DECEMBER 2021

FINANCIAL WELLBEING

A survey of adults in New Zealand

WITH SPECIAL THANKS

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FOREWORD

The 2021 Financial Wellbeing Survey includes updated modelling and is designed to improve our explanation and understanding of financial wellbeing. This latest survey follows the 2018 Financial Wellbeing Report where ANZ conducted research to explore the financial wellbeing of New Zealand adults for the first time.

Previously, the bank collaborated for many years with the Te Ara Ahunga Ora/Retirement Commission (formerly the Commission for Financial Capability) working to better understand the financial knowledge of New Zealanders. This localised research data and subsequent reports are important additions to ANZ's body of research into financial literacy and financial wellbeing that began in Australia in 2002.

The 2017 research, building on the work of Emeritus Professor Elaine Kempson, considered how a range of factors drive financial wellbeing outcomes.[1] Since then, international research and practice in the areas of measuring and improving people's financial wellbeing have developed substantially.

This second financial wellbeing survey, undertaken in mid-2021, continues to draw on the pivotal work of Kempson *et al.* but importantly, also takes into account the considerable evolution in thinking about financial wellbeing and capability internationally in recent years.

Thank you to Stephen Prendergast (Prescience Research) and David Blackmore for their continued outstanding analysis, to Roy Morgan for its professionalism in conducting the survey in New Zealand and Australia and to Professor Elaine Kempson for her personal support and considerable insights.

We'd especially like to acknowledge our New Zealand Steering Committee members for their ongoing support, insights and guidance and for committing their time during a very challenging period (and a global pandemic); Dr Pushpa Wood (Massey University), Fleur Howard (Good Shepherd New Zealand), Jo Gamble (Te Ara Ahunga Ora/Retirement Commission) and Celestyna Galicki (formerly of the Te Ara Ahunga Ora/Retirement Commission).

To the more than 5,000 participants across New Zealand and Australia who participated in this survey, thank you for your time, enthusiasm and contributions to a more comprehensive understanding of financial wellbeing in New Zealand and Australia.

FINANCIAL WELLBEING IS 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.

1 Kempson *et al.*

EXECUTIVE SUMMARY

The 2021 Financial Wellbeing Survey represents an evolution in how we model financial wellbeing, drawing on developments in international research and practice in the areas of measuring and improving people's financial wellbeing since 2017. The online survey was conducted over two weeks in June 2021, capturing the views of 1,505 randomly selected New Zealand adults across different age groups, genders, ethnicities and locations.

This report aims to improve understanding of why people might behave the way they do, what is driving their behaviour and what factors, both internal and external, are 'blocking' and 'enabling' their financial wellbeing.

KEY FINDINGS

Through an updated modelling approach, we have a better understanding of how a person's socio-economic context and their behaviour traits are key to financial wellbeing.

The use of structural equation (SEM) modelling has given us a greater understanding of the causal linkages between each of the different drivers along 'pathways' to financial wellbeing.

The total impact of socio-economic factors and life events on financial wellbeing were substantially higher than our previous analysis was able to demonstrate. Socio-economic factors accounted for 54.8% of the explained variation in a person's overall financial wellbeing. A person's behaviour traits such as whether they are more oriented towards the future, impulsive, optimistic or frugal accounted for a further 14%.[2] A person's stage in life is also an important part of their context. Not only does life stage influence financial wellbeing, it can be an important variable to consider when assessing and comparing overall levels of financial wellbeing.

We have updated our financial wellbeing measure to include 'feeling secure for the future'.

The research showed that in addition to a person's ability to meet everyday commitments, how comfortable they feel about their financial situation and their resilience to sustain financial shocks, whether people were **'feeling secure for the future'** was a key fourth dimension of financial wellbeing in New Zealand. To reflect its significance, we have adapted our model to incorporate it as an important fourth dimension in the measure of financial wellbeing and provide a longer-term view of financial wellbeing outcomes.

The average financial wellbeing score for respondents in New Zealand was **63 (out of 100)**. The bottom 8% were considered **struggling** (financial wellbeing score 0-30), 20% were **getting by** (financial wellbeing score >30-50), 47% were **doing OK** (financial wellbeing score >50-80) and the top 25% were considered to have **no worries** (financial wellbeing score >80-100).

People in the **no worries** group were much more likely to feel secure for the future, with 88% feeling they will be financially secure until the end of their life. They were also more likely to exhibit investment behaviours and be more forward-looking and optimistic than other groups.

The lower a person's financial wellbeing, the higher their anxiety was about their future financial situation. Fourteen per cent of people in the **no worries** group strongly or somewhat agreed to feeling anxious about their future financial situation, compared to 43% of people **doing OK**, 64% of people **getting by** and 80% of people **struggling**.

Health, financial stability and earning potential are the most significant socio-economic factors affecting financial wellbeing.

The research showed a strong relationship between poor physical and/or mental health and financial wellbeing. In fact, it showed a stronger relationship than that between financial wellbeing and an individual's saving and spending behaviours.

While 25% of New Zealanders reported their mental health as fair or poor, this was much higher for people with low financial wellbeing, with 44% of people **getting by** and 57% of people **struggling** responding that their mental health was fair or poor. Similarly, 28% of New Zealanders reported having fair or poor physical health, increasing to 45% of people **getting by** and 52% of people **struggling**.

Financial stability was the largest socio-economic 'enabler' of financial wellbeing. People with lower levels of financial wellbeing were less likely to report that their household income was predictable month-to-month. Around a third (36%) of people **struggling** and 45% of people **getting by** said that their income was very predictable. Whereas 64% of people in the **no worries** group reported that their income was very predictable from month-to-month. One-fifth (21%) of people **struggling** reported that their income can vary considerably from month-to-month.

Earning potential had a positive impact on financial wellbeing. While household income was positively correlated with financial wellbeing, an individual's level of post-secondary education was the largest contributor to their earning potential.

Other socio-economic factors such as access to social support, unemployment, life journey, gender, providing financial support to dependents, and cultural financial obligations all had strong influences on financial wellbeing. This latest survey finds that socio-economic factors have a much greater bearing on financial wellbeing than previously thought.

2 Overall, the structural equation model developed was able to explain 72% of the variation in people's financial wellbeing scores.

Behaviour traits influence financial wellbeing in different ways. 'Forward-looking' behaviour traits tended to have the most significant impact on financial wellbeing.

The research showed that optimism, future orientation, goal orientation, impulsivity and frugality had the strongest influences on financial wellbeing. These different financial behaviour traits influence financial wellbeing along different pathways, through either improving financial confidence and control, or saving and spending attitudes. Whether an individual is future-oriented, impulsive or frugal influences their attitudes to saving and spending (whether they have more of a saving or spending mindset). Their level of optimism and whether they are goal-oriented influences how confident and in control they feel about their finances. Whether a person is goal-oriented or frugal also influences their planning and budgeting behaviours.

Behaviours still have a role to play in building resilience against life's ups and downs.

Financial behaviours including saving and spending behaviours, investment behaviours and money management behaviours still have a role to play. Together they account for 20.9% of the explained influence on financial wellbeing.

Saving and spending behaviours – active saving, not borrowing for everyday expenses and spending restraint – continued to have the strongest influence out of all financial behaviours. These behaviours support people to accumulate financial health and are therefore key to ensuring people have the financial resilience to lessen the impact of socio-economic disruptions on financial wellbeing, particularly during the COVID-19 pandemic.

The inclusion of a fourth dimension – 'feeling secure for the future' – in the measure of overall financial wellbeing has highlighted how investment behaviours also have a role in driving financial wellbeing. Whether a person exhibited strong Investment behaviours was influenced primarily by their level of financial confidence and control over their financial lives. It has also provided the potential for socio-economic factors and behaviours that relate to investment to have a role in explaining financial wellbeing.

Interventions in product and service design that encourage healthier financial behaviours and offset natural tendencies (e.g. high impulsivity) will make it easier for people to improve their financial wellbeing.

OTHER FINDINGS

While not a strong direct influence on financial wellbeing, financial knowledge can enhance people's sense of confidence and control over their finances.

The analysis showed financial knowledge to have its strongest influence on financial wellbeing indirectly through its potential to enhance an individual's feelings of financial confidence and control. An improved sense of confidence and control in turn increases the likelihood of a person engaging in the types of saving, spending and investment behaviours that lead to higher levels of financial wellbeing. However, we did not find a significant direct relationship between financial knowledge and financial wellbeing.

Attitudes to saving or spending have a direct effect on how people save, spend and use credit.

People with a stronger savings mindset tended to have higher financial wellbeing. Attitudes to saving and spending were positively correlated with the value of savings and investments held, particularly for accumulation of savings and investments up to $5,000 and over $250,000. Similarly, people with more of a saving mindset had lower levels of consumer debt.

Financial confidence and a sense of control over our financial lives play a strong part in improving financial wellbeing through saving, spending and investment behaviours.

Financial confidence is thought to have a crucial role in the development of financial wellbeing. It has a strong influence on whether someone saves, spends or borrows for everyday expenses. In addition, financial confidence and control is a key driver of longer-term investment behaviours such as investing in property and shares. It is also seen to be influenced by financial wellbeing via a 'feedback loop' whereby an improvement in financial wellbeing improves one's financial confidence and sense of control.

While knowledge, optimism and goal orientation were the largest influences on financial confidence and control, improved financial wellbeing in itself influenced financial confidence. An individual's level of financial wellbeing had a similar influence on financial confidence and control as other behaviour traits such as self-control and future orientation. This 'feedback loop' allows for saving, spending and investment behaviours to be reinforced through improved confidence from improved financial wellbeing.

Knowledge of online risks did not strongly impact financial wellbeing for most, with 18-24 and 50-64 year olds the least confident in their knowledge.

While important, knowledge of online risk was not a strong driver of financial wellbeing. The average knowledge of online risk score was 76 out of 100 for the New Zealand population. This rose to 83 out of 100 for people in the **no worries** group but did not fall substantially below the national average for people with lower levels of financial wellbeing. Knowledge of online risk scores were lowest for people aged 18 to 24 years and 50 to 64 years (74 out of 100) and highest for people over 65 years (80 out of 100).

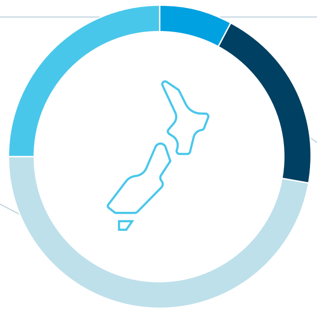
Two-thirds (67%) of New Zealanders felt confident in their knowledge of how to protect their privacy online, while 70% felt confident protecting their security online. This response was consistent for most of the population under 50 years of age, but lower for people aged 50 to 64 years (62% and 63% respectively). New Zealanders over 65 years of age felt more confident than average (77% confident).

FINANCIAL WELLBEING IN NEW ZEALAND AT A GLANCE

THE FOUR COMPONENTS OF FINANCIAL WELLBEING

- Meeting everyday commitments
- Feeling comfortable
- Financial resilience
- Feeling secure for the future

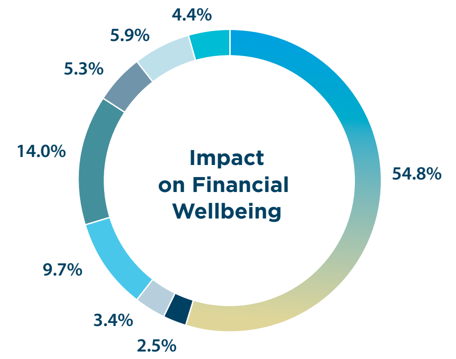
FINANCIAL WELLBEING CATEGORIES IN NEW ZEALAND



FINANCIAL WELLBEING SCORE (OUT OF 100)

66 Male vs 61 Female

WHAT CAN INFLUENCE FINANCIAL WELLBEING?



- 54.8% Socio-economic conditions
- 2.5% Knowledge & experience
- 3.4% Financial confidence & control
- 9.7% Saving & spending behaviours
- 14.0% Behaviour traits
- 5.3% Money management behaviour
- 5.9% Investment behaviour
- 4.4% Saving & spending attitudes

Socio-economic conditions have the largest influence on financial wellbeing

POSITIVE EFFECT

- 9.5% Financial stability
- 7.1% Earning potential
- 5.8% Access to social support
- 5.4% Male gender
- 5.1% Life journey

NEGATIVE EFFECT

- -1.4% Financial support to a dependent
- -2.0% Cultural obligations
- -5.8% Unemployment
- -12.6% Health concerns

SAVING, SPENDING AND INVESTMENT BEHAVIOURS IMPORTANT FOR FINANCIAL WELLBEING

- Active saving
- Not borrowing for everyday expenses
- Spending restraint
- Investment

OWNING A HOME INFLUENCE ON FINANCIAL WELLBEING SCORE (OUT OF 100)

Own mortgage-free	Own with mortgage	Renting
77	65	50

OVERALL MENTAL AND PHYSICAL HEALTH IS FAIR OR POOR

	Struggling	Getting by	Doing OK	No worries
Mental health	57%	44%	21%	8%
Physical health	52%	45%	24%	14%

HOW SAVING AND SPENDING BEHAVIOURS IMPACT FINANCIAL WELLBEING

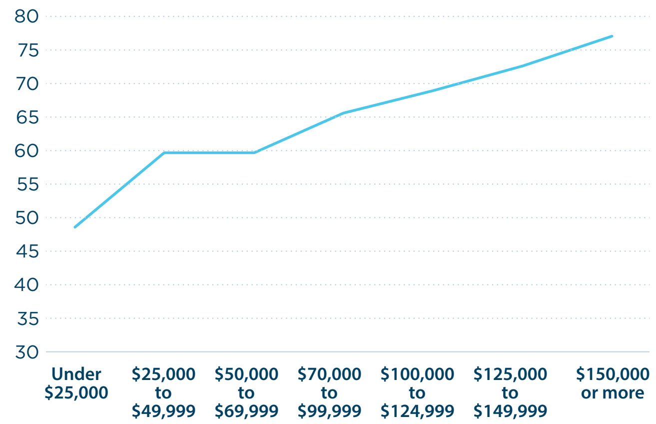
Financial wellbeing of people with less than $1,000 in consumer debt

70 out of 100

Financial wellbeing of people with less than $1,000 in savings as a buffer

34 out of 100

INCOME ASSOCIATION WITH FINANCIAL WELLBEING SCORE (OUT OF 100)



SURVEY EVOLUTION

This survey is the second iteration of ANZ's national survey of adult financial wellbeing in New Zealand.

This survey is the second iteration of ANZ's national survey of adult financial wellbeing in New Zealand. The 2017 survey adapted the Kempson *et al.* Conceptual Model of Financial Wellbeing. Since then, international research and practice in the areas of measuring and improving people's financial wellbeing have developed substantially. While largely maintaining agreement on the broad definition of financial wellbeing, recent research has delved into more specific detail about the different drivers of financial wellbeing and how they are measured. This has included an increasing focus on subjective versus objective measures of financial wellbeing, elevating the importance of sociodemographic and life-stage factors, proposing additional psychological traits as being important to financial wellbeing, and the inclusion of digital capability. A summary of key international developments since our 2018 report is included in Appendix A (page 35).

The 2021 survey and analysis continues to draw on the revised Kempson *et al.* model (2018) and take into account the evolution in international thinking about financial wellbeing and capability. The 2021 Financial Wellbeing Survey and analysis has been developed to improve the degree to which the model explains financial wellbeing.

This report presents key findings from our online survey of 1,505 randomly selected adults (over 18 years of age) conducted over two weeks in June 2021, a snapshot in time that has coincided with the most impactful pandemic in 100 years. In New Zealand, the fieldwork was commenced during a period of the pandemic where optimism was relatively high and life was close to 'normal' with no cases of COVID-19 in the community. While this sentiment certainly may have had some influence on overall results, we do not anticipate it would change our conclusions about the relative importance of different pathways to financial wellbeing.

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.

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.

2021

FINANCIAL WELLBEING – CONTEXT MATTERS

Application of revised Kempson *et al.* model of financial wellbeing in the New Zealand context, using structural equation modelling to measure the direct and indirect effects of socio-economic context, traits, attitudes, confidence and behaviours on financial wellbeing.

SURVEY CONTEXT

Financial wellbeing in a time of pandemic

The ANZ Financial Wellbeing Indicator (FWBI) is a proxy measure based on the Kempson *et al.* conceptual model of financial wellbeing, derived from data gathered through the weekly Roy Morgan Single Source interview and survey, which canvasses approximately 7,000 New Zealanders annually.

At the time of its launch in March 2020, we were on the precipice of the global pandemic, providing an opportunity for the new half-yearly FWBI snapshot to monitor the financial wellbeing of New Zealanders at various stages of the pandemic.

WHILE NEW ZEALAND HAD DONE COMPARATIVELY VERY WELL THROUGH THE EARLY STAGES OF THE COVID-19 PANDEMIC, THERE WAS STILL MUCH DEBATE ABOUT HOW THE CRISIS WOULD IMPACT PEOPLE, BUSINESSES, HOUSE PRICES, JOBS AND OVERALL FINANCIAL WELLBEING IN THE LONGER TERM.

To date, financial wellbeing has remained fairly constant throughout the pandemic, declining only slightly a year on, from 62.1 in the March 2020 quarter to 61.8 in the March 2021 quarter (Figure A).

Most of this slight decline was due to how people were feeling about their current and future financial situation – although this dimension, along with meeting everyday commitments had been at or above pre-pandemic levels throughout the second half of 2020.

Over time, the FWBI went on to show that the impact of the pandemic was felt differently by different groups. Financial wellbeing for business owners declined slightly (down 0.7% from the March 2020 to March 2021 quarter), mostly driven by small businesses (5-19 employees) down 1.9% and micro businesses (less than five employees) down 1.7%. Financial wellbeing for employees remained fairly constant (down 0.2%), while retirees experienced an improvement in their financial wellbeing from the March 2020 to March 2021 quarter (up 2.6%).

Similarly, people in different occupation groups were impacted differently by the pandemic as certain industries were more directly impacted by restrictions. Sales workers experienced a 3% decline in their financial wellbeing and technicians and trades workers experienced a 1.3% decline from the March 2020 to March 2021 quarter. Clerical and administrative workers, more likely to be able to work remotely during the pandemic, experienced a 3.8% increase in financial wellbeing. Community and personal service workers also experienced a 2.6% increase from the March 2020 to March 2021 quarter (Figure B).

The ANZ Roy Morgan Financial Wellbeing Indicator will continue to monitor the ongoing effects of the pandemic and other general and unforeseen events to come.

FIGURE A DIMENSIONS OF FINANCIAL WELLBEING SCORE (OUT OF 100)

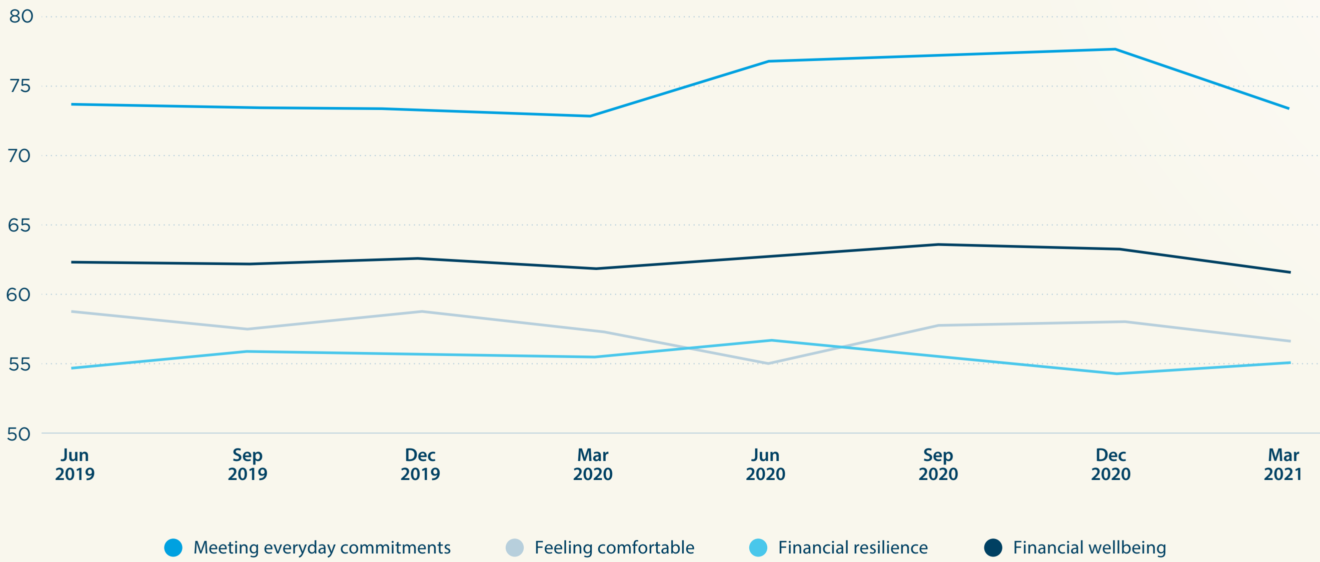
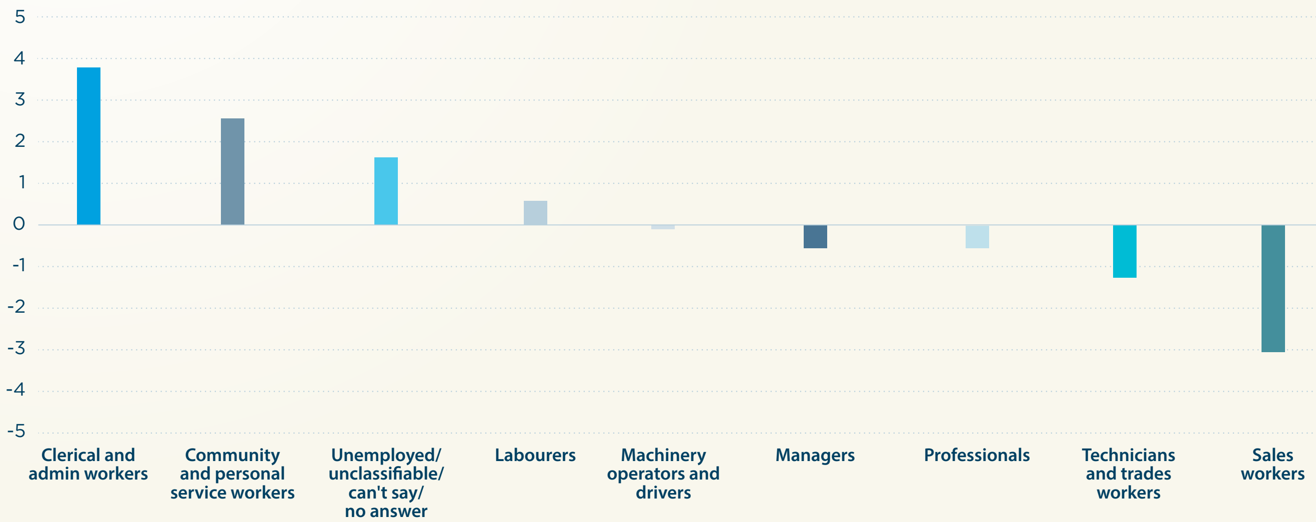


FIGURE B PERCENTAGE CHANGE IN FINANCIAL WELLBEING OF OCCUPATIONAL GROUPS



Note: Pre COVID-19 data includes the 12 months to March 2020. Post COVID-19 data includes the 12 months to March 2021.
Source: ANZ Roy Morgan Financial Wellbeing Indicator.

