

A photograph of a man and a young boy sitting on a wooden deck. The man, on the right, is wearing a white t-shirt and blue shorts, and is smiling warmly at the boy. The boy, on the left, is wearing a white polo shirt and blue shorts, and is looking back at the man. They are both barefoot. The background shows a wooden fence and a window with blue curtains.

# FINANCIAL WELLBEING

A SURVEY OF ADULTS IN NEW ZEALAND

APRIL 2018

# WITH SPECIAL THANKS

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# FOREWORD

This ANZ survey follows a series which has explored financial literacy, attitudes and behaviours since 2002.

This is the first time we have conducted research in New Zealand, building on a significant body of research led by the Commission for Financial Capability. The survey encompasses a broader view of financial wellbeing than previous studies, informed by the work of Professor Elaine Kempson and other international and domestic thought leaders.

Thank you to Elaine Kempson for her guidance, to YouGovGalaxy for conducting the survey in New Zealand and Australia, and to long-time research contributors Stephen Prendergast (Prescience Research) and David Blackmore for their high quality analysis.

Thanks to Dr Simon Peel (The Commission for Financial Capability), Dr Pushpa Wood (Massey University) and Clementine Ludlow (Good Shepherd NZ) for their invaluable insights and expertise as members of the steering committee.

Finally, thank you to the participants across New Zealand and Australia, from Dunedin to Perth, of all backgrounds and ages, who have given their time to this survey and so graciously shared details of their financial circumstances, habits and attitudes.

## FINANCIAL WELLBEING SCORE

Professor Elaine Kempson at the Personal Finance Research Centre (PFRC)<sup>1</sup> *et al.* have proposed a model that describes the influence of factors such as behaviour, knowledge and experience, attitudes, motivations and environmental factors on financial wellbeing<sup>2</sup>.

This survey applied the PFRC model to estimate an overall financial wellbeing score for each respondent. The score was derived from measures of the three components of financial wellbeing:

- The ability to meet financial commitments such as bills and loan payments;
- The extent to which people felt comfortable with their current and future financial situation, and to which their finances enabled them to enjoy life; and
- Resilience for the future or the ability to cope with a significant unexpected expense or fall in income.

Respondents received a score out of 100 for each of these components. The three scores were then added together and divided by three to provide an overall financial wellbeing score out of 100. More detail on the methodology and specific survey questions are provided in the Appendix.

1 University of Bristol, School of Geographical Sciences

2 Kempson, Elaine & Finney, Andrea & Poppe, Christian (2017). Financial Well-Being A Conceptual Model and Preliminary Analysis. 10.13140/RG.2.2.18737.68961.

# EXECUTIVE SUMMARY

This report sets out insights from a survey measuring the financial wellbeing of adults<sup>3</sup> in New Zealand.

Financial wellbeing is a term that recognises that finances are inextricably linked with our individual and social wellbeing.

## Key findings:

Four categories<sup>4</sup> of relative financial wellbeing were identified:

- No worries:** Twenty-three per cent of respondents (which could be extrapolated to around 828,000 people<sup>5</sup> in New Zealand) had no real financial worries. They had behaviours that contributed positively to financial wellbeing, high levels of confidence in managing money and substantial amounts in savings, investments and superannuation. They had financial wellbeing scores greater than 80 out of 100, see breakout box 'Financial Wellbeing Score' page 4.
- Doing OK:** Forty per cent of respondents (around 1.45 million New Zealanders) sat in the middle of the range, generally doing OK. Only 8% of the group of 40% did not describe their current financial situation as 'fair' or 'good' and most were relatively confident about their financial situation over the next 12 months. Their financial wellbeing scores ranged from 51 to 80 out of 100.
- Getting by:** Twenty-four per cent of respondents (around 893,000 people) were just getting by. Thirty-eight per cent of the group described their financial situation as 'bad', and 33% were not confident about their financial situation over the next 12 months. Financial behaviour scores were below average in this group, as were measures of confidence in their money management skills and belief in their ability to control their financial future. They had financial wellbeing scores ranging from 31 to 50 out of 100.
- Struggling:** The remaining 13% of respondents (around 479,000 people) appeared to be struggling. Most of this group (84%) described their current financial situation as 'bad' (79% said they had no savings, while 65% found it a constant struggle to meet bills and credit payments). Few (9%) were confident about their financial situation over the next 12 months. They had financial wellbeing scores of 30 or less.

**The average financial wellbeing score for adult New Zealanders was 59 out of 100.**

3 1,521 New Zealand adults were surveyed. A separate report outlining specific insights from the same survey conducted in Australia (3,578 adults) is available at [www.bluenotes.anz.com/financialwellbeing](http://www.bluenotes.anz.com/financialwellbeing)

4 We considered the categories of 'Financially distressed/Financially unstable/Financially exposed/Financially well' (applied by Kempson *et al.* Momentum Financial Wellness Index, UK), 'Low/Medium/Good/Very Good' (based on 2009 NZ Financial Knowledge Survey), 'Financially distressed'/'Financially stressed' (applied by Martin North *et al.*, Digital Finance Analytics), and 'Just about managing' (JAM) (first described by Frayne and in wide use in UK political discourse).

5 Data from this survey was post weighted to latest population Stats NZ estimates for age, gender, ethnicity and location. This has enabled an extrapolation of the survey data to the entire New Zealand population.

### **Two specific behaviours – active saving and not borrowing for everyday expenses – were key to financial wellbeing.**

The study showed that two behaviours – active saving and not borrowing for everyday expenses – contributed 18% and 17% respectively to explaining differences in people's overall level of financial wellbeing. Other aspects of behaviour examined in this research showed little influence on financial wellbeing. We acknowledge that not everyone is in a position to save or to avoid borrowing for everyday expenses.

### **Socio-economic circumstances played an important role in determining financial wellbeing.**

The study showed that people's socio-economic circumstances contributed 33% to explaining differences in financial wellbeing.

It also showed the relationship between socio-economic characteristics and financial wellbeing to be a complex one. It drew attention to the fact that financial wellbeing is, in part, a 'state of mind' based on people's feelings and expectations about their current and future financial situation, and as a result is not based solely on their income or on how much they have in savings and investments. Consequently, while income was found to be an important influence<sup>6</sup>, the survey showed that people could have relatively high levels of financial wellbeing without having particularly high incomes; similarly, many people with only limited amounts in savings and investments were also found to have relatively high levels of financial wellbeing.

### **Other findings:**

#### **Having less than \$1,000 in savings and investments was strongly associated with low levels of financial wellbeing.**

The results indicate that having a savings buffer of at least \$1,000 was associated with higher financial wellbeing. The mean financial wellbeing score for those with less than \$1,000 in savings was 35 (compared with 59 for the total population). The mean financial wellbeing score rose sharply to 52 for those in the next category (\$1,000 to \$4,999 in savings and investments).

#### **People who owned their own homes (mortgage-free) had greater financial wellbeing.**

There was no clear relationship between the size of mortgage debt and financial wellbeing; even mortgage debt of over \$250,000 did not result in lower financial wellbeing. Those who were mortgage-free had an average financial wellbeing score of 77 out of 100. Those with a mortgage on their home had an average financial wellbeing score of 59, while those who rented had a score of 49.

#### **People who had considerable variation from month-to-month in their household income recorded financial wellbeing scores 15 points below the national average of 59.**

Some 22% of those in the group struggling with their financial situation were in this category.

**Psychological factors had an influence on financial wellbeing, particularly people's confidence in their money management skills and belief in the power to control their own lives and exert some control over their finances.**

Sixty-six per cent of respondents were confident in their ability to manage their money day-to-day, and 44% felt on top of their money.

The research highlighted that self-belief and confidence to make financial decisions and manage day-to-day finances were two critical psychological factors influencing overall financial wellbeing.

Those most confident in their day-to-day money management skills had a financial wellbeing score that was considerably higher than those who were the least confident in their money management skills (average scores of 71 and 34 respectively).

Those with low levels of belief that they determine what happens in their life had far lower financial wellbeing scores (average score of 44) than those with the highest levels of self-belief (average score of 66).

**Detailed knowledge and experience of financial products or services had only limited direct influence on financial wellbeing.**

This is not to say that financial knowledge is irrelevant; clearly those with better financial knowledge were in a position to make better financial decisions. However the research shows that, regardless of people's knowledge, other factors such as psychological influences, social and economic circumstances and the ability to actually take action (that is behaviour) are more important influences on financial wellbeing.

This is an important finding suggesting the reframing of our approach from measuring financial literacy to considering a broader definition of financial wellbeing is appropriate. The new findings are consistent with those from recent similar research in Norway<sup>7</sup> and Australia<sup>8</sup>.

7 Kempson, Elaine & Finney, Andrea & Poppe, Christian (2017). Financial Well-Being A Conceptual Model and Preliminary Analysis. 10.13140/RG.2.2.18737.68961.

8 ANZ (2018) Financial Wellbeing: A survey of adults in Australia.

# FINANCIAL WELLBEING IN NEW ZEALAND AT A GLANCE

Average financial wellbeing score



## Key behaviours important for financial wellbeing



NOT BORROWING FOR EVERYDAY EXPENSES



ACTIVE SAVING

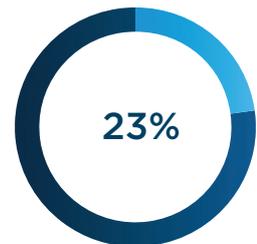
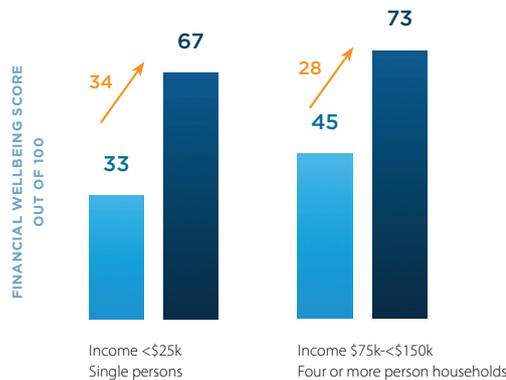
## Value of parental advice



Financial wellbeing score of people whose parents provided them with advice on money matters when they were growing up.

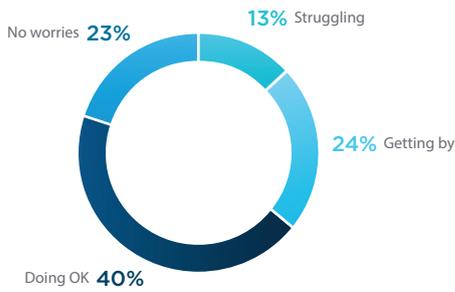
## Active saving can increase financial wellbeing

- Less likely to save
- More likely to save



23% of New Zealand respondents didn't have any savings

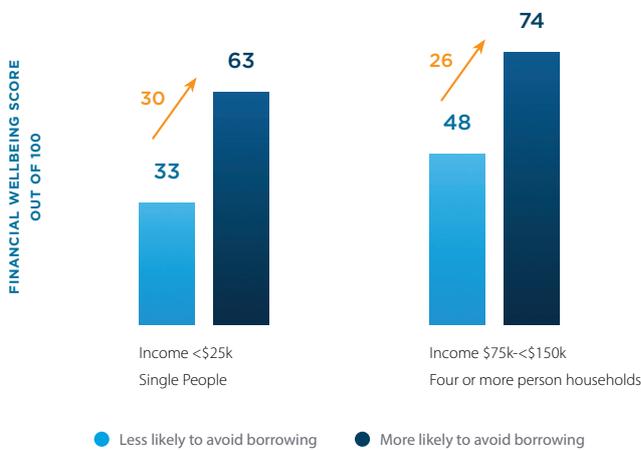
Financial wellbeing categories in New Zealand



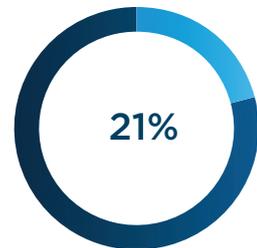
Financial wellbeing score out of 100



Not borrowing for everyday expenses can increase financial wellbeing



Unable to pay bills



of New Zealanders were sometimes, often or always unable to pay bills or loans at final reminder



Financial wellbeing score of people with less than \$1000 in savings as a buffer



Financial wellbeing score of people who owned their own home (mortgage-free)



## 2006

### FINANCIAL LITERACY = KNOWLEDGE

Survey designed around a financial knowledge framework measuring financial and mathematical literacy. Attitudes and behaviours surveyed, however financial literacy score still entirely knowledge based.

# UPDATING OUR SURVEY

## SURVEY HISTORY

This report presents key findings from an online survey of 1,521 randomly selected adults<sup>9</sup> conducted in December 2017.

A timeline gives context to the evolution of past financial literacy surveys in New Zealand<sup>10</sup>. The evolution of concepts of financial literacy and knowledge since 2006 is reflected in the development of more multi-dimensional models and measurements.

