EXPLORING FINANCIAL WELLBEING IN THE AUSTRALIAN CONTEXT

Appendices to Final Report

APPENDICES

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APPENDIX A: RESEARCH METHODS

Scoping review

A scoping review of existing research and evidence relating to financial wellbeing, financial stress and financial resilience, enabled us to critically analyse how financial wellbeing is currently defined and measured, to identify key factors that influence it and to identify gaps in current understanding. Using the review we developed a preliminary conceptual framework of financial wellbeing that was subsequently tested in the qualitative and quantitative research phases. More than 80 articles and reports were identified in the scoping review. The review identified three major gaps in the literature:

- ***Limited reference to the broader societal or structural factors*** that influence financial wellbeing. Much of the existing research excludes the influence of structural factors such as global financial markets, government policy, and national economy on financial wellbeing. Instead, the primary focus is on the individual.
- ***A lack of focus on financial wellbeing across the life course***: While many studies acknowledge that *aspects* of financial wellbeing can interact according to age and life stages, few studies have conceptualised these relationships across the life course. Various life events, such as moving out of home, purchasing a home, child rearing and caring for older parents, can occur at discreet life stages. Yet all these life events are highly likely to influence financial wellbeing. A life course perspective accounts for both chronological time and life events and their alignment [1].
- ***Ambiguity in definitions:*** There is limited agreement on how financial wellbeing is defined and measured [2]. For example, while one study conceptualises financial behaviour as an integral part of financial wellbeing [see for example, 3], another considers it as an external influence [see for example, 4]. The lack of clarity around whether factors act as antecedents, components or outcomes of financial wellbeing, hinders the theoretical development and application of a robust financial wellbeing framework.

Qualitative research

Focus groups and one-on-one interviews were undertaken between August and November 2016. A purposive sample of participants was selected to cover a wide demography and range of socioeconomic and personal circumstances. The sample included 72 participants: 9 focus groups with 54 people living in Australia of different ages, genders, and socio-economic statuses; and 18 one-on-one interviews with people experiencing challenges to their financial wellbeing.

The research team used the services of a recruitment agency and our existing ongoing relationships with targeted service providers and community groups to support the recruitment of participants. This enabled the research team to maximise numbers, improve sampling precision and decrease recruitment cost and time. The interviews with those recruited allowed the team to explore and make comparisons between experiences according to gender, age, income, and geographical area.

To include people from different household and family types (e.g. single parents, people with caring responsibilities), from culturally and linguistically diverse backgrounds, and people who have experienced challenges to their financial wellbeing, the research team worked with a number of recruitment partners, including Western Legal Service (Victoria), Women's Legal Service (Victoria), Carers NSW, National Council of Single Mothers and their Children and Mission Australia. The composition of the interview sample is set out in Table 1, below:

Table 1: Characteristics of the one-on-one interview participants

Socio-demographic characteristics	Participant numbers
Low income	15
Culturally and linguistically diverse background	4
Cares for a family member with a disability or illness	6
Sole parent	5
Has a disability	2
Young unemployed/recently unemployed	4
Living in a regional or rural area	3
Total individual interviewees	**18**

Note: The categories are not mutually exclusive so some participants are counted more than once.

Focus groups were held in two urban and one regional location. The one-on-one interviews also followed a semi-structured discussion guide (see below) and asked the same questions as in the focus groups. Most interviews were face-to-face but in several instances participants expressed a preference for undertaking the interview by phone. Three participants were interviewed with the support of an interpreter (three different countries of origin). Focus groups and interviews were transcribed and thematic analysis was undertaken using NVIVO qualitative data management software.

Focus group and interview questions

What is financial wellbeing?

1. What does being in a good financial situation mean to you?
2. What are the things that contribute to your financial situation?
3. Talking about your financial situation, are some things more important in everyday living, and other things more important in 'the long run'? Can you elaborate?
4. What makes you *feel happy* with your financial situation?

Financial literacy and wellbeing

5. How do you judge how good or bad your financial situation is?
6. Do you think *financial knowledge or information* can affect your financial situation? How?
7. What kinds of behaviours do you think are important to being in a good financial situation?

Differences between groups

8. Which factors are the *most* important to being happy with your financial situation? Why?
9. Are there any factors that you think are particularly important for people of your age feeling happy with their financial situation?
10. Are there any factors that you think are particularly important for men/women in feeling happy with their financial situation?

Influencers

11. What gets in the way of having a good financial situation?
12. What can help improve your financial situation?

Quantitative research

Drawing on the preliminary model developed through the scoping review and qualitative work, the research team designed a survey. The survey included items that covered each dimension and sub-dimension in the preliminary model of financial well-being. It also included items for each of the 'influencers' of financial well-being that emerged as important in the literature and qualitative work. Finally, the survey included items to collect demographic information to support the analysis.

These questions were largely taken from existing questionnaires including:

- The Household Income and Labour Dynamics in Australia (HILDA) survey,
- A recent Norwegian Survey of financial wellbeing [5],
- The Financial Resilience survey [6],
- The Australian Bureau of Statistics Census,
- The Poverty and Exclusion in Modern Australia (PEMA) survey [7], 2012).

The full list of questions (and response categories) is provided in Appendix C. The survey was administered over two weeks in early December 2016. Data were collected by Roy Morgan Research and were weighted to be representative of the adult population based on age, gender and location of residence. The 821 participants came from Roy Morgan's OzPanel database, which is a panel sample derived randomly from their Single Source survey of approximately 50,000 people. An online survey was used to collect the data over two weeks in early December.

Factor analysis and regression analysis techniques were used to test our conceptual model of financial wellbeing and to identify factors that influence financial wellbeing. You can read more about these techniques in Appendix D. The statistical analysis was used to answer a number of research questions including: What is financial wellbeing? What influences financial wellbeing? How do the different influences combine to have an impact on financial wellbeing? This helped us to understand "how well" the influencers (and their combined effect) explain why some people have low financial wellbeing and others have high financial wellbeing.

In keeping with a life course approach, we also analysed the data to see if life events (e.g. divorce, losing one's job) might influence financial wellbeing in different ways depending on the age of the participants.

Stakeholder consultations

Telephone interviews were conducted with 11 expert stakeholders including financial advisors, educators, counsellors and consumer representatives in November and December 2016. Expert stakeholders were contacted and asked to participate in a telephone consultation. A sample of the stakeholders was re-contacted in April 2016 for comment on a revised version of the conceptual framework.

The stakeholder consultations were used to inform and refine the conceptual framework with an emphasis on the practical implications as well as the components of financial wellbeing and the factors that contribute to it.

Project Steering Group

The project was also guided by a Steering Group. The Project Steering Group was a panel of policy and academic experts in the field of financial wellbeing, financial literacy and financial inclusion across government, corporate and the not-for-profit sectors. The Steering Group met four times throughout the project and provided expert guidance in the development of the framework for financial wellbeing and its practical implications.

