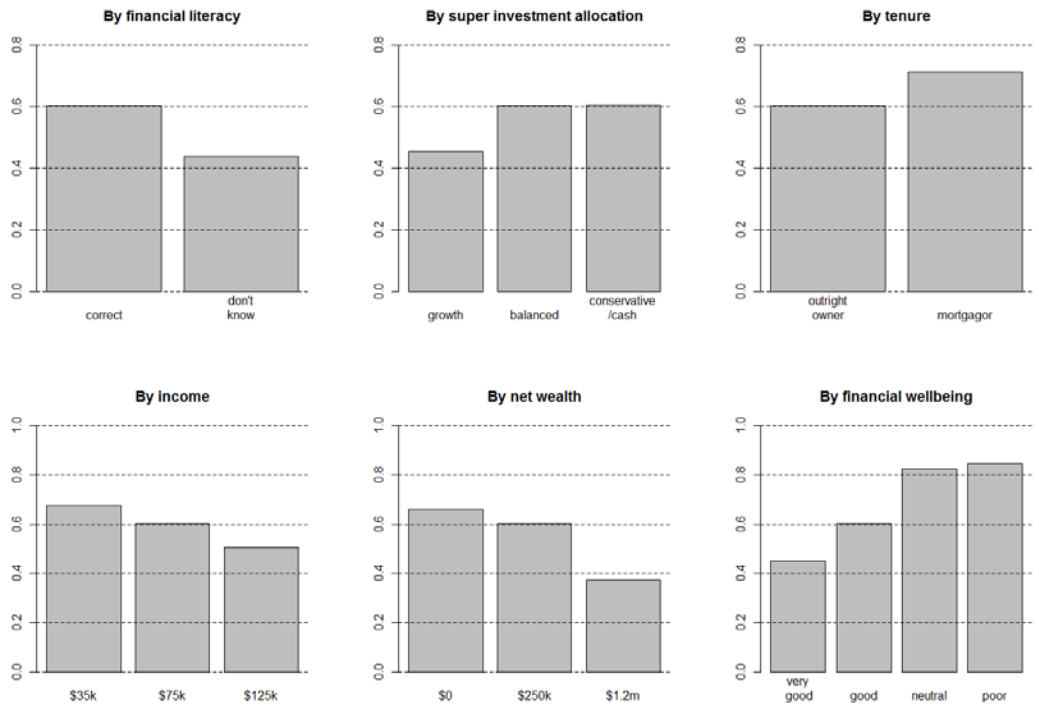
3.2.2 Concern of outliving savings

As expected, pre-retirees with lower net wealth, lower income, and poorer financial wellbeing express greatest concern about outliving their savings. Respondents who own their homes outright are generally in a superior financial position than mortgagors, so it is also not surprising that mortgagors express greater concern than outright home owners.

Pre-retirees whose superannuation is invested in growth assets express less concern than those invested in balanced or conservative investments, presumably due to optimism that growth investments will produce higher expected returns. While those with more conservative investments express greater concern about outliving their savings, it may be that risk aversion limits their investing in growth assets.

Of interest is the observation that respondents who admitted that they did not know how to answer the financial literacy questions are less concerned about outliving their savings than those who answered correctly. This is additional support for the observations made above that it is the least financially aware who are overconfident and are least concerned about the adequacy of their finances.

Figure 11 Pre-retirees – concern of outliving savings



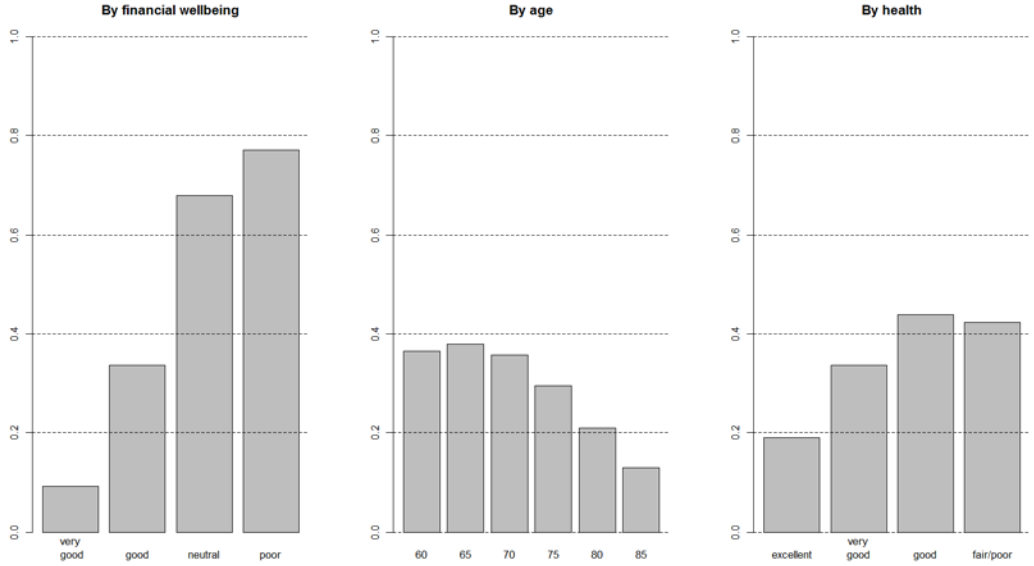
Retirees with higher income and financial wellbeing also express more concern about outliving their savings than retirees in poorer financial circumstances. Concern is fairly constant with respect to age until the mid-70s, after which it drops quickly as life expectancy reduces. Home equity is statistically significant though has little material effect on the probabilities of concern. A selection of results is given in Figure 12.

A result that is of particular interest, as it is unexpected and yet is both statistically and materially significant, is self-assessed health status. It is reasonable to assume that those with 'excellent' health will have higher life expectancies. Consequently, ceteris paribus, these retirees would have a greater chance of outliving their savings than retirees with 'good', or 'fair/poor' health, whom are more likely to have lower life expectancies. Despite the logic in this argument, the survey results indicate that individuals with excellent health, after controlling for financial wellbeing, wealth, and income (among other variables), are less concerned about outliving their savings than individuals with good, fair or

poor health. For an individual with median levels of their socio-demographic characteristics, those in excellent health have a 20% likelihood of concern compared with 45% for those in good health.

While it is possible that this effect is due to greater outlays on medical and health care among those in 'good' health as compared with 'excellent' health (resulting in more rapid depletion of funds and, therefore, increased likelihood of outliving savings sooner), the likelihood that this is responsible is diminished by noting that financial wellbeing and net wealth have been controlled for in the modelling, and it is likely that self-assessed wellbeing reflects expenditure demands to an extent.[13] An alternative explanation may be that healthier individuals are subject to optimism bias (that is, they are more optimistic about future outcomes), and conversely less healthy individuals may be generally more pessimistic about their financial outlook.

Figure 12 Retirees – concern of outliving savings



3.3 Financial literacy

Question 3.11
Which of the following investment options do you think is **most** likely to lead to a loss of money over a one year period?

Question 3.12
Which of the following investment options do you think is **least** likely to lead to a loss of money over a one year period?

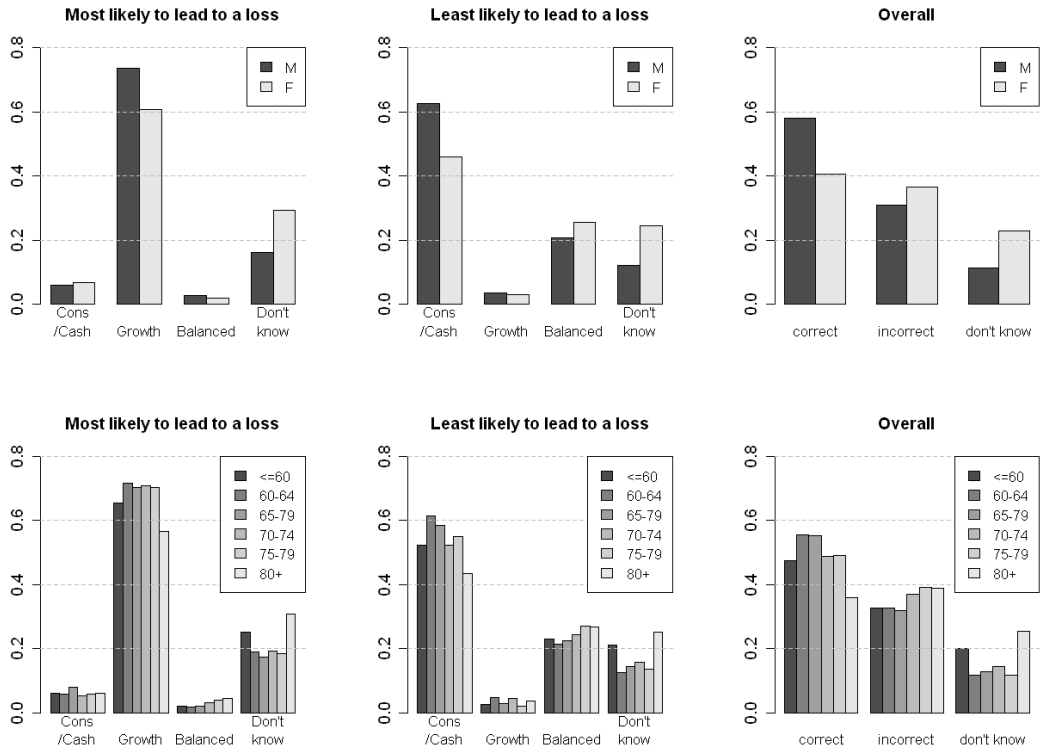
Response options for both questions: *Conservative/Cash, Growth/High Growth, Balanced, Don't know*