This new framing of the survey around financial wellbeing reflects the global shift to surveying outcome-based financial wellbeing.

**Figure 1** shows how surveys of financial literacy and wellbeing have evolved, becoming more sophisticated and broadly-based over time.

<sup>9</sup> Part of an online survey of 5,099 randomly selected Australian and New Zealand adults conducted between 30 November-8 December 2017. The Australia report is available at <http://www.bluenotes.anz.com/financialwellbeing>

<sup>10</sup> Previous surveys conducted by the Commission for Financial Capability can be sourced at <https://www.cffc.org.nz/the-commission/research-and-reports/financial-capability-research/>

# 2009

## FINANCIAL LITERACY = KNOWLEDGE

90% of financial knowledge questions were the same as 2006, with minor wording changes to the remainder. People were scored on their answers to the financial knowledge questions.

# 2013

## SHIFT TO BEHAVIOURS

Survey designed to investigate links between financial knowledge and behaviour. Shift from knowledge-based financial literacy to behaviourally-based financial capability. Behaviour questions drawn from New Zealand Financial Behaviour Index (NZFBI). Survey drew on Elaine Kempson's work for the UK Financial Services Authority.

# 2017

## FINANCIAL WELLBEING

Adoption of Kempson *et al.* model of financial wellbeing, measuring components of social and economic environment; financial knowledge and experience; psychological factors; and financially capable behaviours

# UPDATING OUR SURVEY

Since 2006, ANZ has been collaborating with a range of stakeholders to understand financial knowledge and design initiatives to improve financial management skills in the New Zealand community.

ANZ supported the Commission for Financial Capability to produce comprehensive reports on New Zealand's financial knowledge levels in 2006, 2009 and 2013. Work with a range of other stakeholders has included purpose-led steering committees, Massey University and Colmar Brunton, who have worked together to better understand issues around financial literacy and wellbeing in New Zealand.

There has been application of insights in the adaption and delivery of MoneyMinded, a successful financial education program developed by ANZ, in partnership with the Solomon Group. ANZ has also produced the ANZ/Ngāi Tahu Knowledge Survey, a financial knowledge survey of 400 Ngāi Tahu iwi members. Colmar Brunton was commissioned to conduct this research for, and in partnership with, Te Runanga o Ngāi Tahu with the support of the Commission and ANZ.

Collaborators on the new 2017 Financial Wellbeing survey included Elaine Kempson, YouGovGalaxy, Prescience Research, David Blackmore and a steering committee that includes representatives from Good Shepherd (New Zealand), the Commission for Financial Capability and Massey University.

The new framing of this survey around financial wellbeing rather than financial literacy reflects the global shift from assessing and measuring knowledge-based financial literacy to surveying behaviourally-based financial capability. Questions around financial knowledge and skills remained and new questions were introduced on changes in income and spending patterns, general health, mental health and social capital. We also moved from a telephone to an online methodology.

Survey sampling was designed to ensure the final sample reflected the latest Stats NZ estimates<sup>11</sup> of the age, gender, ethnicity and geographic distribution of the New Zealand population.

<sup>11</sup> Population estimates drawn from Stats NZ 2013 Census figures, updated in proportion to the January 2017 Estimated Residential Population (<https://www.stats.govt.nz/topics/population/>) with a further adjustment for respondent age, gender and ethnicity.

FIGURE 2. THE FINANCIAL WELLBEING CONCEPTUAL MODEL

Kempson *et al.* 2017



The 2017 survey was designed to investigate key drivers of financial wellbeing in Australia and New Zealand; enabling comparison of financial wellbeing in those countries with Norway<sup>12</sup> and others.

The design and initial analysis was guided by the Financial Wellbeing Conceptual Model of Kempson *et al.* (figure 2), taking into account the inter-relationship between four key areas that influence financial wellbeing:

- Social and economic environment
- Financial knowledge and experience
- Psychological factors (attitudes, motivations and biases)
- Financially capable behaviour

Questions were designed to calculate scores for three components of “overall financial wellbeing”:

- **Meeting everyday commitments**  
For example: ‘How often do you run short of money for food and other regular expenses?’
- **Feeling comfortable**  
For example: ‘How well do you think this statement fits you personally – My finances allow me to do the things I want and enjoy in life?’
- **Resilience for the future**  
For example: ‘If your income fell by a third, for how long could you meet all your expenses without needing to borrow?’

Each component was assessed using a series of Australian and New Zealand survey measures. This approach allowed us to combine the questions making up each component into a single score for that component. The survey measures did not fully duplicate the set of measures used (and recommended) by Kempson *et al.* However the approach was consistent with that used in their Norwegian study.

12 The Norwegian survey, Kempson, Elaine & Finney, Andrea & Poppe, Christian (2017). Financial Well-Being A Conceptual Model and Preliminary Analysis. 10.13140/RG.2.2.18737.68961, is a landmark study in financial wellbeing.

# SURVEY DESIGN

## The questionnaire was divided into six sections:

**Section A: Screening demographics, product holdings and financial habits** including payment methods and who people consult about their finances.

**Section B: Wellbeing** including 11 questions taken from Kempson's financial wellbeing model.

**Section C: Financial capability and financial knowledge** including 21 questions that are an amalgamation of metrics from Kempson *et al.* and the ANZ Adult Financial Literacy Survey 2014 (conducted in Australia), as well as several new questions). Financial knowledge questions were reduced from previous surveys and focused on three key areas; managing your money day to day, improving your financial situation over the longer term and planning for retirement.

**Section D: Attitudes and motivations** including questions taken from Kempson's questionnaire.

**Section E: New topics** including thinking about ageing; cost of housing stress; talking about your money situation.

**Section F: Profiling demographics** including education, household structure, sources of income, language spoken, net assets and net debts.

A wellbeing score was created using an aggregate of these questions. Each item was converted to a standardised score out of 100 and then the mean across all items was calculated.

Research contributors Stephen Prendergast (Prescience Research) and David Blackmore developed the survey and provided advice to the steering committees in Australia and New Zealand, who then gave guidance around finalising the modelling and segmentation. This involved decisions around how best to understand key drivers of financial wellbeing in New Zealand and Australia. YouGovGalaxy helped with survey design and conducted the survey fieldwork in New Zealand and Australia.

This study is the first in New Zealand and Australia to almost wholly rely on the model of financial wellbeing developed by Elaine Kempson and colleagues. Our use of this model acknowledges its efficacy in describing the connection between financial wellbeing and a person's financial knowledge and experience, attitudes and motivations, behaviours as well as social and environmental factors.

We have applied the definition of financial wellbeing as 'the extent to which someone is able to meet all their current commitments and needs comfortably, and has the financial resilience to maintain this in the future'<sup>13</sup>.

A summary of the survey methodology is included in Appendix 2 (page 39).

<sup>13</sup> Kempson, Elaine & Finney, Andrea & Poppe, Christian (2017). Financial Well-Being A Conceptual Model and Preliminary Analysis. 10.13140/RG.2.2.18737.68961.

# KEY FINDINGS

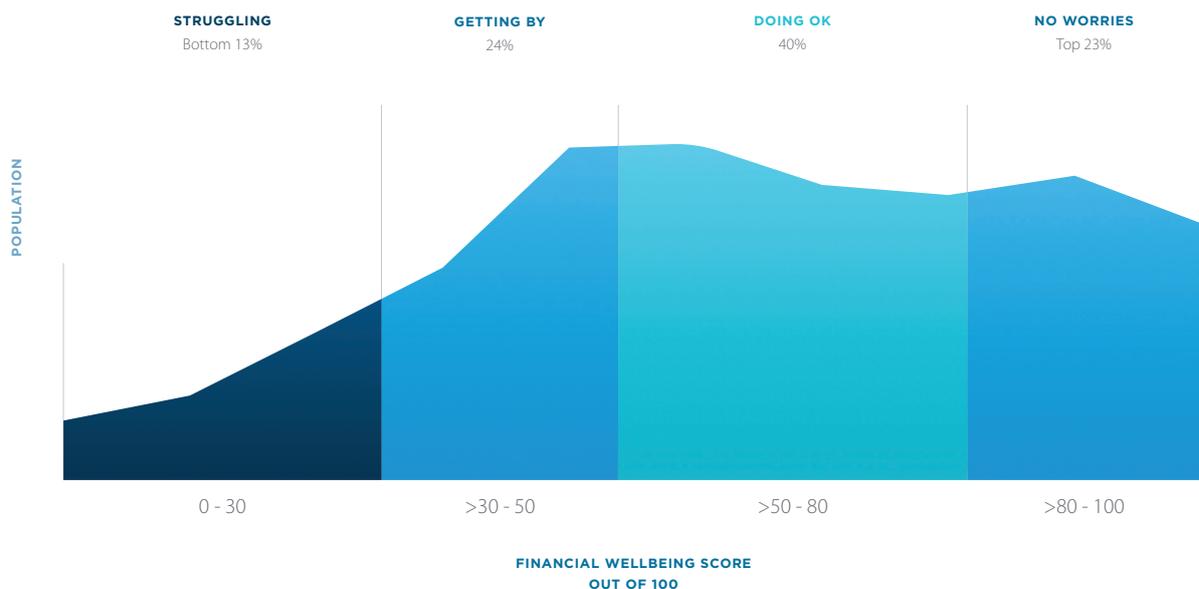
This section presents key findings and insights from the ANZ Financial Wellbeing Survey in New Zealand (conducted in late 2017), exploring the financial knowledge, attitudes and behaviours of 1,521 adults.

1. The average financial wellbeing score for respondents was 59 out of 100, an indication that on average, New Zealanders have a reasonable level of financial wellbeing.

The average score of 59 across New Zealand indicated a reasonable level of financial wellbeing. We identified four distinct categories. After seeking advice from our steering committee and reviewing equivalent studies<sup>14</sup>, we named these groups:

**No worries** (23%); **Doing OK** (40%); **Getting by** (24%); and **Struggling** (13%). Results for each of these groups are outlined on pages 16-19.

FIGURE 3. FINANCIAL WELLBEING IN THE NEW ZEALAND POPULATION



<sup>14</sup> We considered the categories of 'Financially distressed/Financially unstable/Financially exposed/Financially well' (applied by Kempson *et al.*, Momentum Financial Wellness Index, UK), 'Low/Medium/Good/Very good' (based on 2009 NZ Financial Knowledge Survey), 'Financially distressed'/Financially stressed' (applied by Martin North *et al.*, Digital Finance Analytics), and 'Just about managing' (JAM) (first described by Frayne and in wide use in UK political discourse).

## 'No worries': Twenty-three per cent of respondents (which could be extrapolated to around 828,000 people<sup>15</sup> in New Zealand) were in the top group, with an average financial wellbeing score of 91 out of 100.

**They were well positioned socio-economically and their financial outlook was positive; they could sustainably cover expenses and they were well placed for retirement.**

- The top 23% had relatively high levels of overall financial wellbeing with scores in excess of 80 out of 100. As might be expected, they had high scores on all three components of financial wellbeing: meeting financial commitments (mean score of 98 out of 100), resilience for the future (mean score of 91 out of 100), and feeling comfortable (mean score of 83 out of 100).
- Their current financial situation was good (86% described it as such). This compared to 34% of those who were **doing OK**, 5% of those who were **getting by** and <1% of those who were **struggling**.
- They were also confident about their financial future with 89% confident about the next 12 months. This compared with 48% of those who were **doing OK**, 19% of those who were **getting by** and 9% of those who were **struggling**).
- They were the oldest of the four groups (with an average age of 56 years; 67% were aged 50 or more), there was a slight over-representation of males (54%) and 28% held a university degree (compared with 22% of the total sample).
- Household incomes were higher than average, (35% earned \$100,000 per annum or more versus the sample average of 20%).
- This group had substantial sums in savings and investments (median value of \$113,100) and in their KiwiSaver account (median value of \$21,100 amongst those holding this product).
- Debt levels were slightly less than those of the other three groups. They were less likely to have a mortgage against their home (20% versus 26% of the total sample). Of those who had a mortgage, the median loan value of \$149,300 was not greatly

different to that of the total sample (median value of \$132,400). Most members of this group (91%) had less than \$10,000 in consumer debt (versus 75% of the total sample). Not surprisingly the proportion of this group who were 'comfortable' with their current debt level (77%) was notably higher than any of the other groups (45% for **doing OK**, 24% for **getting by** and 10% for people who were **struggling**).

- The **no worries** group were also more likely to own their home outright (60% versus 26% of the total sample). They were more likely to live with a partner (70% versus 56% of the total sample).
- Interestingly, 60% of those who did live with a partner said they were both savers. This is a marked contrast to how the other groups described themselves and their partners (14% of those who were **struggling**, 19% of those **getting by** and 36% of those who were **doing OK** were 'both savers').
- Compared to those who were **doing OK**, the **no worries** group had particularly high scores on active saving (mean score of 86 versus 65 for those **doing OK**), not borrowing for everyday expenses (mean score of 96 versus 86), confidence in managing money (mean score of 82 versus 66) and self-belief that they could control their financial situation (mean score of 74 versus 62 on internal locus of control).