APPENDIX B: HOW IS FINANCIAL WELLBEING MEASURED IN THE LITERATURE?

Financial wellbeing has been measured in a variety of ways in the literature, including differences in the type of measures used (subjective or objective measures) and the relationships between them; the inclusion, or exclusion, of enablers and barriers; and the consideration of structural and systemic factors that influence financial wellbeing. We explore below three of the most recent studies to highlight the various approaches to measuring financial wellbeing.

Consumer Financial Protection Bureau Financial Wellbeing Scale

The Consumer Financial Protection Bureau [8] developed a 10-item scale to assess an individual's level of financial wellbeing, defined as "the extent to which their financial situation and the financial capability that they have developed provide them with security and freedom of choice." The scale includes 10 questions around the four elements identified by the Consumer Financial Protection Bureau as key to financial wellbeing:

- Having control over day-to-day, month-to-month expenses;
- Having the capacity to absorb a financial shock
- Being on track to meet your financial goals; and
- Having the financial freedom to make the choices that allow you to enjoy life [CFPB 2]

While their research acknowledges the presence of factors at the individual level (such as age) and more broadly – including financial behaviours, financial knowledge, personal traits, the social and economic environment, and life stages – these are, for the most part, not considered in the measurement of financial wellbeing.

Momentum UK Index of Financial Wellness

Building on the work of Momentum in South Africa, the Momentum UK Index of Financial Wellness [9] uses micro and macro indicators to assess the financial wellbeing of UK individual and households. The micro index comprises seven domains assessing various dimensions of financial wellness at the individual level that contribute 70% of the overall index score. The macro index contributes the remaining 30%, and encompasses "three macro-economic indicators chosen to provide a holistic overview of the national economy: the unemployment rate, GDP per capita and the Gini coefficient of income inequality" [9]. Each domain contributes a maximum of ten index points, with a higher index score indicating a higher level of financial wellness.

Norwegian Study of Financial Wellbeing

The Consumer Research Norway group (Kempson, Poppe & Finney, 2017) have recently undertaken a national study of financial wellbeing. A selection of their measures of financial behaviours were used in the quantitative phase the research. Kempson et al. [5] also built on existing theory to develop a model of pathways between enablers and barriers.

In their study, a variety of life-stage, demographic and economic factors were also considered at the individual level in relation to the determination of financial wellness. Regression analyses were also conducted to examine the relationship between demographic and socio-economic factors and financial wellness.

APPENDIX C: DIMENSIONS, SUB-DIMENSIONS AND SURVEY ITEMS FOR FINANCIAL WELLBEING AND THE PROPOSED INFLUENCERS OF FINANCIAL WELLBEING

Appendix C defines the financial wellbeing dimensions (Table 2), sub-dimensions and corresponding survey items (Table 3 – 5), and the potential influencers of financial wellbeing (Table 6). Table 6 describes the role of each influencer (e.g., a financial behaviour or financial knowledge), its level (e.g., individual-level), the wording for each survey item and the response categories.

Table 2: Financial wellbeing dimensions

Financial wellbeing means…		
Meeting expenses and having some money left over	Being in control	Being free of financial worries

Table 3: Sub-dimensions and corresponding survey items for dimension 1

Dimension 1	Meeting expenses and having some money left over				
Definition	Refers to your financial circumstances, and includes having adequate income to meet basic needs and enable choices in spending. This means having enough to pay expenses and pay off debt, and then having a 'buffer' in case of unexpected expenses and some savings or 'a bit extra' to afford some extras.				
Sub-dimensions	Ability to meet expenses	Manageable debt	Savings buffer	Able to afford "little extras"	Able to make choices regarding spending and life planning
Survey questions	In the last 12 months, how difficult was it for you to meet your necessary cost of living expenses like housing, electricity, water, health care, food, clothing or transport?[6] *(1) Very difficult --- (5) Very easy*	What is your current level of debt? [6] *(1) more than I can pay back (2) just managing to pay back debt (3) paying debts comfortably (4) paying debt very comfortably*	What is your current level of savings? [6] *(1) No savings (2) < 1 month's income (3) 1-2 months (4) 3-6 months*	When was the last time you bought something special for yourself - something that you wouldn't normally buy? [7] *(1) never/more than a year ago (2) <1 year (3) < 3 months*	*The survey questions for 'savings buffer' and 'able to afford little extras' are treated as proxies for being 'able to make choices'*

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		(5) I have no debts	*(5) 6+ months*	*(4) < Month (5) This week*	

Table 4: Sub-dimensions and corresponding survey items for dimension 2

Dimension 2	**Being in control**	
Definition	Exercising control means having a sense of control over your financial situation in the present and future	
Sub-dimensions	Having control over your financial situation	Setting and pursuing long-term goals
Survey questions	To what extent do you agree or disagree with the following statements (1-5 scale): "My financial situation is largely outside of my control"? [adapted from 5]	To what extent do you agree or disagree with the following statements (1-5 scale): "I set long-term financial goals and strive to achieve them" [10]

Table 5: Sub-dimensions and corresponding survey items for dimension 3

Dimension 3	**Feeling financially secure**	
Definition	Being free of financial worries refers to your subjective assessment of your financial situation, including being free of financial worries in the present and future and having a sense of satisfaction with your financial situation	
Sub-dimensions	Freedom from financial worry	Satisfaction with financial situation
Survey questions	How do you feel about your current financial situation? [adapted from 11] *(0) Constantly worried --- (10) Feel comfortable*	How satisfied or dissatisfied are you with your financial situation?[10] (0) Totally dissatisfied --- (10) Totally satisfied

Table 6: Influencers of financial wellbeing

Role in framework	Survey item	Response categories
Financial self-efficacy Individual-level influencer	The following statements are about attitudes concerning money and personal finances. Please indicate how strongly you agree or disagree with each: • I do a good job of balancing my spending and savings • I always make sure I have money saved up for emergencies or unexpected expenses	1. Strongly disagree 2. Somewhat disagree 3. Disagree 4. Neither disagree not agree 5. Agree 6. Somewhat agree 7. Strongly agree 98. Don't know
Financial self-efficacy Individual-level influencer	These are some things that other people have said about managing money. Please indicate how well they describe you personally • I am very organised when it comes to managing my money day to day	1. Fits very well 2. Fits fairly well 3. Fits neither well nor badly 4. Does not fit well 5. Does not fit at all (items reverse coded)
Future planning financial behaviours Individual-level influencer	Which of the following have you done in last 12 months?	1. Followed a budget 2. Saved regularly 3. Paid more than the minimum repayment required by credit card company or loan provider 4. Paid more than the minimum home loan repayment 5. Made voluntary contributions towards my superannuation 96. None of these 98. Don't know

