Australian Government

Department of Families, Housing,
Community Services and Indigenous Affairs

Occasional Paper No. 36

Approaches to personal money management

A population segmentation based on data from the *ANZ Survey of Adult Financial Literacy in Australia (2008)*

THE SOCIAL RESEARCH CENTRE AND DATA ANALYSIS AUSTRALIA

Improving the lives of Australians

ISSN 1833-4415

ISBN 978-1-921647-69-7

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For more information
Research Publications Unit
Research and Analysis Branch
Australian Government of Families, Housing, Community Services and Indigenous Affairs
PO Box 7576
Canberra Business Centre ACT 2610
Phone: (02) 6244 5458
Fax: (02) 6133 8387
Email: publications.research@fahcsia.gov.au

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Introduction

This report presents findings from a segmentation analysis that used data from the 2008 *ANZ Survey of Adult Financial Literacy in Australia*. The analysis was commissioned by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and was undertaken during the period of June to August 2010 by the Social Research Centre and its research partner Data Analysis Australia.

The broad aims of the project were to:

- establish an appropriate statistical methodology for segmenting the population on the basis of personal money management attitudes and behaviours
- use this methodology to create a robust and meaningful segmentation of the population
- profile the population's money management segments on their sociodemographic characteristics, attitudes towards money, financial literacy and level of exposure to financial risk.

The report of findings from this project is designed to help policy makers better understand how money is managed in Australia. It is intended to inform the development of new approaches to assist people in financial difficulty and to prevent people getting into such situations in the first place. It is also intended to inform other research projects designed to increase understanding of Australians in financial difficulty.

Data analysis

The segmentation analysis consisted of two stages.

- Firstly, the main elements of people's money management behaviour were identified using the statistical technique of principal components analysis.
- Cluster analysis was then used to identify population subgroups that differed on these key elements and hence, differed in their approach to money management.

Details of the analysis are provided in Section 3 and Appendix A of this report.

Limitations of the analysis

When considering the project findings, there are several issues that should be kept in mind. Specifically:

- Firstly, five money management groups were identified and the focus of this report is on describing the differences between them. However, within each group, there was some degree of heterogeneity on most of the descriptive variables that were used. As a result, what the descriptions of the groups really show are the probabilities of characteristics being present (or not) if a person is a member of a particular group. For example, if a person is from Group 2 there is a much higher chance they will be the owner of an investment property (50 per cent of Group 2 have an investment property) than if they are from Group 5 (only 5 per cent of Group 5 have an investment property). Thus, someone can be in Group 2 and not own an investment property while someone from Group 5 may do so; however, if we know a person is from Group 2, we also know there is a high probability that person is an investment property owner.

- Secondly, the group definitions are based on data collected at a single 'point in time' (April/June 2008) and the segmentation process classifies people according to their characteristics at that particular time. This does not imply that people cannot, over time, move from one money management group to another.
- Thirdly, the analysis used data from a telephone survey of the Australian population. Consequently, the results are subject to the limitations of survey-based data—that is, the exclusion of certain population subgroups that are not accessible via fixed-line telephone (for example, people experiencing housing insecurity; residents of various types of institution; and those who only use a mobile phone service), and the limited reliability of some self-reported survey measures.

Key findings

The analysis of the 2008 ANZ Financial Literacy Survey data identified five population subgroups that differed markedly in their approach to money management. Descriptions of these groups follow. Each description consists of a brief summary of the group's essential characteristics, followed by a short discussion of the sociodemographic and money management characteristics that typify its members.

Group 1: High income and asset levels but struggling with high debt (18.2 per cent of the population)

This group has high levels of both income and assets, particularly when the family home is included. Nevertheless, many are experiencing financial difficulty as a result of high debt levels (particularly non-deductible debt in the form of owner-occupier mortgages) and the financial demands imposed by supporting resident children.

Sociodemographics

Most members of Group 1 are in paid employment, typically in upper white collar occupations, with relatively high household incomes. There is a high proportion of couples with resident children and an above-average representation of university graduates. A relatively high proportion of this group are in the process of buying their home.

Money management

Debt levels are high and, while most own savings deposit products and growth investments, for many these do not appear to have achieved especially high values. Consequently, most of their asset value is in the family home. There is considerable interest in investing (members of Group 1 are heavy users of financial information and financial advisers), and financial literacy is above average.