<sup>15</sup> Population estimates drawn from Stats NZ 2013 Census figures, updated in proportion to the January 2017 Estimated Residential Population (<https://www.stats.govt.nz/topics/population/>) with a further adjustment for respondent age, gender, ethnicity and location.

## 'Doing OK': Forty per cent of respondents (around 1.45 million New Zealanders) had a reasonable level of financial wellbeing. This was the largest group, with an average financial wellbeing score of 65 out of 100.

### Their financial wellbeing was above average, linked to secure employment and steady household income.

- Members of this group had financial wellbeing scores ranging from 51-80 out of 100. Nearly all could meet their current financial commitments (only 3% always/often ran short of money for food and other regular expenses, compared with 14% of those who were getting by) and only 2% were always or often unable to pay bills and loan commitments at final reminder (compared to 9% of those who were getting by) during the last 12 months.
- They had higher levels of resilience for the future (only 8% said they did not have any savings, compared with 37% of those who were getting by). They were more comfortable with their financial situation (8% described their current financial situation as 'bad' compared with 38% of those who were getting by).
- This group was slightly more likely to depend on wages and salary as the main source of household income (62%). Variability in that wage or salary income was likely to be relatively limited (59% stable; 38% vary a bit).
- They had more money in savings and investments than those who were **struggling** and those who were **getting by** (39% had \$20,000 or more, versus 4% and 13% respectively for the other two groups). They also had more in their KiwiSaver account (41% had \$20,000 or more versus 16% and 21% of those in the other two groups who held a KiwiSaver account).
- They were no more likely than the group who were **getting by** to have a mortgage on their home (30% versus 28%) and the value of these loans did not differ greatly between the two groups (median values of \$140,000 and \$114,000 respectively). At the same time, fewer members of this group had outstanding consumer loans than did those who were just **getting by** (35% have more than \$5,000 in outstanding consumer loans versus 46% of the **getting by**).
- Debt (particularly consumer debt) appeared to be an important differentiator between those who were **doing OK** and those who were just **getting by**. While 46% of those who were **getting by** were uncomfortable with the amount of money they currently owed, this applied to only 23% of the group who were **doing OK**.

## ‘Getting by’: Twenty-four per cent of respondents (around 893,000 New Zealanders) had an average financial wellbeing score of 42 out of 100.

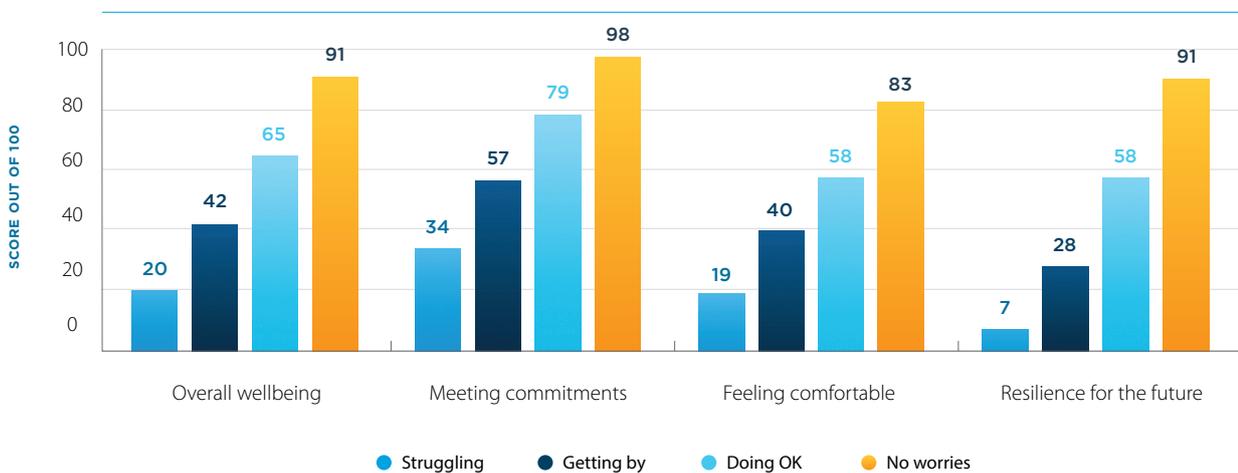
For many of these people, it was a challenge to make ends meet. They fell behind the majority of New Zealanders in terms of financial wellbeing.

- The **getting by** group had financial wellbeing scores ranging from 31-50 out of 100. They could meet current financial commitments to a greater extent than those who were **struggling** (14% always/often run short of money for food and other regular expenses – compared with 61% of those who were **struggling** – while 9% always/often lacked the money to pay bills at the final reminder). They had higher levels of resilience for the future than those who were **struggling** (37% said they did not have any savings compared with 79% of those who were **struggling**) and they were more comfortable with their financial situation (38% described their current financial situation as ‘bad’ compared with 84% of those who were **struggling**). Nevertheless, their position on all of these measures was still significantly worse than that of the population overall.
- Household incomes were below average (30% reported less than \$25,000 per annum; 29% reported \$25,000-\$49,999 per annum) but were slightly higher than those reported by those who were **struggling** financially. A substantial proportion (28%) depended on a government payment or allowance as their

main source of income and, of those whose main source of income was wages/salary, 53% reported that their income varied considerably (7%) or a bit (46%) each month.

- These people had a median value of \$2,600 outstanding on consumer loans, about the same amount as people who were **struggling**, and significantly more than those who were **doing OK** and those who appear to have **no worries**. They were more likely than average to use loans from family and friends (26%), financial institutions (25%) and payday lenders (10% borrowing at least once a year). Savings and investments held by this group are below average with 87% having less than \$20,000 versus 61% of the total sample.
- Compared to those who were **struggling**, members of this group had higher scores on active saving and on avoiding borrowing for day-to-day expenses. They also appeared to be more confident in their money management skills (mean score of 58 compared with 52 for those who were **struggling**) and to have greater self-belief in their ability to control their own financial situation (mean internal locus of control score of 55 versus 49 for those **struggling** with their finances).

FIGURE 4. FINANCIAL WELLBEING BY COMPONENT IN THE NEW ZEALAND POPULATION



## ‘Struggling’: Overall, 13% of respondents (around 479,000 New Zealanders) had an average financial wellbeing score of 20 out of 100.

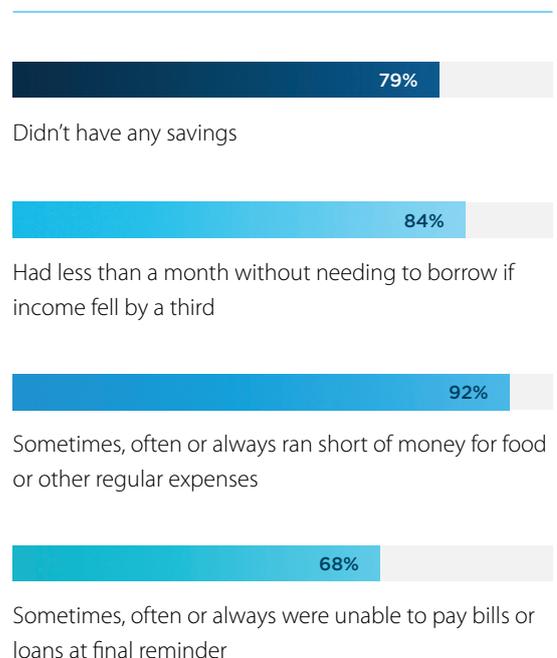
People in this group were struggling to meet day-to-day financial commitments, were not feeling comfortable with their financial situation and had little financial resilience for the future.

- This group comprised 13% of New Zealanders with a relatively low financial wellbeing score (30 or less). Members of this group were **struggling** to meet their current financial commitments (61% always/often ran short of money for food and other regular expenses; 32% always/often lacked the money to pay bills at the final reminder). They had limited financial resilience (79% said they did not have any savings at all) and they were not feeling comfortable about their financial situation (84% described their current financial situation as ‘bad’).
- Socio-demographically, members of this group were more likely than average to be women (64%), to live in a single adult household (19% alone; 16% single parent), to be from a Maori cultural background (27%), to have a household income of under \$25,000 (44%) and to have a government payment or allowance as their main source of income (43%). For those whose main source of income was wages/salary, for most that income varied either considerably (21%) or a bit (48%), each month.
- The majority were renting their home on the private market (50%) or from a government agency (13%)<sup>16</sup>, only 4% owned their home outright.
- 22% had experienced at least one period of unemployment in the last two years.
- 53% suffered from a long-term health condition, impairment or disability.
- 49% reported that they lacked parental advice about financial matters when they were growing up (compared with 33% of the total sample).

- Their financial behaviour showed above average use of loans from family and friends (39%), delayed payment schemes such as AfterPay/ZipPay (14%), payday lenders (16% borrowed at least once a year) and lease or hire purchase arrangements (30%).
- Given their circumstances, it was not unexpected to find members of this group had the lowest scores on the key behaviours of active saving and avoiding borrowing for everyday expenses. They also had relatively low levels of confidence in their money management skills (mean score of 52 versus the population average of 66) and limited belief in their ability to control their financial situation (mean score of 49 versus the population average of 61).

### FIGURE 5. NEW ZEALANDERS WHO WERE STRUGGLING

(13% with lowest financial wellbeing scores)



<sup>16</sup> A further 13% paid rent or board to someone else who lived in the house.

“The extent to which someone is able to meet all their current commitments and needs comfortably, and has the financial resilience to maintain this in the future<sup>17</sup>”

Professor Elaine Kempson defining financial wellbeing

2. The research showed that application of the five domains of the Kempson model explained 70%<sup>18</sup> of a person's financial wellbeing.

Figure 6 summarises the relationships between people's financial wellbeing and the five domains which influence it; their financial behaviour, psychological factors, financial knowledge and experience, socio-demographic status and economic characteristics.

It provides a context and methodology (multiple linear regression) for identifying and better understanding the factors that are the key drivers of people's financial wellbeing.

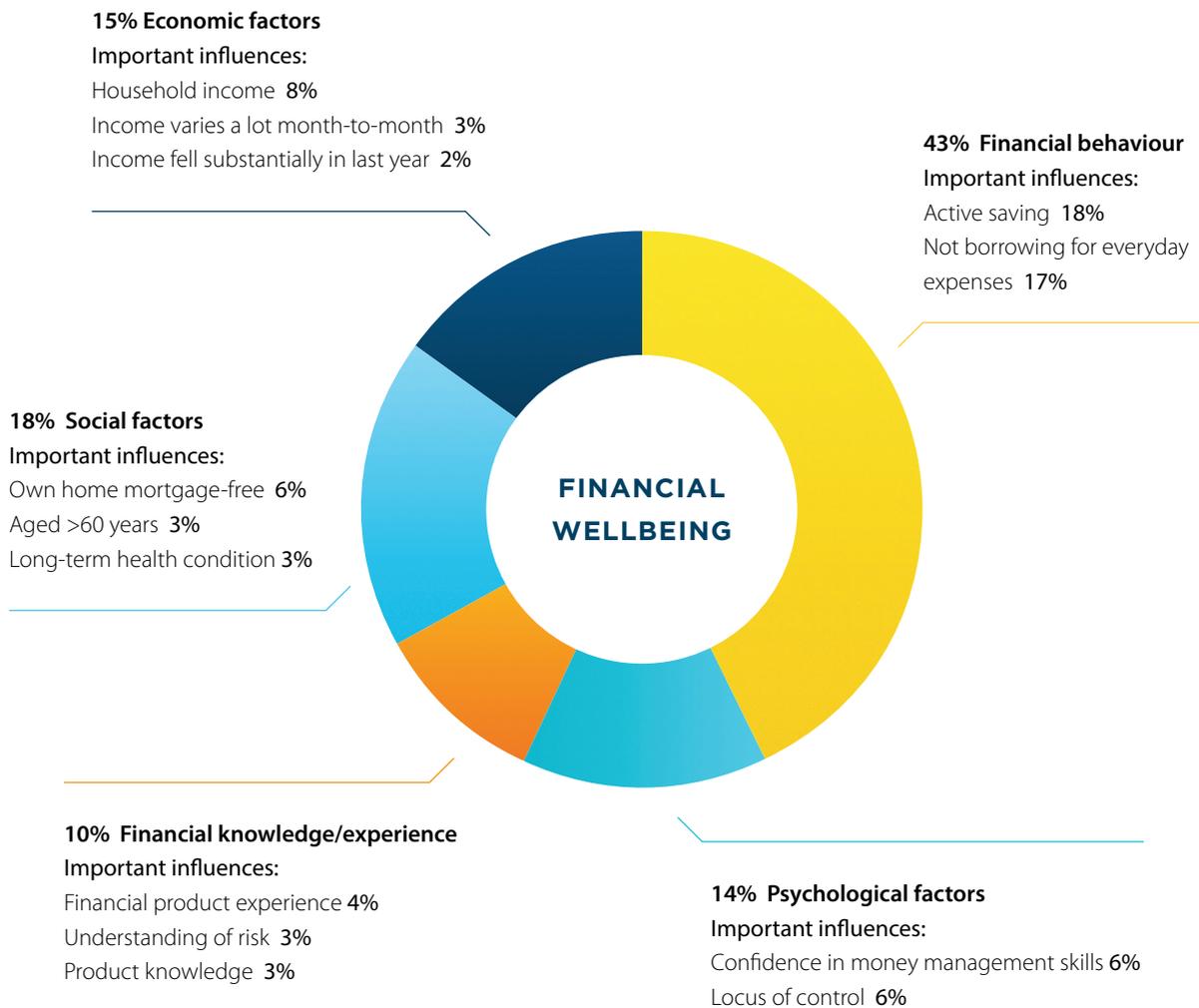


**Five domains of the Kempson model explained 70% of financial wellbeing for New Zealand respondents**

17 Kempson, Elaine & Finney, Andrea & Poppe, Christian (2017). Financial Well-Being A Conceptual Model and Preliminary Analysis. 10.13140/RG.2.2.18737.68961.