Table 6: continued

Role in framework	Survey item	Response categories
Day-to-day money management behaviours Individual-level influencer	Which of the following methods have you used in the last 6 months to keep track of your money?	1. I kept track of my money in my head 2. I kept track of my money by writing down notes 3. I kept receipts 4. I used a household budget/spread sheet 5. I used an online budgeting tool or app 6. I used an app to keep track of my spending 7. I checked my bank statements for unusual/suspicious entries 8. I checked my credit card statements for unusual/suspicious entries 9. I looked at some or all of my bank/credit card statements but not in any detail 96. None of the above (I didn’t keep track of my spending) 97. Other (Please specify…) 98. Don't know
Financial behaviour Individual-level influencer	These are some things that other people have said about managing money. Please indicate how well they describe you personally. • I tend to buy things even when I can’t really afford them	1. Fits very well 2. Fits fairly well 3. Fits neither well nor badly 4. Does not fit well 5. Does not fit at all 6. Don’t know
Financial knowledge Individual-level influencer	How much understanding do you have about financial services and products?	1. I don’t understand them at all 2. I have a basic understanding 3. I have a good understanding 4. I have a very good understanding 98. Don’t know
Financial knowledge Individual-level influencer	How confident do you feel about using financial services and products?	1. I have no confidence 2. I have limited confidence 3. I am reasonably confident 4. I am very confident 98. Don’t know

Table 6: Continued

Role in framework	Survey item	Response categories
Financial attitude Individual-level influencer	My financial situation will look after itself and I don't think or worry about it	1. Strongly disagree 2. Somewhat disagree 3. Disagree 4. Neither disagree not agree 5. Agree 6. Somewhat agree 7. Strongly agree 98. Don't know
Financial attitude Individual-level influencer	Dealing with money/financial matters is stressful?	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree 98. Don't know
Access to financial products and services Individual-level influencer	What access have you had to a bank account over the past 12 months?	1. I had no access to a bank account at all 2. I had access to a bank account only through a partner, relative or friend 3. I had my own bank account 98. Don't know
Access to financial products and services Individual-level influencer	Which of the following bank accounts do you have access to?	1. Everyday banking/transaction account 2. Term Deposit 3. High Interest Online Account 4. Bonus Interest or Reward Saver Account 5. Some other savings account (please specify) 6. Don't know 7. Prefer not to say
Access to financial products and services Individual-level influencer	Over the past 12 months, if you needed credit/loans, which of the following did you use or would you have been able to access?	1. I had no access to any form of credit/loans 2. A cash loan from a non-bank credit provider (e.g. online or store front lender) 3. A loan from a pawn broker 4. A loan from friends or family 5. A loan from Centrelink 6. A loan (including credit card) from a bank or building society 7. Community finance (e.g. No interest Loan Scheme [NILS], StepUP) 8. A mortgage or an investment loan 98. Don't know

Table 6: Continued

Role in framework	Survey item	Response categories
Access to financial products and services Individual-level influencer	Do you need more credit/loans than you currently have?	1. Yes, I need a lot more 2. Yes, I need a little more 3. I could use some more, but I can go without it 4. No, I already have all the credit/loans I need 5. No, I do not want to use any credit/loans 98. Don't know
Access to financial products and services Individual-level influencer	What has been your level of insurance over the past 12 months?	1. I had no form of insurance 2. I had some insurance 3. I had basic insurance 4. I had a lot of insurance 98. Don't know
Access to financial products and services Individual-level influencer	Do you need more insurance than you currently have?	1. Yes 2. No 98. Don't know
Access to financial products and services Individual-level influencer	What type of extra insurance do you need?	1. Health insurance 2. Motor-vehicle- insurance 3. Home building insurance 4. Home contents insurance 97. Other (please specify) 98. Don't know
Education Individual-level influencer	What is the highest level of education that you have already completed? If you were educated in a country other than Australia, please choose the closest option from the list.	1. Year 9 or below 2. Year 10 or 11 3. Year 12 4. Certificate (level unknown) 5. Certificate I or II 6. Certificate III or IV 7. Advanced Diploma or Diploma 8. Bachelor's degree or higher 99. Prefer not to say
Employment status Individual-level influencer	How much paid work are you currently doing? Please answer considering all your jobs.	1. 35 hours or more per week 2. Less than 35 hours a week and happy with hours 3. Less than 35 hours a week but want more hours 4. Not working, looking for work 5. Not working, not looking for work 99. Prefer not to say
Contract type Individual-level influencer	Are you employed on a casual contract?	1. Yes 2. No

		99. Prefer not to say

Table 6: Continued

Role in framework	Survey item	Response categories
Marital status Individual-level influencer	Which best describes your current situation?	1. Single 2. Married 3. De facto / living with a partner 4. Widowed 5. Divorced 6. Separated 7. Refused 8. Don't know
Mental health Individual-level influencer	During the past 30 days, about how often did you feel: • Nervous • Hopeless • Restless or fidgety • So depressed that nothing could cheer you up • That everything was an effort • Worthless	1. All of the time 2. Most of the time 3. Some of the time 4. A little of the time 5. None of the time 98. Don't know

Table 6: Continued

Role in framework	Survey item	Response categories
Mental health Individual-level influencer	Please indicate to which extent you agree or disagree with the following statement: My parents discussed with me how to manage financial matters when I was growing up.	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree 98. Don't know
Disability status Individual-level influencer	Do you have any long-term health condition, impairment or disability that restricts you in your everyday activities, and has lasted or is likely to last, for 6 months or more?	1. Yes 2. No 98. Don't Know [9]
General health Individual-level influencer	In general, would you say your health is:	1. Excellent 2. Very good 3. Good 4. Fair 5. Poor

Table 6: Continued

Role in framework	Survey item	Response categories
Housing status Household-, family-, peer-level influencer	Where are you currently living?	1. Living in a temporary or insecure accommodation, such as boarding houses and caravan parks 2. Homeless or in a shelter or refuge 3. Living in a housing commission property, community housing or public housing 4. Living in a very short term rental (e.g. no lease or a lease of less than 6 months) 5. Living in a rental property with a private lease of 6 months or more (including sharing a flat with others) 6. Living in student accommodation 7. Living at home with my parents 8. New home owner, starting to pay off a mortgage 9. Established home owner and I have paid off more than 50% or my mortgage 97. Other (please specify)
Household density Household-, family-, peer-level influencer	Including yourself, how many people aged 15 and over are living in your household on a usual night?	1. One 2. Two 3. Three 4. Four 5. Five 6. Six 7. Seven 8. Eight 9. Nine 10. Ten or more 98. Prefer not to say

Table 6: Continued.