The two questions above were asked of respondents who completed Module 3 of the survey on superannuation. Figure 13 presents the results by gender and age for each of the questions

[13] This can be explored further through Module 2, which seeks to capture whether respondents' needs and consumption of specific goods and services (including medical care and health expenses) has changed, and asks *why* those changes have occurred. Additionally, questions in Module 5 that ask how extra funds would be used will give insight into the financial pressures and expenditure needs facing elderly Australians. This information will be coupled with the concerns expressed in Question 1.5 to try to better understand the differences among elderly Australians.

individually, and in aggregate. The aggregate results (titled 'Overall' in the plot) combine the results for the two questions. In the figure those who answered both questions correctly are labelled 'correct'; those who answered at least one question incorrectly are labelled 'incorrect'; and those who responded that they didn't know the answer to either question are labelled 'don't know'. Of the 2,782 respondents who answered this question, 1,383 (50%) answered both parts correctly, 951 (34%) were 'incorrect', and 448 (16%) responded that they didn't know the answer to either question.

Figure 13 Perception of relative riskiness of asset classes – by gender and age



Men appear to have a better grasp of the relationship between asset classes and return risk than women. Interestingly, it is the youngest respondents (pre-retirees aged between 50 and 60) and the most elderly (aged 80 +) who appear to be the least financially literate in this context. The relative lack of knowledge of the younger respondents may be a consequence of short-sightedness (or 'myopia' using the behavioural finance lexicon) regarding the need for financial engagement prior to retiring and accessing superannuation.

The relationship between financial literacy and respondent characteristics was explored further through logistic regression modelling.[14] Results are displayed in Table A3 in Appendix A.

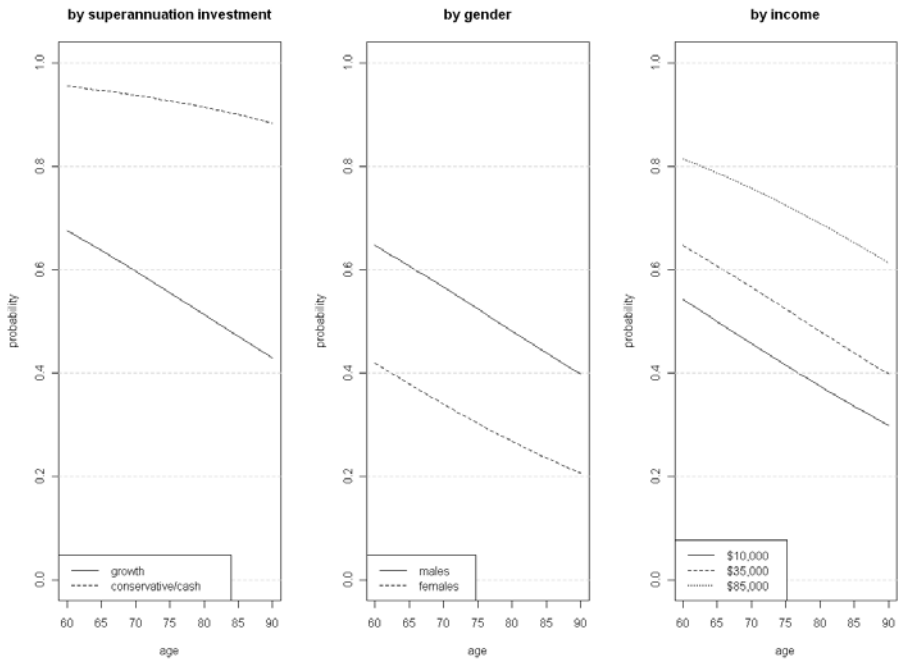
The regression results for retirees indicate that those who are more likely to answer correctly are younger retired males with high incomes whose super is in conservative assets.[15] Notably, the probability of answering correctly does not appear to depend on education. It is interesting to note that retirees who have invested aggressively are no more likely to have answered correctly than those

[14] For the current analysis two levels of response were considered: those who answered correctly for the two questions 3.11 and 3.12 were assigned a '0'; all other responses were assigned a '1', whether incorrect or 'don't know' for one or both questions.

[15] Although the fitted model suggests that those who keep track of their savings/investments the least frequently have higher financial literacy than those who regularly keep track, there were only 7 individuals in the sample with this characteristic, and therefore, this result should be interpreted with caution. Similarly, while 'renting' appears significant for tenure, there were only 9 individuals in the sample.

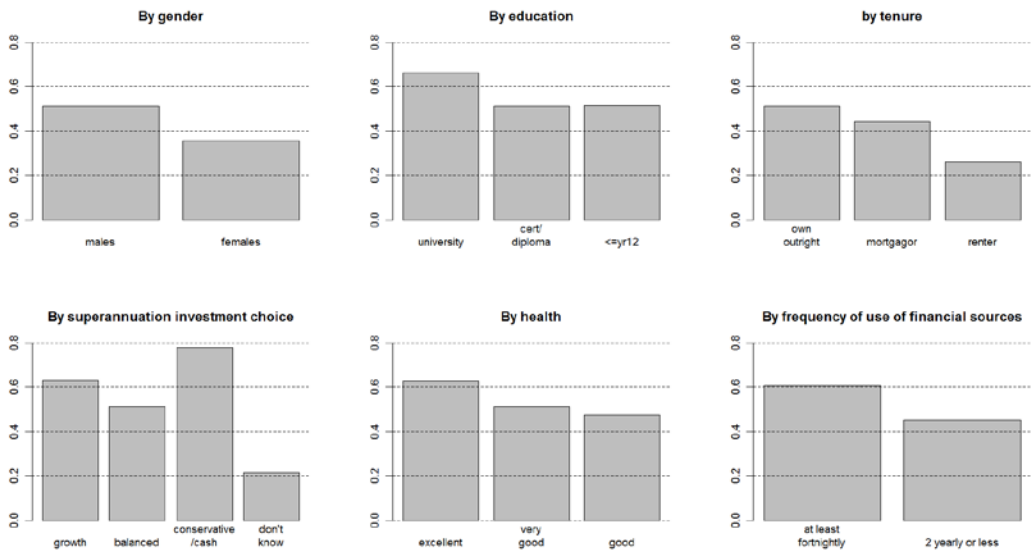
maintaining a balanced superannuation portfolio. In the figures below the probability of answering correctly is given in the vertical axis.

Figure 14 Retirees – probability of answering correctly to financial literacy questions



Pre-retirees who are more likely to answer correctly are males with superannuation in conservative assets, who are more educated, own their home outright, are in excellent health, and who frequently use financial sources to aid in their decision making.

Figure 15 Pre-retirees – probability of answering correctly to financial literacy questions



As expected, individuals with higher education and who are financially engaged (as measured through the frequency of use of financial sources for decision making), are more likely to have answered the financial literacy question correctly.

That excellent health is associated with superior financial literacy is curious. Better health can be reflective of superior lifestyle and habits developed through an individual's acquisition of information. It is plausible that an individual's ability to acquire and utilise information that may be partly responsible for good health, is the same ability that leads to greater financial literacy.

Finally, as with retirees, pre-retirees with conservative and cash investments are more likely to have answered the questions correctly – i.e., they are more likely to understand the relationship between asset class returns and risk. This is not surprising - the decision to invest conservatively, and knowingly accept an expected modest return, is likely one that is taken after reflecting on the risks associated with the alternatives. It is equally expected that those who don't know how their superannuation is invested are those who have least knowledge about the relationship between asset classes and risk.