Possibly reflecting the group's relatively high debt levels, there are some signs of financial pressure: around one in four feel their finances are 'out of control' at least some of the time; a similar proportion are 'uncomfortable' with their current level of debt; one in 10 could not make one or more loan repayments during the last 12 months; and there is above-average use of pawnbrokers, payday lenders and debt rescue companies.

The majority of Group 1 members were interested in further financial education, particularly in the areas of investing, superannuation, budgeting, taxation and debt management.

Group 2: Savvy investors (16.0 per cent of the population)

This group has the highest income and asset values, and these appear adequate to offset relatively high levels of debt. Members of Group 2 are keen investors with extensive holdings of deposit products and growth investments. Financial literacy is high and they make substantial use of financial information and advisers. There is little evidence of financial difficulty in this group.

Sociodemographics

Members of Group 2 are, on average, slightly older (average age is 49.8 years) and there are more males than females. There is a high proportion of university graduates and, reflecting this, members are most likely to be working in upper white collar occupations and earning household incomes that are well above average.

Typically, those in Group 2 live in couple households, more than one in three have no children living with them, and the majority own their home outright.

Money management

Members of Group 2 are keen investors—there is a high incidence of deposit products and growth investments, and asset values are the highest of all groups. They have significant debt (although less than Group 1); however, this appears more likely to be used for investment purposes than for owner-occupier home loans. There is extensive use of financial information and advisers and assets are typically well insured. There is little evidence of financial stress among the members of this group.

While financial literacy is the highest of all groups, around half of Group 2 members expressed interest in further financial education, particularly in the areas of investing, superannuation and taxation.

Group 3: Conservative with high assets (26.2 per cent of the population)

This group has a conservative approach to investment, favouring mainstream deposits over growth investments such as shares and property. Incomes are lower than Groups 1 and 2, but asset values are relatively high and debt is the lowest of all five groups. Low debt, relatively high financial literacy, control of expenses and the absence of resident children requiring financial support all seem likely to be contributing to the low incidence of financial difficulty in this group.

Sociodemographics

A high proportion of Group 3 live in couple households with no resident children. Almost half own their home outright and, while a further one in three are in the process of buying their home, most in this homebuyer subgroup have relatively modest total debt of less than $250,000.

Two-thirds are in paid employment and there is also an above-average proportion of retirees in this group. Household incomes are slightly above average but are significantly lower than those found in Groups 1 and 2.

Money management

This group has a more conservative approach to investment than either Group 1 or Group 2. Debt levels are the lowest of all five groups, while asset values are relatively high, particularly when the family home is taken into account. However, ownership of growth investments (such as shares and investment property) is below average, and there is a bias towards holding assets in mainstream deposit products like high interest savings accounts and term deposits. In this group, financial literacy is relatively high, there is a high degree of control in the management of expenses and little evidence of financial difficulty.

It seems likely that their financial situation is strengthened by the comparatively high level of outright home ownership and relatively low levels of debt among those who are still paying their home off. Members of Group 3 are also the most likely to be living in a household with no children requiring financial support. These factors are likely to be offsetting Group 3's lower level of household income compared to Group 2 and thus to account for the low levels of financial difficulty evident in both of these groups.

Members of Group 3 are the least likely to feel they need further financial education (43 per cent versus 51 per cent of the total sample).

Group 4: Struggling with relatively low income, assets and financial literacy (27.1 per cent of the population)

The largest of the five groups, members of Group 4 have relatively low household incomes and low asset values, although the potential for financial difficulty arising from this is partly ameliorated by relatively low levels of debt. Financial literacy is relatively low as is close monitoring of household expenses. The combination of low incomes, low levels of outright home ownership (and so paying rent or a mortgage), low financial literacy and a high proportion with children still living at home appears to be contributing to an above-average incidence of financial difficulty in these households.

Sociodemographics

Members of Group 4 are slightly younger than average (average age of 43.4 years) and the majority have no formal post-secondary education. About half of this group have children living at home, with an above-average proportion of single parents. Group 4 are most likely to be renting or buying their home, rather than owning it outright, and members are more likely to be living in areas of high relative socioeconomic disadvantage.