Role in framework	Survey item	Response categories
Household density Household-, family-, peer-level influencer	How many people aged under 15 are living in your household on a usual night?	1. One 2. Two 3. Three 4. Four 5. Five or more 99. Prefer not to say
Housing cost Household-, family-, peer-level influencer	How much do you spend per week on rent or mortgage payments where you are currently living?	<Insert free text>
Social capital Household-, family-, peer-level influencer	Over the past 12 months, how would you describe your level of contact with social connections? Social connections refer to connections with family, friends, work colleagues, neighbours or clubs.	1. I am isolated or alone most of the time 2. I have occasional contact 3. I have regular contact with more distant social connections 4. I have regular contact with close connections 98. Don't know
Social capital Household-, family-, peer-level influencer	How likely are you to get financial support from your social connections (family, friends, work colleagues, neighbours or clubs) in times of crisis?	1. Never/ Very unlikely 2. Fairly unlikely 3. Unsure 4. Fairly likely 5. Always/ Very Likely
Social capital Household-, family-, peer-level influencer	How much support have you had from community or government organisations to help with your financial situation over the past 12 months?	1. I needed support, but I had no access to it 2. I receive emergency support services (e.g. food-banks or vouchers) 3. I receive specialised support services (e.g. meals on wheels, financial counselling, no interest loan, homecare services) 4. I used their support occasionally, but I was not reliant on them 5. I did not need any community or Government support 98. Don't know

Table 6: Continued

Role in framework	Survey item	Response categories
Household income (equivalised) Household-, family-, peer-level influencer	In order to understand how different households deal with financial stress we would appreciate an estimate of your yearly household income (before tax and expenses). Please choose from the ranges below.	1. Under $10,000 per year (under $385 per fortnight) 2. $10,000 to $19,999 per year ($385 to $769 per fortnight) 3. $20,000 to $29,999 per year ($770 to $1,154 per fortnight) 4. $30,000 to $39,999 per year ($1,155 to $1,538 per fortnight) 5. $40,000 to $49,999 per year ($1,539 to $1,923 per fortnight) 6. $50,000 to $59,999 per year ($1,924 to $2,308 per fortnight) 7. $60,000 to $69,999 per year ($2,309 to $2,692 per fortnight) 8. $70,000 to $79,999 per year ($2,693 to $3,077 per fortnight) 9. $80,000 to $89,999 per year ($3,078 to $3,462 per fortnight) 10. $90,000 to $99,999 per year ($3,463 to $3,846 per fortnight) 11. $100,000 to $109,999 per year ($3,847 to $4,231 per fortnight) 12. $110,000 to $119,999 per year ($4,232 to $4,615 per fortnight) 13. $120,000 to $129,999 per year ($4,616 to $5,000 per fortnight) 14. $130,000 to $139,999 per year ($5,001 to $5,385 per fortnight) 15. $140,000 to $149,999 per year ($5,386 to $5,769 per fortnight) 16. $150,000 to $199,999 per year ($5,770 to $7,692 per fortnight) 17. $200,000 to $249,999 per year ($7,693 to $9,615 per fortnight)

		18. $250,000 or more per year ($9,616 or more per fortnight) 99. Prefer not to say
Financial dependents Household-, family-, peer-level influencer	Do you have any financial dependants? A financial dependant is a child under the age of 15, or children 15-24 years who live with you more than half of the time, and for whom you provide financially, or other persons for whom you provide financially.	1. Yes 2. No IF YES: 1. How many under 15 2. How many 15-24 years 3. How many 25 years +
Caregiving Household-, family-, peer-level influencer	In the last two weeks did you spend time providing unpaid care, help or assistance to family members or others because of a disability, a long term illness or problems related to old age?	1. Yes 2. No

Role in framework	Survey item	Response categories
Life events	For each statement below, please cross the Yes box to indicate if the event happened during the past 12 months. Did any of these happen to you in the last 12 months?	a. Got married b. Separated from spouse or long-term partner c. Pregnancy / pregnancy of partner d. Partner or I gave birth to, or adopted, a new child e. Serious personal injury or illness to self f. Death of spouse or child g. Victim of physical violence (e.g., assault) h. Retired from the workforce i. Fired or made redundant by an employer j. Major improvement in financial situation (e.g., won lottery, received an inheritance) k. Major worsening in financial situation (e.g., went bankrupt) l. A weather-related disaster (e.g., flood, bushfire, cyclone) damaged or destroyed your home m. None of these

Table 6: Continued

Role in framework	Survey item	Response categories
Community socioeconomic status Remoteness index Community-level	What is your post code?	4-digit post code
Role in framework	**Survey item**	**Response categories**
Overall financial wellbeing – outcome of financial wellbeing	All things considered, how satisfied are you with your life? Pick a number between 0 and 10 to indicate how satisfied you are.	1. 0 (totally dissatisfied) 2. 1 3. 2 4. 3 5. 4 6. 5 7. 6 8. 7 9. 8 10. 9 11. 10 (totally satisfied) 98. Don't know

Role in framework	Survey item	Response categories
Ability to raise funds in an emergency Potential measure of financial wellbeing not used in the final model (See Appendix D)	In an emergency (e.g. your car breaks down, your washing machine or fridge stops working), would you be able to get $2,000 within a week to deal with it?	1. Yes 2. No 98. Don't know
Ability to raise funds in an emergency Potential measure of financial wellbeing not used in the final model (See Appendix D)	Where would you get this money from?	1. Family or friends 2. Savings 3. Borrowing from the bank (e.g. a loan or overdraft) 4. Using a credit card 5. Payday loan, online lender, pawn broker 97. Other (please specify) 98. Don't know
Ability to raise funds in an emergency Potential measure of financial wellbeing not used in the final model (See Appendix D)	You have indicated that you could get $2,000 for an emergency from the following sources. Please rank them in order from the most to the least amount of money you would be able to get. For example, if you could get most of the amount from your savings and would have to borrow the rest from family or friends, rank savings first and family or friends second.	1. Family or friends 2. Savings 3. Borrowing from the bank (e.g. a loan or overdraft) 4. Using a credit card 5. Payday loan, online lender, pawn broker 97. Other (please specify)
Financial hope for the future Potential measure of financial wellbeing not used in the final model (See Appendix D)	Thinking about four years from now (2020), which of the following best describes how you think your financial circumstances will have changed by then. "I expect my financial circumstances to be..."	1. Much better than they are now 2. Slightly better than they are now 3. The same as they are now 4. Slightly worse than they are now 5. Much worse than they are now
Control over financial decisions Potential measure of financial wellbeing, but was not appropriate due to low variance (See Appendix D)	Who makes the decisions about the following issues in your household: • Managing day-to-day spending and paying bills • Managing large household purchases (e.g. cars and major appliances) • Savings, investment and borrowing	1. Always me 2. Usually me 3. Shared equally between partner and self 4. Usually my partner 5. Always my partner 6. Always/ usually other person(s) in house (e.g. a parent) 7. Shared equally among household members 8. Always/ usually someone not living in house 9. Does not apply

APPENDIX D: HOW THE MODEL OF FINANCIAL WELLBEING WAS DEVELOPED

This research used three methods for developing a model of financial wellbeing: A scoping review, one-on-one and group interviews, and a survey of Australians aged 18 and over. The scoping review helped to develop an understanding of what financial wellbeing looks like for different groups of people and to identify gaps in knowledge. This information, guided the questions posed to the interview and focus group participants. Their responses helped us to develop a preliminary model to test with the survey data. Survey questions were designed to measure the proposed components of financial wellbeing allowing us to critically examine and modify the preliminary model.