Further analysis can explore the patterns in financial literacy with respect to other survey questions. For example, it may be that those individuals who suffered losses as a consequence of the GFC are the same individuals who now have the clearest understanding of the relationship between risk and return – i.e., the first-hand experience, while painful, may have been an effective educational tool ! This could be explored by examining how responses to the questions pertaining to financial literacy differ with respect to their investment behaviour as a consequence of the GFC.

4. Future plans

The questions that we have explored above can be extended by including additional covariates in the models: tobacco and alcohol consumption, age pension, bequest intentions, reasons for retirement or non-retirement, sources of income, dependants, comparative health, health care cards, geographical area, etc. In the near future, however, the research emphasis will be on exploring the key survey aims which were described in the introduction to this paper.

It is intended that the results from the analysis of the survey will be combined with analysis of the ABS Household Expenditure Survey data, to better gauge how and why expenditure patterns vary over retirement.

Appendix A Regression model results

Baseline levels for the categorical variables in the regression models are:

- superannuation investments - high growth/growth
- financial literacy - correct answer
- health - excellent
- gender - male
- marital status - single
- education - university
- tenure - own home outright
- gambling - $0 per week
- insurance - 0 policies
- financial wellbeing - very good
- frequency of tracking savings/investments - weekly/fortnightly
- frequency of use of financial sources - weekly/fortnightly
- frequency of consulting with professionals - at least quarterly

Table A1	Q1.4.1 - retirees		pre-retirees		Q1.4.3 - retirees		pre-retirees		Q1.4.4 - retirees		pre-retirees	
^ p<0.1, * p<0.05, ** p<0.01, *** p<0.001	est	se	est	se	est	se	est	se	est	se	est	se
intercept	2.867*	1.402	1.83*	0.879	2.833**	1.051	2.373**	0.873	-0.052	0.730	0.455	0.848
super (balanced)			0.657*	0.288			0.240	0.369			0.143	0.302
super (conservative/cash)			1.262**	0.488			-0.309	0.439			0.133	0.403
super (don't know)			-0.019	0.468			-0.001	0.473			-0.055	0.524
financial literacy (incorrect)			0.000	0.267			0.103	0.288			-0.397	0.25
financial literacy (don't know)			-0.245	0.383			-0.531	0.360			-0.492	0.389
health (very good)	0.775^	0.447	0.150	0.317	0.396	0.51	-0.827*	0.390	0.163	0.376	-0.185	0.295
health (good)	0.541	0.439	0.653^	0.356	-0.388	0.526	-0.747^	0.406	-0.125	0.386	-0.483	0.33
health (fair/poor)	0.789	0.496	-0.035	0.54	0.325	0.552	-0.124	0.600	0.016	0.419	-0.102	0.472
gender (female)	0.913**	0.297	0.155	0.272	0.413	0.295	-0.264	0.268	-0.024	0.232	-0.264	0.24
marital (married/defacto)	0.070	0.320	-0.190	0.369	0.021	0.311	-0.937**	0.333	0.174	0.242	-0.489^	0.286
education (certificate/diploma)	-0.372	0.280	-0.405	0.284	-0.122	0.303	0.199	0.307	-0.036	0.226	-0.45^	0.27
education (yr12 or below)	-0.078	0.328	-0.270	0.326	-0.614*	0.303	0.070	0.313	-0.319	0.259	-0.08	0.281
tenure (mortgagor)	0.912	0.661	0.326	0.259	-0.907	0.637	-0.262	0.266	-0.831	0.550	-0.285	0.255
tenure (renter)	-0.350	0.563	0.167	0.786	-0.760	0.56	-0.253	0.505	-1.726*	0.700	-1.593^	0.883
income (per $10,000)	-0.032	0.048	-0.041	0.043	-0.006	0.048	0.112*	0.045	-0.031	0.042	-0.016	0.041
gambling (>$0 per week)	0.113	0.244	-0.484^	0.248	0.030	0.264	0.302	0.247	0.187	0.202	0.048	0.224
insurance (1 policy)	-0.691	0.442	-0.257	0.530	-0.51	0.353	0.240	0.401	0.016	0.289	0.334	0.503
insurance (2+ policies)	-0.712	0.502	-0.850	0.518	-0.133	0.415	-0.127	0.406	0.674*	0.333	0.89^	0.499
wellbeing (fairly good)	1.688***	0.337	0.760*	0.324	-0.401	0.406	0.439	0.398	-0.067	0.287	-0.469	0.324
wellbeing (neither good nor poor)	3.297***	0.485	0.772*	0.392	0.285	0.5	0.168	0.459	-0.189	0.350	-0.753^	0.412
wellbeing (poor/very poor)	3.452***	0.811	2.287**	0.817	-0.115	0.623	-0.065	0.523	-0.375	0.511	-0.601	0.545
frequency of tracking savings/investments (monthly/quarterly)	-0.077	0.268	0.217	0.288	0.179	0.29	0.562^	0.294	-0.193	0.226	0.348	0.272
frequency of tracking savings/investments (once a year)	-0.608	0.433	-0.370	0.347	-0.769*	0.378	0.002	0.362	-0.590^	0.334	0.371	0.345
frequency of tracking savings/investments (two yearly or less)	-0.105	1.141	-1.035^	0.554	-0.201	0.721	0.255	0.695	-0.243	0.758	-0.386	0.836
frequency of use of financial sources (monthly/quarterly)	0.321	0.343	0.143	0.333	0.204	0.345	-0.308	0.393	0.550*	0.270	-0.109	0.32
frequency of use of financial sources (once a year)	0.355	0.399	0.552	0.410	0.341	0.455	0.372	0.463	0.711^	0.364	-0.58	0.363
frequency of use of financial sources (every 2 years or less often)	0.107	0.367	0.350	0.374	0.425	0.339	-0.398	0.411	0.151	0.292	-0.429	0.344
frequency of consulting with professionals (once a year)	0.051	0.300	0.346	0.303	-0.532	0.33	-0.375	0.401	-0.269	0.245	0.044	0.277
frequency of consulting with professionals (less than once a year)	0.141	0.448	-0.157	0.363	-1.714***	0.421	-1.162**	0.443	-0.627^	0.332	0.012	0.36
frequency of consulting with professionals (never)	-0.216	0.378	-0.191	0.403	-3.586***	0.395	-2.396***	0.470	-1.063**	0.323	-0.994*	0.434
net wealth (per $100,000)	-0.100*	0.040	-0.033	0.037	-0.028	0.05	-0.004	0.043	-0.052	0.035	0.056	0.035
home equity (per $100,000)	0.002	0.016	-0.062^	0.033	-0.031	0.02	0.022	0.026	-0.006	0.026	-0.022	0.032
age (first spline term)	-1.637*	0.660	-1.869	1.266	0.294	1.188	0.161	1.303	0.566	0.658	-1.206	1.041
age (second spline term)	-7.124**	2.443			-1.218*	0.575						
age (third spline term)	-2.622**	0.877										