Around two-thirds are in paid employment but household incomes are well below those of Groups 1, 2 and 3, and the proportion whose main source of income is a government benefit or allowance is relatively high.

Money management

Members of Group 4 are below-average users of most types of lending products (including credit cards) and of savings/deposit accounts and growth investments, possibly because low incomes and asset values may render them ineligible for some products/services or make others less relevant to their current situation.

Financial literacy is the lowest of all five groups. Also, a relatively high proportion have a casual approach to monitoring household expenses (that is, they only keep 'a bit of an eye' on them or don't monitor them at all), although it should be noted that some may 'get away with' this because their low debt levels result in relatively high disposable income, despite having household incomes that are low in an absolute sense. Use of insurance is below average, as is the incidence of comparison shopping when looking for a new financial product or service.

There are some signs of financial stress, certainly more than Groups 2 and 3. Around one in five feel their finances are 'out of control' at least some of the time and 30 per cent feel they couldn't manage if they experienced a major loss of income. Potentially placing pressure on their financial situation are relatively low household incomes, high levels of renting or home purchase (as opposed to outright home ownership) and children still living at home.

Despite signs of financial pressure, most feel they are well informed when making financial decisions and slightly more than half do not feel they need further education or information in relation to finance. At the same time, many in this group appear to have a relatively simple financial situation and for them, further information/education may offer limited benefit.

Group 5: Struggling with relatively low income, assets and financial literacy and high debt (12.5 per cent of the population)

Members of Group 5 are, by far, the most likely to be experiencing financial difficulty, with 83 per cent feeling their finances are 'out of control' at least some of the time. Like Group 4, household incomes, asset values and outright home ownership are all low, a high proportion have children living at home and financial literacy is relatively low. However, the situation for members of Group 5 is exacerbated by relatively high levels of debt and, associated with this, above-average use of potentially expensive and problematic lending sources including payday lenders and retailer finance.

Sociodemographic

Group 5 is the youngest group with an average age of 40.6 years. The majority do not have formal post-secondary education. Members are the most likely to have children living at home and there is a relatively high proportion of single parents. Few in Group 5 own their home outright, with most either renting or in the process of buying.

Two-thirds are in paid employment with a slightly above-average proportion working in lower blue collar occupations. Annual household incomes are below average and there is a relatively high proportion whose main source of income is a government benefit or allowance. The employment and income levels are about the same as those found in Group 4.

Money management

Asset values are low, especially if the family home is excluded; in these circumstances half the group have no more than $2,000 in all their savings and investments. At the same time debt levels are relatively high and this is accompanied by above-average use of more expensive types of loan including lease/hire purchase, payday lenders, retailer finance, personal loans and line of credit/overdraft facilities. Some 37 per cent of this group have an owner-occupier mortgage, raising a question as to whether use of the more expensive loan facilities, rather than mortgage redraw, results from limited awareness of the redraw facility or from not being ahead on loan repayments.

Group 5 exhibits a high degree of financial vulnerability with the above-average use of potentially problematic and expensive lending sources mentioned above, relatively low levels of financial literacy, below-average use of insurance to manage risk, and financial resilience measures that show, by a wide margin, the highest levels of financial difficulty of the five groups. Specifically, 83 per cent feel their finances are ‘out of control’ at least some of the time, 66 per cent are uncomfortable with their current level of debt, 44 per cent have been unable to make a loan repayment during the last 12 months and 68 per cent feel they couldn’t manage if they experienced a major loss of income.

Two-thirds feel they need further education or information in relation to finance, particularly on budgeting, investing, superannuation and managing debt. The above-average interest in information/education on budgeting and debt management suggests some self-awareness of the financial difficulties facing many members of this group and a desire to do something about them. The use of Centrelink Financial Information Service Officers by about one in 10 members of Group 5 also points to some interest in obtaining help to deal with financial matters.

Concluding remarks

This analysis of the 2008 ANZ Adult Financial Literacy Survey data shows that the Australian population can be segmented into five broad groups defined by people’s approach to money management. The five groups, and the key financial issues defining them, suggest that a significant proportion of the population is experiencing at least some degree of financial difficulty. Typically, such difficulties are associated with relatively high levels of debt, which is often exacerbated by low income, lack of outright home ownership, the presence of children requiring financial support and relatively low levels of financial literacy.