18 R2 from Regression modelling

FIGURE 6. FIVE DOMAINS OF FINANCIAL WELLBEING MODEL<sup>19</sup>



<sup>19</sup> a. Between them, these five domains explained 70% of the variation in people’s financial wellbeing.

b. The influence of each domain is represented by the percentage shown next to it (obtained by summing the standardised regression coefficients and rescaling each one to a percentage; the % figures thus represent the shares of the explained influence of these five domains on financial wellbeing). People’s financial behaviour (43%) was clearly the most important influence.

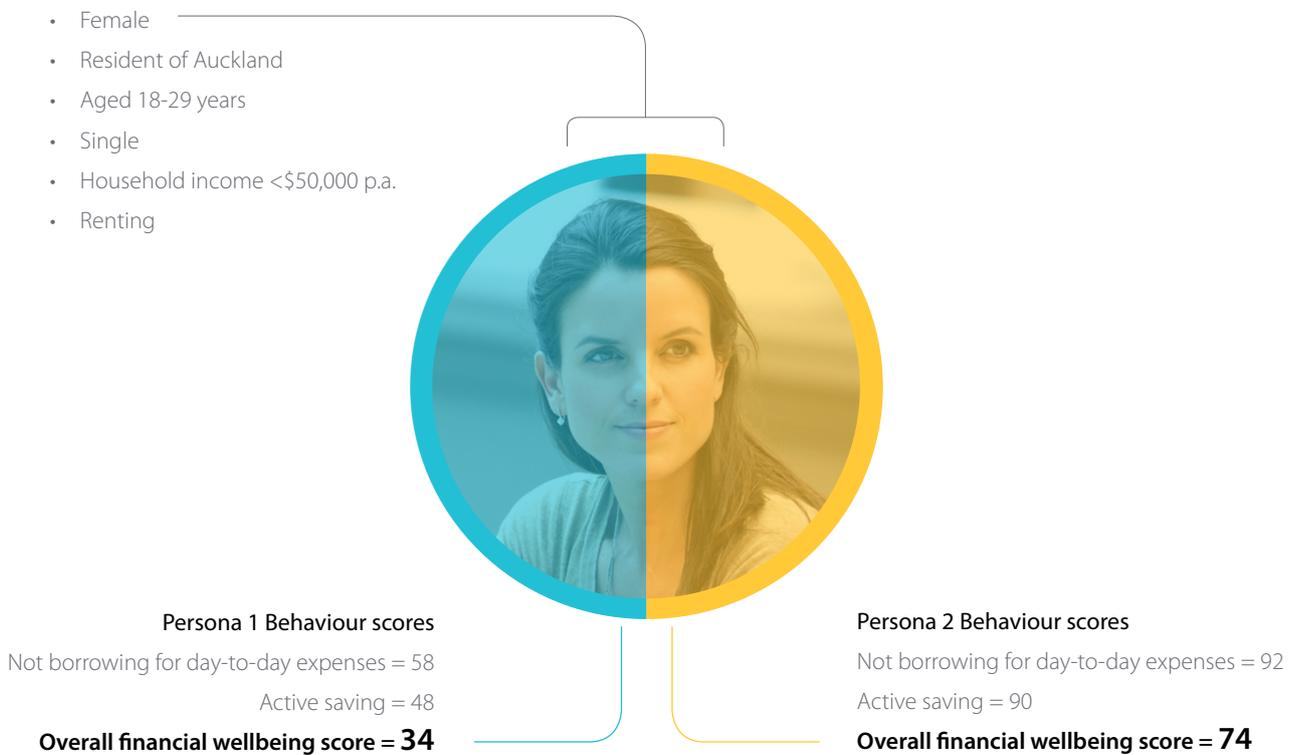
c. The influence of individual components is shown for those that were the most important influences on financial wellbeing.

d. Household income consists of three separate variables here: <\$25k (3%); \$25k-<\$50k (2%); \$150k+ (2%); 8% is the total influence attributable to these three variables.

### 3. Behaviour had a major impact on financial wellbeing.

- Behaviour accounted for 43% of overall financial wellbeing. Financial behaviours tested included spending restraint, not borrowing for daily expenses, active saving, planning how to use your income, monitoring finances and making informed product choices. Some of these were shown to have very little influence on wellbeing. However, the two behaviours to emerge as most important with respect to people’s financial wellbeing were **active saving** and **not borrowing for everyday expenses**. Between them, these two behaviours accounted for 35% of the explained variation in people’s financial wellbeing scores.
- To illustrate this point, figure 7 shows how two respondents in the survey (with essentially the same income and socio-economic context) achieved very different financial wellbeing outcomes, based on their financial behaviours. The person who scored highly on ‘active saving’ and ‘not borrowing for everyday expenses’ recorded a financial wellbeing score of 74, significantly higher than the person who scored lower on these behaviours (financial wellbeing score of 34).

FIGURE 7. FINANCIAL BEHAVIOURS CAN INFLUENCE FINANCIAL WELLBEING

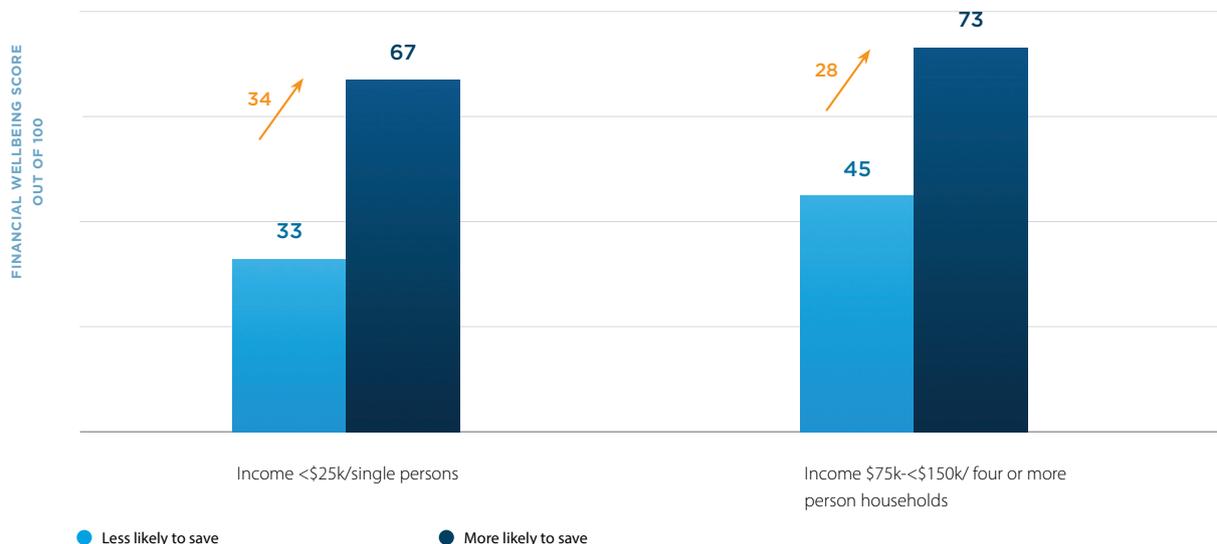


#### 4. Active saving behaviour was a key influence on financial wellbeing<sup>20</sup>. Adopting this behaviour, if at all possible, can help to improve financial wellbeing.

- The amount of expenditure required to 'get by' will be different for people based on their particular lifestyle, family structure, housing tenure and other factors. By looking at two groups of respondents with very different socio-economic profiles, the survey results illustrate the association between active saving and higher levels of financial wellbeing (Figure 8).
- In the first group (single people with household incomes of \$25,000 or less, per annum) there was a 34-point difference in the financial wellbeing score between those less likely to engage in active saving behaviour<sup>21</sup> and those more likely<sup>22</sup> to do so. Similarly, for people living in four-person households with an income of \$75,000-\$149,999 per annum, there was a 28-point difference in the financial wellbeing score between those less likely to be actively saving and those more likely to be doing so.

**FIGURE 8. IMPACT OF ACTIVE SAVING ON FINANCIAL WELLBEING**

For different income groups



<sup>20</sup> Kempson, Finney & Poppe, 2017

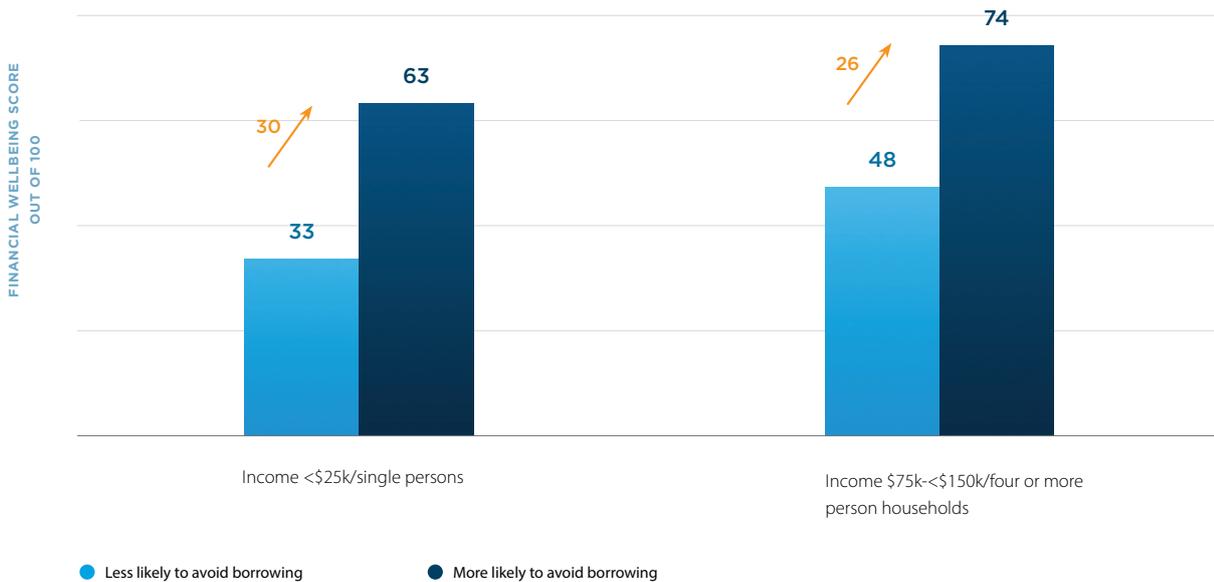
<sup>21</sup> Those whose active savings scores were in the lowest 33% of all people with household incomes below \$25,000.

<sup>22</sup> Those whose active savings scores were in the highest 33% of all people with household incomes below \$25,000.

5. The survey showed that many people, regardless of income level reported that they were borrowing money for everyday expenses. This is a critical factor in determining financial wellbeing.

- Financial wellbeing improved when it was possible to avoid borrowing money to cover everyday living expenses. This finding acknowledges that there are circumstances of genuine financial hardship where borrowing money to cover living expenses can be necessary. By looking at two groups of respondents with different socio-economic contexts, the survey results illustrate the relationship between borrowing money for everyday expenses and financial wellbeing (figure 9).
- In the first group (single people household incomes of \$25,000 or less, per annum) there was a 30-point difference in the financial wellbeing score between those more likely to borrow for everyday expenses<sup>23</sup> and those less likely to do so<sup>24</sup>. Similarly, for people living in four-person households with an income of \$75,000-\$149,999 per annum, there was a 26-point difference in the financial wellbeing score between those more and those less likely to borrow for everyday expenses.