Table A2

^ p<0.1, * p<0.05, ** p<0.01, *** p<0.001

	Q1.5.4 - retirees		pre-retirees		Q1.5.8 - retirees		pre-retirees	
	est	se	est	se	est	se	est	se
intercept	-2.006*	0.902	-1.342^	0.705	-2.687**	0.963	-1.071	0.727
super (balanced)			0.502^	0.262			0.594*	0.272
super (conservative/cash)			0.504	0.365			0.612^	0.354
super (don't know)			0.081	0.413			0.222	0.423
financial literacy (incorrect)			-0.001	0.218			-0.217	0.212
financial literacy (don't know)			-0.330	0.314			-0.659*	0.315
health (very good)	1.029**	0.392	0.377	0.252	0.774^	0.421	0.135	0.252
health (good)	1.140**	0.412	0.696*	0.277	1.207**	0.434	0.551*	0.274
health (fair/poor)	1.666***	0.445	1.711**	0.573	1.140*	0.459	0.209	0.426
gender (female)	0.567*	0.249	0.453*	0.204	0.462^	0.246	0.335^	0.200
marital (married/defacto)	0.522^	0.270	0.037	0.266	0.007	0.266	0.123	0.260
education (certificate/diploma)	-0.161	0.255	0.031	0.235	-0.063	0.247	-0.048	0.229
education (yr12 or below)	0.055	0.290	0.025	0.243	0.012	0.267	0.132	0.238
tenure (mortgagor)	-0.619	0.461	0.189	0.216	-0.232	0.414	0.502*	0.210
tenure (renter)	-0.909^	0.512	-0.426	0.461	-1.142^	0.593	-0.149	0.490
income (per $10,000)	-0.078^	0.046	-0.026	0.036	-0.078^	0.046	-0.079*	0.034
gambling (>$0 per week)	-0.058	0.219	0.050	0.198	0.065	0.211	-0.038	0.193
insurance (1 policy)	0.399	0.324	0.197	0.364	-0.037	0.294	0.567	0.378
insurance (2+ policies)	0.520	0.380	0.087	0.363	0.091	0.343	0.579	0.377
wellbeing (fairly good)	1.144***	0.305	0.819**	0.278	1.604***	0.410	0.614*	0.287
wellbeing (neither good nor poor)	2.940***	0.433	1.633***	0.363	3.034***	0.469	1.749***	0.360
wellbeing (poor/very poor)	3.058***	0.612	1.431**	0.498	3.503***	0.563	1.908***	0.512
frequency of tracking savings/investments (monthly/quarterly)	-0.092	0.242	0.289	0.224	0.031	0.243	0.380^	0.227
frequency of tracking savings/investments (once a year)	-0.860*	0.422	0.188	0.281	-0.420	0.362	-0.128	0.294
frequency of tracking savings/investments (two yearly or less)	-0.589	0.760	1.052^	0.604	-0.205	0.635	0.426	0.567
frequency of use of financial sources (monthly/quarterly)	0.279	0.284	0.110	0.280	0.054	0.287	-0.024	0.282
frequency of use of financial sources (once a year)	0.238	0.388	0.358	0.323	0.152	0.360	0.150	0.326
frequency of use of financial sources (every 2 years or less often)	0.036	0.302	-0.226	0.296	-0.032	0.299	-0.214	0.300
frequency of consulting with professionals (once a year)	-0.071	0.274	0.182	0.246	-0.059	0.270	0.128	0.248
frequency of consulting with professionals (less than once a year)	-0.129	0.371	-0.104	0.318	-0.300	0.353	0.070	0.314
frequency of consulting with professionals (never)	-0.962**	0.322	-0.133	0.323	-0.596^	0.311	0.196	0.311
net wealth (per $100,000)	-0.069^	0.035	-0.053^	0.028	-0.042	0.035	-0.098***	0.029
home equity (per $100,000)	0.020	0.014	-0.011	0.024	0.031*	0.013	0.016	0.023
age (first spline term)	0.449	1.009	0.541	0.972	-0.177	1.037	-1.169	0.903
age (second spline term)	-0.958*	0.485			-2.005***	0.503		

Table A3 Regression results for questions on financial literacy

^ p<0.1, * p<0.05, ** p<0.01, *** p<0.001

	Retirees		Pre-retirees	
	est	Se	est	se
intercept	-0.694	0.982	-2.340**	0.710
super (balanced)	0.128	0.350	0.473^	0.257
super (conservative/cash)	-2.315***	0.516	-0.726*	0.360
super (don't know)	0.558	0.611	1.833***	0.413
health (very good)	0.208	0.491	0.473^	0.268
health (good)	0.760	0.501	0.619*	0.284
health (fair/poor)	0.398	0.565	0.121	0.393
gender (female)	0.929**	0.307	0.646***	0.194
marital (married/defacto)	-0.429	0.334	-0.059	0.248
education (certificate/diploma)	0.237	0.305	0.610**	0.227
education (yr12 or below)	-0.022	0.331	0.603**	0.228
tenure (mortgagor)	0.083	0.677	0.281	0.202
tenure (renter)	3.682*	1.477	1.088*	0.481
income (per $10,000)	-0.175**	0.055	-0.006	0.032
gambling (>$0 per week)	0.357	0.256	-0.093	0.184
insurance (1 policy)	0.392	0.457	-0.071	0.350
insurance (2+ policies)	0.000	0.506	0.251	0.354
wellbeing (fairly good)	-0.040	0.364	0.106	0.290
wellbeing (neither good nor poor)	-0.483	0.451	0.220	0.351
wellbeing (poor/very poor)	0.045	0.660	-0.003	0.442
frequency of tracking savings/investments (monthly/quarterly)	-0.284	0.303	0.125	0.226
frequency of tracking savings/investments (once a year)	-0.283	0.440	0.343	0.278
frequency of tracking savings/investments (two yearly or less)	-2.316*	1.028	-0.100	0.549
frequency of use of financial sources (monthly/quarterly)	0.168	0.335	0.387	0.285
frequency of use of financial sources (once a year)	0.239	0.460	0.231	0.305
frequency of use of financial sources (every 2 years or less often)	-0.120	0.372	0.629*	0.290
frequency of consulting with professionals (once a year)	-0.113	0.286	0.435^	0.253
frequency of consulting with professionals (less than once a year)	-0.101	0.414	-0.104	0.306
frequency of consulting with professionals (never)	0.234	0.506	-0.020	0.327
net wealth (per $100,000)	0.009	0.041	-0.047	0.030
home equity (per $100,000)	0.015	0.014	-0.022	0.026
age (first spline term)	1.654^	0.887	0.380	0.880

Appendix B Survey questions

Module 1 Financial wellbeing and risk

In this module questions are asked about your financial wellbeing and actions you may have taken, or intend to take, to protect yourself financially.

1.1 How would you rate your current state of financial wellbeing (ranging from very good to very poor) ? (tick ✓ the most appropriate entry)

- ☐ Very good
- ☐ Fairly good
- ☐ Neither good nor poor
- ☐ Somewhat poor
- ☐ Very poor

1.2 If you have retired from paid work, how would you rate your state of financial wellbeing now compared with prior to ceasing paid work ?

- ☐ Much better now
- ☐ Better now
- ☐ Neither better nor worse
- ☐ Worse now
- ☐ Much worse now
- ☐ Not yet retired

1.3 How often would you say you can meet the costs of essential living expenses (i.e., groceries, housing, utilities, health care) ?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

1.4 Below is a list of things that some people do to protect themselves financially after they retire, or as they get older. For each, please indicate whether you have done that, plan to do that in the future, or have no plans to do that. To protect yourself financially, have you or do you plan to…

	Already done	Plan to do in future	No plans	Don't know/ unsure
1.4.1 Cut back on spending	☐	☐	☐	☐
1.4.2 Work longer	☐	☐	☐	☐
1.4.3 Obtain professional financial advice	☐	☐	☐	☐
1.4.4 Buy a life annuity or other product to provide guaranteed income for life	☐	☐	☐	☐
1.4.5 Increase contributions to superannuation	☐	☐	☐	☐
1.4.6 Increase savings outside superannuation	☐	☐	☐	☐
1.4.7 Move assets to more conservative asset classes	☐	☐	☐	☐
1.4.8 Take out or increase reverse mortgage or home refinancing	☐	☐	☐	☐
1.4.9 Take out or increase other debt (e.g. credit cards, personal loans)	☐	☐	☐	☐
1.4.10 Completely pay off mortgage	☐	☐	☐	☐
1.4.11 Pay off all credit cards and personal loans	☐	☐	☐	☐
1.4.12 Buy real estate or invest in property (including upsizing or renovations)	☐	☐	☐	☐

1.4.13 Move to a smaller home/less expensive area	☐	☐	☐	☐
1.4.14 Sell household goods, investment property or other material assets	☐	☐	☐	☐
1.4.15 Approach others for financial support/loan	☐	☐	☐	☐
1.4.16 Increase insurance cover (life, disability, trauma, accident or private health)	☐	☐	☐	☐

1.5 Please indicate how concerned you are about each of the following (ranging from very concerned to not at all concerned). How concerned are you that…

	Very concerned	Somewhat concerned	Not too concerned	Not at all concerned
1.5.1 You might not have enough money to pay for a long stay in a nursing home or a long period of nursing care at home	☐	☐	☐	☐
1.5.2 You might not have enough money if your spouse or partner requires a nursing home or long term care at home.	☐	☐	☐	☐
1.5.3 Your spouse/partner may not be able to maintain the same standard of living after your death, if you should die first.	☐	☐	☐	☐
1.5.4 You might not be able to keep the value of your savings and investments up with inflation.	☐	☐	☐	☐
1.5.5 You might not be able to maintain a reasonable standard of living for the rest of your life.	☐	☐	☐	☐
1.5.6 You might not be able to afford to stay in your current home for the rest of your life.	☐	☐	☐	☐
1.5.7 You might not be able to leave money to your children or other heirs.	☐	☐	☐	☐
1.5.8 You might outlive your savings.	☐	☐	☐	☐

Module 2 Expenditure during retirement

In this module questions are asked about your needs and expenditure now compared with before retirement. For some of the questions in this and later modules, various goods and services categories are referred to. An explanation of these categories is given in the table below. You may wish to refer to this table when you are answering some of the questions.