Preliminary model

The qualitative research revealed three dimensions of financial wellbeing: 1) Meeting expenses and having some money left over; 2) Feeling financially secure; and 3) Being in control. However, the qualitative data showed complexity around the *being in control* dimension. By control, participants meant financial autonomy, that is, having a say in financial decisions that affect them and having access to their money and control over how it is spent, and financial control or 'being on top of your finances', encompassed keeping track of finances, controlled spending, and control over future finances. For some, controlled spending was discussed as a component of financial wellbeing but for others it was seen as an influencer. The latter is more consistent with the literature [e.g., 12], but the former resonated with many of the participants. Therefore we put forward a preliminary model that saw the behavioural aspects of control as a component of financial wellbeing. However, this was done with the understanding that the control-related behaviours (and others) may be removed from the model if they were not supported by factor analysis of data.

The preliminary conceptual model of financial wellbeing was as developed as shown in Table 7:

Table 7: Preliminary conceptual model of financial wellbeing

Meeting expenses and having choices	Feeling financially secure	Being in control
• Ability to cover expenses • Sufficient savings • Manageable debt • Having a bit left over	• Freedom from financial worry • Satisfaction with your current and financial situation • Financial hope for the future	• Control over finances in general • Control over financial decision making; • Control over financial behaviours; • Control over future finances.

Testing and refining the preliminary model

Although this was an exploratory analysis, we expected three factors would emerge in the model, as outlined above. However, factor analysis did not support this factor structure (see Table 8 below). Firstly, the items accessing control over financial decision-making (variables 12-14 in Table 8) emerged as their own factor, but were not correlated with any of the other items. Closer inspection of the data revealed that very few people reported limited control, which suggested the variable had limited explanatory power. Further, it is also plausible that some people may not want control over their financial decision-making, which suggested the variable was not appropriate in its current form and would need further development. These items were therefore removed from the financial wellbeing model. The financial behaviour items (11, 15-18) also formed their own factor, but away from the general financial control item and the other financial wellbeing items. Therefore, we drew on the existing literature and reconceptualised the variables as influencers of financial wellbeing (financial capability) rather than component items. We did, however, retain one item on goal setting (11) to maintain consistency with our scoping review and qualitative phase, which suggested that financial wellbeing had current and future dimensions. Household income (6) was removed due to low factor loading and, like the financial behaviours, is likely to function as an influencer rather than a component of financial wellbeing. Finally, the variable measuring financial hope for the future (3) was also removed due to low and multiple factor loading. It is possible this variable was measuring optimism more broadly, rather than financial wellbeing. Variable number 5 was also removed due to low variance; very few people could not raise $2,000 in an emergency.

Table 8: Rotated factor loadings for preliminary model.

	Rotated factors			
Survey items	**1**	**2**	**3**	**4**
1. Satisfied with current financial situation	0.805			
2. Feel positive about current financial situation	0.781			
3. In four years I will be better off than now				0.414
4. Recently bought something special	0.382			
5. Ability to raise money in an emergency	0.575			
6. Equivalised household income	0.336			0.356
7. What is your current level of savings (categorical)?	0.707			
8. In the last 12 months, how difficult was it for you to meet your necessary cost of living expenses?	0.774			
9. What is your current level of debt?	0.667			- 0.336
10. Financial situation within my control	0.61			
11. I set long-term financial goals and strive to achieve them	0.449		0.529	
12. I manage day-to-day spending		0.799		
13. I manage large household purchases		0.904		
14. I make decisions about savings, investment and borrowing		0.897		
15. I do a good job of balancing my spending and savings	0.349		0.697	
16. I always make sure I have money saved up for emergencies or unexpected expenses	0.547		0.585	
17. Financial behaviour (Impulsivity)			0.5	
18. I am very organised when it comes to managing my money day to day	0.358		0.616	

These modifications left eight variables in the analysis that formed a single factor we labelled “overall financial wellbeing” (Table 9). Although this was an unexpected finding, it is consistent with work in Norway by Kempson et al (2017). The assumptions of factor analysis for this model were met - the Bartlett test of Sphericity showed a p-value of <.001 and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy statistic was .881 (high)[1]. The item that assessed when the participants had last bought something special for themselves did have a relatively low factor loading. However, we retained it in the model because it reflects an important finding from the qualitative phase.

The extracted factor only explained 46% of the variance in the data. This suggested that significant information would be lost by combining the variables together despite them forming a single factor. Therefore, when

[1] For an explanation see Williams, B., Onsman, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, *8*(3).

examining the influencers of financial wellbeing, we considered the three dimensions that came from the qualitative research and a single overall measure of financial wellbeing.

Table 9: Factor loadings for final model

Survey items	Factor loadings
1. Satisfied with current financial situation	0.846
2. Feel positive about current financial situation	0.842
3. Financial situation within my control	0.615
4. I set long-term financial goals and strive to achieve them	0.526
5. Recently bought something special	0.357
6. What is your current level of savings?	0.679
7. In the last 12 months, how difficult was it for you to meet your necessary cost of living expenses?	0.786
8. What is your current level of debt? Choose one only.	0.639

Scoring for the final model

We used a relatively simple method for scoring financial wellbeing so that it could be easily replicated and built upon in future research. Firstly, response data for all eight items were scaled to have a range of 1 – 4, with higher scores representing higher levels of the construct. We then produced a score for each dimension by calculating the mean of each dimension's respective items:

- Variables 1 and 2 in Table 9 reflect the dimension "Feeling financially secure"
- Variables 3 and 4 reflect the dimension "Being in control"
- Variables 5 – 8 reflect the dimension "Comfortably meeting expenses and having choices".