Nevertheless, despite clear differences between these five groups, there was also evidence of some heterogeneity within each group. Each one appeared to contain subgroups exhibiting varying degrees of exposure to risk of encountering financial difficulty. Further research focused on identifying, describing and understanding these ‘at risk’ subgroups appears to offer a potentially fruitful direction for the future.

1 Introduction

1.1 Background and objectives

This report presents the findings from a segmentation analysis, which used data from the 2008 *ANZ Survey of Adult Financial Literacy in Australia*. The analysis was commissioned by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and was undertaken during the period June to August 2010 by the Social Research Centre and its research partner Data Analysis Australia.

The broad aims of the project were to:

- establish an appropriate statistical methodology for segmenting the population on the basis of personal money management attitudes and behaviours
- use this methodology to create a robust and meaningful segmentation of the population on this basis
- profile the population segments by their sociodemographic characteristics, attitudes towards money, financial literacy and level of exposure to financial risk.

The report of the findings from this project is designed to help policy makers better understand how money is managed in Australia. It is intended to inform the development of new approaches to assist people in financial difficulty and to prevent people getting into such situations in the first place. It is also intended to inform other research projects designed to increase understanding of Australians in financial difficulty.

2 Research approach

2.1 Introduction

This section of the report provides information on the following aspects of the project:

- a brief description of the 2008 *ANZ Survey of Adult Financial Literacy in Australia*, the data source for this project
- the establishment of an operational definition of money management.

2.2 The data source

The data source used for this project was the 2008 *ANZ Survey of Adult Financial Literacy in Australia*. Key aspects of this survey include the following:

- Data collection was by telephone interview and was conducted between 29 April and 6 June 2008; that is, during a period of falling consumer confidence against a backdrop of financial market volatility, rising interest rates, and increasing fuel and food prices.

  The target population for the survey was all Australians aged 18 years or over who were accessible by fixed-line telephone. The final sample was national in coverage and comprised a total of 3,500 interviews.

  There are some limitations inherent in this method of data collection. Firstly, people who do not have access to a fixed-line telephone (for example, people experiencing housing insecurity, residents of various types of institution and those who only use a mobile phone service) are outside the scope of the survey. Secondly, the data is self-reported and, for some respondents at least, is subject to a degree of uncertainty as a result of memory problems and potentially, a desire to paint a more positive picture of personal financial circumstances than may actually be the case.

- A post-weighting procedure was used to align the survey data with Australian Bureau of Statistics (ABS) Census counts of the population by age, sex and geographic location. The profiling information presented in this report has been weighted in the same way, although the actual segmentation process described in Section 3 and Appendix A used unweighted survey data.

- The survey questionnaire was comprehensive with an average interview duration of 28 minutes. The basic design comprised core questions, which were asked of all respondents, and additional questions, which were only asked of specific subgroups. This was a consequence of two factors:

  - Firstly, knowledge was tested against an individual's needs and circumstances rather than the entire array of available financial products and services, some of which they would neither use nor need. Thus, for example, questions about superannuation were only asked of respondents who were members of a superannuation fund.

  - Secondly, to make sure no individual respondent was exposed to an excessively long interview, a number of questions, which would have been appropriate to ask of all eligible respondents, were in fact only asked of a randomly selected subgroup. For example, many of the questions about financial planners were only asked of 50 per cent of eligible respondents.

  This had implications for the money management segmentation, as variables with a relatively high non-response were generally not suitable for use in the analysis.

Further details on the ANZ Survey of Adult Financial Literacy in Australia including the questionnaire and associated reports are available online at ANZ's website.[1]

2.3 Defining money management

Before developing a segmentation based on Australian's money management attitudes and behaviour, it was necessary to establish an operational definition of the money management concept. An initial context for doing this was drawn from the Financial Literacy Foundation's report *Financial literacy—Australians understanding money* (2007), which categorises money management skills into the seven areas of:

- budgeting
- saving
- investing
- credit and debt, specifically dealing with credit cards and managing debt
- planning and retirement—that is, planning for the long-term financial future and ensuring enough money is available for retirement
- protecting money through appropriate insurance, understanding rights and responsibilities and recognising a 'scam'
- use of information and advice—understanding financial language, dealing with financial services providers and obtaining information about money.