Category	Explanation
Food and non-alcoholic beverages	This includes food and non-alcoholic beverages for meals at home and meals out, including restaurants, clubs, fast food and takeaway.
Alcohol and tobacco	All alcoholic beverages and tobacco and tobacco products, such as cigarettes, pipes, etc.
Housing and utility expenses	This includes **housing costs**: e.g. rent and mortgage repayments, house and contents insurance, rates, land tax, repairs and maintenance, and body corporate payments. It also includes **utilities**, such as electricity and gas. It excludes expenditure on household goods and services besides repairs and maintenance.
Household goods and services	This includes **household goods**: e.g., kitchen and laundry appliances, air-conditioners, furniture, floor coverings, paintings, linen, glassware, tableware, utensils, phones, tools, telephones. Audio-visual and computer equipment is counted

	under 'All other goods and services'. It also includes **household non-durables** such as garden plants, other gardening products, and cleaning products, telephone and mobile charges, **household services** such as pest control, gardening, housekeeping and cleaning, home help, security, and repair and maintenance of household durables.
Medical care and health expenses	This includes accident and health insurance, fees, pharmaceuticals, therapeutic equipment, hospital and nursing home charges.
Gifts/donations	Donations/cash or other gifts to charity, family or friends.
All other goods and services	This could include, among other things, **clothing and footwear**, **transport** (e.g., motor vehicle, caravan, bike purchase, registration and insurance, repairs, public transport and taxi fares, petrol, air fares), **recreation** (audio-visual equipment, computers, books, newspapers, magazines, DVDs/CDs, cameras, sports equipment, boat or aircraft purchase, gambling, cultural fees and charges, such as cinema, theatre, and galleries, recreational courses, club memberships, internet charges, pet expenses, holiday costs), **personal care** (e.g., toiletries and cosmetics).

If you have retired from paid work please answer the following three questions. Otherwise skip to Module 3.

2.1 Has your household's need for the following goods or services increased, decreased, or stayed the same since before you retired from paid work ?

	Increased	Same	Decreased	Not sure
Food and non-alcoholic beverages	☐	☐	☐	☐
Alcohol and tobacco	☐	☐	☐	☐
Housing and utilities	☐	☐	☐	☐
Household goods and services	☐	☐	☐	☐
Medical care and health expenses	☐	☐	☐	☐
Gifts/donations	☐	☐	☐	☐

2.2 Does your household purchase approximately the same quantity, more, or less of the following goods and services now than it did before you retired from paid work ?

	More	Same	Less	Not sure
Food and non-alcoholic beverages	☐	☐	☐	☐
Alcohol and tobacco	☐	☐	☐	☐
Housing and utilities	☐	☐	☐	☐
Household goods and services	☐	☐	☐	☐
Medical care and health expenses	☐	☐	☐	☐
Gifts/donations	☐	☐	☐	☐

2.3 If you stated in Question 2.2 that your household purchases less now or more now of the following goods and services than before you retired from paid work, please briefly state why this is the case (e.g., insufficient funds, more funds available, cheaper housing, more expensive housing, etc…).

Food and non-alcoholic beverages___ [text response]
Housing and utilities _____[text response]
Medical care and health expenses____ [text response]

Module 3 Superannuation, savings and investment choices

In this module questions are asked about your superannuation, and your investment choices for your superannuation and non-superannuation savings

3.1 Do you have superannuation ?

- ☐ Yes
- ☐ No
- ☐ Don't know

If you have superannuation, please answer the remaining questions in this module. If you don't have superannuation, or don't know, please proceed to Question 3.17

3.2 Have you obtained professional financial advice on how you should invest your superannuation ?

- ☐ Yes
- ☐ No

3.3 If you answered 'Yes' to Question 3.2, when did you most recently receive advice ?

- ☐ Within the last year
- ☐ Between 1 and 5 years ago
- ☐ More than 5 years ago

3.4 If you answered 'Yes' to Question 3.2, did you act on the advice ?

- ☐ Yes, I have changed how I invested my superannuation because of the advice
- ☐ No, but I intend to act on the advice
- ☐ No, I have not acted on the advice, nor do I intend to act on the advice

3.5 Do you read your superannuation member statements ?

- ☐ Yes, all the time
- ☐ Sometimes
- ☐ Never

Investment options for superannuation can be roughly grouped into:

- Growth/High Growth: with a higher concentration of shares, and a lower concentration of fixed interest, property and cash than Balanced.
- Balanced: with a more even mix of shares, fixed interest, property and cash.
- Conservative/Cash: with a greater concentration of cash and/or fixed interest, and a low to negligible concentration of shares.

Your actual investment choices may be somewhere between these categories. When answering the following questions please select the investment option that is closest to how you have invested your superannuation.

3.6 How is your superannuation balance currently invested ?

- ☐ Growth/High Growth
- ☐ Balanced
- ☐ Conservative/Cash
- ☐ Don't know

3.7 If you have permanently retired from paid employment, did you change how your superannuation was invested as a consequence of retirement from paid employment ?

- ☐ Yes
- ☐ No
- ☐ Have not retired

3.8 If your answer to the previous question was 'Yes', what change did you make? [text response]

3.9 If you have not yet permanently retired from paid employment, do you intend to change how your superannuation is invested after you retire from paid employment ?

- ☐ Yes
- ☐ No
- ☐ Not sure
- ☐ Have permanently retired

3.10 If your answer to the previous question was 'Yes', what change do you intend to make ? [text response]

The next two questions gather information on your impressions of the risks associated with different investment options.

3.11 Which of the following investment options do you think is most likely to lead to a loss of money over a one year period ?

☐ Conservative/Cash ☐ Growth/High Growth
☐ Balanced ☐ Don't know

3.12 Which of the following investment options do you think is least likely to lead to a loss of money over a one year period ?

☐ Conservative/Cash ☐ Growth/High Growth
☐ Balanced ☐ Don't know

The following information relates to the remaining questions in this module. Between November 2007 and March 2009, during the Global Financial Crisis, the All Ordinaries Index (a major price index for Australian shares) fell over 50%. This fall had a large negative impact on superannuation balances, and financial investments more generally. The All Ordinaries Index has increased since its low point in March 2009.

3.13 Have you changed your superannuation provider since November 2007 ?

☐ No, I did not change my superannuation provider.
☐ Yes, I moved my superannuation to a different provider (this could include establishing a self-managed fund.)

3.14 Have you changed the investment options for your superannuation since November 2007 ?

☐ Yes
☐ No

3.15 If you answered 'Yes' to the previous question, please briefly state the changes you made (e.g., moved some or all into more conservative investments; moved from cash into balanced; etc…).____[text response]

3.16 If you answered 'Yes' to Question 3.14, please briefly state why you made this/these change(s).___ [text response]

3.17 As a result of the Global Financial Crisis, did you make any changes to how you invested your non-superannuation savings and investments (e.g., your shares, managed funds, bank deposits, etc…) ?

☐ Yes
☐ No

3.18 If you answered 'Yes' to the previous question, what changes did you make? (e.g., sold shares, deposited money in bank; sold investment property, bought shares; etc)
[text response]

3.19 If you answered 'Yes' to Question 3.17, please briefly state why you made these changes
[text response]

Module 4 Unplanned events: financial actions

In this module questions are asked about the financial actions you may have taken following the occurrence of certain unplanned events.

Please only complete those questions in this module that you are comfortable answering. If you are not comfortable answering any of these questions please proceed to Module 5.

4.1 In the last 5 years did any of the following events occur ? (select all that apply)

Spouse or partner died ☐
Spouse or partner became seriously ill or disabled ☐
I became seriously ill or disabled ☐
Myself, or my spouse/partner lost employment involuntarily ☐
My household suffered major financial losses from poor performing investments ☐

4.2 If another significant unplanned event in your life occurred in the last 5 years that led to you taking financial actions that you would be comfortable answering questions about, please specify this event here:___[text response]

For each event that you indicated had occurred in the previous two questions, please answer the following 3 questions (questions 4.3, 4.4 and 4.5). If you have not experienced an event like this, please proceed to Module 5.

4.3 In the table on the next two pages is a list of financial actions. For those events that have occurred, please select which actions (if any) you have taken as a consequence of the events (select all that apply). If you didn't take any of these actions, please select this in the last entry on each page.