Design and analysis

While the 2021 questionnaire retained consistency with previous iterations, with guidance from our Steering Committees in New Zealand and Australia, we considered a number of new issues. We aimed to ensure that any proposed new questions had a role in contributing to the further explanation of financial wellbeing and reflected the latest evolution in thinking about what drives financial wellbeing and the way people interact with financial services today. Questions agreed to be most important for inclusion explored the impacts on financial capability and financial wellbeing of the following:

- Future financial security
- Digital capability and online scam experience
- Key life events
- Disruptors to the life-cycle such as health and mental health
- Access to social support
- A broader range of behaviour traits including frugality, optimism and goal setting

Survey procedures were designed to ensure the final sample reflected the latest Statistics New Zealand estimates of the age, gender, ethnicity and geographic distribution of the New Zealand adult population. The sample was also adjusted to control for variation in factors understood to have an influence on financial wellbeing from our 2017 analysis, such as housing tenure (renting/not renting), education level (university degree/no university degree), household income (less than $50,000 per annum/not less than $50,000 per annum), savings and investments (less than $1,000/not less than $1,000).

3 The 'financial resilience' component measures the ability to cope with financial setbacks primarily drawing from one's own savings and is not to be confused with broader measures of financial resilience.

Updating our financial wellbeing measure

The 2017 survey included 11 questions measuring financial wellbeing and a range of additional questions about financial behaviour, psychological factors and financial knowledge and experience. Participants' responses were converted into scores (out of 100) against each of three dimensions considered to make up overall personal 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.*'

Financial resilience[3]

For example:

'If your income fell by a third, for how long could you meet all your expenses without needing to borrow?'

Scores for each dimension were calculated and an overall financial wellbeing score was created as an average of the dimensions.

Our 2017 survey highlighted the importance of having a strong future focus – people who focused on the long term tended to have higher levels of financial wellbeing. Similarly, people with higher financial wellbeing in 2017 tended to feel less anxious about their future in retirement. International developments since 2017 have further highlighted the importance of perceived financial wellbeing, in particular how stressed people feel about their current financial situation and their perception of their longer-term 'future security' developed by Netemeyer *et al.* (2018).

As a result of these developments, the 2021 survey included four additional questions which measure whether people were:

Feeling secure for the future

For example:

'How well does the following describe you – *I will be financially secure until the end of my life.*'

Analysis showed that this was a key dimension of financial wellbeing in New Zealand. To reflect its importance, we have adapted our model to incorporate it as an important fourth dimension in the measure of financial wellbeing outcomes (Figure 1).

FIGURE 1 MOVING FROM THREE TO FOUR DIMENSIONS OF FINANCIAL WELLBEING

MEETING EVERYDAY COMMITMENTS	FEELING COMFORTABLE	FINANCIAL RESILIENCE	FEELING SECURE FOR THE FUTURE
How well people meet their current expenses	How comfortable people feel about their current financial situation (next 12 months)	The ability to cope with financial setbacks	A long term view of future financial security

Evolution of the financial wellbeing conceptual model

The 2017 survey was designed to investigate the key drivers of financial wellbeing, drawing on the then Financial Wellbeing Conceptual Model of Kempson *et al.* The model acknowledged that four domains of influence have a proportionate impact on personal financial wellbeing:

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

The 2017 survey used regression analysis to explore the proportionate impact of each of these drivers on New Zealanders' financial wellbeing. However, the nature of the relationships and direction of causality between behaviours and other domains of the financial wellbeing model were not analysed to any great degree.

Since the release of the 2017 survey results, the Kempson *et al.* model was revised following further analysis of the key drivers of financial wellbeing. Figure 2 shows the 'redrawn' Conceptual Model of Financial Wellbeing based on the above conclusions, highlighting the direct (blue) and indirect (grey) influence that eight domains (expanded from the four listed above) have on financial wellbeing.

Kempson *et al.* have also concluded that a person's level of financial confidence is most likely an outcome of their personal financial wellbeing, rather than a driver of it. This concept is shown by the 'feedback loop' (dark blue) which allows for saving, spending and investment behaviours to be reinforced or validated through improved confidence resulting from improved financial wellbeing.

The revised Kempson *et al.* model (2018) is one of the few 'large scale' hypothetical models in the financial wellbeing literature that ties together the multitude of potential influences on financial wellbeing. The structure of the model is based on research into how the various variables interact and affect financial wellbeing (Figure 2).[4]

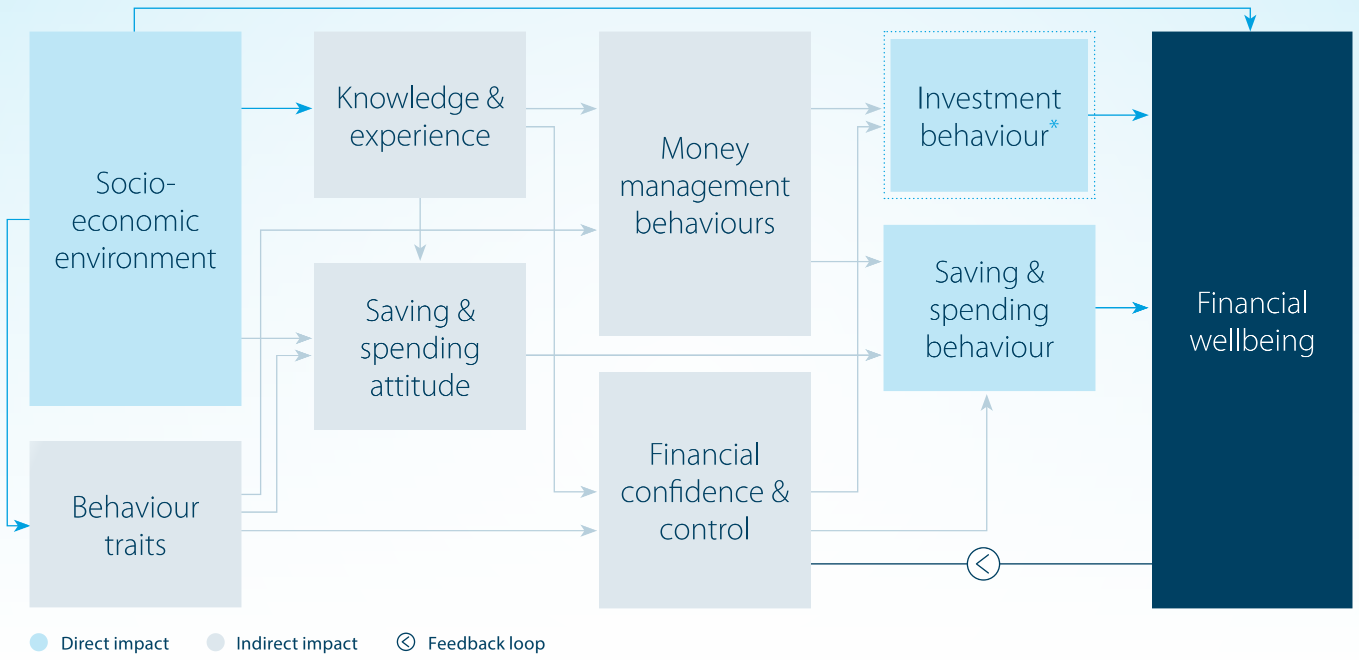
The model serves a useful purpose for this research by organising the relationships between the variables that potentially influence financial wellbeing, so that each variable can be understood in terms of its role and relative influence. The directions of association between the various variables and domains with financial wellbeing, generally satisfy common sense tests on what variables are potentially precedents of, or consequences of, financial wellbeing. This has led to our use of terms such as 'influence on' or 'drivers of' the various model components.

Specifying the revised Financial Wellbeing Conceptual Model as a basis for analysis, the 2021 survey uses structural equation modelling (SEM) to analyse the network of relationships along the different paths and determine their direct and indirect influence on financial wellbeing.

Application of this model in our analysis in the New Zealand context is mostly consistent with Kempson *et al.* (2017), however inclusion of a fourth dimension of financial wellbeing – feeling secure for the future – in our measure has identified 'investment behaviour' as an additional financial behaviour with a direct impact on financial wellbeing (Figure 2).

A summary of the survey methodology and technical approach is included in Appendix B and C (page 46).

FIGURE 2 THE FINANCIAL WELLBEING CONCEPTUAL MODEL APPLIED IN THIS RESEARCH



* Inclusion of a fourth dimension of financial wellbeing – **feeling secure for the future** – in this survey has identified 'investment behaviour' as an additional financial behaviour with a direct impact on financial wellbeing.

Source: Augmented version of the Kempson, E., & Poppe, C. (2018) Financial Wellbeing Conceptual Model.

4 Kempson *et al.* (2018).

KEY FINDINGS

01

Through an updated modelling approach, we have a better understanding of how a person's socio-economic context and their behaviour traits are key to financial wellbeing.

The 2017 survey was the first application of the Financial Wellbeing Conceptual Model developed by Kempson *et al.* in New Zealand and Australia. The proportionate impact of each of the key drivers on financial wellbeing was determined using a regression analysis. This analysis assumed that each of the variables driving financial wellbeing worked independently in their impact on financial wellbeing. However, the 2017 analysis acknowledged that there was likely to be interaction between those variables. For example, while a person's social and economic environment impacted financial wellbeing directly, it was also likely to do so indirectly through an individual's knowledge and experience, attitudes and behaviours.

The revised pathways model used in 2021 highlights both the direct and indirect effects of the different drivers on financial wellbeing (Figure 2). The use of structural equation modelling (SEM) in 2021 has provided an opportunity to quantify how much influence the various factors have on financial wellbeing given the model structure, including causal directions hypothesised by the Kempson model. For example, our 2017 analysis highlighted that financial behaviours accounted for 45% of overall financial wellbeing. However, some of this influence was due to other factors such as socio-economics, attitudes and confidence working through behaviours.

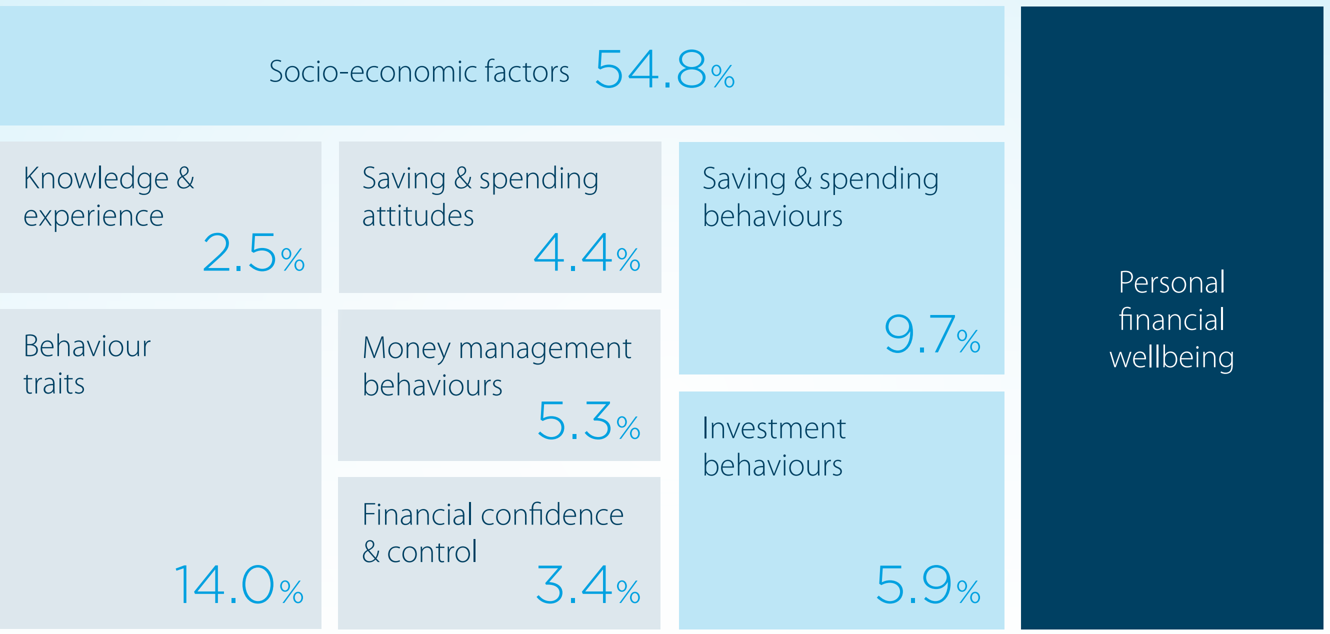
Figure 3 shows the isolated influence or 'value added' of each of the main drivers. What becomes clear from the analysis is the importance of a person's context, both in terms of their socio-economic status and their behaviour traits.

THE TOTAL IMPACT OF SOCIO-ECONOMIC FACTORS AND LIFE EVENTS ON FINANCIAL WELLBEING WERE SUBSTANTIALLY HIGHER THAN OUR PREVIOUS ANALYSIS WAS ABLE TO DEMONSTRATE.

Socio-economic factors accounted for 54.8% of the explained variation in overall financial wellbeing, while behaviour traits such as a person's orientation towards the future, impulsivity, optimism or frugality, accounted for a further 14%.

Financial behaviours such as saving and spending behaviours, investment behaviours and money management behaviours still accounted for 20.9% of the explained variation in financial wellbeing in the 2021 survey (Figure 3).

FIGURE 3 INFLUENCES ON FINANCIAL WELLBEING



5 Overall, the structural equation model developed was able to explain 72% of the variation in people's financial wellbeing scores.

6 The influence of each main driver on financial wellbeing is represented by the percentage shown next to it. These percentages were obtained by summing the standardised total effects of the components of each driver and rescaling each component to a percentage based on this overall sum. The total effect for each endogenous component (i.e. all those in Figure 2 other than the socio-economic factors, behaviour traits and personal financial wellbeing) was adjusted to allow for the proportion explained by those exogenous components (i.e. the socio-economic factors and behaviour traits) which impacted directly upon it.

02

We have updated our financial wellbeing measure to include 'feeling secure for the future'.

63
out of 100

The average financial wellbeing score for respondents in New Zealand was **63 (out of 100)**. However, we know that financial wellbeing is not evenly spread across the population. We revisited the financial wellbeing categories identified in our 2018 ANZ Financial Wellbeing Survey Report, where respondents were divided into four segments according to their financial wellbeing score (out of 100):

- The bottom 8% were considered **struggling** financial wellbeing score 0-30)
- 20% were **getting by** (financial wellbeing score >30-50)
- 47% were **doing OK** (financial wellbeing score >50-80)
- The top 25% were considered to have **no worries** (financial wellbeing score >80-100) (page 14-15).

PEOPLE WHO WERE **STRUGGLING** RECORDED THE LOWEST SCORES ACROSS ALL FOUR COMPONENTS OF FINANCIAL WELLBEING, WHEREAS PEOPLE WHO HAD **NO WORRIES** RECORDED THE HIGHEST SCORES

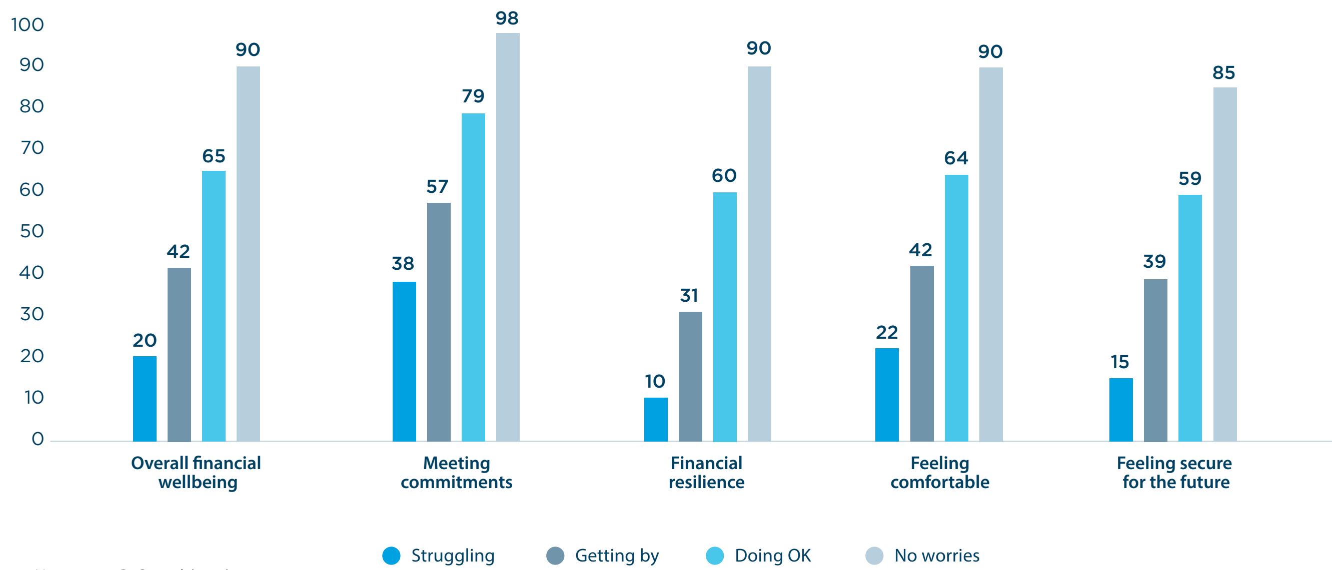
The survey included four additional questions about 'feeling secure for the future':

1. *I am becoming financially secure*
2. *I will be financially secure until the end of my life*
3. *I am securing my financial future*
4. *I have saved (or will be able to save) enough money to last me to the end of my life*[7]

Analysis showed that the score for 'feeling secure for the future' was an important fourth component of overall personal financial wellbeing. Having a future focus is important for financial security today and in later life and increases the likelihood of undertaking behaviours to plan for retirement. The inclusion of 'feeling secure for the future' provides a longer-term view of financial wellbeing outcomes.

In many countries, governments struggle convincing people to adequately plan for their retirement (Eberhardt *et al.*, 2021). In New Zealand, there is KiwiSaver, a state-based, non-means tested superannuation fund paid to citizens aged over 65 years which can be supplemented with a voluntary contribution-based retirement savings plan. In general regardless of population-based measures in place for retirement, many people find it difficult to envision their 'future selves' and plan for a financially secure future.[8] For instance, 28% of survey respondents did not think that they had saved (or would be able to save) enough money to last to the end of their life.[9]

FIGURE 4 FINANCIAL WELLBEING BY COMPONENT IN THE NEW ZEALAND POPULATION MEAN SCORES (OUT OF 100)



7 Netemeyer, R. G. *et al.* (2018).

8 Alonso-Garcia *et al.* (2018).

9 It is important to note that the four-component financial wellbeing construct is not directly comparable with the three-component measure used in 2017. However, as well as providing a more comprehensive view of financial wellbeing, the four-component construct also provides a slightly better unidimensional scale for measuring financial wellbeing with Cronbach's alpha improving from 0.92 to 0.94.

HOW ARE NEW ZEALANDERS FARING?

NO WORRIES 25%

People in the **no worries** group had an average financial wellbeing score of 90 out of 100. They were generally wealthier and much more likely to consider their current financial situation in a positive light with 97% describing it as very or somewhat good, compared with 57% of people **doing OK**, 14% of those **getting by** and 2% of people who were **struggling**. People in the **no worries** group were also much more positive about their financial future with 88% feeling they will be financially secure until the end of their life.

- Almost half (46%) of this group earned over $100,000 per annum (compared to 28% for all respondents) and had high levels of savings (55% had more than $100,000 in savings). They were also more likely to invest than other groups, including a share portfolio (36%), a managed fund (28%) or investment property financed with or without a loan/mortgage (16% and 14% respectively). They were more likely than the general population to seek guidance from an accountant (25%) or financial advisor (20%) and less likely to seek information, guidance or support from informal sources such as parents, relatives and friends.
- People in the **no worries** group were generally more 'forward looking' with above average scores for future orientation, optimism and goal orientation. They also demonstrated higher levels of self-control and frugality and lower levels of impulsivity.
- Almost two-thirds (63%) of people in the **no worries** group owned their home outright. Of those who had a mortgage, almost half always or often made higher repayments on their mortgage and none had struggled to make a mortgage repayment on their home loan.
- Age was a strong demographic factor for the **no worries** group; 70% were over 50 years old (41% over 65 years). As such, they were much more likely to be retired (34% compared to 16% for all respondents) and while the main source of income was wages/salary for 52% of people in the **no worries** group, they were more likely than the total sample to source their income from NZ Super or KiwiSaver (31% compared to 18% for all respondents). They were more likely to be living with a partner and no children (51%) and to have a university education (34% compared to 25% of New Zealanders). People from a Māori cultural background and/or Pacific Islander cultural background were underrepresented in the **no worries** group, with 15% of people from a Māori cultural background and 10% of people from a Pacific Islander cultural background having the highest financial wellbeing.
- Even though people in the **no worries** group were generally older, they were less likely on average to report poor physical or mental health – 51% reported having excellent/very good physical health and 67% reported having excellent/very good mental health. They were also more likely to feel they could definitely call on family members for support if they needed it (43% compared to 31% of all respondents).

DOING OK 47%

Most people (47%) were **doing OK** with an average financial wellbeing score of 65 out of 100. This group recorded above average scores across their ability to meet everyday commitments, feel comfortable about their financial situation and their financial resilience. While half of people **doing OK** said they could meet their bills and credit card commitments without any difficulty (50%), 40% said it was a struggle from time to time.