**FIGURE 9. IMPACT OF NOT BORROWING FOR EVERYDAY EXPENSES ON FINANCIAL WELLBEING**  
For different income groups



23 Those whose scores on not borrowing for everyday expenses were in the lowest 33% of all people with household income <\$25,000.

24 Those whose scores on not borrowing for everyday expenses were in the highest 33% of all people with household income <\$25,000.

## 6. The relationship between income and financial wellbeing was a complex one. Financial wellbeing was influenced by many factors, not just by how much people earned or how much they had in savings and investments.

- The survey showed that people’s socio-economic circumstances contributed 33% to explaining differences in financial wellbeing. These findings draw attention to the fact that financial wellbeing involves a ‘state of mind’ component based on people’s feelings and expectations about their current and future financial situation, which is not based solely on their income or how much they have in savings and investments. Consequently, while income was found to be an important influence, the survey showed that people can have relatively high levels of financial wellbeing without necessarily having particularly high incomes or, as discussed in point 7 (page 26), particularly high levels of savings and investments.
- When combined with other factors that influenced financial wellbeing, household income contributed 8%<sup>25</sup> to explaining differences in financial wellbeing scores. As shown in figure 10, the relationship between income and financial wellbeing was not

straightforward; income was more strongly related to financial wellbeing at lower levels of income and also at the highest level.

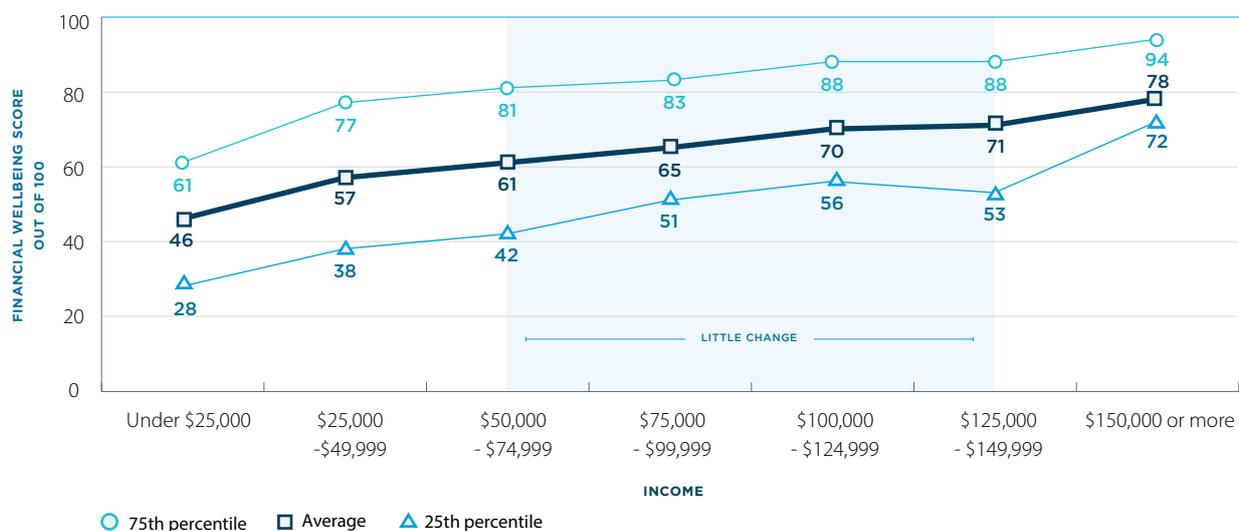
- Particularly noteworthy however is the wide variation in financial wellbeing scores within each income band. For example, amongst those with household incomes below \$25,000 per annum, 25% had wellbeing scores of 61 or more out of 100; that is, they had scores that were above more than 25% of people reporting household incomes in the range \$100,000 up to \$150,000 per annum.



**23% of respondents in New Zealand had less than \$1,000 in savings**

**FIGURE 10. RELATIONSHIP BETWEEN INCOME AND FINANCIAL WELLBEING**

There was very little change in financial wellbeing scores as income increases from \$50k to \$150k per annum.



<sup>25</sup> Estimate from regression modelling of financial wellbeing where income was one of a set of independent variables. Household income accounted for 8% of the explained variation in financial wellbeing. Behaviour change will always be moderated by income which remains a fundamental backdrop to financial wellbeing. Income allows people to save and avoid borrowing for daily expenses, as well as having a direct effect on financial wellbeing.

### 7. How much money people had in savings had a significant influence on their financial wellbeing score but, as with income, the relationship was not straightforward.

- The survey showed that people could have relatively high levels of financial wellbeing without necessarily having particularly large amounts of savings and investments. There was a relatively wide range of financial wellbeing scores within each savings/ investment category; for example, amongst those with \$1,000 to \$4,999 in savings and investments, 25% had financial wellbeing scores of 63 or more; that is, they had scores that were higher than 25% of those with \$50,000 to \$99,999 in savings and investments.
- Despite this variation within categories, the results still showed that on average higher savings and investment balances were associated with higher levels of financial wellbeing. While the mean financial wellbeing score for those with less than \$1,000 in savings and investments was 35 out of 100, this rose to 85 out of 100 amongst those with \$250,000 or more in savings and investments.
- The findings also showed that having some savings as a buffer was conducive to higher levels of financial wellbeing, particularly for people with the lowest level of savings. There is a marked 17-point increase evident in financial wellbeing scores between those with less than \$1,000 in savings (35 out of 100) and those with \$1,000-\$4,999 in savings (52 out of 100).

**FIGURE 11. SAVINGS AS A BUFFER**  
Less than \$1,000 in savings was associated with lower financial wellbeing



## 8. The research showed how factors such as home ownership, age and the way parents teach their children about money when they are growing up influenced financial wellbeing scores in New Zealand.

Social factors accounted for 18% of the explained variation in people’s overall financial wellbeing. Specifically, the influence of the following factors is worth highlighting:

- **Home ownership:** People who owned their own homes had higher levels of financial wellbeing. The average financial wellbeing score was 77 for those who owned their home outright, 59 for those with a mortgage on their home and 49 for those who rented. There was no clear relationship between the size of mortgage debt and financial wellbeing (figure 12).
- Aside from the direct and indirect effects of income on financial wellbeing characteristics such as **level of education** and **occupation** were also associated with differing levels of financial wellbeing. When considering these results, it is important to keep in mind that while some groups did have higher levels of household income and (this was an important influence on financial wellbeing) people in these groups also had higher scores on other key influences on financial wellbeing such active saving, not borrowing for expenses and confidence in money management.
- As earlier analysis has shown, it would not be correct to attribute the higher levels of financial wellbeing solely to higher levels of household income. With that in mind, we noted that people who were either currently working in upper white collar occupations, or who had done so in the past, had higher levels

of financial wellbeing (mean score of 68) than those who were either currently or formerly employed in middle/lower white collar occupations (mean score of 56), upper blue collar occupations (mean score of 61) or lower blue collar occupations (mean score of 52). Those who had completed a university degree exhibited higher levels of financial wellbeing (mean score of 66) than those who had not done so (mean score of 58).

- **Age** also played a role in financial wellbeing, with older people generally having higher levels of financial wellbeing. There were no doubt many factors influencing this. People aged 60 years or more were more likely to own their own home, and to have had longer to accumulate superannuation and other assets. Of people aged 60 years or more:
  - 60% owned their home outright (versus 14% of those aged under 60 years);
  - median savings/investment balances were \$39,500 (versus \$3,400 for people under 60); and
  - median KiwiSaver account balances were \$19,500 (versus \$7,200 for people under 60).

**Parental advice** is also important – people whose parents did not provide them with advice on money matters when they were growing up had lower levels of financial wellbeing on average (55) than those whose parents did provide such advice (62).

FIGURE 12. IMPACT OF HOME OWNERSHIP STATUS ON FINANCIAL WELLBEING SCORE





People whose parents provided them with advice when growing up had higher financial wellbeing on average.

**9. It is important to look at financial wellbeing in the context of social and economic disadvantage. Factors such as the direct and indirect effects of a lack of stable income, single parent status, unemployment and poor health were all important negative influences on financial wellbeing.**

The survey showed that certain groups of people were vulnerable to lower financial wellbeing as a consequence of these factors.

- People who had been off work due to illness for a period of at least two months during the last year had a score of 40, 19 points below the national average of 59.
- **Single parents** had a financial wellbeing score of 42 out of 100, 17 points below the national average.
- People who had considerable variation in their household income had a financial wellbeing score of 44 out of 100, 15 points below the national average.
- People who had a period of **unemployment** in the last 12 months had a financial wellbeing score of 47 out of 100, 12 points below the national average.

- People living with a **long-term illness or disability** had a financial wellbeing score of 52 out of 100, seven points below the national average.

**10. The survey showed that people's financial knowledge had only a limited direct influence on their financial wellbeing. Financial behaviour, attitudes and social and economic circumstances were more important direct influences.**

- The research indicated that the amount of knowledge and experience people had accounted for 10% of the total explained variation in financial wellbeing scores.
- This is not to say that financial knowledge is irrelevant; clearly those with better financial knowledge were in a position to make better financial decisions. However, what the research shows is that regardless of people's knowledge, other factors such as psychological influences, social and economic circumstances and the ability to actually take action (that is behaviour) are more important influences on the final wellbeing outcome.

## 11. People rated their knowledge of bank accounts and products to manage their money day-to-day as substantially better than their knowledge of longer-term financial investments which might improve their financial situation and prepare them for retirement.

- While 53% of people rated their knowledge of day-to-day banking and finance products as good<sup>26</sup> knowledge of investment and retirement products was rated substantially lower. Just 30% of respondents considered they had good<sup>27</sup> knowledge of investment and retirement products.

## 12. The survey showed that psychological factors, including aspects of people's personality and their attitudes towards money, had an impact on financial wellbeing scores.

We found that psychological factors accounted for 14% of the explained variation in people's financial wellbeing. People's outlook on life had an important impact on their financial wellbeing score.

The research highlighted that self-belief and confidence to make financial decisions and manage day-to-day finances were two critical psychological factors influencing overall financial wellbeing.

- People who were the most confident in their day-to-day money management skills had a financial wellbeing score of 71 out of 100. This dropped to a score of 34 for those who were the least confident in

money management skills. Nevertheless, it is worth noting that 12% of those with high confidence scores of 80 or more out of 100 actually had financial wellbeing scores below 40 out of 100. This indicated that some people may have been over-confident when assessing their money management skills.

- Internal locus of control (i.e. the belief that people can determine what happens in their own life) has an impact on financial wellbeing scores. Of particular interest is the deterioration in financial wellbeing scores for those at the bottom end of the scale who did not believe they had much control over their lives. (Average wellbeing score of 44 versus 66 for those at the top of the scale.)

## 13. High levels of income variability were associated with lower levels of financial wellbeing. People running their own business and women were over-represented in the group that reported very variable income.

- While comprising only 8% of the total population, those whose household income varied considerably from month-to-month had lower financial wellbeing (mean score of 44 out of 100) than those whose income only varied a bit (mean score of 56) or whose income was stable (mean score of 64).
- Those whose income did vary considerably were more likely than average to be self-employed (19% in a business of which they were the sole employee (60% of those with highly variable incomes who owned their business) and which turned over less than \$100,000 per year (54% of this group). There was also a slight over-representation of women in this group (56% females versus 44% males).

<sup>26</sup> Sum of responses 1 & 2 on a five point scale 1 (very good) to 5 (very poor)

<sup>27</sup> Sum of responses 1 & 2 on a five point scale 1 (very good) to 5 (very poor)



## CONCLUSION

This report seeks to improve knowledge of financial wellbeing in New Zealand by using the Kempson *et al.* model to place our research in a contemporary context. The findings acknowledge the efficacy of that model in describing the connection between a person's financial wellbeing and their knowledge and experience, attitudes and motivations, behaviours as well social and environmental factors.

The survey findings suggest that encouraging positive financial behaviour (particularly active saving and where possible, not borrowing to cover everyday expenses) will improve overall financial wellbeing. This is a shift from the previous focus on improving financial literacy and knowledge.

Given the importance of the ongoing monitoring of financial wellbeing, ANZ has committed to continue its longitudinal approach.

The modelling used is a reflection of where an individual sees themselves at a moment in time, and how they are feeling about the future. Subsequent surveys will enable us to see how financial wellbeing might vary, and how it will be influenced by a range of economic, social and technological factors over an extended period. In addition to providing insights for a range of stakeholders, this work will inform ANZ's initiatives to improve financial wellbeing for our customers, employees and communities.