Financial action	Spouse or partner died	Spouse or partner became seriously ill/ disabled	I became seriously ill/disabled
Obtained professional financial advice	☐	☐	☐
Moved investments to higher growth asset classes	☐	☐	☐
Moved investments to balanced asset classes	☐	☐	☐
Moved investments to conservative asset classes	☐	☐	☐
Drew on savings (super or non-super savings)	☐	☐	☐
Took out/increased reverse mortgage or home refinancing	☐	☐	☐
Took out/increased credit cards or personal loans	☐	☐	☐
Took out government provided loan	☐	☐	☐
Repaid debt or increased debt repayments	☐	☐	☐
Upsized own residence (including renovations)	☐	☐	☐
Moved to a smaller home or less expensive area	☐	☐	☐
Sold shares, stocks or bonds (super or non-super)	☐	☐	☐
Sold other assets (e.g., household goods, investment property)	☐	☐	☐
Approached family/friends/community groups for financial help	☐	☐	☐
Increased gambling	☐	☐	☐
Decreased gambling	☐	☐	☐
Increased insurance cover (life, disability, trauma, accident or private health)	☐	☐	☐
Decreased insurance cover (life, disability, trauma, accident or private health)	☐	☐	☐
Gifted funds to charity, family, friends or other	☐	☐	☐
I didn't take ANY of the above actions as a consequence of this event	☐	☐	☐

Financial action	Household suffered major financial loss	Myself and/or spouse/partner lost employment involuntarily	Other (if you answered Q4.2)
Obtained professional financial advice	☐	☐	☐
Moved investments to higher growth asset classes	☐	☐	☐
Moved investments to balanced asset classes	☐	☐	☐
Moved investments to conservative asset classes	☐	☐	☐
Drew on savings (super or non-super savings)	☐	☐	☐
Took out/increased reverse mortgage or home refinancing	☐	☐	☐
Took out/increased credit cards or personal loans	☐	☐	☐
Took out government provided loan	☐	☐	☐

Repaid debt or increased debt repayments	☐	☐	☐
Upsized own residence (including renovations)	☐	☐	☐
Moved to a smaller home or less expensive area	☐	☐	☐
Sold shares, stocks or bonds (super or non-super)	☐	☐	☐
Sold other assets (e.g., household goods, investment property)	☐	☐	☐
Approached family/friends/community groups for financial help	☐	☐	☐
Increased gambling	☐	☐	☐
Decreased gambling	☐	☐	☐
Increased insurance cover (life, disability, trauma, accident or private health)	☐	☐	☐
Decreased insurance cover (life, disability, trauma, accident or private health)	☐	☐	☐
Gifted funds to charity, family, friends or other	☐	☐	☐
I didn't take ANY of the above actions as a consequence of this event	☐	☐	☐

If your household suffered major financial losses during the last five years please answer the following question.

4.4 Did your consumption of goods and services increase, decrease or remain the same following the major financial loss ?

	Increased	Same	Decreased	Not sure
Food and non-alcoholic beverages	☐	☐	☐	☐
Alcohol and tobacco	☐	☐	☐	☐
Housing and utility expenses	☐	☐	☐	☐
Household goods and services	☐	☐	☐	☐
Medical care and health expenses	☐	☐	☐	☐
Gifts/donations	☐	☐	☐	☐
All other goods and services	☐	☐	☐	☐

If you, or your spouse/partner, suffered a serious illness or disability in the last five years please answer the following question.

4.5 Did your consumption of goods and services increase, decrease or remain the same following the occurrence of the serious illness or disability ?

	Increased	Same	Decreased	Not sure
Food and non-alcoholic beverages	☐	☐	☐	☐
Alcohol and tobacco	☐	☐	☐	☐
Housing and utility expenses	☐	☐	☐	☐
Household goods and services	☐	☐	☐	☐
Medical care and health expenses	☐	☐	☐	☐
Gifts/donations	☐	☐	☐	☐
All other goods and services	☐	☐	☐	☐

Module 5 Unplanned events: financial gains or losses

In this module hypothetical questions are asked about the actions that you might take if your savings and income suddenly changed.

5.1 Assume that the value of your savings and investments fell by 50% (excluding your family home), and also any regular income that you receive (including government pensions) permanently fell by 50%. If this occurred, would this affect your lifestyle now or at any stage in the future ?

- ☐ No, I would still have sufficient savings, investments, and/or income, such that this decline would not affect my lifestyle now or at any stage in the future.
- ☐ Yes, this decline would affect my lifestyle now or in the future.

5.2 If your answer to Question 5.1 was 'Yes', what actions would you take ? (select all that apply)

- ☐ I would downsize or sell assets, try to borrow funds, or seek financial help from family, friends or community groups.
- ☐ I would reduce my current and/or future spending on certain goods and services.
- ☐ Other (please specify) _____[text response]

For your answer for Question 5.2, if you chose to reduce current or future spending, please answer the following question.

5.3 Below is a list of the goods and service categories where you might choose to reduce spending if your savings, investment and income permanently declined by 50%. Select by how much you would reduce your spending compared with your current spending for each category. For example, if you would reduce spending on gifts/donations by between a quarter and a half of what you currently spend on gifts/donations, select 'moderate reduction' for this category.

Goods or service category	No change	Small reduction (less than a quarter of current spending)	Moderate reduction (between a quarter and half of current spending)	Large reduction (over half of current spending)
Food and non-alcoholic beverages (includes meals out)	☐	☐	☐	☐
Alcohol and tobacco beverages	☐	☐	☐	☐
Housing and utilities	☐	☐	☐	☐
Household goods and services	☐	☐	☐	☐
Medical care and health expenses	☐	☐	☐	☐
Gifts/donations	☐	☐	☐	☐
All other goods and services	☐	☐	☐	☐

For your answer for Question 5.2, if you chose to downsize or sell assets, borrow funds, or seek financial help from family, friends or community groups, please answer the following question.

5.4 If your savings, investments, and income permanently declined by 50%, how would you maintain your lifestyle ? (select all that apply)

- ☐ By increasing credit card debt
- ☐ By taking out/extending reverse mortgage/refinancing mortgage
- ☐ By taking out other personal loans
- ☐ By selling or downsizing existing assets (e.g., home, car, etc.)
- ☐ By asking family/friends or community groups for financial help

The remaining questions in this module ask about your reactions in the event that you unexpectedly gain various amounts of money.

5.5 Assume that you were given some money and could do anything with the money that you chose to. Various ways that you might use the money are listed in the table on the next page.

Assuming that the gift was a single payment of $5,000, how would you choose to use the funds ? Please write a dollar amount next to each entry in the table. Write $0 or leave blank those categories where you would not use any of the funds. Please make sure that the total amount adds to $5,000.
Next, instead assume that the gift was a single payment of $100,000. Fill in the entries that you choose for the corresponding column. Finally, instead assume that the gift was extra income of $150 per week for the rest of your life. Fill in the entries that you choose for the corresponding column.

Use of funds		Single payment of $5,000 received. Amount used.	Single payment of $100,000 received. Amount used.	Weekly payments of $150 received. Amount used per week.
Spend it on	Food and non-alcoholic beverages (including meals out)			
	Alcohol and/or tobacco			
	Housing and utilities			
	Household goods and services			
	Medical care and health expenses			
	Gifts/donations			
	All other goods and services			
Pay off debts				
Gift it to charity, family, friends or other				
Save it by investing in superannuation	in Growth assets			
	in Conservative assets			
	in Balanced assets			
Save it by investing outside of superannuation	in Growth assets			
	in Conservative assets (e.g., bank accounts, fixed interest)			
	in Balanced assets			
TOTAL		$5,000	$100,000	$150 per week

5.6 Briefly state the reasons that you would spend the $5,000 in the way you have selected in the table____[text response]

5.7 Briefly state the reasons that you would spend the $100,000 in the way you have selected in the table.____[text response]

5.8 Briefly state the reasons that you would spend the $150 per week extra income in the way you have selected in the table. ____[text response]

5.9 The following question is asked to see how much value you place on receiving money now compared to receiving a greater amount of money in the future.If you had a choice between receiving $10,000 now, or a greater amount of money **one year from now**, what is the minimum amount you would need to receive in one year in order for you to choose this option instead of $10,000 now ? $ __[numeric response]

Module 6 Habits and intentions

In this module questions are asked about some of your intentions with your finances, certain purchasing and consumption habits, and the financial decision making that occurs in your household.