- Their feelings about their future security were on par with the average for all respondents. The **doing OK** group was much more likely to strongly or somewhat agree to feeling anxious when they think about their future financial situation (43%) than the **no worries** group (14%). Sixty-two per cent had KiwiSaver, on par with the average for all respondents.
- People **doing OK** demonstrated behaviour traits in line with the national average but were more impulsive than the general population and had more of a spending mindset.
- People **doing OK** were more likely to own their own home with a mortgage (37%), with 24% of mortgage holders **doing OK** always, often or sometimes make higher repayments. This group was generally okay when it came to ease of paying their mortgage/rent with 40% finding it very or somewhat easy to make their mortgage payments. They were also more likely to hold life insurance/total permanent disability insurance than the general population (34%).
- The **doing OK** group was more likely to be employed full-time (43%) and aged between 18 and 34 years (37%). They were also more likely to be studying full-time or part-time than other groups (18%). This group generally reported their physical health and mental health as 'good' (47% and 43% respectively).

GETTING BY 20%

One-fifth (20%) of New Zealanders were just **getting by** with an average financial wellbeing score of 42 out of 100. While still higher than the **struggling** group, this group recorded below average scores for all four components of financial wellbeing.

- People who were **getting by** were less likely to hold term deposit accounts (6%) and savings accounts with bonus interest (26%) than the general population. They were also more likely to use buy now pay later schemes (30%) with 6% reporting being unable to make a scheduled payment about once per year while a further 4% could not make a payment either several times a year or most months. People **getting by** also had lower than average ownership of home and contents insurance (40% compared to 59% of New Zealanders), car insurance (55% compared to 68%) or life insurance (20% compared to 30%).
- Most people **getting by** were living with a spouse/partner with children (30%). They were less likely to be living with a spouse without children (19%) than the general population (30%), more likely to be boarding (5%) and paying rent to a private landlord (34%). People **getting by** were more likely to be women (60%) and aged 35-49 years (32%). They were also more likely to have sought information, guidance or support from their parents (34%) in the last 12 months.
- Their main source of income was wages or salary (57%) with a further 20% sourcing most of their income from a government benefit or allowance. Seventeen per cent reported that their income could vary considerably from month-to-month.
- The highest education level attained for most people in this group was a technical certificate or diploma (26%). They were less likely than the general population to have a tertiary degree qualification (16% compared to 25% of New Zealanders).
- The **getting by** group was also more likely to have a long-term health condition (38%) than the national average (28%). They mostly described their physical health as good (39%) or fair (37%) but 44% described their mental health as fair or poor.
- Almost two-thirds (64%) felt anxious when they thought about their future financial situation (strongly or somewhat agree). They were also less likely to exhibit investment behaviours or own investment products.
- Like the **struggling** group, people **getting by** were less future-oriented, less optimistic or goal-oriented than people with higher levels of financial wellbeing. They also exhibited lower levels of self-control and were more impulsive.

STRUGGLING 8%

People who were **struggling** had the lowest average financial wellbeing score of 20 out of 100. They were less likely to be meeting everyday commitments than other New Zealanders with 83% saying they rarely or never had money left over after food and other regular expenses.

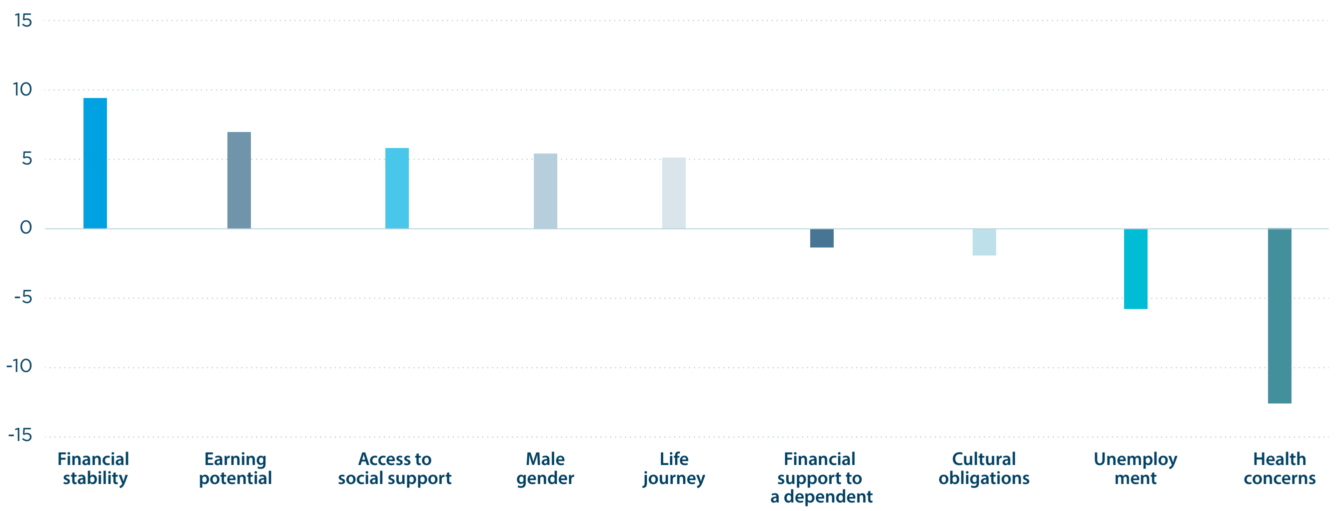
- Members of this group were less likely to be employed full-time (24% compared to 39% of respondents) and more likely to be looking for work. They were half as likely as the general population to be degree qualified (10%). Their household income was more likely to be less than $50,000 per year (61%) with the main source of income a government benefit or allowance for 44% of people in this group. One-fifth (21%) of people **struggling** reported their income varied considerably from month-to-month.
- They were more likely than the general population to be aged 34-49 years old (39%), have been divorced (42%), single parents (13%) or paying rent to a private landlord (44%). They were more likely to struggle with negative health impacts reporting fair/poor physical (52%) and mental (57%) health, with 52% suffering a long-term health condition, impairment or disability.
- **Struggling** New Zealanders were more likely to borrow from family or friends (20%) or use buy now pay later schemes (36% compared to 19% of respondents), with 8% reporting being unable to make a scheduled payment several times a year or most months.
- Two-thirds (67%) reported not having any savings and 81% would not be able to fund any of an unexpected expense equivalent to a month's income from money in a bank account. This group was much less likely than the general population to hold a separate account for saving, including a regular interest bearing account (34% versus 46%), a bonus interest account (21% versus 38%) or term deposit (2% versus 20%). They were also much less likely to hold home or contents insurance (33%) or car insurance (49%) than the general population (59% and 68% respectively).
- Eighty per cent strongly or somewhat agreed to feeling anxious about their future financial situation. They were less likely to own a home with or without a mortgage (28%) and 39% did not think owning a home was a realistic goal for them.
- People who were **struggling** were much less likely to feel optimistic, be goal-oriented or future-oriented. They demonstrated frugality, impulsivity and action orientation in line with the national average.

03

Socio-economic factors and the effects of life's ups and downs had the greatest influence on financial wellbeing, with health, financial stability and earning potential the most significant.

In 2017, we were able to demonstrate the direct impact of socio-economic factors on overall financial wellbeing. However, the research acknowledged that the interaction between different socio-economic factors and their simultaneous effects on attitudes, financial confidence and behaviours were unable to be quantified using the 2017 methodology. Through structural equation modelling (SEM), the 2021 research has been able to better explain the effects of a number of defined independent socio-economic variables that could potentially act as significant 'enablers' and 'blockers' of financial wellbeing. These socio-economic factors accounted for 54.8% of the explained variation in overall financial wellbeing score. Each of the socio-economic variables shown in Figure 5 had a different influence on financial wellbeing, with 'financial stability' followed by 'earning potential' having the highest positive contribution to financial wellbeing and 'health concerns' the highest negative contribution.

FIGURE 5 PERCENTAGE CONTRIBUTION OF SOCIO-ECONOMIC CONDITIONS TO FINANCIAL WELLBEING (%)

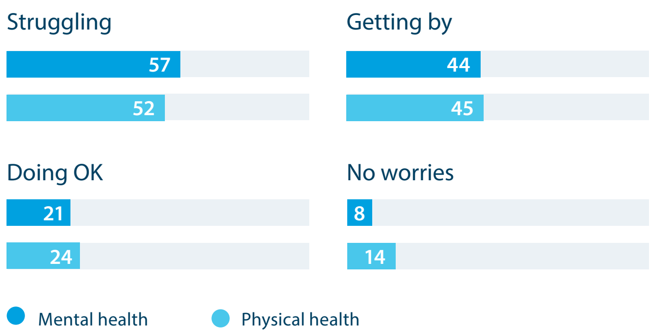


A. Impact of health concerns

Our research showed that experiencing poor physical and/or mental health is the most significant potential socio-economic disruptor of financial wellbeing. In fact, it had a larger impact on personal financial wellbeing than an individual's saving and spending behaviours, accounting for 12.6%[10] of the overall financial wellbeing score. This suggests that even if someone is doing everything right – actively saving, not borrowing for everyday expenses and exercising spending restraint – a major health event can disrupt the impact of those behaviours on financial wellbeing.

Whether a person reported their physical or mental health as fair or poor was strongly correlated with their financial wellbeing. One quarter (25%) of New Zealanders reported their mental health as fair or poor, rising to much higher levels for people with low financial wellbeing, with 44% of people **getting by** and 57% of people **struggling** stating that their mental health was fair or poor. Similarly, 28% of New Zealanders reported having fair or poor physical health. This increased to 45% of people **getting by** and 52% of people **struggling** (Figure 6).

FIGURE 6 MENTAL AND PHYSICAL HEALTH IS FAIR OR POOR (%)



Another key component of the impact of overall health concerns on financial wellbeing is whether someone has experienced a disruptive health event. While 7% of New Zealanders had experienced an illness in the last 12 months which disrupted their ability to work, this rose to 9% of people **getting by** and 23% of people who were **struggling**. This was also more common for people who were renters (12%), looking for work (22%), people with less than $1,000 in savings (19%), people who sought advice from a financial mentor (16%) or Citizens Advice Bureau (19%).

Income support is key for people who have suffered a disruptive health event with many experiencing an increase in household expenditure as a result of increased health costs. More than a quarter (28%) were receiving a government benefit or allowance compared to 10% of those who had not experienced time off work as a result of illness. A further 6% were receiving NZ Super, perhaps retiring rather than returning to work. Just over one in three (37%) reported a decrease in household income during the last 12 months (compared to 25% of those not experiencing an illness and unable to work) and 26% were either 'looking for work' or 'not working and not looking for work'. This group was also characterised by low financial wellbeing (mean score of 49 out of 100) and 25% of this group were classified as **struggling**.

B. Need for financial stability

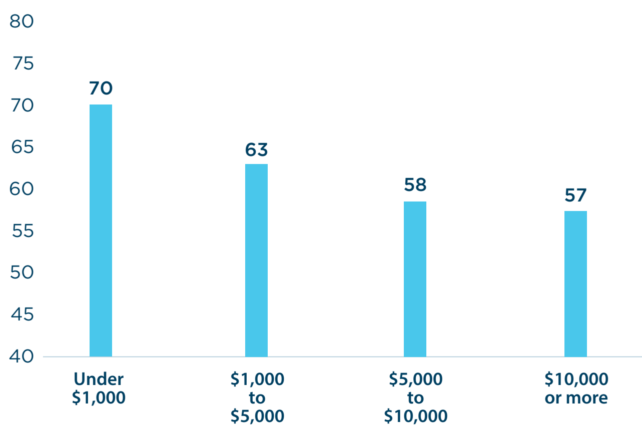
In 2017, our research showed that low levels of income variability correlated with higher levels of financial wellbeing. Our updated understanding of financial stability showed that low income variability works together with levels of consumer debt (less than $1,000) and change in household expenditure in the last 12 months to positively influence financial wellbeing. While financial stability influences financial wellbeing directly, it also affects people's attitudes to saving and spending and to a lesser extent financial confidence and informed financial behaviours, both of which have a strong impact on saving and spending behaviours.

People with lower levels of financial wellbeing were less likely to report that their household income was predictable month-to-month. Thirty-six per cent of people **struggling** and 45% of people **getting by** said that their income was very predictable. Whereas 64% of people in the **no worries** group reported that their income was very predictable from month-to-month. One-fifth (21%) of people **struggling** reported that their income can vary considerably from month-to-month.

People with lower levels of financial wellbeing were also more likely to report a substantial increase in household expenditure in the last 12 months, with 14% of people **struggling** reporting a substantial increase in household expenditure compared to 5% of people in the **no worries** group.

The research found that it does not take a lot of consumer debt to negatively affect financial wellbeing. Notably people with low levels of consumer debt (under $1,000) have much higher than average financial wellbeing scores. Financial wellbeing falls below the national average for people holding more than $5,000 in consumer debt (Figure 7).

FIGURE 7 FINANCIAL WELLBEING SCORE BY LEVEL OF CONSUMER DEBT (OUT OF 100)

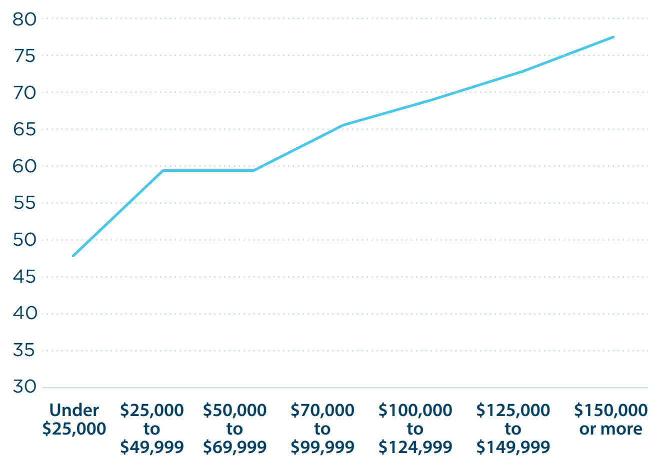


C. Earning potential

A person's earning potential encompasses those key elements that contribute to an individual's ability to earn a higher income. These include their level of post-secondary education, whether they are a professional or senior manager and their 'blue collar/white collar' status. Earning potential was the second largest socio-economic 'enabler' of financial wellbeing after financial stability.

While household income was positively correlated with financial wellbeing (Figure 8), an individual's level of post-secondary education was the largest contributor to their earning potential score. New Zealanders with no post-secondary qualifications had below average financial wellbeing scores (60 out of 100) (Figure 9). Additional levels of qualifications contributed to an individual's earning potential and, as a result, their financial wellbeing.

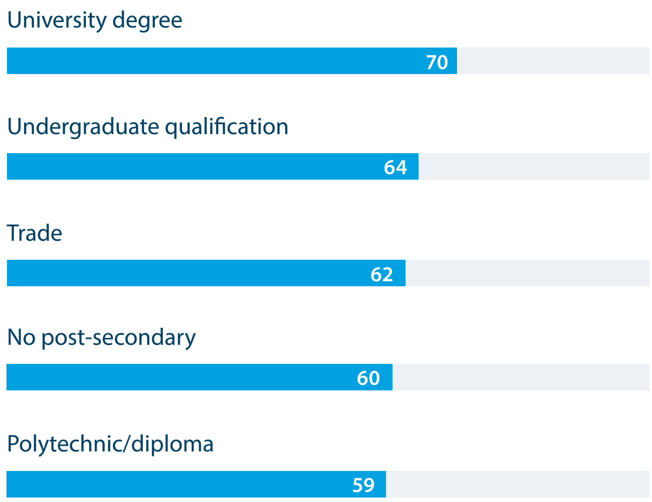
FIGURE 8 FINANCIAL WELLBEING SCORE BY INCOME (OUT OF 100)



10 These figures have been calculated using the standardised total effect coefficient of each socio-economic component on financial wellbeing expressed as a fraction of the sum of all nine socio-economic conditions. For each, that fraction was multiplied by the total 54.8% contribution that all the socio-economic components make to the explanation of financial wellbeing.

Completing a trade or apprenticeship improved financial wellbeing by two points. Similarly, achieving an undergraduate certificate or diploma added four points to an individual's financial wellbeing score post year 12 and completing a university degree improved financial wellbeing by 10 points over year 12 achievement alone (Figure 9).

FIGURE 9 FINANCIAL WELLBEING SCORE BY EDUCATION LEVEL (OUT OF 100)



An individual's earning potential score generally improves with their working age. The earning potential score was highest for people classified as 'older families' (people over 40 still working) at 49 out of 100 and lowest for 'young adults' (single under 40, no children) at 46 out of 100.

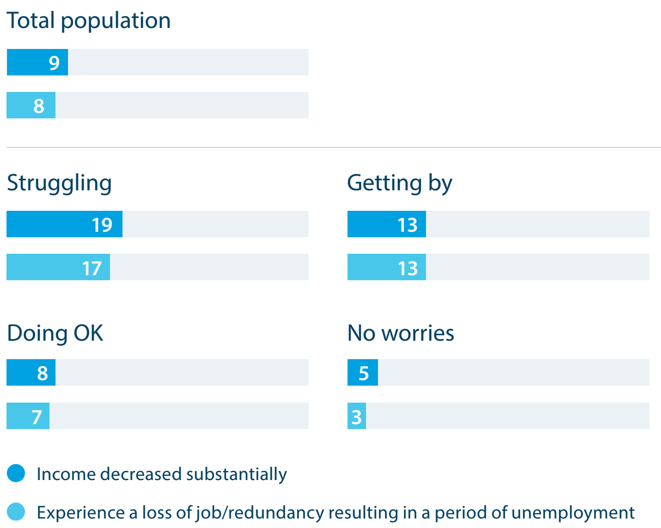
D. Unemployment

Unemployment had the second largest negative socio-economic impact, acting as a significant disruptor to a person's financial wellbeing. The key elements demonstrating the effects of unemployment were whether there had been a change in household income and a loss of job or redundancy in the last 12 months.

While 9% of New Zealanders reported their income had decreased substantially in the last 12 months, this was much higher for people who were **struggling** (19%) and **getting by** (13%) (Figure 10).

People who were **struggling** were also more likely to have been impacted by job loss or redundancy in the last 12 months during the pandemic. While 8% of New Zealanders reported experiencing a job loss or redundancy, 17% of people who were **struggling** and 13% of people **getting by** had reported losing a job (Figure 10).

FIGURE 10 INCOME DECREASED SUBSTANTIALLY IN THE LAST 12 MONTHS/EXPERIENCE OF A JOB LOSS OR REDUNDANCY IN THE LAST 12 MONTHS (%)

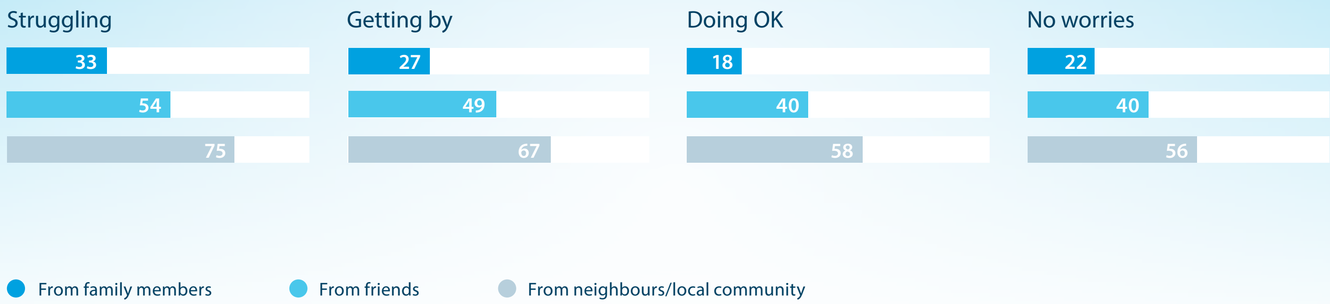


E. Importance of social supports

The research showed that having access to social support networks was important to enable financial wellbeing. Access to social support networks included whether a person could seek any kind of support from family, friends or their broader community and whether their parents talked to them about finances growing up.

People who were **struggling** were more likely to feel they had no support from family, friends and the broader community. Figure 11 shows that 33% of people **struggling** felt they could not access support from family if they needed it; 22% of the general population felt similarly. Likewise, the majority of people **struggling** (54%) and 49% of people **getting by** felt they could not seek support from friends if needed. Most New Zealanders either did not think that support would be available to them from neighbours or their local community (61%) or did not know if they would be able to access support (20%).

FIGURE 11 PEOPLE WHO DID NOT THINK THEY COULD SEEK SUPPORT (%)



In the last 12 months during the pandemic, New Zealanders used a number of different sources for information, guidance or support with their finances, both formal and informal. Around a quarter had sought information, guidance or support from a bank employee (24%) or bank website (24%), 18% had been to an accountant and 13% had been to a financial planner. Four per cent had sought information, guidance or support from a financial mentor or budget advisor and 6% had gone to a government body like the Te Ara Ahunga Ora/Retirement Commission (formerly the Commission for Financial Capability). More than two-fifths (43%) had not sought information, guidance or support from formal sources in the last 12 months.

Around one-quarter (27%) of respondents had sought information, guidance or support from their parents in the last 12 months, 23% from close friends and 17% from close relatives. Almost one-fifth (18%) had used an online resource (such as a website, blog, webinar or podcast).

People in the **no worries** group were more likely to speak to an accountant (25%) or financial planner (20%) than the national average, whereas people who were **struggling**, **getting by** or **doing OK** were more likely to seek informal support from parents (31%, 34% and 31% respectively). Almost two-fifths (57%) of people **struggling** reported that they did not seek any information, guidance or support with their finances from formal sources in the last 12 months during the pandemic.

Having money conversations remained an important part of social support and financial wellbeing. Whether parents had provided advice growing up was strongly correlated with financial wellbeing. One-third (34%) of New Zealanders reported that their parents had discussed how to manage finances when they were growing up. One-fifth (20%) of people who were **struggling** said that their parents had discussed finances with them when they were growing up, compared to 21% for people **getting by**, 36% of people **doing OK** and 45% of people in the **no worries** group.

New Zealanders with higher financial wellbeing were also more comfortable having money conversations with people in their close circle of family and friends. They were also more comfortable talking to their main bank. While 63% of New Zealanders were comfortable talking to their main bank about their financial situation, only around a third of people **struggling** (31%) were comfortable talking about their financial situation with their main bank. Two-fifths (40%) of New Zealanders were comfortable talking about their financial situation with their utility provider, with only 31% of people **struggling** comfortable to do so.