# APPENDICES

## 1. LITERATURE REVIEW

### Financial Wellbeing: Evolution of the concept, meaning and application

**Roslyn Russell and Jozica Kutin, RMIT University**

The concept of financial wellbeing has gained prominence in research and policy over the last few years. While it may be tempting to view the term as yet another buzzword in the field of personal finance, it is in reality proving useful as a construct. The term 'financial wellbeing' is inherently intuitive and understandable to everyday people, practitioners and researchers alike. Other terms increasingly used in the literature and in industry that are analogous (but not necessarily interchangeable)<sup>28</sup> to financial wellbeing are financial health, financial wellness and financial fitness: all reflecting health-related concepts.

The major strength of the term 'financial wellbeing' is that it explicitly recognises that finances are inextricably linked with wellbeing. By combining the terms (finance and wellbeing) it reduces one of the biggest barriers to people focusing on their finances – that is the inclination to consider financial issues as separate from or unrelated to the other elements of life.

Financial wellbeing combines concepts related to the fields of personal finance and the broader area of personal wellbeing. Both fields have long histories, have evolved in parallel and draw from a number of common disciplines including economics, psychology, and health (Bowman, Banks, Fela, Russell, & de Silva, 2016). While financial wellbeing can stand alone as a concept it is also a subset of personal wellbeing and should be understood within the context of the individual's life within a household, community and society.

Improving personal wellbeing has become an important policy priority in many countries<sup>29</sup>. This has led researchers to prioritise understanding it, measuring it and exploring ways to best improve the factors that lead to wellbeing. Wellbeing indices include elements such as housing, income, education, security, connectedness, health and life satisfaction (Capic, Li, & Cummins, 2017), democratic or civic engagement, living standards, environment, leisure and culture, time use or work-life balance, and community vitality (Canadian Index of Wellbeing, 2016; OECD, 2017). Wellbeing is associated with happiness (Hayes, Evans, & Finney, 2016a, 2016b) and the Australian Unity measure of happiness includes having financial control as being one of the three factors that comprise 'the golden triangle of happiness' along with personal relationships and a sense of purpose (Australian Unity, 2017; Cummins *et al.*, 2007).

Financial wellbeing is also becoming increasingly recognised in industry as being important for employees. Reduced productivity due to financial stress is costly to employees and organisations (AMP Life, 2016). As a regional example, estimates are that nearly half of Australian workers worry about their financial situation and can spend almost 10% of paid work hours thinking about financial issues (Map My Plan Ltd, 2015), and 24% are financially stressed (AMP Life, 2016). High levels of financial stress within a workplace increases turnover and number of sick days taken and it is estimated that it can cost Australian employers between \$47 billion-\$60 billion (AMP Life, 2016; Map My Plan Ltd, 2015).

28 See Gerrans *et al.*, (2014) The relationship between personal financial wellness and financial wellbeing: a structural equation modelling approach. *Journal of Family and Economic Issues*, 25: 145-160.

29 <https://uwaterloo.ca/canadian-index-wellbeing/about-canadian-index-wellbeing/wellbeing-around-world>

## What does it mean to have financial wellbeing?

There are a number of definitions of financial wellbeing that are being used in academic literature, industry reports and government policies – all having very similar meanings. The commonly agreed components of financial wellbeing are being able to meet financial commitments; have resources to enjoy life, and ability to cope with unexpected financial shocks. There is also in most definitions a temporal consideration to financial wellbeing. One should feel in control and satisfied with the present financial situation, while having positive views and plans for one's financial future. To varying degrees financial wellbeing definitions include subjective measures of feelings and satisfaction about financial situations, and objective measures of financial management behaviours. This approach mirrors that of personal wellbeing measures which usually include objective indicators about levels of health, education and lifestyle; more subjective type measures of satisfaction with life; and also emotions and thoughts (Vlaev & Elliott, 2014).

Internationally there has been a groundswell of work to further our understanding of financial wellbeing. Primarily the recent work<sup>30</sup> has come from the USA – the Consumer Financial Protection Bureau (CFPB) (Consumer Financial Protection Bureau, 2015); the UK – Momentum & University of Bristol (Hayes *et al.*, 2016a, 2016b); UK /Norway – Kempson, Finney, and Poppe (2017) and Australia – Centre for Social Impact, Muir *et al.* (2017).

## Evolution of the financial wellbeing concept

As the personal finance area of research and practice has evolved over time, so too has the terminology and our understanding of how to create a financially healthy population. Following is a brief overview of the evolution of terminology relevant to understanding financial wellbeing<sup>31</sup>.

As our understanding grows and new terms are introduced, it does not mean older terms become redundant. The growth in knowledge and research has induced the need for terminology that is more reflective of current understanding, and is intuitive and comprehensive. Each term retains its place in understanding financial wellbeing.

### Financial literacy

Fifteen-to-twenty years ago, the literature in personal finance predominantly focused on individual levels of 'financial literacy'. In short, financial literacy refers to individual knowledge and skills in managing money. This era of work which focused on measuring and improving financial literacy reflected the dominant but flawed belief that more knowledge would or should result in effective financial behaviour. The focus on financial literacy neglected to include external environmental conditions that impact on people's financial situation. The state of the economy, responsibilities of institutions, people's income and opportunity for employment and household circumstances were largely left out of the picture. The underlying assumption was that individuals who experienced financial hardship only needed more financial knowledge to improve their financial situation.

<sup>30</sup> See Kempson *et al.* (2017) for discussion of earlier definitions and work on financial wellbeing.

<sup>31</sup> Kempson *et al.* (2017) and Bowman *et al.* (2016) have provided comprehensive reviews of the evolution of terms from financial literacy, financial capabilities to financial wellbeing. These pieces of research also include discussions on how related concepts such as financial resilience and financial inclusion fit into our current framework of financial wellbeing.



Financial literacy is generally measurable through questions that have right or wrong answers, are usually mathematical in nature and involve being able to understand financial terms and documents (Klapper *et al.*, 2015). In relating this to a public health analogy, it would be akin to knowing the facts about nutrition, exercise and healthy lifestyle habits. Of course, simply knowing the facts does not make us healthy until we translate that knowledge into behaviour. Having said that, effective behaviour is less likely to occur without knowledge. Literacy or knowledge is important, but it is not sufficient for wellbeing.

#### **Financial capability**

Around 10 years ago, research began to focus on the importance of taking action and adopting certain behaviours. Atkinson, McKay, Kempson and Collard (2006) in the UK provided the most comprehensive and seminal work that developed the concept of financial capability. The important contributions from this research were that financial capability includes sets of behaviours and not just knowledge, it is not a singular concept but is comprised of five domains: making ends meet, keeping track of finances, planning for the future, choosing appropriate financial products and staying informed.

Johnson and Sherraden (2007) added a critical element to our understanding of the term financial capability by explicitly including 'opportunity' to act on knowledge. This highlighted the importance of external factors and how they can either inhibit or provide opportunities to develop capabilities. Financial capability is not just an individual responsibility, it incorporates the role of institutions in enabling financial inclusion, provision of adequate income and opportunities to learn and implement behaviours.

#### **Financial wellbeing**

Financial wellbeing is the most holistic concept to date. It answers the need for a term that included elements that we knew were important in explaining differences in people's financial situations that were not adequately focused upon in the past. Models of financial wellbeing include a range of external factors. Socio-economic indicators such as income, employment, health and social support make a significant difference to the level of financial wellbeing.

It does incorporate the need for knowledge (financial literacy), behaviours (capabilities), and is heavily influenced by attitudes and psychological traits. They also include consideration of the present and the future. Financial wellbeing will be different for everyone but an effective index will include objective as well as subjective measures. The following section summarises the drivers of financial wellbeing as indicated in the most current measures.

## What are the drivers of financial wellbeing?

Kempson *et al.* (2017) have tested a range of factors that drive financial wellbeing. Figure 13 shows their financial wellbeing model. The most important drivers of financial wellbeing lie within our social and economic environments. Within these contexts are our individual capacities and opportunities to optimise our financial wellbeing. Embedded in knowledge, skills and behaviours are other considerations such as attitudes and psychological traits. It is important to note that the size of the boxes reflects the degree of importance of each of the factors in driving financial wellbeing.

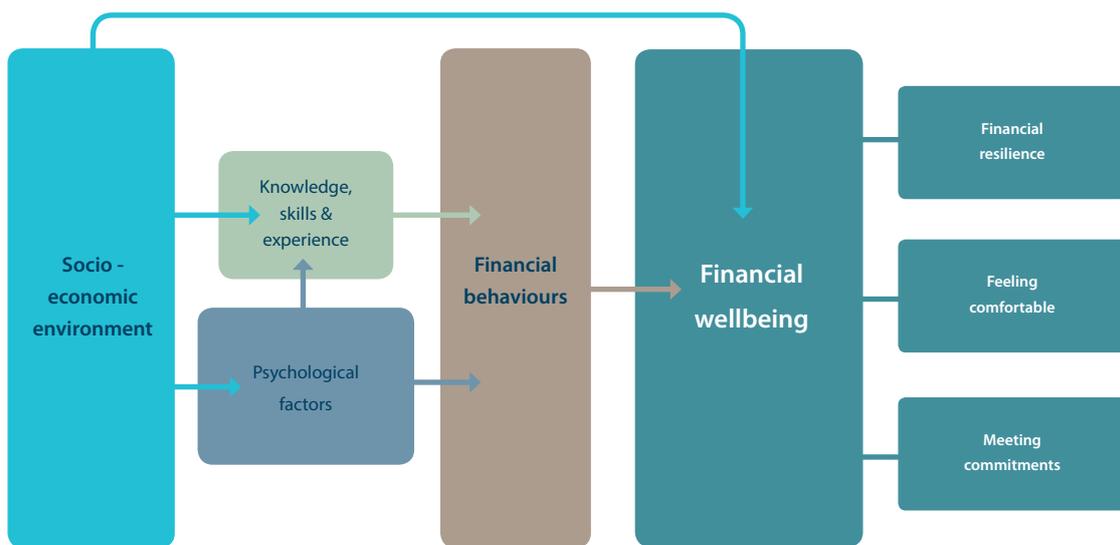
### Socio-economic factors

Kempson *et al.* (2017) research found that income and workforce participation are significant drivers of financial wellbeing<sup>32</sup>. Part-time employees were better at tracking money than full-time employees and self-employed individuals or micro-entrepreneurs were not as capable as employees when it came to saving and planning.

Muir *et al.* (2017) used an ecological systems approach to exploring financial wellbeing in Australia and produced a ‘financial wellbeing tree’ to depict the influences and components of financial wellbeing. This approach devoted specific focus on each layer within the system in which we live by considering not only individual influences, but also household, family, peer-level, community and societal influences. The consideration of these broader elements provides a direct link from financial wellbeing to the components of overall wellbeing (OECD, 2017).

FIGURE 13. FINANCIAL WELLBEING MODEL

Kempson *et al.* 2017



32 Please note that while the Kempson *et al.* (2017) model was developed using UK and Norwegian data, but the survey used to test the model was disseminated in Norway.

While the Kempson *et al.* research did not specifically measure variables such as social capital or community socio-economic status, the Muir *et al.* research did and found that social capital was significantly associated with financial wellbeing. In personal wellbeing measures, social capital may reflect social connectedness and relationships; it is having people in your life who support you and having access to resources if needed. The Muir *et al.* 'financial wellbeing tree' model also included life stressors and personal health as important contributors to wellbeing.

The Hayes *et al.* (2016b) Momentum UK Financial Wellness index included three macro factors that influence financial wellbeing. It used unemployment rate, which of course impacted income and indicated strength of the economy, and changes in GDP per capita that could give an average income per person. The World Bank data used in the index included a Purchasing Power Parity which accounted for cost of living across countries. The third macro indicator used in the UK index was the Gini coefficient which is a measure of inequality.

### Individual factors

Within the Kempson *et al.* framework are factors that relate to individual capacities such as knowledge, financial behaviours and psychological traits. Kempson *et al.* found the most important financial capabilities or behaviours to financial wellbeing were active saving, not borrowing for everyday expenses and restrained spending. The psychological traits that were most significant to those behaviours were reduced impulsivity, a future time orientation, internal locus of control and self-control. Knowledge was found to be the least important of the individual capacities in influencing financial wellbeing.

Muir *et al.*, found similar individual factors to be important, especially among the objective behavioural measures of meeting expenses and having money left over, being in control and feeling financially secure. Muir *et al.* also found having savings and building resilience for unexpected expenses were both important. Muir and Hayes *et al.* specifically included financial inclusion as a significant driver of financial wellbeing – this element could be also seen as an external factor with responsibility lying predominantly with financial institutions.

Muir *et al.* did not specifically include psychological traits but found that personal health was an important driver of financial wellbeing. Having a disability or poor physical or mental health was detrimental to financial wellbeing.

Hayes *et al.* included many of the individual capabilities and objective measures included in the Kempson and Muir models and also included having assets and financial confidence.

## New Zealand initiatives to support financial wellbeing

The New Zealand National Strategy for Financial Capability (2015), led by the Commission for Financial Capability (CFFC)<sup>33</sup> outlines efforts to improve the financial wellbeing and capability of New Zealanders. The CFFC is the office of the Retirement Commissioner and its core responsibilities are financial capability, retirement income and retirement villages (CFFC, 2017a).