6.1 Do you intend to leave an inheritance/bequest ? (select all that apply)

- ☐ Yes, to my spouse/partner, children and/or other family members
- ☐ Yes, to friends
- ☐ Yes, to specific charity groups
- ☐ Yes, to other (please specify)_____ [text response]
- ☐ No

6.2 Do you have any of the following insurance policies ? (select all that apply)

- ☐ Private health insurance
- ☐ Personal life insurance
- ☐ Income protection insurance
- ☐ Personal accident insurance
- ☐ Trauma insurance

6.3 How much do you outlay weekly on gambling (e.g., horse races, keno, casino, poker machines, lotto, etc.) ?

- ☐ $0
- ☐ $1-$50
- ☐ $51-$100
- ☐ More than $100
- ☐ Do not want to say

6.4 Do you smoke tobacco ?

- ☐ Yes
- ☐ No

6.5 How often do you usually drink alcohol ?

- ☐ Never
- ☐ Rarely
- ☐ Less than once a week
- ☐ 1 or 2 days a week
- ☐ 3 or 4 days a week
- ☐ 5 or 6 days a week
- ☐ Every day
- ☐ I don't wish to answer this question

6.6 If you drink alcohol, on a day when you drink, how many standard drinks do you usually have?

- ☐ 1 or 2 drinks per day
- ☐ 3 or 4 drinks per day
- ☐ 5-8 drinks per day
- ☐ 9 or more drinks per day
- ☐ I don't wish to answer this question

6.7 Who is responsible for money management in your household ?

- ☐ Myself
- ☐ My partner
- ☐ Myself and my partner jointly
- ☐ Another family member or person

6.8 How often, if at all, do you and/or your spouse/partner keep track of the value of your savings and investments (superannuation and/or non-superannuation) ?

- ☐ Fortnightly, weekly or more often than weekly
- ☐ Monthly or quarterly
- ☐ About once a year
- ☐ About once every two years
- ☐ Every three years or less often
- ☐ Never

6.9 Individuals may use a variety of sources to assist with their financial decision making. These can include: financial newspapers, magazines, or books, government publications, community organisation publications, seminars, or finance-related internet sites. How often, if at all, do you use any of these types of sources to assist with your financial decision making ?

- ☐ Fortnightly, weekly or more often than weekly
- ☐ Monthly or quarterly
- ☐ About once a year
- ☐ About once every two years
- ☐ Every three years or less often
- ☐ Never

6.10 Individuals may consult with professionals to assist their financial decision making. Professionals may include: accountants or taxation specialists, mortgage brokers, stock brokers, insurance brokers, bank managers or employees, or financial planners or advisers. How often, if at all, do you consult with any of these professionals to assist with your financial decision making ?

- ☐ Fortnightly, weekly or more often than weekly
- ☐ Monthly or quarterly
- ☐ About once a year
- ☐ About once every two years
- ☐ Every three years or less often
- ☐ Never

6.11 How often, if at all, do you consult with friends or family to assist with your financial decision making?

- ☐ Fortnightly, weekly or more often than weekly
- ☐ Monthly or quarterly
- ☐ About once a year
- ☐ About once every two years
- ☐ Every three years or less often
- ☐ Never

Module 7 Work and retirement

In this module questions are asked about your working status, and why you may have chosen to continue to work or cease paid work.

7.1 Which of the following summarises your current work status ? (select all that apply)

- ☐ Working full-time for pay (35 hours or more per week)
- ☐ Working part-time or casually for pay
- ☐ On leave pending retirement
- ☐ Self-employed in own business
- ☐ Unemployed - looking for full-time paid work
- ☐ Unemployed - looking for part-time or casual paid work
- ☐ Volunteer/charity work/unpaid carer
- ☐ Permanently unable to work due to disability/illness
- ☐ Household duties
- ☐ Studying
- ☐ Retired from all full-time paid work (but continuing with part-time or casual paid work)
- ☐ Completely retired from all paid work

7.2 Which of the following occupation groups most closely matches your primary occupation for the majority of your paid working life ? (leave this blank if you never participated in paid work)

- ☐ Manager (e.g. chief executive, general managers and legislators, farmers and farm managers, specialist managers, hospitality, retail and service managers)
- ☐ Professional (e.g., arts and media, business, human resource, marketing, design, engineering, science, transport, education, health, information and communication technology, legal, social and welfare professionals, etc…)
- ☐ Technician and Trades worker (e.g., engineering, information and communication technology, science, automotive and engineering, construction trades, telecommunications, food trades, skilled animal and horticultural workers)
- ☐ Community and Personal Service worker (e.g., health and welfare support, carers and aides, hospitality, protective services, sports and personal service workers)
- ☐ Clerical and Administrative worker (e.g., office managers, personal assistants and secretaries, general clerical, inquiry clerks and receptionists, clerical and office support workers)
- ☐ Sales worker (e.g., sales representatives and agents, sales assistants and salespersons, sales support workers)
- ☐ Machinery operator and drivers (e.g., machine and plant operators, road and rail drivers, storepersons)
- ☐ Labourer (e.g., cleaner and laundry workers, construction and mining labourers, factory process workers, farm, forestry and garden workers, food preparation assistants)
- ☐ Other (please specify)____[text response]

If you are currently in paid work, please answer the following two questions.

7.3 How many hours do you usually work each week in your job/business? (including any paid or unpaid overtime) ___[numeric response]

7.4 At what age do you intend to permanently give up all paid work ? (If you never intend to stop paid work, write '0')___[numeric response]

If you are currently in paid work AND are over the age of 55, please answer the following two questions.

7.5 For what reasons have you continued to participate in paid work ? Please tick all reasons below that apply. If there is another important reason not listed, please write this in the 'Other' entry.

- ☐ Not yet able to access my superannuation
- ☐ Not yet at eligibility age for an Age (or Service) Pension
- ☐ Not yet able to afford to retire at desired level of comfort
- ☐ Mental stimulation, or skill development
- ☐ Social contact
- ☐ Enjoy work
- ☐ Because partner is still working
- ☐ Contribute to community/society
- ☐ Other (please specify)_____[text response]

7.6 What is the main reason you have continued to participate in paid work? Please select only one reason.

- ☐ Not yet able to access my superannuation
- ☐ Not yet at eligibility age for an Age (or Service) Pension
- ☐ Not yet able to afford to retire at desired level of comfort
- ☐ Mental stimulation, or skill development
- ☐ Social contact
- ☐ Enjoy work
- ☐ Because partner is still working
- ☐ Contribute to community/society
- ☐ Other (as you specified above)

If you have permanently ceased paid work, please answer the following three questions. Otherwise skip to Question 7.10

7.7 What reasons influenced your decision to give up all paid work? Please tick all reasons below that apply. If there is another important reason not listed, please write this in the 'Other' entry.

- ☐ Can access superannuation funds
- ☐ Reached eligibility age for an Age (or Service) Pension
- ☐ Have sufficient funds for financial security in retirement
- ☐ Spouse/partner's income enabled me to retire
- ☐ Retrenched/redundant/no work available
- ☐ Unsatisfactory work arrangements/ job stressful/declining interest in work
- ☐ Own sickness/injury/disability or reduced physical ability to do job
- ☐ To care for spouse, partner or another family member
- ☐ Own business closed down/sold
- ☐ To coincide with partner's retirement, or partner's preferences
- ☐ Reduction of social security/superannuation benefits if continued work
- ☐ Desire for more personal/leisure time
- ☐ Other (please specify)_____[text response]

7.8 What is the main reason you decided to give up all paid work? Please select only one reason.

- ☐ Can access superannuation funds
- ☐ Reached eligibility age for an Age (or Service) Pension
- ☐ Have sufficient funds for financial security in retirement
- ☐ Spouse/partner's income enabled me to retire
- ☐ Retrenched/redundant/no work available

- ☐ Unsatisfactory work arrangements/ job stressful/declining interest in work
- ☐ Own sickness/injury/disability or reduced physical ability to do job
- ☐ To care for spouse, partner or another family member
- ☐ Own business closed down/sold
- ☐ To coincide with partner's retirement, or partner's preferences
- ☐ Reduction of social security/superannuation benefits if continued work
- ☐ Desire for more personal/leisure time
- ☐ Other (as you specified above)

7.9 How old were you when you permanently ceased paid work ? (leave this blank if you never participated in paid work? ___[numeric response]

If you have a spouse or partner, please answer the following three questions. Otherwise skip to Module 8.