F. Life journey

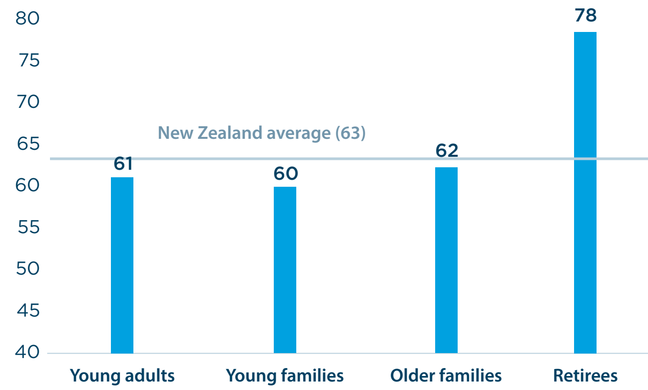
The impact of life journey on financial wellbeing is reinforced in the 2021 survey as having a positive socio-economic impact on financial wellbeing. Key elements of a life journey – whether a person is retired, their age, if they are in receipt of NZ Super, their income and whether they find it easy to pay their mortgage or rent – have a strong positive impact on financial wellbeing.

Our 2017 survey had showed a strong positive correlation between age and financial wellbeing. Older New Zealanders generally had higher financial wellbeing than younger people and were less likely to be **struggling** financially compared to other groups. They were less likely to borrow for everyday expenses, had high levels of confidence in money management, higher levels of home ownership and more stable incomes.[11]

As people progress through life, they usually have some opportunity to improve their financial wellbeing through accumulating savings and wealth over time. As earnings also tend to improve with time spent in full-time work, the potential exists for these two things to be mutually reinforcing, at least until people retire.

Figure 12 shows New Zealanders at different stages in their life journey. Notably, fully retired New Zealanders over 65 years of age had much higher average financial wellbeing than all other groups. Older families (all people aged 40-64 years with or without children and over 65 years who are still working) had financial wellbeing near the national average. Whereas young adults under 40 years of age (not married/de facto and are not parents) and young families with adults under 40 years (married/de facto, with or without children, or single parents) had lower levels of financial wellbeing of 61 and 60 out of 100 respectively.

FIGURE 12 FINANCIAL WELLBEING SCORE BY LIFE STAGE (OUT OF 100)



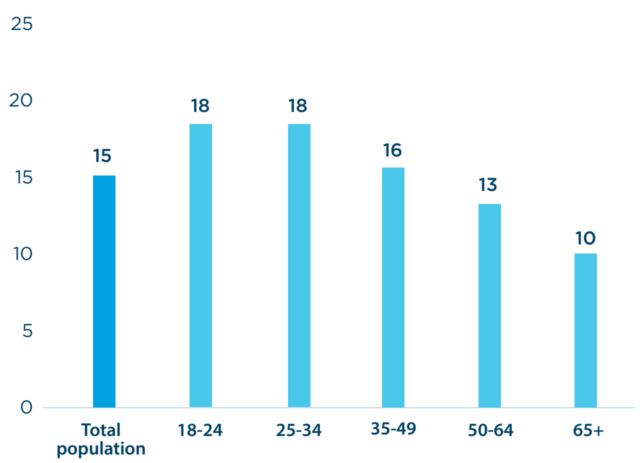
11 ANZ (2018), **Financial wellbeing: A survey of adults in New Zealand.**

People who owned their home outright had higher financial wellbeing scores on average (77 out of 100) compared to those who owned a home with a mortgage (65 out of 100) and those who were renting (50 out of 100). However, rather than just considering whether a person owned their own home outright or not, the research showed that a key driver of the impact of life stage was the affordability of repayments – whether someone was finding it easy or difficult to pay their mortgage or rent. On the whole, 7% of New Zealanders were finding it either very or somewhat difficult to pay their mortgage or rent. People who were **struggling** were finding it particularly difficult to cover their housing costs, with 28% responding that it was either very or somewhat difficult to pay their mortgage or rent. A further 11% of people **getting by** were finding it difficult to cover these expenses.

Housing affordability has been an increasing issue for younger New Zealanders. On the whole, 15% of New Zealanders wanted to own a home but did not think it was a realistic goal for them (Figure 13). This was higher for younger New Zealanders with 18% of people aged 18-to-24 years and 25-to-34-year-olds not believing home ownership was a realistic goal.

The goal of home ownership was also less realistic for many with lower levels of financial wellbeing. Two-fifths (39%) of people struggling and 27% of people getting by responded that they would like to own a home but that it was not a realistic goal for them.

FIGURE 13 'OWNING A HOME IS NOT A REALISTIC GOAL FOR ME' (%)



G. Influence of gender and supporting children

Gender (combined with whether someone may have received a significant inheritance in the last 12 months) and supporting children had a significant influence on an individual's financial wellbeing score. Men generally had higher financial wellbeing scores than women, with an average score of 66 (out of 100) compared to 61 (out of 100). This gap has remained fairly consistent since our 2017 research. Women were more likely to be **struggling** (55% of people **struggling** were female) or **getting by** (60% were female) whereas men were more likely than average to have **no worries** (54% were male).

Men generally scored above average and women scored below average for whether they were feeling comfortable about their financial situation, their financial resilience and their security for the future (Figure 14). Both had average scores for meeting everyday commitments. While there was not a significant difference between the saving and spending behaviours of men and women, men generally demonstrated stronger investment behaviours, with 38% making sure they had money available for investment purposes compared to 29% of women. Men were also more likely to have share portfolios (20% compared to 15% of women) or managed funds (18% compared to 10% of women) and 41% reported having their account set up so that their savings were put aside automatically in the last 12 months, compared to 34% of women. Men were also more likely to report that they understood the risks associated with margin loans well or very well (25% compared to 11% of women), investing in the share market (49% compared to 30% of women) and borrowing money to invest (53% compared to 35% of women). Men also rated their understanding of longer-term financial investments that "help improve their financial situation and plan their retirement" higher than woman with 60% of men reporting their understanding as good/very good compared to 45% of women.

Women and men had similar scores for financial confidence and control but women's attitude to saving and spending leaned towards more of a savings mindset, with men more likely to be spenders.

Men recorded higher overall financial knowledge scores, including knowledge of financial products and financial product risk, however knowledge of online risk scores were similar. Men and women had similar experience with personally losing money in a scam or fraud (15% and 14% respectively).

FIGURE 14 FINANCIAL WELLBEING BY COMPONENT BY MALE/FEMALE (OUT OF 100)

	Male	Female
Overall financial wellbeing	66	61
Meeting commitments	77	76
Feeling comfortable	66	61
Financial resilience	61	55
Feeling secure for the future	62	55

While there was not a lot of difference between men and women in their behaviour traits, men were more likely to be goal-oriented and women were less impulsive.

Supporting children had an influence on financial wellbeing, albeit the smallest out of our demographic variables, combining whether someone was a single parent, the number of children they were supporting and whether they were providing financial support to an adult child. Single parents had lower financial wellbeing (46 out of 100) than couples with children (63 out of 100). The latter was on par with people living alone (63 out of 100) but lower than couples without children (71 out of 100) (Figure 15).

H. Cultural financial obligations

Whether an individual felt they had obligations to support extended family also had an impact on financial wellbeing, albeit small, contributing 2% to the overall explanation of the financial wellbeing score. This socio-economic factor was influenced by an individual's cultural background and whether they were providing financial support to extended family (i.e. cousins, uncles, aunts).

Six per cent of New Zealanders reported that they were providing financial support to extended family. This was more likely to be the case for younger families with 9% providing financial support to extended family, people from a Māori cultural background (10%), Pacific Islander cultural background (22%) and for people from both a Māori and Pacific Islander cultural background (12%). People running their own business part-time were also more likely to report providing financial support to extended family (15%).

People from a Māori cultural background had an average financial wellbeing of 54 out of 100, significantly lower than the general population. They were twice as likely to describe that their current financial situation was 'bad' (30% compared to 15% of the general population) and 17% reported that meeting bills and credit card commitments was a constant struggle at the moment (compared to 9% of the general population). They were also more likely to think home ownership was an unrealistic goal (27% compared to 15% of the general population).

FIGURE 15 FINANCIAL WELLBEING SCORE BY DEPENDENT STATUS (OUT OF 100)

Total population	Couple with no children	Couple with children	Single parents	Living alone
63	71	63	46	63

04

Behaviours have an impact on financial wellbeing and a role to play in building resilience against life's ups and downs.

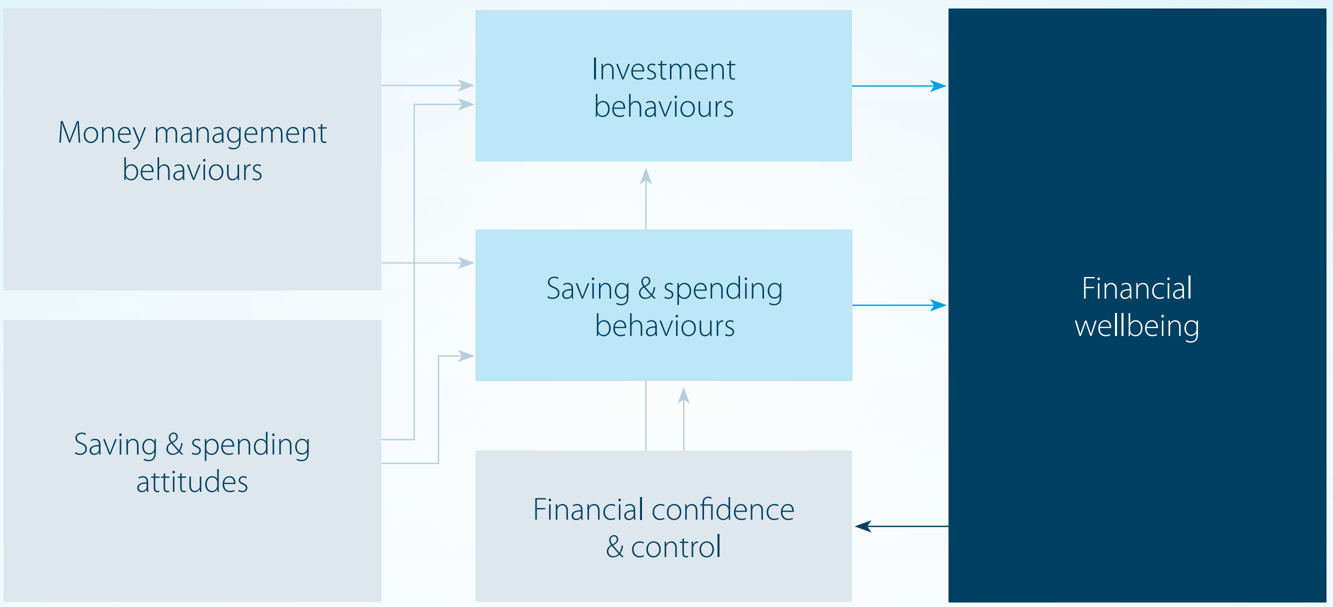
Our research showed that financial behaviours continue to have a major impact on financial wellbeing. A key finding of our 2017 research was that financial behaviours, in particular active savings and not borrowing for everyday expenses, were the strongest contributors to financial wellbeing. While our updated analysis has developed a clearer picture of the impact of socio-economic conditions, financial behaviours still have a very important role to play in financial wellbeing and are key to ensuring we have the financial resilience to lessen the impact of socio-economic disruptions.

For the analysis, financial behaviours were grouped into three different categories:

- Saving and spending behaviours such as active savings, not borrowing for everyday expenses and spending restraint
- Investment behaviours and
- Money management behaviours such as monitoring finances, planning and budgeting, and informed product choice and decision-making.

Saving and spending behaviours and investment behaviours both influenced financial wellbeing directly, whereas money management behaviours influenced financial wellbeing indirectly through driving saving, spending and investment behaviours (Figure 16).

FIGURE 16 FINANCIAL BEHAVIOUR PATHWAYS TO FINANCIAL WELLBEING



A. Saving and spending behaviours were the most important behaviours to improve financial wellbeing

Saving and spending behaviours were by far the largest behavioural influence on financial wellbeing. The structural equation modelling approach (SEM) was able to isolate the 'value-add' effect of saving and spending behaviours, which accounted for an additional 9.7% of the explained variation in overall financial wellbeing. The strongest direct effects on saving and spending behaviours were found in people's attitudes to saving and spending – whether you are more of a spender or saver – this accounted for 42% of the variation explained by factors with a direct influence on saving and spending behaviour. In addition to this, their sense of financial confidence and control over their financial lives (31%), and their money management behaviours (27%) also influence saving and spending behaviour. As shown earlier in Figure 2, a person's behaviour traits, socio-economic situation and financial knowledge indirectly affect saving and spending behaviours through their attitudes, financial confidence and control, and money management behaviours.

Figure 17 shows that people with higher levels of financial wellbeing (**no worries**) had higher scores for saving and spending behaviours (combined active saving, not borrowing for everyday expenses and spending restraint) than people with lower levels of financial wellbeing (**struggling**). They were also more likely to regularly save money, even if it is only a small amount (87%) than the general population (72%) and people who were **struggling** (29%).

Almost one-fifth of New Zealanders (18%) said they sometimes, often or always need to borrow money or go into debt to pay for food or expenses because they ran short of money. Only 1% of people with the highest financial wellbeing (**no worries**) reported this as their experience while 15% of people who were **doing OK** and 34% of people **getting by** had to borrow or go into debt to pay for food or other expenses because they ran short of money. More than half (55%) of people who were **struggling** sometimes, often or always ran short of money and need to borrow to cover essentials.

People in the **no worries** group were also more likely to exercise spending restraint. While 14% of New Zealanders said they ran short of money because they overspend (describes me well/very well), 2% of people in the **no worries** group responded that this described them well or very well compared to 14% of people **doing OK**, 24% of people **getting by** and 26% of people **struggling**.

B. Investment behaviours had a direct influence on financial wellbeing, particularly for those with higher financial knowledge

The inclusion of a longer-term dimension – 'feeling secure for the future' – in the measure of overall financial wellbeing has highlighted how investment behaviours have a role to play in driving financial wellbeing. Investment behaviours focus on the accumulation of longer-term assets such as:

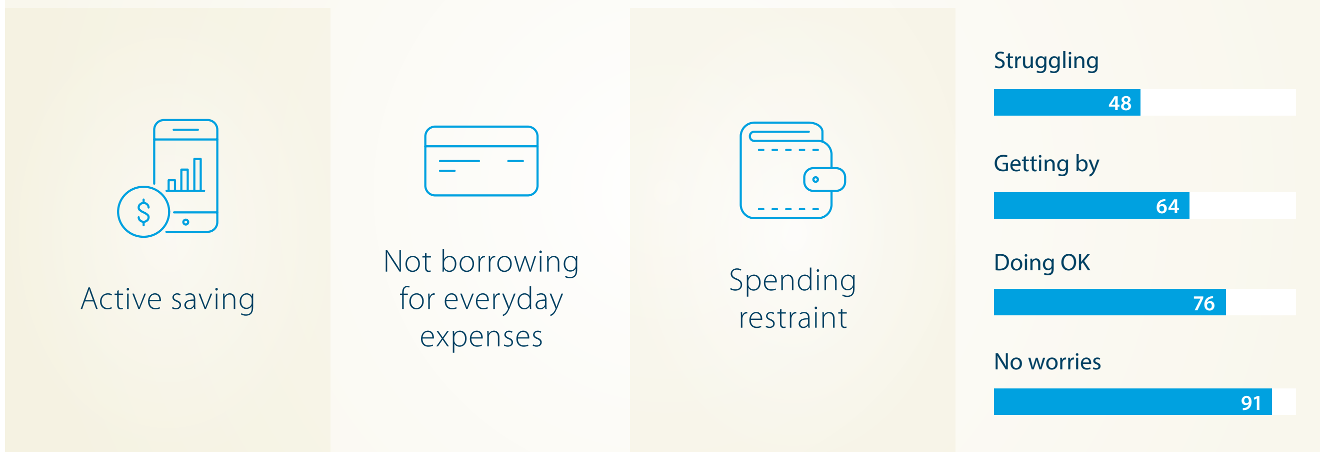
- Investing in property
- Using investment or margin loans
- Having a managed fund or share portfolio
- Planning one's finances to make sure there is money available for investment purposes.

Investment behaviours contributed 5.9% to the explained variation in overall financial wellbeing. Whether a person exhibited strong investment behaviours was directly influenced primarily by whether they were demonstrating planning and budgeting behaviours (accounting for 50% of the variation explained by factors with a direct influence on investment behaviour), their level of financial confidence and control over their financial lives (39%) and to a lesser extent, whether they were demonstrating informed product choice and decision-making (11%). In turn, a person's level of financial knowledge influences their financial confidence and informed product choice and decision-making.

People with strong investment behaviours were mostly at the higher levels of financial wellbeing (**no worries**). They were much more likely to have high incomes (over $150,000 p.a.), a university degree, to be over 65 years of age, retired or working full-time, be in a couple with no children household, male, running their own business full-time or have no mortgage.

New Zealanders generally invest later in life after they have had time to accumulate savings and wealth. Older families and retirees were much more likely to perform investment behaviours, with investment behaviours scores around double that of younger adults and families.

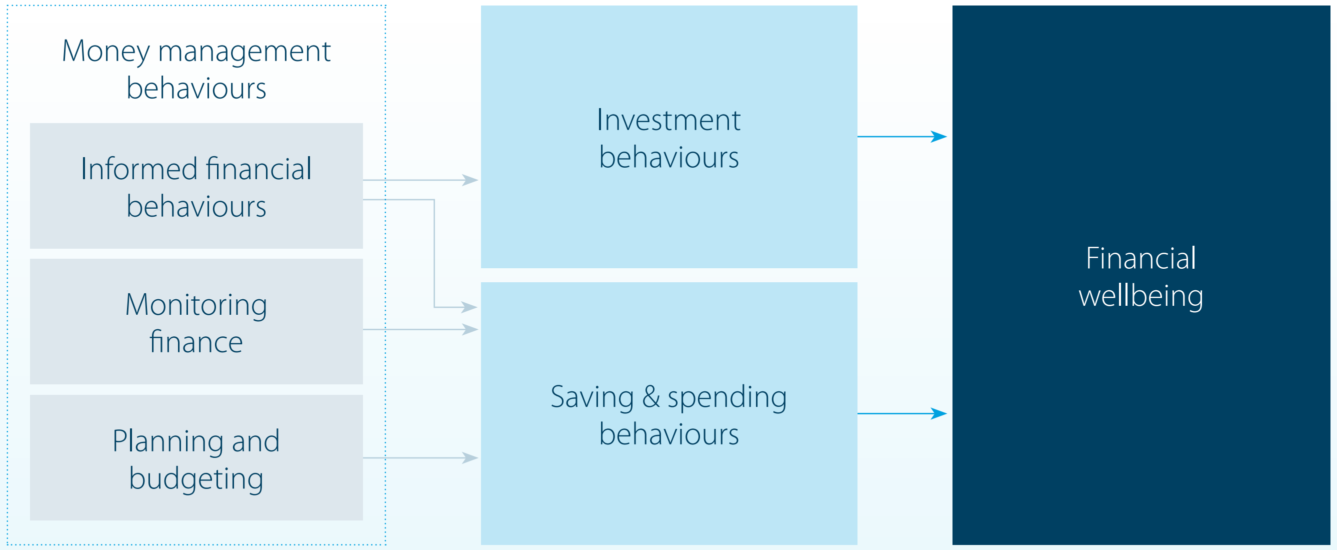
FIGURE 17 SAVING AND SPENDING BEHAVIOUR MEAN SCORES (OUT OF 100)



C. Money Management Behaviours – budgeting, planning and monitoring – impact financial wellbeing through other financial behaviours

Money management behaviours such as planning and budgeting, monitoring finances, informed product choice and decision-making influence financial wellbeing indirectly through other financial behaviours, driving how people save, spend, borrow for everyday and invest their money for the long term (Figure 18). Money management behaviours alone accounted for 5.3% of the explained variation in overall financial wellbeing.

FIGURE 18 MONEY MANAGEMENT BEHAVIOUR PATHWAYS TO FINANCIAL WELLBEING

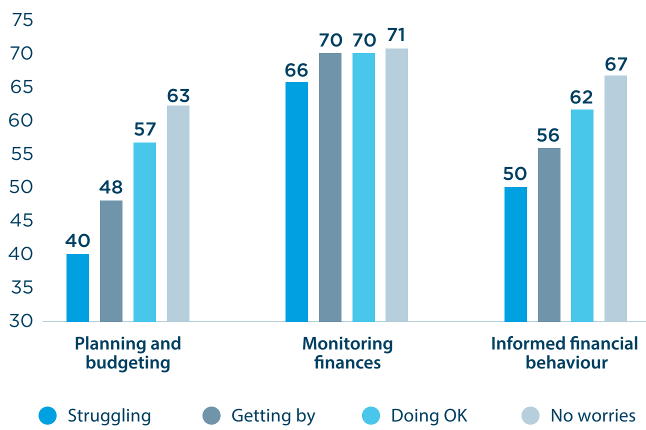


There was a strong relationship between financial wellbeing and whether someone demonstrated planning and budgeting behaviours or informed financial behaviours (informed product choice and informed decision-making). People who were **struggling** had lower average scores for planning and budgeting behaviours and informed financial behaviours than people with higher levels of financial wellbeing (Figure 19). Whether a person was regularly monitoring their finances did not have an impact on their financial wellbeing (Figure 19). It may well be that people monitor their finances when their resources are tight or perhaps see limited need when they know they have sufficient funds to cover expenses. Equally, the ease of access to accounts today may also influence these behaviours with apps on our phone that can be accessed with a simple click. Digital banking has also made it easier for many New Zealanders to set up automatic payments to put savings aside, allocate their money to different expense accounts and to automatically pay bills, removing some of the need for regular monitoring. Although people in a more comfortable financial position appeared to take more advantage of these methods, 37% of New Zealanders were putting aside their savings automatically.

Psychology plays a strong role in whether someone exhibits strong planning and budgeting behaviours or regularly monitors their finances. Planning and budgeting is most strongly influenced by a number of key behaviour traits, in particular whether someone is keen on setting goals, is generally frugal with their money and is thinking more about the future. While a small influence, being goal-oriented is also the primary influence on monitoring finances – if someone has set a goal, they tend to put steps in place to ensure they meet it.

The research highlights how money management behaviours influence investment behaviours and saving and spending behaviours. Ensuring people have simple ways to manage their money that help them make healthy choices, is one way institutions can assist people with their financial wellbeing.

FIGURE 19 MONEY MANAGEMENT BEHAVIOUR MEAN SCORES (OUT OF 100)



While not strong influences, having financial knowledge and experience, being goal-oriented and frugal affected whether someone exhibited informed financial behaviours, that is, whether they consider different options, information or advice when choosing products or making financial decisions.