In relation to measurement of financial wellbeing, the CFFC has also implemented a national outcomes tool (the New Zealand Financial Behaviour Index: Colmar Brunton, 2014) to monitor changes in the five streams covered by the New Zealand National Strategy for Financial Capability. The CFFC also plans a 'Financial Capability Barometer' which will include measures of 'optimism or pessimism about financial future' (CFFC, 2017 p. 15).

Whilst the Financial Behaviour Index covered items that are also considered in the Kempson *et al.* and other financial wellbeing scales, it misses critical aspects such as how satisfied New Zealanders are with their current financial situation, whether they feel comfortable or can afford extra things, and their confidence about their financial future. This is a critical component of wellbeing, which differentiates wellbeing from financial capability.

The Ministry of Social Development (MSD) also plays a very active role in improving the financial wellbeing and capability of New Zealanders, and in publishing reports on the material wellbeing of New Zealanders (Perry, 2017).

In that report, measures of non-income based wellbeing were incorporated to develop the Material Wellbeing Index (MWI). The MSD used an income-wealth-consumption-material wellbeing framework, and acknowledged that material standard of living was influenced by household income and financial and physical assets. It found that not all low income households were in hardship and 'not all in hardship have low incomes' as there are 'many factors in addition to income that determine a household's level of material wellbeing' (Perry, 2017, p. 4).

The Auckland University of Technology (funded by Sovereign) developed the Sovereign Wellbeing Index (SWI) in 2012<sup>34</sup>. It ranked those who had optimal wellbeing as 'Awesome', with 25% of New Zealanders reaching this ranking (Mackay, Schofield, Jarden, & Prendergast, 2015). This general wellbeing score has not changed significantly since 2012.

33 <https://www.cffc.org.nz/>

34 <http://www.mywellbeing.co.nz/mw/default.html>

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## 2. SURVEY METHODOLOGY

The 2017 ANZ Financial Wellbeing Survey was conducted in New Zealand as an online interview:

**Online Survey:**

- 30 minute online survey
- Total NZ responses received: n=1,521
- New-Zealand wide
- Quotas set for age, gender, ethnicity and location
- Data post-weighted to latest Statistics New Zealand population estimates for age, gender and location
- Fieldwork dates: 1-8 Dec 2017
- Panel used for online survey was SSI [[www.surveysampling.com/services/data-collection/online-surveys/](http://www.surveysampling.com/services/data-collection/online-surveys/)]
- An eight-minute CATI survey run in parallel to provide comparisons to be made for key measures only to assist in the transition phase from the methodology used in previous waves.

### 3. TECHNICAL APPENDIX

This research project was based on the model of financial wellbeing proposed by Elaine Kempson *et al.* (initially as in the Norwegian study<sup>35</sup>; and as modified in subsequent deliberations and discussions between her and the ANZ research team). This defines financial wellbeing as 'the extent to which someone is able to meet all their current commitments and needs comfortably, and has the financial resilience to maintain this in the future'; this definition suggests financial wellbeing is comprised of three components; meeting commitments, feeling comfortable and resilience for the future. The model also posits that people's financial wellbeing is influenced by various factors including their behaviour, personality traits and attitudes, knowledge and experience, as well as social and economic factors<sup>36</sup>. A set of survey questions has been developed by Kempson *et al.* to measure the components of financial wellbeing and the things which influence it, and these questions provided the basis<sup>37</sup> for an online survey of 3,578 Australian and 1,521 New Zealand adults which was conducted by YouGov Galaxy during December 2017.

#### Variable derivation

The data obtained from this survey underwent a process in which each survey variable relevant to the model framework was made suitable for use in constructing the separate model components. Following Kempson's recommended approach, this involved making sure that every variable to be used in the analysis included all valid cases in the sample. Missing responses (such as 'don't know' and 'prefer not to answer') were recoded to the most relevant meaningful response category; typically, to either a middle value within the scale, or to the most common ('modal') value.

To facilitate interpretation of the components, response categories were re-ordered where necessary to ensure that a low score corresponded to low capability and a high score to high capability.

Finally the analysis variables were allocated to the relevant level and element of the conceptual framework, for example, a component of financial wellbeing, a type of behaviour or a particular financial attitude.

#### Component derivation

In keeping with the approach used by Kempson, Principal Components Analysis (PCA) was used to construct the model components from the survey variables cleaned and derived as described above. All analysis was undertaken within each component of the conceptual framework, with variables allocated to specific components, based on the conceptual structure defined by Kempson *et al.*

The reliability and sampling adequacy of the data used to establish each component were tested using Cronbach's alpha and the Kaiser-Meyer-Olkin (KMO) statistics respectively; no serious data inadequacies were revealed by this process.

PCA creates a standardised score<sup>38</sup> for each respondent so for ease of interpretation these were rescaled to take on a potential score ranging from a true minimum of 0 to a true maximum of 100. In keeping with Kempson's approach, where the minimum and maximum possible component scores were not obtained by any respondent, we created 'fake' cases with the minimum score on each variable contributing to that component, and if necessary another with the maximum score on each variable. The PCA was re-run including these two minimum/maximum cases, ensuring all respondents scores were truly scaled between 0 and 100. The 'fake' cases were then removed.

In addition, for detailed reporting purposes we also calculated simple average scores for each component. This approach was developed because of its transparency and also, because the scores are not standardised and thus support more ready comparisons between subgroups as well as across different data sets. The approach involved rescaling each contributing variable to a score out of 100, summing the relevant variables for each component and then obtaining the mean score out of 100 for the component. Table 1 summarises the outcome of this process; it shows the final set of questions used to create each component, the component loadings<sup>39</sup> as well as the weighted<sup>40</sup> scores derived from the PCA and simple average approaches for both Australia and New Zealand. Examination of the scores presented in this table shows very little difference between the results obtained for Australia and New Zealand and very little difference between the scores derived from the PCA and those calculated by averaging the scaled scores each component variable. It should be noted that the PCA scores were used for all of the modelling work described in the next section but that the average scores were used for reporting levels of financial wellbeing in the body of the report.

35 Elaine Kempson, Andrea Finney & Christian Poppe, Financial Well-Being – A Conceptual Model and Preliminary Analysis, SIFO Project Note no. 3 – 2017

36 See figure 2 (page 13) in the body of the report.

37 Due to the need to investigate several other topics, not all influencing factors were included in this survey.

38 That is, the number of standard deviations the respondent's score is from the mean of a normalised distribution with a mean of zero and a standard deviation of one.

39 These are shown for Australia only but the patterns for New Zealand were much the same.

40 YouGovGalaxy post weighted the survey data by age, gender and geographic location in line with adjusted census estimates provided by the Australian Bureau of Statistics and Stats NZ. An adjustment for ethnicity was also applied to the New Zealand data.

**TABLE 1**

Items used to define each component of the financial wellbeing model and weighted mean scores for each of the model components (Australia and New Zealand)

FINANCIAL WELLBEING			Item Loading in Component PCA score	Weighted PCA Scores out of 100		Wtd Average Scores out of 100	
				Aust Mean	NZ Mean	Aust Mean	NZ Mean
Meeting commitments	B5	How often do you run short of money for food or other regular expenses?	0.891				
	B6	Which of the following statements best describes how well you are meeting your bills and credit commitments at the moment?	0.828	71	73	70	72
	B8	In the past 12 months, how often have you been unable to pay bills or loan commitments at the final reminder due to lack of money?	0.850				
Feeling comfortable	B4	How often do you have any money left over after you have paid for food and other regular expenses?	0.813				
	B1	How would you describe your current financial situation?	0.888				
	B2	How confident are you about your financial situation in the next 12 months?	0.844	55	54	55	54
	B7	How well do you think this statement fits you personally? <i>My finances allow me to do the things I want and enjoy life.</i>	0.837				
Financial resilience	B9	If tomorrow you had to meet an unexpected expense that is equivalent to a month's income for your household, how much of it would you be able to cover from money you have available either in cash or in your bank account?	0.889				
	B10	Would you need to borrow, overdraw your account or use a credit card to meet an unexpected expense equivalent to a month's income?	0.810	54	52	53	52
	B11	If your income fell by a third, for how long could you meet all your expenses without needing to borrow?	0.753				
	B12	Thinking about the total income of your household, approximately how many month's income do you have in savings?	0.795				
<b>Overall financial wellbeing</b>		<b>Derived from all of the above items</b>		<b>59</b>	<b>59</b>	<b>59</b>	<b>59</b>

FINANCIAL WELLBEING REPORT

TABLE 1 (CONTINUED)

Items used to define each component of the financial wellbeing model and weighted mean scores for each of the model components (Australia and New Zealand)

FINANCIAL BEHAVIOUR			Item Loading in Component PCA score	Weighted PCA Scores out of 100		Weighted Average Scores out of 100	
				Aust Mean	NZ Mean	Aust Mean	NZ Mean
Planning / budgeting	C7	For your regular income, how often do you make a plan or a budget for how it will be used?	0.896				
	C8	Do you plan exactly how you will use the income or only make a rough plan?	0.895	60	60	60	60
	C9	How often do you keep to the plan you make for using your income(s)?	0.906				
Spending restraint		How well do these statements fit you personally?	0.907				
	C1a	I run short of money because I overspend	0.907	74	74	74	74
	C1b	I am impulsive and tend to buy things even when I can't really afford them					
Not borrowing for day-to-day expenses	C5	How often do you have to borrow money or go into debt to buy food or to pay expenses because you have run short of money?	0.908				
	C6	How often do you have to borrow money to pay off debts?	0.890	83	82	82	80
	C2c	How often do you tend to do any of the following? Overdraw or go into negative balance where your account is below \$0 on your everyday transaction account	0.727				
Monitoring finances	C10	Do you know how much money you spent personally in the last week?	0.774				
	C11	How often do you check your account(s) (e.g. everyday transaction account, credit card account) including finding out your balance and checking transactions that have been made?	0.774	73	78	71	74
Active saving	C3	How often do you save money so that you could cover major unexpected expenses or a fall in income?	0.816				
	C4a	How well do these statements fit you personally?	0.914				
	C4b	I try to save money to have something to fall back on in the future	0.878	63	60	63	60
	C4c	I try to save money regularly even if it is only a small amount I always make sure I have money saved for bad times	0.914				
Informed product choice	C15	Before you got this <INSERT NAME OF PRODUCT RANDOMLY SELECTED FROM C14>, did you personally search for information from a range of sources?	0.907				
	C16	Before you got this <INSERT NAME OF SECOND PRODUCT RANDOMLY SELECTED FROM C14>, did you personally search for information from a range of sources?					
	C17	Did you personally consider many different alternatives before you decided which <INSERT NAME OF PRODUCT RANDOMLY SELECTED FROM C14> to get?	0.844	57	55	56	54
	C18	How carefully did you personally check the detailed terms and conditions of the <INSERT NAME OF PRODUCT RANDOMLY SELECTED FROM C14> before you got it?	0.865				
Informed decision-making	C19a	How well do these statements fit you personally. I always get information or advice when I have an important financial decision to make	0.834				
	C21	Please indicate how strongly you agree or disagree that this statement describes you personally. I try to stay informed about money matters and finances.	0.532				
	C19b	I spend a lot of time considering the options before I make financial decisions	0.854	66	66	66	66

**TABLE 1 (CONTINUED)**

Items used to define each component of the financial wellbeing model and weighted mean scores for each of the model components (Australia and New Zealand)

PSYCHOLOGICAL FACTORS			Item Loading in Component PCA score	Weighted PCA Scores out of 100		Weighted Average Scores out of 100	
				Aust Mean	NZ Mean	Aust Mean	NZ Mean
Time orientation (personality)	D1a	I focus on the long term	0.649	60	59	61	59
	D1b	I live more for the present day than for tomorrow	0.835				
	D1c	The future will take care of itself	0.762				
Impulsivity (personality)	D1d	I often do things without giving them much thought	0.865	66	65	66	65
	D1e	I am impulsive	0.874				
	D1f	I say things before I have thought them through	0.804				
Social Status (personality)	D1g	I care about how other people see me	0.878	50	50	50	50
	D1h	I am concerned about my status among people I know	0.849				
	D1i	I want other people to respect me	0.766				
Self control (personality)	D1j	I am good at resisting temptation	0.841	58	58	57	57
	D1k	I find it difficult to break undesirable habits	0.541				
	D1l	I am always in control of my actions	0.794				
Locus of control (personality)	D1m	I can pretty much determine what happens in my life	0.774	60	61	61	61
	D1n	My financial situation is largely outside my control	0.543				
	D1o	When I make financial plans I do everything I can to succeed	0.767				
Action orientation (personality)	D1p	When I have a difficult decision to make I tend to put it off to another day	0.838	55	53	55	54
	D1q	When I have to do something important I don't like I do it immediately to get it done	0.520				
	D1r	When I have to choose between a lot of options I find it difficult to make up my own mind	0.757				
Attitude to money management (attitudes)	D1s	I prefer to buy things on credit rather than wait and save up	0.675	69	68	69	68
	D1t	I would rather cut back than put everyday spending on a credit card I couldn't repay in full each month	0.434				
	D1u	I prefer to spend any money I have rather than save it for unexpected expenses or an income fall	0.813				
	D1v	I find it more satisfying to spend money than to save it	0.792				
Confidence in money management skills (attitudes)	D2a	How confident are you about your ability in the following aspects of your budgeting?	0.876	65	66	65	66
	D2b	Your ability to manage your money day to day	0.904				
		Your ability to plan for your financial future	0.896				
D2c	Your ability to make decisions about financial products and services	0.896					