The mean of the three scores was averaged to form an overall financial wellbeing score. This method applied no weighting to particular items or dimensions. In sum, the following variables were calculated:

- A score for "Feeling financially secure" (1-4 scale)
- A score for "Being in control" (1-4 scale)
- A score for "Comfortably meeting expenses" (1-4 scale)
- An overall financial wellbeing score (an average of the three scores, 1-4 scale)

APPENDIX E: DESCRIPTIVE STATISTICS

Table 10: Descriptive statistics for continuous variables

Variable	Range	Mean (N=821)	Standard Deviation
Overall financial wellbeing	1-4	2.81	0.61
Feeling financially secure	1-4	2.70	0.71
Being in control	1-4	2.92	0.68
Meeting expenses and having some money left over	1-4	2.79	0.71
Financial knowledge	1-4	2.60	0.70
Financial self-efficacy[2]	0-6	4.41	1.27
Financial behaviour (Impulsivity)	1-5	4.11	1.00
Sum of financial behaviours	0-5	2.08	1.24
Financial attitude (doesn't care about money)	1-7	3.11	1.57
Financial attitude (money is stressful)	1-5	2.59	0.96
Access to financial products and services	1-4	3.26	0.51
Mental health[3]	1-25	6.04	4.75
General health	1-5	3.24	0.96
Cumulated number of financial shocks	0-5	0.25	0.44
Number of children	0-3	0.63	1.01
Number of financial dependents	0-6	0.67	1.11
Mortgage/rent payments ($)	0-$4,000	289.99	393.27
Social capital	1-4	3.21	0.62
Equivalised household income quartiles	1-4	2.50	1.13
Community socioeconomic disadvantage	1-10	6.56	2.70

[2] Financial self-efficacy refers to people's self-rated ability to manage their finances. This represents their self-rated ability to manage their day-to-day spending, balance savings with spending and to have money set aside if needed. It is the average score of the three variables presented in Table 6, page 13

[3] Higher scores reflect poorer mental health

Table 11: Descriptive statistics for categorical variables

	Categories	N	%
Age	18-19	15	1.8%
	20-24	61	7.4%
	25-29	58	7.1%
	30-34	106	12.9%
	35-39	61	7.4%
	40-44	78	9.5%
	45-49	77	9.4%
	50-54	43	5.2%
	55-59	70	8.5%
	60-64	88	10.7%
	65-69	78	9.5%
	70+	86	10.5%
	Total	821	100.0%
Marital status	Married or defacto	525	64.3%
	Single	291	35.7%
	Total	816	100.0%
Highest level of Education (or equivalent)	Year 9 or below	21	2.6%
	Year 10 or 11	80	9.8%
	Year 12	77	9.4%
	Certificate (level unknown)	15	1.8%
	Certificate I or II	13	1.6%
	Certificate III or IV	97	11.9%
	Advanced Diploma or Diploma	138	16.9%
	Bachelor degree or higher	377	46.1%
	Total	818	100.0%
Disability	No disability or long term health condition	592	74.4%
	Has a disability or long term health condition	204	25.6%
	Total	796	100.0%
Home owner	Not Home Owner	271	33.3%
	Home Owner (including with mortgage)	544	66.7%
	Total	815	100.0%

APPENDIX F: BIVARIATE CORRELATIONS

Table 12: Correlations between study variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.
1. Overall financial wellbeing	1																							
2. Feeling financially secure	.89	1																						
3. Being in control	.82	.60	1																					
4. Meeting expenses	.87	.71	.56	1																				
5. Financial knowledge	.36	.29	.41	.25	1																			
6. Financial self-efficacy[4]	.65	.56	.62	.52	.32	1																		
7. Financial Impulsivity	.26	.27	.22	.21	.12	.43	1																	
8. Sum of financial behaviours	.33	.27	.38	.23	.22	.31	.14	1																
9. Doesn't care about money	.28	.35	.12	.26	.07	.16	.02	-.10	1															
10. Money is not stressful	.46	.45	.35	.39	.40	.34	.20	.14	.16	1														
11. Financial inclusion	.38	.35	.34	.31	.28	.27	.08	.44	.05	.20	1													
12. Age	.15	.19	.04	.18	.08	.18	.23	-.07	.07	.12	.05	1												
13. Marital status (no partner)	-.14	-.18	-.10	-.10	-.12	-.06	-.04	-.23	-.09	-.05	-.18	-.17	1											
14. Education	.06	.04	.05	.08	.08	.05	.00	.16	-.07	.01	.16	-.19	-.06	1										
15. Disability (yes)	-.17	-.16	-.19	-.11	-.09	-.06	.02	-.12	-.08	-.11	-.09	.27	.08	-.11	1									
16. Mental health (poor)	-.55	-.54	-.43	-.47	-.28	-.38	-.17	-.19	-.20	-.43	-.27	-.26	.23	.00	0.20	1								
17. General health	.31	.27	.32	.24	.18	.22	.07	.24	.05	.18	.16	-.20	-.09	.15	-.49	-.33	1							
18. Cum. financial shocks	-.18	-.20	-.11	-.18	-.09	-.09	.03	-.05	-.09	-.08	-.14	-.08	.03	-.01	.12	.15	-.11	1						
19. Number of children	-.11	-.09	-.04	-.16	.00	-.08	-.04	.16	-.09	-.11	.08	-.22	-.29	.13	-.11	.04	.05	.00	1					
20. Num. financial dependents	-.08	-.07	-.03	-.11	-.01	-.09	-.08	.11	-.04	-.08	.00	-.36	-.28	.08	-.17	.03	.12	.00	.65	1				
21. Rent/mortgage payment	-.13	-.11	-.02	-.21	.03	-.11	-.10	.15	-.09	-.07	.07	-.27	-.15	.17	-.18	.02	.08	.01	.34	.23	1			
22. Social capital	.40	.34	.34	.38	.16	.22	.03	.20	.08	.23	.27	-.01	-.05	.09	-.24	-.39	.26	-.17	-.05	.00	-.01	1		
23. Home owner	.27	.30	.20	.21	.15	.22	.16	.27	.08	.10	.33	.46	-.41	.02	.01	-.26	.02	-.07	.13	-.06	.04	.08	1	
24. Equivalised h.hold income	.31	.28	.27	.27	.19	.11	-.01	.37	-.01	.08	.40	-.15	-.16	.34	-.18	-.16	.13	-.09	.08	-.03	.21	.28	.20	1
25. Community SES (SEIFA)	.11	.09	.09	.12	.08	.03	.02	.07	.03	.05	.05	.03	.01	.14	-.04	-.04	.04	-.07	-.01	.00	.09	.12	.02	.18

Note: Correlations greater than 0.07 are significant at $P < 0.05$ and correlations greater than 0.1 are significant at $P < 0.01$.

Correlations range from -1 (a negative relationship) to 1 (a positive relationship) and indicate the strength of an association. The higher the absolute value, the stronger the relationship. Cohen's 'rule of thumb' suggests that correlations of 0.1 (or-0.1) can be interpreted as small or weak, correlations of 0.3 as moderate and correlations of 0.5 of higher as strong [13].

[4] Financial self-efficacy refers to people's self-rated ability to manage their finances. This represents their self-rated ability to manage their day-to-day spending, balance savings with spending and to have money set aside if needed. It is the average score of the three variables presented in Table 6, page 13.