05

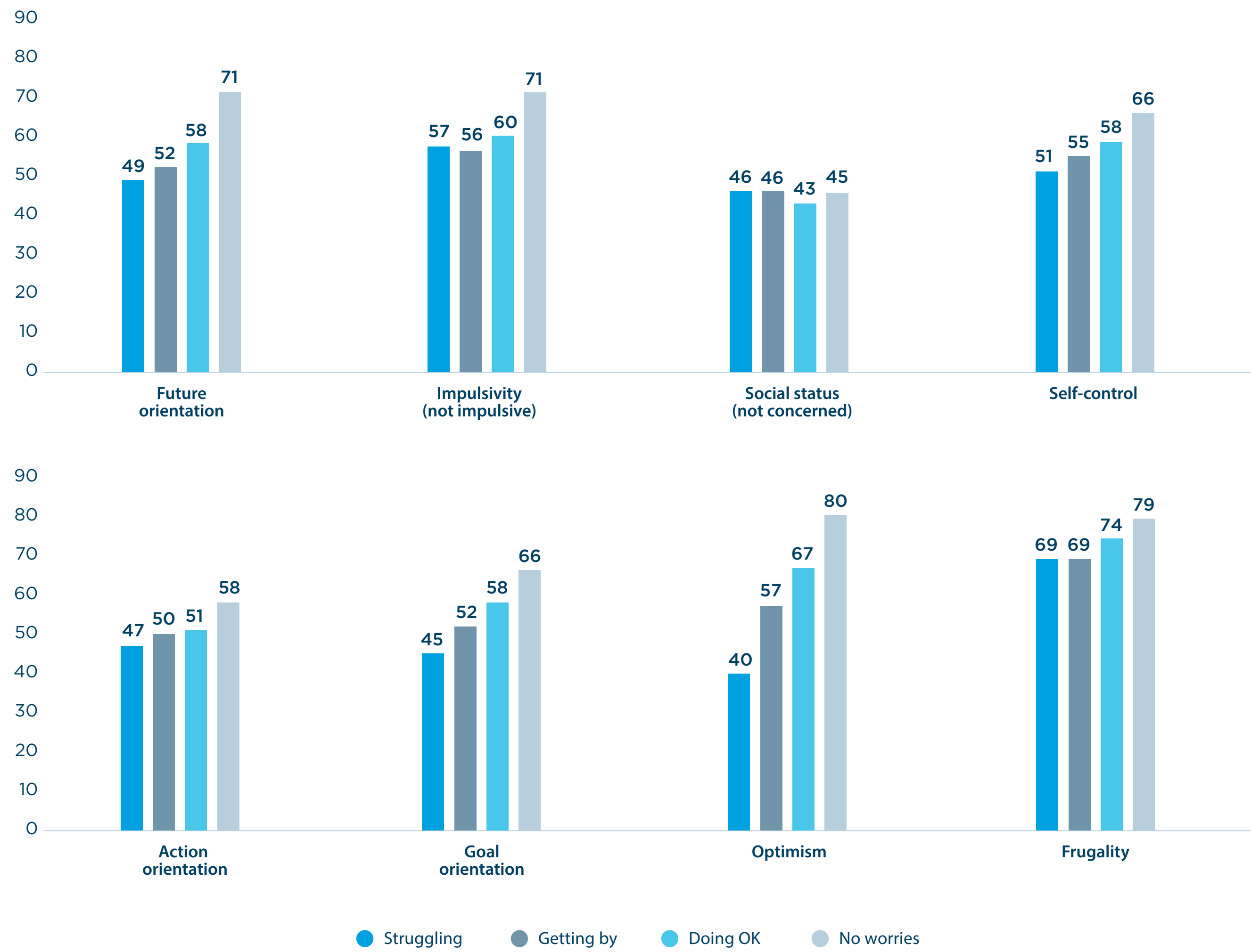
Behaviour traits influence financial wellbeing in different ways, some through improved financial confidence while others affected attitudes to saving and spending. 'Forward-looking' behaviour traits had the most significant impact.

Our analysis examined a number of behaviour traits and their impact on financial wellbeing. In particular, we explored whether someone was more future-oriented, impulsive, concerned with their social status, exercised self-control, was action or goal-oriented, optimistic or frugal. Our model showed that these behaviour traits combined accounted for 14% of the explained variation in financial wellbeing score.

People with high levels of financial wellbeing (no worries) recorded higher average scores across all behaviour traits. People who were **struggling** recorded lower scores across most of the behaviour traits, in particular being starkly less future-oriented, goal-oriented or optimistic than people in the **no worries** group. However, people who were **struggling** appeared as frugal as people who were **getting by**, perhaps driven by necessity with more limited incomes and savings (Figure 20).

Our analysis showed that optimism, future orientation, goal orientation, impulsivity and frugality had the strongest influences on financial wellbeing. These different financial behaviour traits influence financial wellbeing along different pathways, through either financial confidence and control or saving and spending attitudes, to behaviours and financial wellbeing. Whether an individual is future-oriented, impulsive or frugal influences their attitudes to saving and spending (whether they have more of a saving or spending mindset). Their level of optimism and whether they are goal-oriented influences how confident and in control they feel with their finances. Whether a person is goal-oriented or frugal also influences their planning and budgeting behaviours.

FIGURE 20 BEHAVIOUR TRAIT MEAN SCORES (OUT OF 100)



The following table shows how different financial wellbeing outcomes are achieved by the extremes of the five strongest behaviour traits through the different pathways. For example, the 'eternal optimist' has an average financial wellbeing score of 76, 36 points higher than their much more pessimistic counterpart. While we know there are other factors contributing to this, once these differences are accounted for in the model, the unique contribution of having a strong optimistic outlook adds 3.3 points to the financial wellbeing score.

Understanding their money personality can help someone to implement more positive behaviours to offset their natural instincts. For example, if someone knows they are more impulsive and less cautious, they know they will have a stronger spending attitude, will less likely actively save, exercise spending restraint and more likely borrow for everyday expenses, this can uniquely impact their financial wellbeing score by 4.2 points (following table). Implementing strategies such as having savings automatically locked away can help to counter these traits.

HOW BEHAVIOUR TRAITS CAN INFLUENCE FINANCIAL WELLBEING

		Behaviour trait (avg score/100)	Financial wellbeing (avg score/100)	Difference in financial wellbeing	Unique impact on financial wellbeing of behaviour trait
Optimism	High	100	76	36	**3.3**
	Low	20	40		
Future orientation	High	96	76	22	**5.5**
	Low	27	54		
Goal orientation	High	94	71	17	**4.5**
	Low	16	54		
Impulsivity (not impulsive)	High	100	68	13	**4.2**
	Low	17	55		
Frugality	High	100	67	13	**5.6**
	Low	31	54		

06

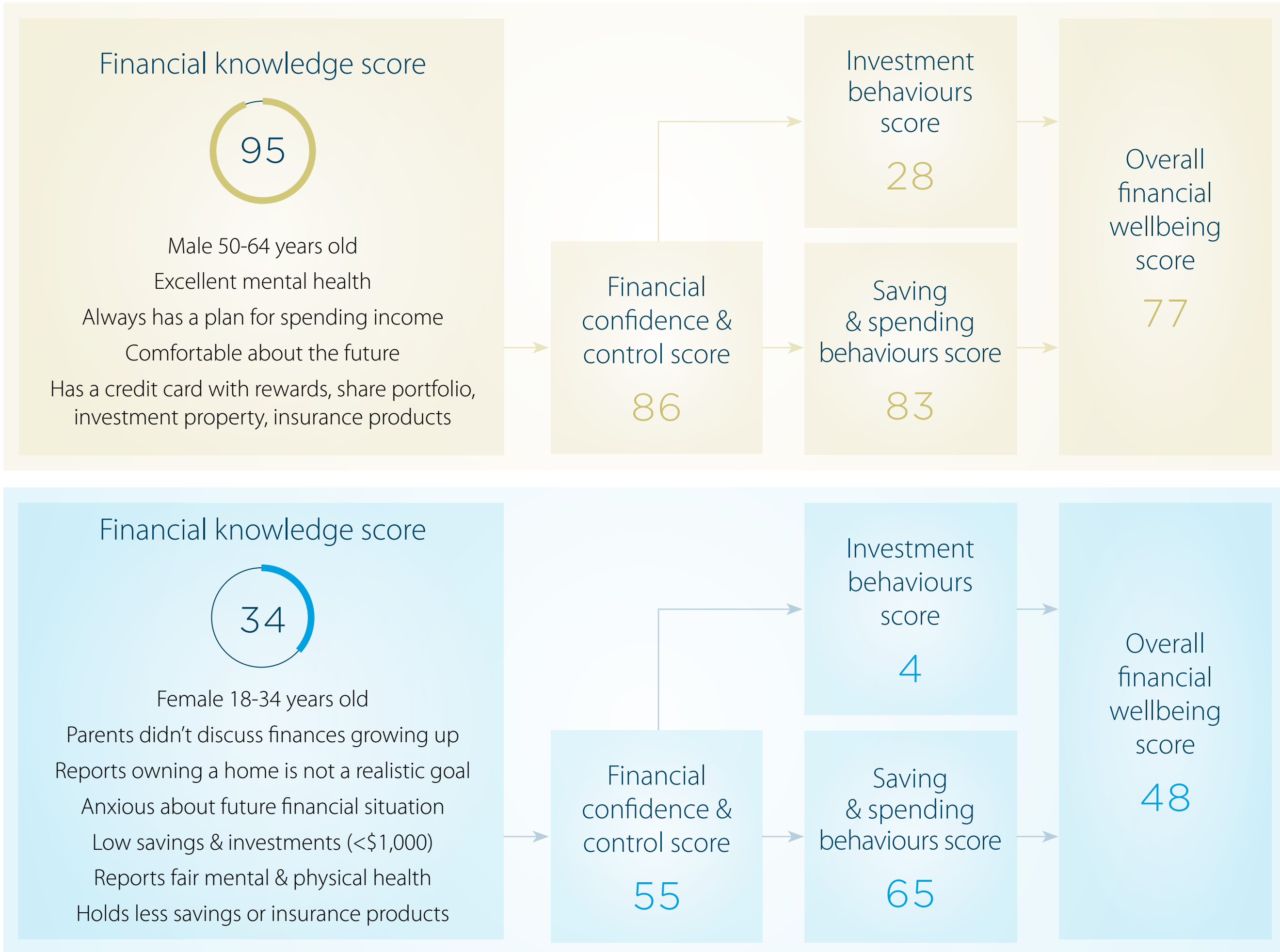
While not a strong influence on financial wellbeing, financial knowledge can influence people's confidence and control over their finances.

Financial knowledge (and to a lesser extent experience) work through other intermediaries to achieve a cumulative impact on financial wellbeing. Having financial knowledge can impact on an individual's financial confidence and control, which in turn influences the extent to which they will engage in saving and spending behaviours, and investment behaviours.

To illustrate this point, Figure 21 shows how two people, one with a high financial knowledge score (top 10%) and one with a low financial knowledge score (bottom 10%), achieve different financial wellbeing outcomes through influencing their financial confidence and control and how they behave. The person who scored high financial knowledge scored much higher for their financial confidence and control. They were generally confident about their ability to manage money day-to-day (95% of this group compared to 63% for the person with low knowledge), plan for the future (96% compared to 40%) and make decisions about financial products (96% compared to 29%). They were also more likely to feel they could determine what happened in their life (72%) than the person with a low knowledge score (32%).

This stronger sense of financial confidence and control leads to improved saving and spending behaviours and investment behaviours for the person with high financial knowledge. The result is a financial wellbeing score of 77 (out of 100), significantly higher than the person with low financial knowledge (financial wellbeing score of 48). The difference between these groups is substantial (29 financial wellbeing points) but other aspects that add to financial wellbeing for the high knowledge group are also contributing to this gap (e.g. being older and male). When these differences are accounted for in the model, the unique contribution of knowledge is not inconsequential, contributing 4.6 points[12] to the financial wellbeing score.

FIGURE 21 HOW KNOWLEDGE CAN INFLUENCE FINANCIAL WELLBEING (ALL SCORES OUT OF 100)



12 Knowledge has a standardised total effect of 0.063 on financial wellbeing; that is, a 1 standard deviation (sd) shift in knowledge produces a 0.063 sd shift in financial wellbeing. There is a difference of 61 points in the mean knowledge scores of the top and bottom 10% of the sample which equates to a difference of 3.58 sd. In turn, this is equivalent to a 0.225 sd change in financial wellbeing which translates to a 4.6-point change in the financial wellbeing score.

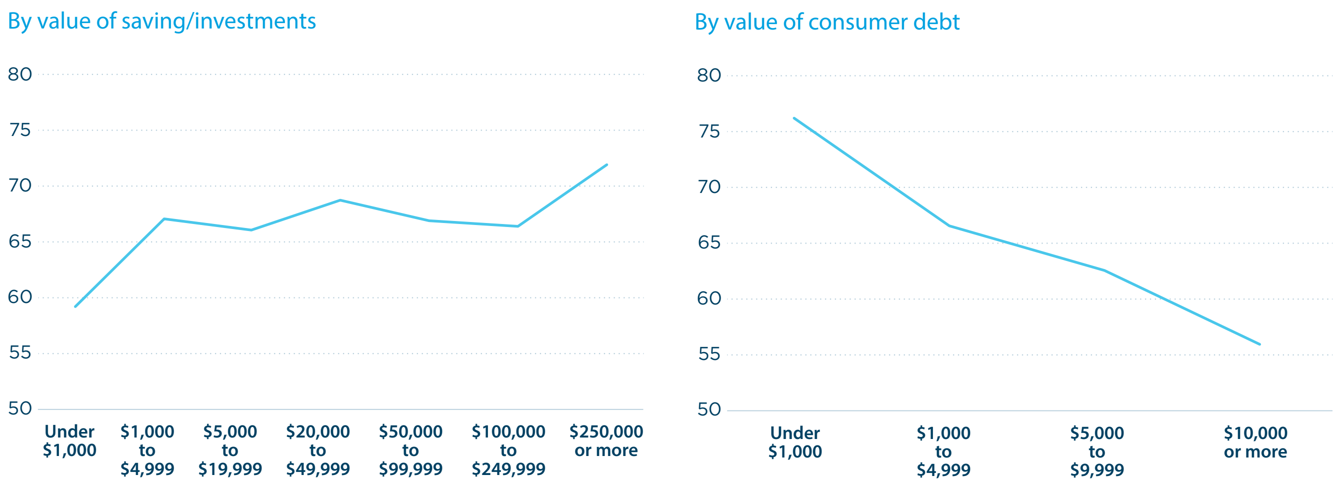
07

Whether a person has a stronger saving or spending attitude will have a direct effect on how they save, spend and use credit, which affects their overall financial wellbeing.

Saving and spending attitudes have a direct impact on whether someone actively saves, borrows for everyday expenses or exercises spending restraint. People with a higher saving and spending attitudes score (a stronger savings mindset) tended to have higher financial wellbeing. The mean saving and spending attitude score was 67 out of 100 for all New Zealanders. People who were **struggling**, **getting by** and **doing OK** all had a below average saving and spending attitude score (59, 62 and 65 respectively) while people in the **no worries** group had above average attitudes to saving and spending (78 out of 100).

Notably, attitudes to saving and spending were positively correlated with the value of savings and investments held, particularly for accumulation of savings and investments up to $5,000 and at the high end of over $250,000 (Figure 22). Similarly, saving and spending attitude scores were higher for people with lower levels of consumer debt (Figure 22).

FIGURE 22 SAVING AND SPENDING ATTITUDES MEAN SCORES (OUT OF 100)



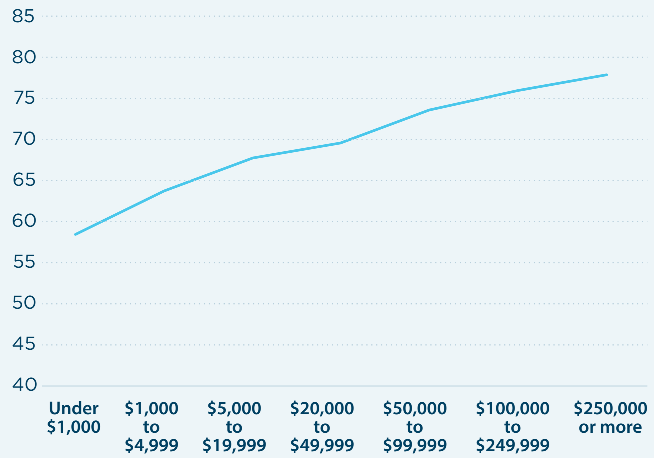
08

Financial confidence and a sense of control over our financial lives is key to improving saving, spending and investment behaviours.

Financial confidence and control also has a direct impact on whether someone saves, spends or borrows for everyday expenses. In addition, financial confidence and control is a key driver of longer term investment behaviours such as investing in property and shares.

People in the **no worries** group had higher than average confidence and control scores (83 out of 100), compared to those **doing OK** (70 out 100), **getting by** (60 out of 100) or **struggling** (50 out of 100). Financial confidence and control were positively correlated with the value of savings and investments held (Figure 23).

FIGURE 23 FINANCIAL CONFIDENCE AND CONTROL MEAN SCORES (OUT OF 100) BY VALUE OF SAVINGS/ INVESTMENT



Encouraging a change in financial behaviours

Once we understand the drivers of financial wellbeing, developing actions to improve financial behaviours and therefore financial wellbeing, is a logical next step. Behaviour change frameworks widely used within the public health sector have significant potential to contribute to research, policy and practice in financial wellbeing. In this additional analysis, we have applied the COM-B model – Capabilities, Opportunity and Motivation = Behaviour used in *The Behaviour Change Wheel* (Michie, Van Stralen & West, 2011), created to assist in creating policies to promote the desired behaviours that contribute to healthier individuals and society. This research acknowledges the importance of context in predicting financial wellbeing – especially external factors including economic conditions, cultural and social norms, policies and interventions. Context is inherent to the COM-B framework. Essentially there are three factors that are necessary for an intentional behaviour to occur:

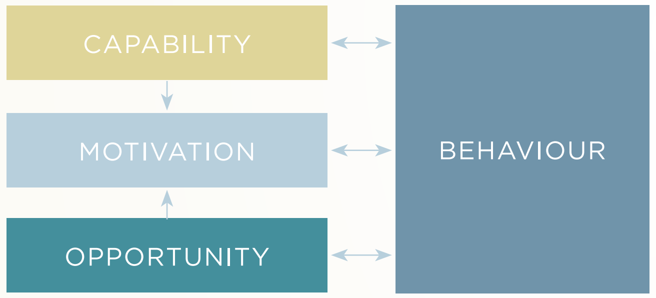
1. Capability – the skills needed to carry out the behaviour including knowledge, reasoning and physical abilities

2. Opportunity – an absence of external constraints that would prevent the behaviour such as physical resources and social opportunity and norms

3. Motivation – 'reflective' elements such as an intention to perform the behaviour, planning and beliefs about abilities, and 'automatic' elements such as reinforcement, emotions and default responses.

The COM-B model recognises that changes in one element will influence the other elements (figure below). For example, if capabilities are improved, it is likely that this will increase confidence and the motivation to engage in this behaviour in the future. Similarly, learning by doing, or actioning the behaviour will likely improve capabilities and enhance motivation.

THE COM-B SYSTEM



Source: Michie *et al.* (2011)

An analysis of the 2021 Financial Wellbeing Survey data was conducted to investigate the potential of the COM-B approach in identifying the 'blockers' and 'enablers' of the key saving and spending and investment behaviours that drive financial wellbeing. The table below shows the relative contribution of each COM-B domain to explaining the variation in each of the key financial behaviours. It shows that saving and spending behaviours are mostly driven by:

Motivation (46.5%) – particularly such motivating factors as a high degree of self-belief, a frugal attitude and a positive view of current levels of debt and future financial situation

Opportunity (37.3%) – particularly opportunities created by being able to easily meet mortgage/rent payments, having a relatively high and stable income, low levels of consumer debt, good health and not having caring responsibilities, especially those requiring the provision of financial support to parents and/or extended family members

Capability (16.2%) – particularly the ability to make well-informed financial decisions to have good self-control exhibited through the use of tracking tools to budget and control spending.

Notably, motivation appears to play a larger part in driving active saving (48.0%) and spending restraint (43.9%), whereas an individual's opportunity – their income situation, difficulty paying housing expenses, level of consumer debt – is a much more significant driver of whether they are able to avoid borrowing for everyday expenses (47.9% contribution to the explanation of variation in this behaviour).

Investment behaviours are much more strongly associated with an individual's capabilities than saving and spending behaviours; knowledge and understanding of financial products and their associated risks as well as budgeting skills were the capabilities with the greatest influence on investing behaviour.

Applying the COM-B model highlights that there are many different interventions that could be adopted to improve financial behaviours and therefore, financial wellbeing. For example, improving active saving behaviour might require more than enabling healthier choices. It could also include the development of intentions and goal setting, confidence in abilities and frugality. Interventions in product and service design such as setting and tracking savings goals and minimum savings buffers built into assessments for customers in hardship, will also reinforce savings behaviour. With opportunity playing the larger role in borrowing for everyday expenses, there is also a potential role for seeking ways to address broader policy issues such as housing costs, income and consumer debt to provide greater opportunities to develop a savings buffer.

CONTRIBUTION OF CAPABILITY, OPPORTUNITY AND MOTIVATION TO FINANCIAL BEHAVIOURS (%)

	Saving & spending behaviours				
	Active saving	Not borrowing for everyday expenses	Spending restraint	Saving & spending behaviours (combined)	Investment behaviours
Opportunity	27.6	47.9	29.0	37.3	25.2
Capability	24.4	19.7	27.1	16.2	41.0
Motivation	48.0	32.4	43.9	46.5	33.8

09

Improved financial wellbeing leads to greater confidence and sense of control over our financial lives, reinforcing spending and saving behaviours.

Since the development of the revised Kempson *et al.* model in 2017, much consideration has been given to the role of financial confidence and its importance as a predictor of financial wellbeing. More recent thinking by Kempson *et al.* has hypothesised that financial confidence could not directly affect financial wellbeing – an individual would have to 'act' on this confidence in order to improve financial wellbeing through financial behaviours. Improvement in financial wellbeing in itself is likely to drive further financial confidence which, in turn, improves key financial behaviours and financial wellbeing. This 'feedback loop' allows for saving and spending and investment behaviours to be reinforced or validated through improved confidence from improved financial wellbeing (Figure 16).