7.10 Which of the following summarises your spouse or partner's current work status ? (select all that apply)

- ☐ Working full-time for pay (35 hours or more per week)
- ☐ Working part-time or casually for pay
- ☐ On extended leave pending retirement
- ☐ Self-employed in own business
- ☐ Unemployed - looking for full-time paid work
- ☐ Unemployed - looking for part-time or casual paid work
- ☐ Volunteer/charity work/unpaid carer
- ☐ Permanently unable to work due to disability/illness
- ☐ Household duties
- ☐ Studying
- ☐ Retired from all full-time paid work (but continuing with part-time or casual paid work)
- ☐ Completely retired from all paid work

7.11 If your spouse or partner has permanently ceased paid work, at what age did they permanently cease paid work ? (leave this blank if they never participated in paid work) ___[numeric response]

7.12 Which of the following occupation groups most closely matches your spouse or partner's occupation for the majority of their paid working life ? (leave this blank if your spouse or partner never participated in paid work)

- ☐ Manager (e.g. chief executive, general managers and legislators, farmers and farm managers, specialist managers, hospitality, retail and service managers)
- ☐ Professional (e.g., arts and media, business, human resource, marketing, design, engineering, science, transport, education, health, information and communication technology, legal, social and welfare professionals, etc…)
- ☐ Technician and Trades worker (e.g., engineering, information and communication technology, science, automotive and engineering, construction trades, telecommunications, food trades, skilled animal and horticultural workers)
- ☐ Community and Personal Service worker (e.g., health and welfare support, carers and aides, hospitality, protective services, sports and personal service workers)
- ☐ Clerical and Administrative worker (e.g., office managers, personal assistants and secretaries, general clerical, inquiry clerks and receptionists, clerical and office support workers)
- ☐ Sales worker (e.g., sales representatives and agents, sales assistants and salespersons, sales support workers)
- ☐ Machinery operator and drivers (e.g., machine and plant operators, road and rail drivers, storepersons)
- ☐ Labourer (e.g., cleaner and laundry workers, construction and mining labourers, factory process workers, farm, forestry and garden workers, food preparation assistants)
- ☐ Other (please specify) ___[text response]

Module 8 Income

In this module questions are asked about your sources of income, and the amount of income received.

8.1 The table below lists possible income sources that your household might have access to. In the 2nd column in the table (labelled 'Access ?'**)**, please tick all those sources that your household has access to. In the 3rd column (labelled 'Rank'**)**, rank the sources your household has access to, with '1' being the main source, '2' being the next most important source, and so on. If there is another important source, please write this in the last row.

Household income source	Access ? (select all that apply)	Rank
Superannuation annuity/allocated pension		
Investment income (e.g., bank interest, trusts) or dividends (e.g., from shares) from superannuation or non-superannuation investments		
Government Age Pension/Service Pension		
Government Disability Support Pension/disability pension		
Other Government pensions or allowances		
Wages or salary from employment		
Income from own business		
Rental property income		
Worker's compensation or insurance (e.g., accident/sickness insurance)		
Reverse mortgage or other refinancing of own home		
Other (please specify)		

8.2 Do you receive the Government Age Pension ?

- ☐ Yes, the full Age Pension
- ☐ Yes, a part Age Pension
- ☐ No

8.3 In the 2008/2009 financial year, what was your total household income, before taxes? Household income is income from all sources from all members of your household.

- ☐ Don't know
- ☐ Less than $20,000
- ☐ $20,000 to $29,999
- ☐ $30,000 to $39,999
- ☐ $40,000 to $49,999
- ☐ $50,000 to $59,999
- ☐ $60,000 to $69,999
- ☐ $70,000 to $79,999
- ☐ $80,000 to $89,999
- ☐ $90,000 to $99,999
- ☐ $100,000 or more
- ☐ I do not want to answer this question

If you undertook paid work in the 2008/2009 financial year, please answer the following question.

8.4 In the 2008/2009 financial year, what were your earnings from paid work, before taxes ?

- ☐ Don't know
- ☐ Less than $20,000
- ☐ $20,000 to $29,999
- ☐ $30,000 to $39,999
- ☐ $40,000 to $49,999
- ☐ $50,000 to $59,999
- ☐ $60,000 to $69,999
- ☐ $70,000 to $79,999

- ☐ $80,000 to $89,999
- ☐ $90,000 to $99,999
- ☐ $100,000 or more
- ☐ I do not want to answer this question

If you had a spouse or partner who undertook paid work in the 2008/2009 financial year, please answer the following question.

8.5 In the 2008/2009 financial year, what were the earnings of your spouse/partner from paid work, before taxes ?

- ☐ Don't know
- ☐ Less than $20,000
- ☐ $20,000 to $29,999
- ☐ $30,000 to $39,999
- ☐ $40,000 to $49,999
- ☐ $50,000 to $59,999
- ☐ $60,000 to $69,999
- ☐ $70,000 to $79,999
- ☐ $80,000 to $89,999
- ☐ $90,000 to $99,999
- ☐ $100,000 or more
- ☐ I do not want to answer this question

Module 9 Wealth

In this module questions are asked about the amount of wealth owned by you (and your partner).

9.1 In total, about how much money would you say you (and your partner, if you have one) currently have in savings and investments, including investment or holiday properties and money in superannuation, but *excluding* your home ?

- ☐ Don't know
- ☐ Less than $25,000
- ☐ $25,000 to less than $50,000
- ☐ $50,000 to less than $100,000
- ☐ $100,000 to less than $200,000
- ☐ $200,000 to less than $300,000
- ☐ $300,000 to less than $400,000
- ☐ $400,000 to less than $500,000
- ☐ $500,000 to less than $750,000
- ☐ $750,000 to less than $1 million
- ☐ $1 million or more
- ☐ I do not want to answer this question

9.2 Apart from any mortgage(s) that you may have over your own residence, what is the total amount of money you (and your partner, if you have one) owe, on all personal loans, credit cards, investment property loans, etc.?

- ☐ Don't know
- ☐ Less than $25,000
- ☐ $25,000 to less than $50,000
- ☐ $50,000 to less than $100,000
- ☐ $100,000 to less than $200,000
- ☐ $200,000 to less than $300,000
- ☐ $300,000 to less than $400,000
- ☐ $400,000 to less than $500,000
- ☐ $500,000 to less than $750,000
- ☐ $750,000 to less than $1 million
- ☐ $1 million or more
- ☐ I do not want to answer this question

9.3 Do you or your family own your own residence outright, are you paying it off, or are you renting?
- ☐ Own outright
- ☐ Paying off
- ☐ Renting
- ☐ Other (please specify) _____[text response]

If you own or are paying off your residence please answer the following two questions

9.4 What is the approximate value of your residence ? $ ___[numeric response]

9.5 Is this residence jointly owned with someone else ?
- ☐ Yes, with my partner/spouse
- ☐ Yes, with another party
- ☐ No

If you are paying off your residence, please answer the following two questions

9.6 How much is the outstanding mortgage(s) over your residence ? $ [numeric response]
- ☐ I do not want to answer this question

9.7 Is this mortgage jointly held with someone else ?
- ☐ Yes, with my partner/spouse
- ☐ Yes, with another party
- ☐ No

If you are renting, please answer the following question

9.8 How much rent are you (and your partner) paying per week ? $ [numeric response]

Module 10 Demographics

In this module questions are asked about personal characteristics, as well as health.

10.1 What is your year of birth ?

1	9		

10.2 Sex
- ☐ Male
- ☐ Female

10.3 What best describes your current marital status ?
- ☐ Single
- ☐ Married
- ☐ De facto
- ☐ Widowed
- ☐ Separated or divorced

10.4 If you are married or have a partner, what is your partner's year of birth ?

1	9		

10.5 How many children (under or over 18yrs) are financially dependent on you (either within or outside of your household) ? ___ ___

10.6 What is the highest level of education that you have completed ?
- ☐ University degree or higher
- ☐ Trade certificate or apprenticeship
- ☐ Other certificate or diploma
- ☐ Year 12 or equivalent
- ☐ Year 10 or 11
- ☐ Year 9 or below

- ☐ Never attended school
- ☐ Other (please specify) ___[text response]

10.7 In general, would you say your health is:

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor

10.8 Compared with others who are the same age, how would you rate your health?

- ☐ Much better
- ☐ Better
- ☐ Average
- ☐ Worse
- ☐ Much worse

10.9 Do you currently receive have any of the following health care cards ? (select all that apply)

- ☐ commonwealth seniors health card
- ☐ veterans' affairs gold card
- ☐ veterans' affairs white card
- ☐ pensioners concession card
- ☐ health care card

10.10 What is your postcode ?

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