APPENDIX G: REGRESSION ANALYSIS

Appendix G describes the regression modelling techniques used to identify potential .

Linear regression models were performed for the overall financial wellbeing measure and the three dimensions (see Appendix D for details). Covariates (the “influencers” or independent variables) were entered using a stepwise approach in two blocks (financial capability items, then individual/household/community items) and each block was compared using change in R^2 to determine whether the additional block significantly improved the fit of the model. Individual covariates were forced (i.e. not automatically excluded based on fit) as all independent variables were specified prior to entry. Records with missing items were excluded using listwise deletion (i.e. the entire record was excluded from the analysis).

All assumptions for linear regression were checked and each model met the assumptions of linear residuals and heteroscedasticity. Multicollinearity was checked using variance inflation factors (VIF) and although age, number of children and number of financial dependents had higher scores than other items, all were under 4 which is generally accepted as a cut-off for problematic multicollinearity. Some multivariate outliers were identified. However, excluding these from the regression model did not substantively change the magnitude of the relationships (changes were largely at the third decimal place). Therefore, in the interests of maintaining sample size, these cases were retained.

In the interest of model parsimony, a small number of variables were removed between initial and final models when they were consistently not associated with significant changes in the coefficients. Note that some items were retained despite no significant association due to being of primary research interest (e.g. gender).

To reduce the risks associated with inflated alpha, only relationships that were significant at $p<.001$ informed the report.

In the tables below, beta (β) represents the standardised regression coefficients. Although inferences of cause and effect cannot be made, these can be cautiously interpreted as the potential ‘impact’ (the slope of the regression line) of each influencer on financial wellbeing after controlling for the effects of the other influencers in the model. Beta is expressed in standardised terms. This means you can compare the beta values across influencers and identify which have the strongest relationship with financial wellbeing (controlling for all other influencers). The ‘b’ represents the unstandardized regression coefficient is in interpreted in a similar way to β

except that it is expressed using the original scale of the variables. This makes it more difficult to interpret which variables have the strongest relationship with the dimensions of financial wellbeing. The standard error (SE) is a measure of the accuracy of the unstandardised regression coefficient.

Table 13: Overall financial wellbeing regressed on the study variables

	Model 1: Financial capability			Model 2: Financial capability and other influencers		
	B	SE	β	B	SE	β
Variables						
Financial knowledge	0.063	0.024	0.073**	0.024	0.021	0.028
Financial Self-efficacy	0.247	0.015	0.514***	0.203	0.013	0.421***
Financial behaviour (Impulsivity)	-0.029	0.016	-0.047	-0.01	0.015	-0.016
Sum of financial behaviours	0.078	0.013	0.159***	0.024	0.013	0.049
Does not care about money	0.061	0.01	0.157***	0.041	0.009	0.106***
Money is not stressful	0.138	0.017	0.222***	0.078	0.016	0.125***
Age				-0.003	0.006	-0.014
Marital status				-0.04	0.033	-0.031
Education				-0.004	0.006	-0.015
Disability				0.004	0.036	0.003
Mental health (poorer)				-0.025	0.004	-0.19***
General health				0.04	0.017	0.064*
Cumulated financial shocks				-0.069	0.03	-0.049*
Access to financial products and services				0.086	0.031	0.072**
Number of children				-0.045	0.018	-0.076*
Number of financial dependents				0.016	0.015	0.034
Housing cost				0.00	0.00	-0.097***
Social capital				0.087	0.024	0.088***
Equivalised household income				0.083	0.014	0.153***
Home owner				0.044	0.037	0.034
Community socioeconomic disadvantage				0.009	0.005	0.042
Adjusted R^2			0.56			0.67
P for change in adjusted R^2						P<.001

*p < .05. **p < .01. ***p <.001

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Table 14: Feeling financially secure regressed on the study variables

	Model 1: Financial capability			Model 2: Financial capability and other influencers		
	B	SE	β	B	SE	β
Variables						
Financial knowledge	0.015	0.031	0.015	-0.037	0.028	-0.036
Financial Self-efficacy	0.228	0.019	0.405***	0.177	0.017	0.314***
Financial behaviour (Impulsivity)	0.003	0.021	0.004	0.018	0.019	0.025
Sum of financial behaviours	0.074	0.016	0.13***	0.006	0.017	0.011
Financial attitude (doesn't care about money)	0.103	0.013	0.228***	0.078	0.011	0.173***
Financial attitude (money is not stressful)	0.191	0.022	0.262***	0.124	0.021	0.171***
Age				0.005	0.008	0.025
Marital status				-0.068	0.043	-0.046
Education				-0.003	0.008	-0.009
Disability				0.015	0.046	0.009
Mental health (poorer)				-0.032	0.005	-0.21***
General health				0.038	0.022	0.051
Cumulated financial shocks				-0.121	0.04	-0.074**
Access to financial products and services				0.099	0.04	0.072*
Number of children				-0.039	0.024	-0.057
Number of financial dependents				0.026	0.019	0.047
Housing cost				0	0	-0.072**
Social capital				0.062	0.032	0.054*
Equivalised household income				0.101	0.019	0.159***
Home owner				0.092	0.048	0.06
Community socioeconomic disadvantage				0.004	0.006	0.017
Adjusted R^2			.47			.59
P for change in Adjusted R^2						P<.001

*p < .05. **p < .01. ***p <.001

Table 15: Being in control regressed on the study variables

	Model 1: Financial capability			Model 2: Financial capability and other influencers		
	B	SE	β	B	SE	β
Variables						
Financial knowledge	0.161	0.029	0.166***	0.137	0.029	0.141***
Financial Self-efficacy	0.28	0.018	0.519***	0.254	0.018	0.471***
Financial behaviour (Impulsivity)	-0.06	0.02	-0.088**	-0.037	0.02	-0.054
Sum of financial behaviours	0.105	0.016	0.191***	0.061	0.017	0.111***
Financial attitude (doesn't care about money)	0.012	0.012	0.028	-0.002	0.012	-0.005
Financial attitude (money is not stressful)	0.063	0.021	0.09	0.02	0.022	0.028
Age				-0.019	0.008	-0.09*
Marital status				0.013	0.044	0.009
Education				-0.021	0.008	-0.07*
Disability				-0.063	0.048	-0.041
Mental health (poorer)				-0.017	0.005	-0.118***
General health				0.043	0.023	0.06
Cumulated financial shocks				-0.007	0.041	-0.004
Access to financial products and services				0.072	0.042	0.054
Number of children				-0.021	0.024	-0.032
Number of financial dependents				-0.002	0.02	-0.003
Housing cost				-0.000	0.00	-0.017
Social capital				0.069	0.033	0.062*
Equivalised household income				0.038	0.02	0.062
Home owner				0.062	0.05	0.043
Community socioeconomic disadvantage				0.01	0.007	0.04
Adjusted R^2			.48			.52
P for change in Adjusted R^2						P<.001