The adjacent table shows the outcomes of our model of the effect on financial confidence of the key drivers that work through it. While knowledge, optimism and goal orientation were the largest influences on financial confidence and control, financial wellbeing had a similar influence on financial confidence and control as do other behaviour traits such as self-control and future orientation.

INFLUENCES ON FINANCIAL CONFIDENCE AND CONTROL (STANDARDISED REGRESSION COEFFICIENTS)

	Influence on financial confidence and control
Knowledge and experience	
Knowledge	0.33
Experience	0.09
Behaviour traits	
Future orientation	0.11
Impulsivity (not impulsive)	0.06
Self-control	0.15
Action orientation	0.06
Goal orientation	0.20
Optimism	0.29
Frugality	0.06
Socio-economic factors	
Life journey	0.09
Financial stability	0.09
Financial wellbeing	0.13

Note: Only statistically significant results are shown.

10

Knowledge of online risks did not strongly impact financial wellbeing for most, with 18-24 and 50-64 year olds the least confident in their knowledge.

For the first time, our survey included questions on New Zealanders' understanding of the risks associated with banking in an online world. In particular, did people feel they knew how to manage their money online securely via websites or apps? Did they know how to protect their online privacy and security? Could they recognise a scam email if they saw it and what experience did they have of scams and fraud?

While important, knowledge of online risk was not a strong driver of financial wellbeing. The average knowledge of online risk score was 76 out of 100 for the total New Zealand population. This rose to 83 out of 100 for people with the highest levels of financial wellbeing (**no worries**) but did not fall substantially below the national average for people with lower levels of financial wellbeing (73 out of 100 for people **struggling**, 74 out of 100 for people **getting by** and 75 out of 100 for people **doing OK**).

KNOWLEDGE OF ONLINE RISK SCORES WERE LOWEST FOR PEOPLE IN THE TWO AGE GROUPS 18 TO 24 YEARS AND 50 TO 64 YEARS (74 OUT OF 100) AND HIGHEST FOR PEOPLE OVER 65 YEARS (80 OUT OF 100).

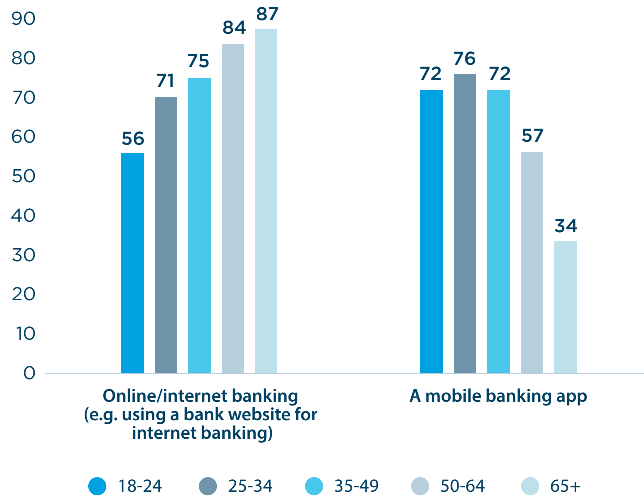
On the whole, most New Zealanders (81%) agreed that the statement they could 'manage their money online securely using websites or apps' described them well or very well. People **struggling**, **getting by** and **doing OK** all responded similarly with 77% to 78% reporting that this statement described them well or very well. People in the **no worries** group were generally more confident with 89% reporting that the statement described them well or very well.

Positively, 85% of older New Zealanders (aged over 65 years) agreed with the statement that they could 'manage their money online securely using websites or apps' described them well or very well. This was lowest for people aged 18 to 24 years with 78% responding positively to this statement.

POSITIVELY, 85% OF OLDER NEW ZEALANDERS (AGED OVER 65 YEARS) AGREED WITH THE STATEMENT THAT THEY COULD 'MANAGE THEIR MONEY ONLINE SECURELY USING WEBSITES OR APPS' DESCRIBED THEM WELL OR VERY WELL.

The pandemic was a time when many people who may not have previously used online banking methods moved to card-based accounts as social distancing restrictions and various lockdowns were implemented. Digital channel usage in the last 12 months showed that people aged 18 to 24 years had greater preference for apps to do their digital banking (72%) although 56% had still used internet banking via a bank website. As age increased, there was a much stronger preference towards using internet banking. Eighty-seven per cent of people over 65 years of age used internet banking compared to only 34% of people over 65 using mobile banking apps (Figure 24).

FIGURE 24 DIGITAL CHANNEL USED IN THE LAST 12 MONTHS (%)



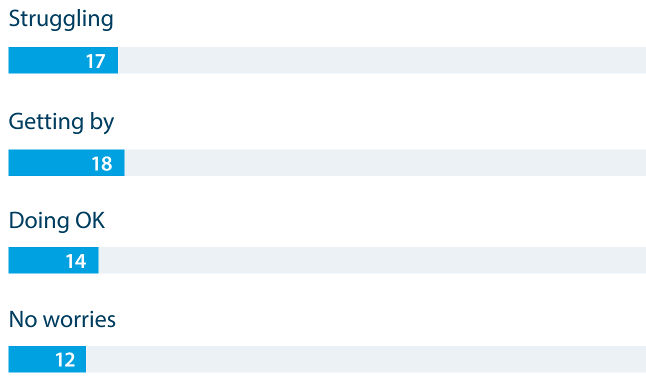
TWO-THIRDS (67%) OF NEW ZEALANDERS FELT CONFIDENT IN THEIR KNOWLEDGE OF HOW TO PROTECT THEIR PRIVACY ONLINE, WHILE 70% EQUALLY FELT THAT THEY UNDERSTOOD HOW TO PROTECT THEIR SECURITY ONLINE (DESCRIBES ME WELL/VERY WELL).

This response was consistent for most of the population under 50 years of age. However, people aged 50 to 64 years responded less positively about their understanding of how to protect their security and privacy online, with 63% and 62% respectively feeling that the statements 'I understand how to protect my security online' and 'I understand how to protect my privacy online' described them well or very well. New Zealanders over 65 years of age felt more confident than average with 77% responding that they understood how to protect their security and privacy online.

Most New Zealanders were confident they could 'recognise suspicious links in emails, websites, social media messages and pop ups' with 78% responding that this statement described them well or very well. This was highest for people in the **no worries** group (86%). People **doing OK** were in line with the national average (77%), whereas people **struggling** (72%) and **getting by** (71%) were less confident than most. It is worth noting that 17% of people **struggling** and 18% of people **getting by** reported that they had personally lost money in a scam or fraud. This experience may have influenced confidence in recognising potential scams for some in these segments (Figure 25).

It is also worth noting that there was a variation across age groups with whether people feel they could recognise suspicious links online. New Zealanders aged 25 to 34 years and over 65 years of age were more confident, responding above the national average (81% and 82% respectively). New Zealanders aged 35 to 49 years and 50 to 64 years responded in line with national average with 77% and 75% confident they could 'recognise suspicious links in emails, websites, social media messages and pop ups'. Only 70% of young New Zealanders aged 18 to 24 years felt this statement described them well or very well. The survey highlights risk around over-confidence with managing online privacy and security, the common propensity for humans to rate their skills above average and distorted self-assessment[13] or belief in system security, that can interfere with building new digital skills.

FIGURE 25 'I HAVE PERSONALLY LOST MONEY IN A SCAM OR FRAUD' (%)



13 https://www.sciencedirect.com/science/article/pii/S0022103115300135.

CONCLUSION

The 2021 survey represents an evolution in how we model and measure financial wellbeing, drawing on developments in international research and practice in the areas of measuring and improving people's financial wellbeing since 2017.

This report aims to improve understanding of why people might behave the way they do, what is driving their behaviour and what factors, both internal and external, are 'blocking' and 'enabling' their financial wellbeing. The analysis draws on and validates the revised Kempson *et al.* (2018) model of financial wellbeing in the New Zealand context. It highlights a network of relationships or 'paths' between different drivers to determine their direct and indirect influence on financial wellbeing. For instance, how an individual's context (their socio-economic environment) and behaviour traits, impact their knowledge, experience, attitudes and money management behaviours; how those intermediaries impact on financial confidence and control, saving and spending behaviours and investment behaviours; and finally, financial wellbeing outcomes.

THE SURVEY FINDINGS SUGGEST HAVING A FEELING OF SECURITY FOR THE FUTURE IS AN IMPORTANT COMPONENT OF FINANCIAL WELLBEING, IN ADDITION TO OUR ABILITY TO MEET EVERYDAY COMMITMENTS, HOW COMFORTABLE WE FEEL ABOUT OUR FINANCIAL SITUATION AND OUR RESILIENCE TO COPE WITH FINANCIAL SHOCKS.

Most importantly, an individual's context is critical. The socio-economic conditions they face have the strongest influence on their financial wellbeing. Their behaviour traits – a tendency towards being more or less future-focused, more or less frugal, optimistic or pessimistic – will also impact their attitudes, confidence and how they behave.

That is not to say that how we behave – whether we actively save, borrow for everyday expenses, exercise spending restraint or invest – is not important. Financial behaviours have a role to play in ensuring we have the financial resilience to lessen the impact of socio-economic disruptions on our financial wellbeing over time. The significance of this is evident now more than ever as people have drawn on their reserves during a once-in-a-century global pandemic.

ANZ is committed to the ongoing monitoring and improved understanding of financial wellbeing. This work will continue to inform ANZ's initiatives to improve financial wellbeing for our customers, employees and the community as well as provide insights for a range or stakeholders that support policies and programs to better the financial lives of New Zealanders at every life stage.

APPENDICES

A. LITERATURE REVIEW

Financial Wellbeing: Evolution of the concept, meaning and application

Professor Roslyn Russell, RMIT University

Since 2017, our understanding of what financial wellbeing means and looks like has evolved. We understand it to be complex, that it involves macro, meso and micro factors, and that it will ebb and flow along with life stages and events.

Research on this topic has since increased in volume and remains a cross-disciplinary effort. It has primarily focused on how to foster financial wellbeing, aiming to identify the factors that contribute most to financial wellbeing and how best to measure it.

The key areas of research have involved:

- Testing the efficacy of subjective versus objective indicators. There is a shift towards exploring the predictive powers of subjective indicators such as subjective knowledge rather than objective knowledge, perception of financial situation, financial self-efficacy with a reduced reliance on objective measures of finances and knowledge.
- The growing demand for digital literacy to be included as a critical part of the suite of skills necessary for financial capability.
- A recognition that life events and life stages should be explicitly accounted for in financial wellbeing models.
- The effects on financial wellbeing of a range of psychological factors such as materialism, social comparison, frugality and hyperopia. Increased understanding of vulnerability and resilience and how these factors relate to financial wellbeing.
- COM-B, (Capabilities, Opportunities, Motivations = Behaviour) is a framework widely used within public health that has significant potential to contribute to research, policy and practice in financial wellbeing.

More work is needed on:

- The contributing role of context in predicting financial wellbeing especially external factors including economic conditions, cultural and social norms, policies and interventions. Context is inherent to the COM-B framework.
- Understanding the 'why' behind financial attitudes and behaviours rather than just correlations.
- Exploring the link between mental health and financial wellbeing.
- The effect of COVID-19 on financial wellbeing longer term, increased importance on resilience, the trade-off between future financial wellbeing and meeting day-to-day needs.

Introduction

This Literature Review provides a brief update of the current international and national thinking on measuring financial literacy, capability and wellbeing to inform the data collection for the 2021 report. The 2017 survey adapted the Kempson *et al.* (2017) Conceptual Model of Financial Wellbeing. The Kempson *et al.* (2017) scale was used across a number of countries including New Zealand, Ireland, Norway and Canada. Since then, global circumstances have dramatically changed due to COVID-19, having a sudden and potentially long-term effect on our experiences of financial wellbeing. Research on the topic of financial wellbeing has also ballooned since 2017 with particular focus paid on what factors contribute to financial wellbeing.

In a similar vein, the 2021 survey takes into account how national and international thinking about financial wellbeing and capability has evolved and the effect of COVID-19, while ensuring some consistency with the 2017 survey for time series purposes.

The conceptual work on financial wellbeing continues to expand globally while largely maintaining agreement on the broad categories of what constitutes financial wellbeing.

In varying degrees financial wellbeing is determined by:

- External factors – socio-economic, structural, social and cultural norms, policies
- Financial capabilities – an interaction between knowledge, skills, behaviours and opportunity
- Financial situation – perceived and/or objective
- Psychological factors – attitudes, personality and psychological traits and biases
- Time – life stages, life events.

Definitions of financial wellbeing are also similar across studies (Kempson *et al.*, 2017; CFPB, 2015; Bruggen *et al.*, 2017; Muir *et al.*, 2017; Comerton-Forde, 2018) suggesting financial wellbeing is being able to meet financial commitments day-to-day and in the future, feeling financially comfortable, and having resilience to cope with financial shocks. Some definitions have also incorporated feelings of security, having control and freedom, all of which depict a state of contentment and satisfaction with one's financial life with an absence of stress, anxiety or worry.

Brown & Bowman (2020, p.1) have called for our understanding of financial wellbeing to be underpinned by the concept of economic dignity. Financial wellbeing should mean that:

'Every person deserves to:

- *have meaningful control over their financial decisions;*
- *be treated with respect, regardless of financial situation;*
- *be able to undertake work in a safe environment that is meaningful to them and that is valued by the community – including both paid and unpaid work;*
- *be able to meet their basic needs.'*

With general agreement on the broad components of financial wellbeing, recent research has delved into more nuanced aspects which in turn influences how we measure these concepts. The recent work has included redefining financial literacy, proposing additional psychological traits as being important to financial wellbeing, the inclusion of digital literacy and the increased focus on subjective versus objective indicators.

Improving measurements of financial literacy

Financial wellbeing models have generally shown that objective knowledge alone contributes little to financial wellbeing (Kempson *et al.*, 2017; Kempson & Poppe, 2018; CFPB, 2018; Riitsalu & Murakas, 2019).

In the last few years, there has been growing evidence that an individual's perception of their financial knowledge – that is, their subjective knowledge – is a better measure of their financial literacy than assessments from objective tests, such as those developed by Lusardi & Mitchell (2007) which are widely used as a measure of financial literacy[14] (Warmath & Zimmerman, 2019; Bayuk & Altobello, 2019). Subjective financial knowledge is measured as one's perceived overall financial knowledge and/or as one's perceived financial knowledge relative to others (Warmath & Zimmerman, 2019; Riitsalu & Murakas, 2019).

Warmath & Zimmerman (2019) have created and tested a re-conceptualisation of financial literacy in line with Bloom *et al.*'s (1956) domains of knowledge to include a combined measure of financial skill (psychomotor component), self-efficacy (affective component) and explicit knowledge (cognitive component). Warmath & Zimmerman (2019) developed and validated a formative scale for financial literacy using financial wellbeing as the validation measure. They show that combining a number of factors into a single measure can improve the measurement of financial literacy. The authors define financial literacy as *'one's capacity to make effective financial decisions*, where "capacity" refers specifically to knowledge, skill and self-efficacy' (Warmath & Zimmerman, 2019, p. 1623).

Importance of digital literacy

A growing stream of literature confirms the inescapable impacts of fintech on financial behaviours and financial wellbeing (Panos & Wilson, 2020). We have incorporated digital literacy into the conceptualisation and measurement of financial capabilities (for example, measures used by Lloyd Bank (2020) for financial digital literacy).

Given that Digital Financial Services (DFS) are the main, if not only, system used for financial transactions, it is therefore becoming more critical to narrow or eliminate the digital divide and view digital knowledge and skills as important as other forms of literacy such as reading and writing.

DFS has created enormous benefits for consumers. Transactions are fast, easy, widely accessible and secure, but there are also risks. Consumers have the right to know and understand how DFS can contribute to their financial wellbeing but must also be aware of and have the skills to manage and counter the risks that come with these services. Recommendations include incorporating digital literacy into the core competencies that comprise financial capabilities (OECD, 2018) and, by extension, financial wellbeing.

Consumers must understand the implications that come with their digital identity. They need to know how their digital profile can be used for their benefit by providing access to better tailored services and products. At the same time they must be aware of how their profile can lead to new types of exclusion should data be misused and/or lead to the erosion of financial capabilities that would otherwise promote financial wellbeing (OECD, 2018).

Digital innovations can also foster over-indebtedness by making it easier for people to overspend or by increasing the accessibility to high-cost loans and online gambling (Panos & Wilson, 2020), all of which can have detrimental effects on financial wellbeing.

There is an increase in literature on the risks of digital crime with a call for consumers to have skills in identifying fraud attempts, phishing and other increasingly sophisticated scam activities (Engels *et al.*, 2020; Lee, 2018). Even more critical however, is having effective regulation and systems that protect consumers against fraud and scams. Losing money to fraud or other financial crimes can have not only financial impacts but also longer-term effects on people's financial confidence which in turn will impact financial wellbeing.

BEING DIGITALLY LITERATE CONTRIBUTES TO A CONSUMER'S FINANCIAL CAPABILITY IN THAT IT OFFERS THEM CONVENIENT ACCESS TO ONLINE BUDGETING TOOLS AND CALCULATORS, FINANCIAL GOAL TRACKERS AND THE EASE TO SAVE AND TRACK THEIR EXPENDITURE AS WELL AS GIVING READY ACCESS TO INFORMATION. THIS GRANTS THEM THE POTENTIAL TO HAVE MORE CONTROL OVER THEIR FINANCIAL LIVES (OECD, 2018; LLOYDS BANK, 2020).

A randomised control trial in Northern Ireland showed that people who used a suite of money management 'apps' were better able to keep track of their income and spending and also increased their financial resilience (French *et al.*, 2020).

An experimental study by Bayuk & Altobello (2019) explored the use of gamification in financial apps and found that using a financial mobile app improved participants' subjective financial knowledge rather than objective financial knowledge (as measured by Lusardi & Mitchell's 2007 questions). Their study suggests that using an app may help people feel more confident about their finances because it gives them control and ability to manage their money conveniently and easily.

14 Lusardi & Mitchell (2007) financial literacy questions include 1. "Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?" 2. "Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, with the money in this account, would you be able to buy..." 3. "Do you think the following statement is true or false? Buying a single company stock usually provides a safer return than a stock mutual fund."

Life events

There is a tendency to think of financial wellbeing as a state one can achieve if they adopt the recommended behaviours, attitudes and goals. But life isn't static: every day involves new financial decisions and we face events that could affect our financial situation on a slight and temporary basis or plunge it into a deep dive. We may find it easier to put away savings at certain stages of our lives compared to others; and acquiring assets that contribute to financial wellbeing requires time. Conversely, the onset of disability and/or ill health can suddenly or gradually affect our financial wellbeing.

Since the emergence of the financial wellbeing models of Kempson *et al.* (2017), CFPB (2015, 2018) and the Australian Muir *et al.* (2018) work, follow-up research from the Muir *et al.* study, recommends incorporating a life-course ecological model into our conceptualisation of financial wellbeing (Salignac *et al.*, 2019). They call for closer attention to be paid to the effects of environment, age, life stage and life events when understanding financial wellbeing. The authors prefer the view that the individual is interacting with their environment rather than the environmental factors being separate as commonly depicted in the models. Collins and Urban (2020) have also recommended viewing financial wellbeing over the life-course and to include life events more overtly in the conceptualisation of financial wellbeing.

Future focus or Long-Term Orientation

Having a future focus or long-term orientation (LTO) has consistently been found to be positively associated with financial wellbeing (Kempson & Poppe, 2018; ANZ, 2018, Tahir *et al.*, 2021). Also important is that the future focus has positive feelings attached to it. Recent research exploring financial wellbeing in a two-country study of UK and Sweden since COVID-19 found that having a positive view of one's future financial situation is associated with higher levels of financial wellbeing (Barrafrem *et al.*, 2020). Having a Balanced Time Perspective (BTP) that tends to favour positive future orientation rather than dwelling on past and present in a negative way is associated with retirement planning behaviour (Mooney *et al.*, 2017). In another study on time perspectives (TP), higher levels of future-oriented time perspective are associated with a greater propensity for investing and making safer choices whereas riskier investment choices are associated with a higher level of present hedonistic time perspectives (Sekscinska *et al.*, 2018). A meta-analysis on Future Time Perspective (FTP) shows that it is positively associated with wellbeing, health behaviours and retirement planning (Kooij *et al.*, 2018).

Long-Term Orientation (LTO) was first conceptualised by Hofstede (1991) as one of a number of cultural measures used to compare societies. Hofstede described LTO as 'forward looking' versus a 'present or past looking' tendency. New Zealand scores 33 out of 100 on the Long Term Orientation versus Short term normative orientation which is considered a low score but not as low as Australia's score of 21 out of 100. In comparison, Norway scores 35, and UK scores 51.[15] The United States is also relatively low with a score of 26.

Having a future focus is critically important for financial security in later life and will indicate the likelihood of undertaking behaviours to plan for retirement. In New Zealand, there is NZ Super, a state-based, non-means tested superannuation fund paid to citizens aged 65 and over which can be supplemented with a voluntary contribution-based retirement savings plan (KiwiSaver). Regardless of population-based measures in place for retirement, it seems many people in general find it difficult to envision their 'future selves' and therefore find at retirement they don't have a future that is as financially secure as they would have hoped. There is perhaps, either consciously or subconsciously, a trade-off between wanting a financially secure future and maximising our enjoyment in the present (Alonso-Garcia *et al.*, 2018). The psychological tendency to prioritise the present and discount the future is well-documented (Luckman *et al.*, 2020). In New Zealand, it is estimated that 70% of citizens are not prepared for retirement (Financial Services Council, 2020) and there are continual efforts from all sectors to find ways to encourage individuals to better plan for retirement and participate in KiwiSaver if they are able (Financial Services Council, 2020).

Knowledge, skills and behaviours

In the last few years, we have also learned more about the type of knowledge, skills and behaviours that contribute to financial capabilities. Interestingly, the growing consensus is that financial capabilities have less to do with budgeting (Kempson & Poppe, 2018; MAS, 2018; Greenberg & Hershfield, 2019) and more to do with life skills.

Skills found to be important to financial capabilities include:

- **Research** – how you find, process and use relevant information (CFPB, 2018)
- **Numeracy (**Sawatzki, 2017; Skagerlund *et al.*, 2018)
- **Digital literacy** (French *et al.*, 2020; OECD, 2018)
- **Problem-solving** (Sawatzki, 2017)
- **Coping with fear, anxiety and stress** (Skagerlund *et al.*, 2018)
- **Deliberative thinking** (Stromback *et al.*, 2017)

15 https://www.hofstede-insights.com/product/compare-countries/.