**TABLE 1 (CONTINUED)**

Items used to define each component of the financial wellbeing model and weighted mean scores for each of the model components (Australia and New Zealand)

FINANCIAL KNOWLEDGE AND EXPERIENCE			Item Loading in Component PCA score	Weighted PCA Scores out of 100		Weighted Average Scores out of 100	
				Aust Mean	NZ Mean	Aust Mean	NZ Mean
Money management experience (experience)	A9a	What role do you play in the following activities? Planning how the money in your household is spent	0.929				
	A9b	Ensuring that regular household expenses e.g mortgage, household bills or repayments on money borrowed are paid	0.912	87	86	86	85
	A9c	Making the financial decisions in your household	0.942				
Financial product experience (experience)	A5	Which of these different financial/bank accounts and products do you have, either on your own or jointly with someone else? Number of products held	0.848	35	36	34	35
	C14	Have you personally been responsible for buying or renewing any of the following products in the past three years? Number of products bought/renewed	0.848				
Product knowledge (knowledge)	C22a	How would you rate your knowledge of each of the following? Bank accounts and other products to help you manage your money day-to-day	0.862				
	C22b	Longer term financial investments to help you improve your financial situation and plan for retirement	0.861	57	56	57	56
	C22c	How to find more information about a financial product or investment when you feel you don't know enough to make a decision on your own	0.896				
Understanding of risk (knowledge)	C25a	A high-return investment is also likely to be high risk	0.798				
	C25b	You can reduce risk by saving into more than one account	0.594				
	C25c	Borrowing more than three times your household income to buy a home substantially increases the risk of payment problems	0.800	68	71	67	70

## INFLUENCES ON FINANCIAL WELLBEING

Following the approach described by Kempson *et al*, the next analytic task was to use multiple linear regression analysis to examine relationships between overall financial wellbeing (and its three individual components) and other domains and components of the model. The aim of this task was to identify the key drivers of financial wellbeing from each of the model; that is, financially capable behaviour, financial knowledge and experience, psychological factors and key socio-demographic, economic and environmental characteristics.

As most of the socio-economic and environmental variables were categorical, dummy coding was used to convert each category of the parent variable into a set of individual binary variables for use in the regression analysis. For each categorical variable, it was necessary to exclude one of the binary variables created from the regression as its value could be perfectly predicted from the other binary variables in the set. The categories excluded in this way were males, 18-24 year olds, buying a home with a mortgage, having a stable income, working in an upper white collar occupation, having a university degree, family structure of a couple with no children living at home, having less than \$1,000 in consumer debt, less than \$100,000 in mortgage debt and a household income in the range \$75,000 to \$99,999. It should be kept in mind that the regression coefficients reported for the other categories are expressed relative to these excluded categories; these excluded categories are shown as appropriate in the following results tables.

Table 2 shows the standardised regression coefficients ( $\beta$ ) for all those variables that were statistically significant predictors of one or more components of financial wellbeing in New Zealand while Table 3 shows the same information for Australia. All components have been shown for the key domains of behaviour, psychological factors and knowledge and experience, even where these were not statistically significant predictors of financial wellbeing. The tables demonstrate the key importance of behaviours (particularly active saving and not borrowing for expenses) as predictors of financial wellbeing; as well as confidence in money management skills, household income at relatively low and high levels, variability in household income and outright home ownership also play important roles in this. They also illustrate a high degree of similarity in the importance of these predictors in both the Australian and New Zealand models.

TABLE 2

Regression: predicting financial wellbeing (New Zealand)

		Standardised regression coefficients for all significant variables in each model			
		Overall financial wellbeing	Meeting commitments	Feeling comfortable	Financial resilience
Model fit (adjusted r2)		0.70	0.59	0.57	0.60
Behaviour variables	Active saving	0.31	0.19	0.23	0.39
	Not borrowing for expenses	0.31	0.48	0.16	0.24
	Informed product choice	ns	ns	ns	ns
	Planning/budgeting	-0.09	-0.06	-0.07	-0.09
	Informed decision making	-0.06	-0.05	-0.04	-0.07
	Spending restraint	ns	ns	ns	0.05
	Monitoring	ns	ns	-0.04	ns
Psychological factors	Confidence in money management skills	0.10	0.09	0.13	ns
	Locus of control	0.10	0.09	0.16	ns
	Attitude to money management	ns	ns	ns	ns
	Concern about social status	ns	ns	ns	ns
	Self control	-0.04	-0.06	ns	ns
	Time orientation	ns	ns	ns	ns
	Impulsivity	ns	ns	ns	ns
	Action oriented	ns	ns	ns	ns
Knowledge	Product knowledge	0.05	ns	0.06	0.07
	Financial product experience	0.09	0.08	0.07	0.10
	Money management experience	ns	ns	ns	ns
	Understanding of risk	-0.06	ns	-0.08	-0.06
Economic factors	Income less than \$25k (vs \$75k-<\$100k)	-0.08	-0.07	-0.11	ns
	Income \$100k-<\$125k (vs \$75k-<\$100k)	0.04	ns	0.06	ns
	Income \$125k-<\$150k (vs \$75k-<\$100k)	0.05	ns	0.06	0.04
	Income \$150k or more (vs \$75k-<\$100k)	0.07	ns	0.09	0.04
	Household income varies a lot (vs stable income)	-0.06	-0.10	-0.07	ns
	Household income varies a bit (vs stable income)	-0.05	-0.08	-0.04	ns
	Income decreased substantially	-0.05	ns	-0.09	ns
	Income increased substantially	0.04	0.03	0.03	0.04
	\$10k-\$50k consumer debt (vs less than \$1k)	-0.04	ns	ns	-0.05
	More than \$50k consumer debt (vs less than \$1k)	ns	-0.04	ns	ns
Social factors	Own home outright (vs buying with a mortgage)	0.15	0.07	0.12	0.18
	Main income source is govt payment	-0.04	ns	-0.08	ns
	25-39 years (vs 18-24)	ns	-0.05	ns	ns
	60 years plus (vs (18-24)	0.09	ns	0.07	0.12
	Did not complete year 12 (vs Uni. Degree)	ns	-0.04	ns	-0.04
	Trade/TAFE Certificate (vs Uni. Degree)	ns	-0.05	ns	-0.05
	Couple with children	-0.04	ns	-0.05	ns
	No financial advice from parents when growing up	-0.03	ns	ns	ns
	Has long term health condition	-0.07	-0.04	-0.09	-0.05
	Females (vs males)	ns	ns	ns	-0.07
	Middle/Lower white collar occupation (vs upper white)	ns	ns	-0.04	ns
	Lower blue collar occupation (vs upper white)	ns	-0.04	ns	ns

TABLE 3

Regression: predicting financial wellbeing (Australia)

		Standardised regression coefficients for all significant variables in each model			
		Overall financial wellbeing	Meeting commitments	Feeling comfortable	Financial resilience
Model fit (adjusted r2)		0.69	0.63	0.55	0.57
Behaviour variables	Active saving	0.35	0.20	0.28	0.42
	Not borrowing for expenses	0.29	0.50	0.13	0.21
	Informed product choice	ns	ns	ns	ns
	Planning/budgeting	-0.07	-0.03	-0.06	-0.09
	Informed decision making	-0.09	-0.06	-0.08	-0.08
	Spending restraint	0.03	0.04	ns	0.04
	Monitoring	ns	ns	ns	ns
	Psychological Factors	Confidence in money management skills	0.14	0.13	0.20
Locus of control		0.09	0.06	0.14	ns
Attitude to money management		-0.06	-0.03	-0.06	-0.04
Concern about social status		0.03	ns	ns	0.03
Self control		-0.03	-0.05	-0.04	ns
Time orientation		ns	ns	ns	ns
Impulsivity		ns	ns	ns	ns
Action oriented		ns	ns	0.03	ns
Knowledge	Product knowledge	0.05	ns	0.06	0.05
	Financial product experience	0.07	0.05	0.08	0.09
	Money management experience	ns	ns	-0.03	ns
	Understanding of risk	-0.05	ns	-0.08	-0.03
Economic Factors	Income less than \$25k (vs \$75k-<\$100k)	-0.08	-0.07	-0.11	ns
	Income \$25k-<\$50k (vs \$75k-<\$100k)	-0.05	-0.04	-0.07	ns
	Income \$100k-<\$125k (vs \$75k-<\$100k)	ns	0.03	ns	ns
	Income \$150k or more (vs \$75k-<\$100k)	0.06	0.03	0.07	0.05
	Household income varies a lot (vs stable income)	-0.07	-0.07	-0.08	-0.03
	Household income varies a bit (vs stable income)	-0.04	-0.05	-0.05	ns
	Income decreased substantially	-0.06	-0.05	-0.09	ns
	Income increased substantially	0.04	0.03	0.07	-0.03
	\$1k-\$10k consumer debt (vs less than \$1k)	ns	ns	ns	-0.04
	\$10k-\$50k consumer debt (vs less than \$1k)	-0.02	ns	ns	-0.05
	>\$50k consumer debt (vs less than \$1k)	ns	-0.03	ns	-0.03
	More than \$250k mortgage debt (vs less than \$100k)	ns	ns	-0.03	ns
	Own home outright (vs buying with a mortgage)	0.13	0.05	0.12	0.15
Social Factors	Main income source is govt payment	-0.06	ns	-0.08	-0.07
	25-39 years (vs 18-24)	0.02	ns	ns	ns
	40-49 years (vs 18-24)	ns	ns	-0.03	ns
	50-59 years (vs 18-24)	ns	ns	-0.03	ns
	60 years plus (vs 18-24)	0.06	0.05	ns	0.11
	Trade/TAFE Certificate (vs Uni. Degree)	-0.03	-0.02	ns	-0.03
	Single parent (vs couple with no children)	-0.03	ns	ns	-0.03
	Couple with children (vs couple with no children)	-0.03	ns	ns	ns
	No financial advice from parents when growing up	-0.04	ns	-0.03	-0.04
	Had financial advice from parents when growing up	ns	ns	0.03	ns
	Has long term health condition	-0.04	-0.03	-0.04	-0.03
	Been divorced/separated at some time	ns	-0.02	ns	ns
	Females (vs males)	ns	ns	ns	-0.06
Lower blue collar occupation (vs upper white)	-0.02	ns	ns	-0.04	

### SUMMARY DOMAIN SCORES

To facilitate reporting it was decided to create overall scores for each domain (that is, behaviour, psychological factors, knowledge and experience, social and economic factors) from each of the significant predictors shown in Tables 2 and 3. While these domains were not necessarily interpretable constructs (e.g.: an overall score on the psychological factors), it was felt they would be useful to summarise the regression results.

The predictor variables used to calculate each domain score were allocated a weight which reflected their ability to predict overall financial wellbeing; as the aim was to predict an actual wellbeing score, the unstandardised, signed regression coefficients were used for this purpose. The weighted predictor variables were summed to create a total score for each domain and finally, the five domain scores created in this way were used as predictors in a regression on overall financial wellbeing. The standardised regression coefficients from this regression for each of the five domains were converted to percentages which reflected their relative contribution to the explanatory power of the model<sup>41</sup>.

### FINANCIAL WELLBEING GROUPS

It was also decided to allocate respondents into four groups based on their financial wellbeing scores. We elected to follow the same strategy as that used in Momentum UK Household Financial Wellness Index project which involved taking the highest and lowest financial wellbeing scores and dividing this range into four equal groups. As our lowest score was zero and our highest 100, this approach meant the four categories would be defined by financial wellbeing scores of 0 to 25, >25 to 50, >50 to 75 and >75 to 100.

While this distribution was satisfactory for the Australian data, the smaller New Zealand sample meant the 0 to 25 group contained too few respondents for us to be comfortable with the estimates made from it. For this reason, we extended the 'bottom' range from 0 to 25 to 0 to 30 which gave us a more robust sample for this low scoring group. The remaining groups were also adjusted slightly to accommodate this change.

41 See figure 6 (Page 21)



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