While this approach provided a comprehensive basis for defining money management, some constraints were imposed by the nature of the proposed population segmentation and profiling tasks. In particular:

- The statistical segmentation was considered likely to be more successful if the number of variables used was kept reasonably small. Hence, some restrictions were placed on the number of variables used to describe each area of money management.
- It was also intended that financial literacy would be used as a profiling variable, rather than as a fundamental component of segment definition. Therefore, most of the survey measures used to define financial literacy were not used in the segmentation analysis. Again, this limited the number of variables available for establishing a working definition of money management.

An operational definition of money management

With the above constraints in mind, a definition of money management was developed under the three broad domains of financial behaviour, financial engagement and financial resilience. These domains, and the key elements that comprised each of them, are as follows (also see Figure 1).

1. *Financial behaviour*

Two areas of financial behaviour were included:

- ownership of financial products, particularly loans and credit cards, investments/deposits and insurance products
- financial transacting behaviour, with a particular focus on the use of the more convenient and cost-effective electronic transacting channels.

2. *Financial engagement*

Here consideration was given to measures of people's engagement with financial issues. Specifically, this involved looking at the use of financial information and advice and people's management of their current financial situation, including their attitudes to planning and saving, their budgeting behaviour and their knowledge of the rights of a financial consumer.

3. *Financial resilience*

The third domain contained measures of financial resilience such as the inability to make loan or credit card repayments, attitudes towards current debt levels, control of current financial situation and perceived ability to sustain a major loss of income.

Thus the definition of money management that was used covered, to at least some extent, each of the categories outlined in the Financial Literacy Foundation's framework. It also included additional variables describing people's use of financial transacting channels and financial resilience.

It should also be noted that Figure 1 shows all the variables that were initially considered as potential discriminators for use in defining the money management segments. As discussed in Section 3, only a relatively small subset of these variables was used in the final segmentation. In particular, this included variables associated with the ownership of investment and deposit products, the use of investment information and advisers, the management of finances (that is, planning, saving and budgeting) and financial resilience.

Figure 1: Domains and key elements of money management as defined for the segmentation analysis

Financial behaviour

Transacting behaviour

- Use of cheques, lay-by, internet and telephone banking, BPAY, direct debit, EFTPOS, ATMs, money orders, cash

Ownership of financial products

Loans

- Credit/store cards, owner-occupier mortgage, investment property mortgage, personal loan, margin loan, home equity loan, loan from family/friends, payday loan, equity release products, lease/HP, overdraft

Investments

- Mainstream deposits—high interest savings accounts, term deposits
- Other deposits—bonds, debentures, notes and so on
- Growth investments—shares/managed investments, property
- Retirement income stream products (e.g. annuities)

Risk management products (insurance)

- Private health insurance, building/contents insurance, life insurance, income protection insurance, vehicle insurance

Financial resilience

- Extent to which financial situation is felt to be 'out of control'
- Comfort with current total debt
- Whether or not could manage for a period if experienced a major loss of income
- Whether or not have been unable to make a loan repayment in the last 12 months

Financial engagement

Use of information and advisers

- Use of information from financial industry publications, financial sections of newspapers/magazines, books and other financial publications, government/community organisations' financial publications, financial internet sites, financial seminars
- Use of financial advice from a financial planner, accountant, stock broker, tax specialist, mortgage or insurance broker, bank manager/employee, Centrelink Financial Information Service Officer

Management of finances

Planning

- Perceived importance of long-term and short-term financial planning

Saving

- Extent to which problems are experienced in setting money aside for major financial outlays
- Extent to which all income is spent as it is received

Budgeting

- Extent to which household expenses are monitored

Knowledge of rights/duties as a financial consumer

- Clarity of rights if have problems dealing with a financial institution including knowing how to complain effectively

Informed financial decision-making

- Consumers' duty of honest disclosure
- Providers' duty to provide consumers with clear product information

Finally, while the model in Figure 1 provides a basis for describing different styles of money management, it does not necessarily seek to explain why people manage their money in the ways that they do. It should be kept in mind that a range of factors (such as income, education, culture and eligibility for some products/services), some of which are discussed in Section 4 of this report, influence how people manage their money.