Psychological and social factors

There has been greater emphasis placed on the significance of psychological factors, traits and attitudes in financial wellbeing research. While the Kempson *et al.* (2017) model found certain factors to be important – for example, locus of control, low impulsivity, self-control, future orientation and optimism – other research has identified additional psychological factors that contribute to financial wellbeing:

- Financial self-efficacy (CFPB, 2018)
- Frugality (Comerton-Forde *et al.*, 2018)
- Low materialism (Ponchio *et al.*, 2019; Netemeyer *et al.*, 2018)
- Low comparison to others (Madrian *et al.*, 2017)
- Financial confidence (Despard *et al.*, 2020)
- Self-control (Gathergood, 2012)

In a large study using a longitudinal UK data set, Furnham & Cheng (2017) explored the association between influential socio-demographic factors and financial wellbeing. The authors found that education, occupation, childhood intelligence and parental social status were significant predictors of financial wellbeing. Notably, Furnham & Cheng (2017) only included objective components in their financial wellbeing conceptual model – income, home ownership and living space.

Furnham & Cheng (2017) also included a malaise inventory and found that psychological distress had a significant effect on financial wellbeing.

Financial confidence

In a range of disciplines including education, health and psychology, confidence, along with motivation and other psychological traits have long been found to be important in changing behaviours or predicting behaviour (Dixon, 2008). As an extension to the role of confidence in changing behaviour, reinforcement of that behaviour can in turn boost confidence. A positive feedback loop operates between known elements of behaviour change – knowledge, confidence, motivation and behaviour. A recent study from health has shown that when knowledge and competence improves, confidence is positively impacted and that confidence contributes to the relationship between knowledge, competence and behaviour (Lucero & Chen, 2020). Similarly, findings in a randomised control trial with young Australian adults, showed that improved confidence in undertaking particular health activities also contributed to better health outcomes and that confidence was a mediating effect on behavioural change (Partridge *et al.*, 2017).

By borrowing the behaviour change concepts from health and other disciplines, we have seen the importance of confidence as a predictor of financial wellbeing becoming prominent in the research. Also referred to as subjective knowledge, financial confidence has been associated with behaviours that contribute to financial wellbeing such as saving and less costly use of credit cards (Lind *et al.*, 2020). If an individual has higher levels of financial confidence it may mean they are more likely to engage with financial information. Lind *et al.* (2020) found that financial confidence or subjective knowledge is more important than objective knowledge or financial competence in its effect on financial behaviours and attitudes towards financial matters. Lind *et al.* (2020) also found that subjective financial knowledge is a predictor of financial security. While we know that objective knowledge in itself contributes little to financial wellbeing, it does appear to increase confidence which in turn contributes to financial wellbeing.

There is however research that cautions against confidence without adequate knowledge as it can lead to over-confidence (Bucciol *et al.*, 2021). A study that explored over and under confidence in people's propensity to prepare for retirement found that both situations can be detrimental to their likelihood of planning but for different reasons. People who have too much confidence without adequate knowledge can be underprepared for retirement because they don't think they need to undertake any retirement focused planning and those with under confidence but actually have adequate objective knowledge delay preparing because it is a daunting prospect (Angrisani & Casanova, 2021).

Locus of control

Having an internal locus of control is widely recognised as a positive trait that contributes to an individual's wellbeing including financial wellbeing (Kempson & Poppe, 2018; ANZ, 2018). Recognising that one's behaviours can make a difference to life's outcomes denotes an attitude of having a certain degree of control over one's situations.

In Furnham & Cheng's (2017) large, longitudinal study of the sociodemographic indicators of financial wellbeing, they found using structural equation modelling that locus of control (at age 16) along with childhood intelligence, education and occupation predicted financial wellbeing.

Self-control

We know through the financial wellbeing measures to date, that impulsivity detracts from financial wellbeing and having self-control improves the likelihood of being able to save, avoid over-indebtedness and reach financial goals. John Gathergood (2012) has conducted the most definitive work in testing for the role of self-control and its effect on consumer over-indebtedness. He found that it has a stronger effect on over-indebtedness than low levels of financial knowledge. The study demonstrated that people who had low levels of self-control were more likely to use high-cost loans, experience financial shocks and be more exposed to financial risks than those with higher levels of self-control. Stromback *et al.* (2020) also confirm the importance of subjective self-control to financial wellbeing and financial behaviour. Notwithstanding these individual factors, we know the demand for high-cost loans is largely driven by external factors and the lack of options people have when there isn't enough money (Brown & Noone, 2021).

Materialism

Low materialism (Ponchio, *et al.*, 2019) is a psychological factor that has a positive influence on financial wellbeing. Chatterjee *et al.* (2019) found that overt materialism had a direct negative effect on financial wellbeing while socially-motivated aspirations had an indirect negative effect and was mediated by overt materialism. Materialism has been extensively researched in psychology and consumer research including its effects on subjective wellbeing (see for example Dittmar *et al.*, 2014 for a meta-analysis).

There is general agreement that the values and traits underlying materialism are the antithesis to those that are associated with subjective wellbeing, happiness and life satisfaction (Burroughs & Rindfleisch, 2002; Belk, 1984, 1985).

Social and cultural norms

There is a growing focus on how social and cultural norms influence financial behaviours and therefore financial wellbeing (Bursztyn & Jenson, 2017; Greenberg & Hershfield, 2019; Brown & Noone, 2021). Peer groups, social circles and the community (reference groups of comparison) can influence our financial values, goals and behaviours. Comparing ourselves to our reference groups can have positive or negative effects on our wellbeing.

Social comparison

The concept of social comparison is closely linked to materialism and has a long history of research in social psychology and associated disciplines. One of the fundamental theories of social comparison tells us that in order to understand ourselves we evaluate our characteristics, such as our knowledge, beliefs, values and abilities, against a reference group normally comprised of our peers or social networks (Festinger, 1954). Social comparison theory also proposes that not only do we evaluate ourselves against others (Festinger, 1954), but we also have an intrinsic need to improve ourselves based on our comparison or perhaps feel validated or superior based on our evaluation. Social comparison researchers have generally accepted that there are three motives for comparison – self-evaluation, self-improvement and self-enhancement (Gibbons & Buunk, 1999). In observing the extensive self-help material available online and in bookstores or promised in workshops and classes, the theory seems to hold up.

Cultural norms

Cultural variables, similar to social norms, have been obscure in the financial wellbeing models. Does financial wellbeing look and mean the same across different cultures? We know that values, attitudes and behaviours can be very different in individualistic versus collective societies (Weier *et al.*, 2018; Costa-Font *et al.*, 2018). These factors are an important consideration given the inherent multicultural nature of New Zealand society (Houkamau & Sibley, 2017). More work needs to be done to account for culture within our financial wellbeing models.

Hyperopia versus frugality

Hyperopia is characterised as a reluctance to or avoidance of spending money, especially on indulgences, viewing this as a barrier to achieving long-term goals. Borrowed from the medical field, the term 'hyperopia' refers to the condition of farsightedness – in which distant objects are clear in vision, but objects nearby are blurry. Recent discussion with Dr Dee Warmath (University of Georgia)[16] raised the awareness of the concept of hyperopia and its potential effect on financial wellbeing.

In the financial behaviour context, people with hyperopia are aware they avoid spending money and can readily acknowledge it. Moreover their hyperopia is characterised by feelings of regret in the future from foregoing indulgences that may have improved their satisfaction with life (Haws & Poyner, 2008). Consumer research focused on hyperopia suggests there are large segments of consumers who experience this trait (Pan *et al.*, 2019). This may suggest that despite common wisdom, people are experiencing lower levels of financial wellbeing due to being overly cautious in expenditure.

While hyperopia or reluctance to spend may sound like another term for frugality which has been found to be a contributing factor to financial wellbeing (Comerton-Forde., 2018), it isn't the same. The difference, explored by Pan *et al.* (2019) is in the motivation. Pan and co-authors found through experimental research that hyperopia is a 'lack of motivation to spend' while frugality is lack of spending with a 'motivation to save' (p.349). In their research, both traits resulted in lower levels of spending but were for different reasons. In essence, self-control or Consumer Spending Self-Control (CSSC) and frugality can contribute to financial wellbeing while hyperopia may detract from financial wellbeing.

16 Virtual meeting held 5 August 2020.

Financial vulnerability & resilience

A person's financial situation is comprised of objective (e.g. income, net wealth, assets and debt levels) and subjective elements (i.e. how a person feels about their situation; levels of worry). People's financial situation have been shown to be a significant contributor to financial wellbeing (CFPB, 2018; Riitsalu & Murakas, 2019).

The objective elements of a person's financial situation – their income, savings, assets, debts and employment circumstances, either constrain or expand choices which in turn dictate financial decisions (Morduch & Schneider, 2017). The detrimental effect of insecure work and lack of financial resilience on people's financial situation and therefore financial wellbeing has never been more evident than in the COVID-19 environment.

Recent research has furthered our understanding of financial vulnerability (O'Connor *et al.*, 2019). O'Connor and colleagues distinguish between vulnerability and financial stress or hardship.

> *Financial vulnerability is the risk of an individual falling into hardship (i.e. unable to maintain their standard of living) rather than a situation of living in a certain state of poverty or need. This means that anyone, regardless of wealth or income can be vulnerable*
>
> *(O'Connor et al., 2019, p.422)*

Incorporating the increased focus on distinguishing between objective and subjective elements in conceptualising financial wellbeing, O'Connor and colleagues (2019) see vulnerability as being comprised of objective and subjective components.

Objective measures

- **Assets** – debt levels, savings, liquidity, income level, retirement saving and servicing credit card payments
- **Credit measures** – access to credit, credit score and cost to borrow
- **Non-income related factors** – insurances, education and employment security.

Subjective measures

- **Financial awareness** – being cognizant of one's financial obligations relative to assets which is influenced by age, education, psychological factors such as time orientation, cognitive abilities, financial literacy and experience with financial systems
- **Financial confidence** (over- or under-confidence) – in financial decision-making.

Even more interesting is O'Connor's *et al.* (2019) finding that even when objective factors remain constant, for example in cases of low income, subjective factors such as having high levels of awareness and confidence can act as a buffer to financial hardship.

High levels of consumer debt, especially credit card debt and use of high-cost credit (e.g. payday loans) contributes to vulnerability and negatively impacts financial wellbeing (Davies *et al.*, 2019; Birkenmaier & Fu, 2018). The vulnerability is heightened if there is a disconnect between a person's perception of their financial situation or level of debt and the objective measure of their capacity to withstand a financial shock (O'Connor *et al.*, 2019; Weier *et al.*, 2018).

Context matters: economic, policy and structural factors

All financial wellbeing models acknowledge that external or macro factors play a role in our financial wellbeing, but these haven't received as much attention as the individual capabilities, behavioural and psychological factors (Fu, 2020). The ANZ (2018) report on the financial wellbeing of New Zealanders found that socio-economic factors accounted for about 33% of the variables that contribute to our financial wellbeing. The UK financial wellness model includes 3 out 10 factors that are macroeconomic indicators including unemployment rate, GDP per capita and the Gini coefficient (Hayes *et al.*, 2016).

The Centre for Social Impact (Brown & Noone, 2021) produced a valuable report that focuses on the importance of accounting for contextual factors in understanding financial wellbeing. Not only do the structural factors such as policies, the economy, natural disasters and pandemics need to be recognised and included but the ***interaction*** between these factors at the macro level, organisations (meso) and the individual (micro) should be better accounted for. The report identifies 75 different interactions or combinations of factors across the levels that impact financial wellbeing. Brown and Noone (2021) call for a more nuanced approach that integrates the structural factors to give a comprehensive understanding of financial wellbeing. In applying a systems lens to financial wellbeing, structural levers or drivers that can work together can be included 'as part of a suite of measures to improve financial wellbeing' (p.6) rather than relying upon individual factors to change in isolation.

Elevating the value of subjective measures

Financial wellbeing measures included in the Kempson *et al.* (2017) model are more objective than subjective. Over the last few years there has been a strong shift to elevate the status of subjective indicators in measuring financial wellbeing.

> *'Understanding the financial well-being of households requires more holistic measures than account balances or pay stubs can capture'*
>
> *(Collins & Urban, 2020, p. 341).*

Netemeyer *et al.* (2018) suggest that measures that only focus on objective knowledge, behaviours and wealth confound financial wellbeing with financial behaviours. Their research suggests that perceived financial wellbeing is a significant component of overall wellbeing – even more than other components combined, such as job satisfaction, physical health and satisfaction with relationship support.

Using a range of methodologies, the authors have developed and validated constructs of perceived financial wellbeing. They found it includes two dimensions: a person's current feelings of money management stress and worry about their current financial situation, as well as how a person perceives their future security and financial goals.

Questions commonly used to measure subjective knowledge include:

- I feel quite knowledgeable when it comes to managing my finances.
- I think I know more than my peers about saving money and retirement programs.
- How would you assess your overall financial knowledge?

Condensing scales and use of proxies for FWB measures

Since the emergence of financial wellbeing scales including the CFPB (2015), Kempson *et al.* (2017), Kempson & Poppe (2018), and the Australian Comerton-Forde (2018) work, there have been efforts to condense these scales or to use proxies in existing surveys that work just as well. The motivation to do so is mainly to reduce respondent burden and increase efficiency in the use of resources in data collection and analysis (Botha *et al.*, 2020).

ANZ has developed a Financial Wellbeing Indicator using a set of questions from Roy Morgan Single Source Interview and Survey as proxies for the Kempson *et al*. (2017) scale. This Financial Wellbeing indicator tracks the financial wellbeing of New Zealanders every six months.

Further work has been done with the CBA-MI Reported Financial Wellbeing Scale developed by Comerton-Forde *et al.* (2018) to condense their 10-item scale to five items. Botha *et al.* (2020) in reducing the number of items have also shifted the emphasis to subjective indicators rather than objective.

Collins & Urban (2020) have illustrated how items from other databases can be successfully used as proxies for the established financial wellbeing measures by creating a 'pseudo-FWB scale measure' (p.342). The authors provide the example of using the US National Financial Capability Study (NFCS) to create proxies for the FWB scale.

The promise of the COM-B model to financial wellbeing

The COM-B model – Capabilities, Opportunity and Motivation = Behaviour (Michie, Van Stralen & West, 2011) is a theory driven, system approach developed in the public health disciplines. It was created to help understand where the barriers lie in behaviour change and to create policies better targeted towards promoting the desired behaviours that contribute to healthier individuals and society.

Michie and colleagues noted that most behaviour change models fail to adequately account for context and external factors that shape behaviours. In the COM-B model, the Opportunity component refers to the context. Michie *et al.* (2011) argue that behaviour can only be understood in relation to context. Behaviour in context is thus the starting point for intervention design.

The COM-B model explicitly incorporates the internal (psychological), physical and external factors that drive behaviour. It is comprised of Capabilities, Opportunities, Motivations which activate Behaviours. Essentially there are three factors that are necessary for an intentional behaviour to take place:

1. skills needed to carry out the behaviour
2. an intention to perform the behaviour
3. and an absence of external constraints that would prevent the behaviour.

Michie *et al.*'s (2011) COM-B model depicts behaviours as a 'system' that is interactive, with positive and negative feedback loops. Importantly it recognises that changes in one element will influence the other elements. For example if capabilities are improved, it is likely that this will increase motivation to engage in this behaviour in the future. Similarly, learning by doing, or actioning the behaviour will likely improve capabilities and enhance motivation.

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B. SURVEY METHODOLOGY

The 2021 ANZ Financial Wellbeing Survey was conducted in New Zealand as an online interview:

Online survey:

- 25-minute online survey
- Total New Zealand responses received: n=1,505
- Panel: Roy Morgan Single Source, Cint
- New-Zealand wide
- Quotas set for age, gender, ethnicity and location
- Data post-weighted to latest ABS population estimates for age, gender and location, housing tenure (renting/not renting), education level (university degree/no university degree), household income (less than $50,000 per annum/not less than $50,000 per annum), savings and investments (less than $1,000/not less than $1,000)
- Fieldwork dates: 1-16 Jun 2021

C. TECHNICAL APPENDIX

As in 2017, ANZ's 2021 Financial Wellbeing project drew heavily on the conceptual model proposed by Kempson and Poppe[17] (see Figure 2 in the body of this report). This model defines financial wellbeing broadly 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. We retained this fundamental view of financial wellbeing for the 2021 research. However, in order to more specifically address people's expectations of their financial wellbeing in the longer term[18], a fourth component (expectations of future financial security) was added to the definition of financial wellbeing.

As shown in Figure 2, the model also suggests that financial wellbeing is influenced by a range of factors including people's financial behaviour, their personality traits and financial attitudes, their financial knowledge and experience, and various aspects of their social and economic environment. A standard set of survey questions has been developed by Kempson *et al.* to measure the three components of financial wellbeing and many of the things which influence it; these questions provided the basis for an online survey of 1,505 New Zealand and 3,552 Australian adults which was conducted by Roy Morgan Research during June 2021.

While the final set of questions we used was generally in line with these items and also much the same as those used in the 2017 ANZ Financial Wellbeing survey, it should be noted that:

- Additional items were used to measure the fourth component of financial wellbeing (i.e. future expectations of financial security)[19]
- A number of changes were made in the items used to measure the money management behaviours of planning and budgeting and monitoring finances in an attempt to improve their ability to predict financial wellbeing compared to 2017. Changes were also made to the items used to measure respondents' knowledge of risk in order to bring its measurement more into line with current online issues.
- Given its relevance to KiwiSuper and retirement funding, investment behaviour was added to the set of money use behaviours, and
- Several additions were also made in the areas of personality traits[20] (specifically optimism, goal orientation and frugality) and socio-economics (in particular, specific measures of physical and mental health, access to support from family, friends and neighbours/community and changes in household expenditure).

The other key difference from 2017 lay in our approach to analysis of the relationships between financial wellbeing and the factors which influence it. While 2017 used linear regression to establish the relative importance of influencing factors, it is acknowledged that other analytic approaches have the potential to enhance understanding in this field.

For example, Kempson writes[21]

> *'... there is a need to better understand the pathways to higher levels of financial well-being: how the various factors are linked together and what mechanisms are responsible for establishing those links. This calls for a different methodological approach, partly qualitative studies and partly path analysis (SEM) rather than a series of stand-alone regressions.'*

With this in mind, we have used structural equation modelling (SEM) as the fundamental analytic approach to understanding the relationships inherent in the financial wellbeing model shown in Figure 2.

While offering enhanced insights into financial wellbeing and its relationship to behaviour etc, this approach is not without some limitations. In particular, the literal application of SEM to the Kempson *et al.* model depicted in Figure 2 requires the consideration of a very large number of variables and, as a consequence, has the potential for a considerable number of paths that would need to be accommodated by the modelling. To this end, one of the important tasks we faced in preparing the survey data for use in SEM, was reducing the number of influencing variables in the model by developing summary indices wherever possible. Methods for doing this, as well as the other main data preparation processes, are outlined in the following sections.

Variable preparation

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 and domains. 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, response categories were re-ordered where necessary to ensure that a low score corresponded to low capability or wellbeing and a high score to high capability or wellbeing.

Finally the analysis variables were allocated to the relevant level and element of the conceptual framework (as shown in Figure 2); for example, a component of financial wellbeing, a type of financial behaviour or a particular financial attitude.

Component and summary index derivation

In keeping with the approach used by Kempson *et al.* the explanatory variables were: (1) direct survey measures or (2) variables constructed by a scaling procedure (referred to as "components" henceforth). Commonly Principal Components Analysis (PCA) was used to construct scaled components once they had been treated as described above. To this end it is important to note that all exogenous and endogenous variables in the SEM were effectively 'observed' variables (i.e. not latent variables) with the sole exception of financial wellbeing which was operationalised as a latent variable with 15 observed items defining it.

The reliability and sampling adequacy of each scaled variable 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[22] for each respondent so, for ease of interpretation, these were rescaled to achieve 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 respondent 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 and summary index. This approach was developed because of its transparency and also, because the scores are not standardised and thus more readily support 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. It should be noted that these average scores were the ones used for reporting the results shown in the body of this report; the PCA-based scores were used for modelling work only.

17 Elaine Kempson & Christian Poppe, *Understanding Financial Well-Being and Capability – A Revised Model and Comprehensive Analysis*, Consumption Research Norway – SIFO; Professional Report no. 3 – 2018; p74.

18 As recommended by various researchers including Warmath *et al.* (see reference below) and to ensure contextual relevance in relation to the need for people to make some personal provision for funding their retirement.

19 Netemeyer R., Warmath D., Fernandes D., Lynch J., *How Am I Doing? Perceived Financial Well-Being, Its Potential Antecedents, and Its Relation to Overall Well-Being.* Journal of Consumer Research. October 2017; p89.

20 We note that the personality traits that are a proposed in the Kempson & Poppe 2018 model are those that have been identified as being useful explanatory variables for financial well-being and not a complete inventory of all personality traits per se. As such, and because of their potential role in influencing financial behaviours we later refer to these as "behavioural traits".

21 ibid p81.

22 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.