*p < .05. **p < .01. ***p <.001

Table 16: Meeting expenses regressed on the study variables

	Model 1: Financial capability			Model 2: Financial capability and other influencers		
	B	SE	β	B	SE	β
Variables						
Financial knowledge	0.013	0.033	0.013	-0.026	0.03	-0.026
Financial Self-efficacy	0.234	0.02	0.419***	0.177	0.019	0.318***
Financial behaviour (Impulsivity)	-0.029	0.023	-0.042	-0.01	0.021	-0.015
Sum of financial behaviours	0.054	0.018	0.095**	0.005	0.018	0.01
Financial attitude (doesn't care about money)	0.067	0.014	0.15***	0.047	0.012	0.104***
Financial attitude (money is not stressful)	0.161	0.024	0.223***	0.089	0.023	0.124***
Age				0.006	0.008	0.025
Marital status				-0.063	0.047	-0.043
Education				0.012	0.009	0.039
Disability				0.059	0.051	0.037
Mental health (poorer)				-0.025	0.005	-0.166***
General health				0.04	0.024	0.055
Cumulated financial shocks				-0.078	0.043	-0.048
Access to financial products and services				0.086	0.044	0.062
Number of children				-0.074	0.026	-0.108**
Number of financial dependents				0.024	0.021	0.044
Housing cost				0.00	0.00	-0.163***
Social capital				0.129	0.034	0.113***
Equivalised household income				0.111	0.021	0.177***
Home owner				-0.02	0.053	-0.013
Community socioeconomic disadvantage				0.014	0.007	0.052
Adjusted R^2			0.37			0.51
P for change in Adjusted R^2						P<.001

*p < .05. **p < .01. ***p <.001

APPENDIX H: TOWARDS A MEASUREMENT SYSTEM FOR FINANCIAL WELLBEING

The first step in developing any measurement system is to define the construct under study, or in this instance, the outcomes and sub-outcomes. Our primary goal was to define and conceptualise financial wellbeing. This was achieved through a scoping review and qualitative research to identify the dimensions (outcomes) and sub-dimensions (sub-outcomes). Existing validated assessment tools were then selected to measure the sub-outcomes. This effectively started the journey for developing a measurement system in the Australian context. Here we describe two key principles that guided the selection of measures and consider some of their strengths and limitations.

Objectivity and subjectivity

Our measures of financial wellbeing were subjective in nature, which was a necessity given our use of an online self-reported survey. Some of these subjective measures were used as proxies to capture objective dimensions of financial wellbeing. For instance, participants were asked their level of savings compared to their income, the extent they were able to manage their debt, and the extent they could meet their living expenses. These questions could also be measured objectively if the data (e.g. banking records) were available.

Of course, this is not easily achieved with a self-report survey and even asking for dollar values has shown to be unsuccessful as demonstrated by a shift to use of income bands rather than actual dollar values. Firstly, people are inaccurate at reporting their income, assets and liabilities [14, 15], which affects the validity of these measures. Second, it can result in higher rates of missing data, which depletes the available sample size for analysis. However, the collection of objective data may be preferred in some instances. In one-on-one situations, financial counsellors are likely to be able to collect objective financial data. Likewise, some financial institutions are now developing the capacity to analyse objective customer data alongside subjective measures of financial satisfaction and perceived control over finances.

There are two implications here. Firstly, our results describing the potential influencers of financial wellbeing should be interpreted with some caution, as with any cross-sectional self-reported survey. Second, the development of a financial wellbeing measurement system should be flexible enough to incorporate subjective measures, objective measures or a combination of both, depending on the context the data is collected in.

Time dimension – now versus the future

The literature and our qualitative research highlighted the importance of the time dimension in measuring financial wellbeing. This was achieved both directly and indirectly. For instance, the being in control dimension assessed control now and in the future (e.g. by setting goals for the future). The feeling financially secure dimension assessed satisfaction with and worries over current financial circumstances. The comfortably meeting expenses dimension draws on CSI's financial resilience research (Muir et al, 2016). It asks questions about current financial circumstances with one's future resilience in mind.

However, the measure could have been strengthened with additional questions assessing the being in control dimension. As noted in Appendix A, one of the original survey items assessed how much control participants had over financial decision-making in the household. However, due to the small number of people reporting limited control (and the lack of association of this measure with the other dimensions of financial wellbeing), the measure was not put forward in the final model. Future research needs to draw on measures that exhibit more variance and account for the fact that not all people want to be in control of their finances.

Future directions

There are several steps needed to fully develop a measurement system that fall outside the scope of the research. These steps are outlined below.

Are we measuring the same thing over time?

Test-retest reliability is an assessment of a measure's consistency over a short period of time. It is usually undertaken by administering the survey at two time intervals (or more) and the results correlated to test whether the same results are produced. Such information can provide information on, for example, the extent that mood state may be influencing the results. Generating this data would be particularly important for developing the feeling financially secure dimension as it assesses how people perceive a situation, and this could be potentially biased by the mood they are in at the time. Therefore, it is recommended that future development of the financial wellbeing measure includes a test re-test reliability assessment.

Are we measuring what we think we are measuring?

There are numerous methods for assessing the validity of a measure. For example, criterion validity involves being able to predict some kind of future external and objective event, using measurement scores [16]. Establishing an objective and external criterion for financial wellbeing is challenging, but would provide valuable evidence on the validity of the measure. Potential criteria could include:

- Using a measure of financial wellbeing to predict the future use of financial advice services

This assumes that people who score high on, for example, the being control dimension would be more likely to use financial advice services in the future than people who scored low on exercising control

- Prediction of future reliance on superannuation versus the Age Pension in retirement.

This assumes that people who exercise control and comfortably have enough throughout working life will be more likely to be self-sufficient in retirement, after controlling for income and other factors

- Predicting overall wellbeing

It is well known that overall wellbeing has many dimensions such health and social participation as well as financial wellbeing. Demonstrating that financial wellbeing plays a role in shaping future wellbeing in general would provide support for the validity of the measure and for understanding what represents "good" financial wellbeing.

What is good financial wellbeing?

Although our measure of financial wellbeing comprised validated measures, they do not specifically tell us what represents good or poor financial wellbeing. One way this could be achieved is through longitudinal research comparing how financial wellbeing scores predict other outcomes such as overall wellbeing. This information would help establish, for example, a threshold of financial wellbeing where future probable mental illness can be avoided.

Another important step is benchmarking indicators of financial wellbeing against the population. For instance, our financial satisfaction measure is used in the Household Income and Labour Dynamics Australia survey and three of the four "having enough" items have national data behind them. Being able to benchmark a target group against the population and understanding what represents good financial wellbeing can help in the establishment of targets and benchmarks for what represents good financial wellbeing.

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