TABLE A1 ITEMS USED TO DEFINE SEPARATE COMPONENTS AND SUMMARY INDEX OF FINANCIAL WELLBEING AND ASSOCIATED MEAN SCORES (OUT OF 100)

Financial wellbeing				Individual components			Overall financial wellbeing index		
Summary index	**Components**	**Individual survey items**		**Item loadings**	**PCA score**	**Simple average score**	**Item loadings**	**PCA score**	**Simple average score**
Overall financial wellbeing	Meeting commitments	Q12	How often do you run short of money for food or other regular expenses?	0.889	77	76	0.746	63	63
		Q13	Which of the following statements best describes how well you are meeting your bills and credit commitments at the moment?	0.846			0.763		
		Q15	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?	0.839					
	Feeling comfortable	Q9	How often do you have any money left over after you have paid for food and other regular expenses?	0.883	63	63	0.800		
		Q10	How would you describe your current financial situation?	0.838			0.722		
		Q11	How confident are you about your financial situation in the next 12 months?	0.831			0.778		
		Q14	How well do you think this statement fits you personally? *'My finances allow me to do the things I want and enjoy life.'*	0.849			0.792		
	Financial resilience	Q16	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?	0.874	58	58	0.779		
		Q17	Would you need to borrow, overdraw your account or use a credit card to meet an unexpected expense equivalent to a month's income?	0.802			0.681		
		Q18	If your income fell by a third, for how long could you meet all your expenses without needing to borrow?	0.834			0.750		
		Q19	Thinking about the total income of your household, approximately how many month's income do you have in savings?	0.855			0.710		
	Security for the future	Q45(1)	I am becoming financially secure	0.893	58	58	0.762		
		Q45(2)	I will be financially secure until the end of my life	0.911			0.738		
		Q45(3)	I am securing my financial future	0.878			0.739		
		Q45(4)	I have saved (or will be able to save) enough money to last me to the end of my life	0.892			0.717		

TABLE A2 ITEMS USED TO DEFINE SEPARATE COMPONENTS AND SUMMARY INDEX OF FINANCIAL BEHAVIOUR AND ASSOCIATED MEAN SCORES (OUT OF 100)

Financial behaviour				Individual components			Summary components		
Components used in SEM	**Individual components**	**Survey items**		**Item loadings**	**PCA score**	**Simple average score**	**Item loadings**	**PCA score**	**Simple average score**
MONEY USE BEHAVIOURS									
Saving and spending behaviours	Active saving	Q22	How often do you save money so that you could cover major unexpected expenses or a fall in income?	0.829	71	71	0.727	76	75
		Q23(1)	*How well do these statements describe you personally?* 'I try to save money to have something to fall back on in the future'	0.897			0.794		
		Q23(2)	I try to save money regularly even if it is only a small amount	0.876			0.750		
		Q23(3)	I always make sure I have money saved for bad times	0.904			0.824		
	Not borrowing for day to day expenses	Q24	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?	0.892	84	83	0.677		
		Q25	How often do you have to borrow money to pay off debts?	0.869			0.646		
		Q21(3)	How often do you incur a fee for going into negative balance on your everyday bank account?	0.741			0.603		
	Spending restraint	Q20(1)	*How well do these statements describe you personally?* I run short of money because I overspend	0.913	73	73	0.592		
		Q20(2)	I am impulsive and tend to buy things even when I can't really afford them	0.913			0.555		
Investing behaviours	Investing behaviours	Q5/ Q5A	Products held alone or jointly … * An investment property financed by a loan/ mortgage * An investment property that is not financed by a loan/mortgage * Investment or margin loan * Managed Fund * Share Portfolio	na	na	16.4	na	na	16.4
		Q27(1)	Have a plan to make sure there is money available for investment purposes (codes 4 or 5)						

Financial behaviour (continued)

Components used in SEM	Individual components	Survey items		Individual components: Item loadings	Individual components: PCA score	Individual components: Simple average score	Summary components: Item loadings	Summary components: PCA score	Summary components: Simple average score
MONEY MANAGEMENT BEHAVIOURS									
Planning/ budgeting	Planning/ budgeting	Q26	Do you have a plan or a budget for how your regular income will be used?	0.846	56	56	0.846	56	56
		Q28	How often do you keep to the plan for using your income(s)?	0.904			0.904		
		Q27(2)	To make sure there is money available for unexpected expenses or emergencies	0.902			0.902		
		Q27(3)	To save money for a specific goal like a holiday, wedding, home deposit, etc	0.834			0.834		
		Q27(4)	So there will be enough money to pay regular bills on time	0.915			0.915		
		Q32	In the last 12 months have you personally done any of the following … 1. Had your account set up so that your savings are put aside automatically 2. Used any budget tool to help you achieve investment or savings goals 3. Assigned specific amounts of money to different accounts based on your specific expenses and savings goals (e.g. savings goal, emergency fund, bills and expenses, money available to spend) 4. Used an automated method to pay your bills (e.g. using direct debits)	0.410			0.410		
Monitoring finances	Monitoring finances	Q31a	Done any of the following in the last 12 months ... Checked your account transaction records	0.734	72	70	0.734	72	70
		Q31c	Tracked your spending and/saving either manually or automatically through an app or online tool	0.794			0.794		
		Q31d	Reviewed your transactions records and receipts to help you identify where you're spending	0.862			0.862		
Informed financial behaviour	Informed product choice	Q34/35	Before you got this <INSERT NAME OF PRODUCT RANDOMLY SELECTED FROM Q33>, did you personally search for information from a range of sources?	0.893	53	52	0.687	63	61
		Q36	Did you personally consider many alternatives before you decided which <PRODUCT>, to take out or renew?	0.832			0.678		
		Q37	How carefully did you personally check the applicable fees and other conditions of the <PRODUCT> before you took out or renewed it?	0.861			0.745		
	Informed decision making	Q38(1)	How well do these statements describe you personally. I always get information or advice when I have an important financial decision to make	0.798	70	70	0.630		
		Q38(2)	I spend a lot of time considering the options before I make financial decisions	0.873			0.669		
		Q38(3)	When I make financial decisions, I always do a lot of research	0.873			0.703		

TABLE A3 ITEMS USED TO DEFINE SEPARATE COMPONENTS AND SUMMARY INDEX OF PSYCHOLOGICAL FACTORS AND ASSOCIATED MEAN SCORES (OUT OF 100)

Psychological factors

Components used in SEM	Individual components	Survey items		Individual components: Item loadings	Individual components: PCA score	Individual components: Simple average score	Summary component (financial confidence and control): Item loadings	Summary component (financial confidence and control): PCA score	Summary component (financial confidence and control): Simple average score
Financial confidence and control	Financial confidence	Q44(1)	*How confident are you about your ability to...* Manage your money day to day	0.848	74	74	0.784	71	70
		Q44(2)	Plan for your financial future	0.887			0.854		
		Q44(3)	Make decisions about financial products and services	0.868			0.821		
	Locus of financial control	Q43M	I can pretty much determine what happens in my life	0.792	65	65	0.569		
		Q43N	My financial situation is largely outside my control	0.470			0.460		
		Q43O	When I make financial plans I do everything I can to succeed	0.779			0.625		
Financial attitudes	Attitudes to spending, saving and borrowing	Q43S	S. I prefer to buy things on credit rather than wait and save up	0.760	67	67			
		Q43U	U. I prefer to spend any money I have rather than save it for unexpected expenses or an income fall	0.859					
		Q43V	V. I find it more satisfying to spend money than to save it	0.827					
Future orientation	Future orientation	Q43a	I focus on the long term	0.579	59	59			
		Q43b	I live more for the present day than for tomorrow	0.852					
		Q43c	The future will take care of itself	0.788					
Impulsivity	Impulsivity	Q43d	I often do things without giving them much thought	0.863	62	62			
		Q43e	I am impulsive	0.821					
		Q43f	I say things before I have thought them through	0.823					
Social status	Concern about social status	Q43g	I care about how other people see me	0.879	44	44			
		Q43h	I am concerned about my status among people I know	0.823					
		Q43i	I want other people to respect me	0.794					
Self-control	Self control	Q43j	I am good at resisting temptation	0.822	61	59			
		Q43K	I find it difficult to break undesirable habits	0.544					
Action orientation	Action orientation	Q43l	I am always in control of my actions	0.759	51	52			
		Q43p	When I have a difficult decision to make I tend to put it off to another day	0.857					
		Q43q	When I have to do something important I don't like I do it immediately to get it done	0.515					
Goal orientation	Goal orientation	Q43r	When I have to choose between a lot of options I find it difficult to make up my own mind	0.772	58	58			
		Q43w	I set very specific goals	0.909					
		Q43x	I stick to fixed deadlines I've set myself to achieve my goals	0.909					

Psychological factors (continued)

Components used in SEM	Individual components	Survey items		Individual components: Item loadings	Individual components: PCA score	Individual components: Simple average score	Summary component (financial confidence and control): Item loadings	Summary component (financial confidence and control): PCA score	Summary component (financial confidence and control): Simple average score
Optimism	Optimism	Q43Y	Y. Right now, I expect things to work out for the best.	0.898	66	66			
		Q43Z	Z. I am feeling optimistic about my future.	0.922					
		Q43AA	AA. The future is looking bright to me.	0.922					
Frugality	Frugality	Q20(3)	If I can re-use an item I already have, there's no sense in buying something new	0.762	74	74			
		Q20(4)	There are things I resist buying today so I can save for tomorrow	0.763					
		Q20(5)	I control myself so that I make sure that I get the most from my money	0.807					

TABLE A4 ITEMS USED TO DEFINE SEPARATE COMPONENTS AND SUMMARY INDEX OF FINANCIAL KNOWLEDGE AND FINANCIAL EXPERIENCE AND ASSOCIATED MEAN SCORES (OUT OF 100)

Financial knowledge and experience

Components used in SEM	Individual components	Survey items		Individual components: Item loadings	Individual components: PCA score	Individual components: Simple average score	Summary components: Item loadings	Summary components: PCA score	Summary components: Simple average score
Financial knowledge	Product knowledge	Q41(1)	*How would you rate your knowledge of …* Bank accounts and other products to help you manage your money day-to-day	0.808	69	69	0.651	67	66
		Q41(2)	Longer term financial investments to help you improve your financial situation and plan for retirement	0.851			0.694		
		Q41(3)	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	0.859			0.684		
	Knowledge of financial product risk	Q42(1)	*How well do you understand the risks associated with…* Investing in the share market	0.813	57	57	0.650		
		Q42(2)	Going guarantor for someone else's loan	0.719			0.551		
		Q42(3)	Margin loans	0.675			0.480		
		Q42(4)	Online banking	0.450			0.592		
		Q42(5)	Term deposits	0.761			0.686		
		Q42(6)	Borrowing money to invest	0.827			0.666		
	Knowledge of online risk	Q39(1)	*How well do these statements describe you personally…* I understand how to protect my privacy online	0.872	76	76	0.642		
		Q39(2)	I can manage my money and bank transactions online securely via websites or apps	0.695			0.463		
		Q39(3)	I can recognise suspicious links in emails, websites, social media messages and pop ups	0.791			0.542		
		Q39(4)	I understand how to protect my security online	0.903			0.654		
Financial experience	Money management experience	Q7(1)	*What role do you play in the following activities?* Planning how the money in your household is spent	0.870	87	87	0.816	67	65
		Q7(2)	Ensuring that regular household expenses e.g. mortgage, household bills or repayments on money borrowed are paid	0.828			0.78		
		Q7(3)	Making the financial decisions in your household	0.861			0.823		
	Financial product experience	Q5/ Q5A	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	0.841	33	32	0.573		
		Q33	Have you personally been responsible for buying or renewing any of the following products in the past 3 years? Number of products bought/renewed	0.841			0.424		

Socio-economic variables

Typically socio-economic variables present some difficulties when used in financial wellbeing explanatory modelling. These difficulties include:

- The relatively large number of variables that are generally collected, a number which is usually exacerbated by the categorical nature of many socio-economic measures and consequent requirement for dummy coding;
- The inter-relationships between many of the socio-economic variables (eg: level of education, occupational status and income all tend to be inter-related) that give rise to multicollinearity problems which typically require at least some variables, often variables of particular interest to researchers, to be dropped from modelling analyses even though they would have a legitimate role.

TABLE A5 OUTCOME OF PCA PERFORMED ON A SET OF 24 SOCIO-ECONOMIC VARIABLES

	Socio-economic conditions – item loadings								
Survey items	**Life journey**	**Earning potential**	**Health concerns**	**(No) cultural obligations**	**(No) unemploy-ment**	**Dependent children**	**Financial stability**	**Social support**	**Male gender**
Retired	0.852								
Main income source: NZ Super	0.822								
Age (increasing)	0.750							-0.272	
Household income (low --> high)	-0.413	0.381	-0.374		0.224				0.196
Paying mortgage/rent (Not easy --> Easy to manage)	0.410		-0.220		0.212		0.464		
Level of Post-secondary education		0.732							
Occupation: Professional/senior manager		0.693							0.235
Occupation: Lower blue collar		-0.598							0.405
Occupation: Lower white collar								0.214	-0.505
Overall physical and mental health (poor --> excellent)			-0.701						
Welfare NOT retired – Govt benefit		-0.193	0.675						
Illness in last 12m --> at least 2m off work			0.646						
New Zealand European cultural background				0.701			0.173		
Maori or Islander cultural background				-0.661					
Provide financial support to extended family (i.e. cousins, uncles, aunts)				-0.498					0.188
Change in household income (decrease --> increase)					0.781				
Lost job/redundancy in last 12 months					-0.660				
Single parent						0.662			-0.250
Number of dependent children	-0.274					0.647			
Provide financial support to adult child						0.579			0.272
H'hold expenditure increased sig. in last 12m				0.220	0.330		-0.569		
Stability of hh income (low --> high stability)					0.340		0.541		
Consumer debt is less than $1,000	0.231			0.205			0.530		
Parents did not discuss finances when growing up								-0.692	
Access to social support (low --> high)								0.663	
Gender (non-binary; female; male)						-0.259			0.598
Received significant inheritance in last 12m								0.344	0.432
Mean score (out of 100)	38	48	34	30	47	23	62	41	48

Notes:
1. Only the highest loadings are shown in this table; low loading values have been omitted to aid interpretation. The largest factor loadings are highlighted in bold blue type.
2. The sign of the factor loadings in the above table is related to the direction that socio-economic variables were coded. For example among the variables associated with "Health Problems", overall physical and mental health is coded so that better health has a higher score. As expected, this has a negative correlation with better mental and physical health and hence its loading is negative whereas the experience of illness in the last 12 months loading is positive.

To minimise these difficulties we adopted a slightly different approach to handling the socio-economic variables. Preliminary correlation and regression analyses were used to evaluate the potential of all socio-economic variables collected in the survey to impact financial wellbeing. This enabled us to reduce these variables to a set of 27 which were then entered into an exploratory factor analysis; this analysis provided a descriptively useful solution with nine distinct factors as shown in Table A5. Note that the labels given to these factors e.g. 'earning potential' were merely convenient short-hand labels – readers should familiarise themselves with the socio-economic variables that are key to each factor to understand the essence of each.

Some academics claim that the inclusion of categorical variables in standard factor analysis may produce unreliable results and, as there was a small number of categorical variables in the above-mentioned factor analysis, we validated the outcomes with a parallel analysis of the 27 variables using the SPSS CATPCA procedure in which these variables were transformed using optimal scaling procedures.

A SEM of financial wellbeing in New Zealand

On completion, these analyses provided a set of components which could be used to establish an explanatory structural equation model of financial wellbeing that was consistent with the Kempson model introduced in Figure 2.

Influences on Financial Wellbeing

A particular benefit of the SEM lies in its ability to quantify the comparative influence on financial wellbeing attributable to each of the model components; this is shown by the standardised effects coefficients presented in Table A6. The various explanatory components in this model as listed in Table A6, have either direct or indirect[23] influences on financial wellbeing depending on their placement in the model. As shown earlier in Figure 2, the money use behaviours of saving, spending and investment and the eight conditions comprising the socio-economic environment have a direct influence on financial wellbeing. Hence, in Table A6, they show direct standardised regression coefficients in the 'Direct Effect' column. In addition, Table A6 shows that:

- The spending and saving behaviours and the socio-economic conditions also have small indirect effects on financial wellbeing as a result of their influence on people's financial knowledge, experience, attitudes and confidence
- Consistent with the Kempson model the remaining components of the model have indirect effects on financial wellbeing mediated through people's money management, money use and investment behaviours.

The total influence of each explanatory component in the model is described by the "Total Effect" value in this table – this is calculated as the addition of the Direct and Indirect Effects. The table demonstrates the key importance of spending and saving behaviours, health, financial stability and income as determinants of people's financial wellbeing. There are however many influences on financial wellbeing that each have varying levels of influence on the outcome – this complexity is as would be expected for a complex social phenomenon like financial wellbeing.

TABLE A6 STANDARDISED EFFECTS OF MODEL COMPONENTS ON FINANCIAL WELLBEING

	Standardised effects on FWB		
	Indirect effect	**Direct effect**	**Total effect**
Money use behaviours			
Saving and spending behaviours	0.01	0.41	0.42
Investment behaviours	0.00	0.19	0.20
Money management behaviours			
Planning/budgeting	0.13	0.00	0.13
Monitoring finances	-0.02	0.00	-0.02
Informed financial behaviour	0.03	0.00	0.03
Psychological factors			
Financial confidence and control	0.16	0.00	0.16
Financial attitudes	0.17	0.00	0.17
Future orientation	0.09	0.00	0.09
Impulsivity	0.06	0.00	0.06
Social status	0.01	0.00	0.01
Self-control	0.02	0.00	0.02
Action orientation	0.00	0.00	0.00
Goal orientation	0.07	0.00	0.07
Optimism	0.05	0.00	0.05
Frugality	0.08	0.00	0.08
Financial knowledge and experience			
Financial knowledge	0.06	0.00	0.06
Financial experience	0.02	0.00	0.02
Socio-economic conditions			
Life journey	0.04	0.11	0.15
Earning potential	0.02	0.19	0.21
Health concerns	-0.02	-0.35	-0.37
Cultural obligations	-0.01	-0.05	-0.06
Unemployment	-0.01	-0.16	-0.17
Dependent children	0.00	-0.04	-0.04
Financial stability	0.04	0.24	0.28
Social support	0.00	0.17	0.17
Male gender	-0.01	0.18	0.16

23 An indirect effect represents the product of all paths that lead to financial wellbeing from explanatory components that do not link directly to financial wellbeing.

A SEM representation of financial wellbeing in New Zealand

The model developed is summarised in the figure below. Due to the large number of paths, this figure has been simplified to only show specific paths for the 'top' of the model. It should be noted that all relationships retained in the model were statistically significant[24]; however while the model could have been simplified by removing those elements with minimal influence on financial wellbeing, we chose to retain them so as not to diminish the overall ability of the model to explain financial wellbeing.

This approach in turn had some negative effect on the final model's goodness of fit (RMSEA=0.094) however the R^2 figure of 0.72 indicates the total set of components used provided an excellent explanation of the variation in people's financial wellbeing scores.

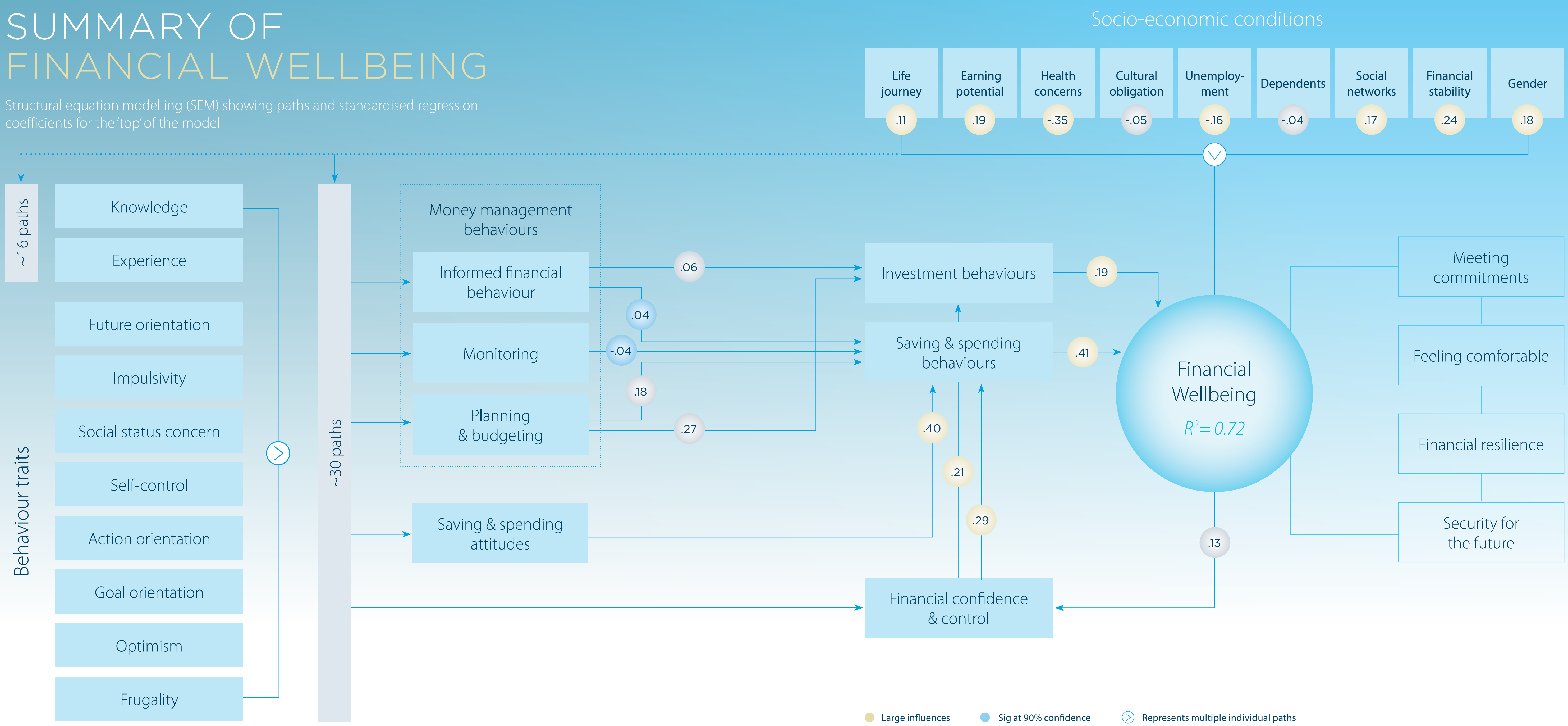
Another important feature of this model is how financial wellbeing was operationalised. As it is the most critical construct in the model financial wellbeing was implemented as a latent variable with 15 indicators – the indicators were identified in earlier in Table A1 and fall into the domains Meeting Commitments, Feeling Comfortable, Financial Resilience and Expected Future Financial Security.

The figure below also shows the standardised regression coefficients associated with each path at the top of the model, that is, the part that directly leads to financial wellbeing. These coefficients point to the strong influence of saving and spending behaviours, health, financial stability, and income on financial wellbeing; they also show the importance of psychological factors such as positive financial attitudes and confidence in driving saving and spending behaviours.

Of particular interest in this model is the relationship between financial wellbeing and financial confidence and control; the path shown reflects the view that financial confidence and control only exerts an indirect influence on financial wellbeing through its impact on saving and spending, and investment behaviours. In addition it should be noted that a feedback loop is present whereby financial wellbeing has a direct influence on financial confidence and control – this feature was proposed by Elaine Kempson and made inherent sense in that it allows for a mechanism of reinforced change over time via the circular action of individuals experiencing change in financial wellbeing from improved financial behaviours which, in turn, reinforces those behaviours via the mediation of improved financial confidence and control.

SUMMARY OF FINANCIAL WELLBEING

Structural equation modelling (SEM) showing paths and standardised regression coefficients for the 'top' of the model



24 Two relationships shown in red in Figure above were only significant at the 0.10 level of significance.