3 Segmentation analysis

3.1 Introduction

This section of the report briefly describes the analytic procedures used to create a population segmentation based on the different approaches people use to manage their money and financial situation. The discussion focuses on:

- selecting the most appropriate methodology for undertaking the segmentation
- an overview[2] of the analytic process by which the money management segments were derived.

3.2 Methodology selection

A number of analytical methodologies for the derivation of segments were investigated during the initial data exploration stages of the project, including:

- Method 1: the application of clustering techniques to key variables
- Method 2: the principal component analysis (PCA) performed on key variables with clustering techniques applied to respondents' scores on the most important of the resulting principal components
- Method 3: the PCA performed on key variables and then splitting component scores into high (greater than the mean) and low (less than the mean) categories. Segments were then defined based on combinations of high and low component scores.

Early results using the first method indicated that the variation in only a small number of questions was driving the segmentation, whereas the use of PCA prior to clustering techniques (methods 2 and 3) allowed for the incorporation of the variation of all key questions. Method 2 was preferred over method 3 due to the somewhat arbitrary nature of the chosen thresholds when splitting component scores into high and low categories. Method 2 also had the advantage of allowing multiple splits to be made on a single component.

Although the initial decision was made to adopt method 2, method 1 was not ruled out completely during the exploration stages. During the refinement of the segmentation process both method 1 and method 2 were compared, with the most meaningful results obtained using method 2.

3.3 Analytic process

The approach taken to the segmentation analysis consisted of an iterative process with the following steps:

- identify variables that may be useful in defining segments
- perform PCA on the relevant variables
- calculate scores for each respondent for the most important components derived from the PCA
- perform cluster analysis on the scores to obtain segments
- review the resulting segments and repeat the above steps as necessary.

As well as the definition of money management discussed in Section 2.3, there were a number of data considerations involved in the choice of variables for segmentation analysis.

The analytic techniques used (PCA and cluster analysis) result in records with missing values for any of the relevant variables being excluded from the segmentation process. It was therefore important to choose variables in a way that minimised the impact of missing data. No imputation of missing data was performed, as older respondents were more likely to have missing values for the variables of interest and it was found that imputation resulted in apparently anomalous results.

Multiple PCAs were performed, with a number of variables excluded from the final analysis due to low loadings on the higher level components or to a lack of interpretability in their loadings (that is, some variables loaded in an apparently random manner). While not used for the final PCA, these questions were still expected to be useful when creating profiles of the segments. The set of variables included in the final PCA are provided in Table 1.

Table 1: Segmentation domains

Questions used to operationalise each domain
Product ownership
Managed investments other than superannuation
Shares
Term deposits
An investment property
Other investments such as debentures, bonds, notes or derivatives
Financial resilience
How comfortable with amount owing
How in control of current financial situation/feel out of control with borrowing and credit card
Could manage for a period following major loss of income
Payment missed reason classification (derived variable)
Financial engagement
Extent to which household expenses are monitored
Importance of long-term financial plan
Importance of short-term financial plan
Spend income as received and don't plan for future
Problems setting money aside for major financial outlays
Generally feel well informed when making financial decisions
Providers of financial products and services have a legal duty to provide clear information to consumers
You are very clear about your rights if you have a problem with a financial institution
Consumers have a duty of honest disclosure when taking out a financial service or product and may face penalties for not doing so
Number of information sources used (derived variable)
Number of advisers consulted (derived variable)

Scores were calculated for the first three components of the final PCA and *k*-means cluster analysis was performed on these scores. Solutions were obtained for three, four, five and six clusters. The segmentation results were reviewed by considering segment sizes, segment means for key variables, including the scores from the PCA, and histograms of key variables by segment. The five segment solution was chosen, as each segment was of a reasonable size and there were clear points of differentiation between each of the segments in terms of members' money management behaviour.

3.4 The money management segments

In terms of their relative sizes, the five money management segments derived were as shown in Table 2. Due to missing data, a total of 357 survey respondents were excluded from the segmentation; the proportions shown here are based to a total that excludes these missing cases and hence will add up to 100 per cent.

Table 2: The five money management segments

	Group 1	Group 2	Group 3	Group 4	Group 5
Unweighted number of survey respondents	576	526	829	828	384
Weighted proportion of total sample (%)	18.2	16.0	26.2	27.1	12.5

4 Segment profiles

4.1 Introduction

We turn now to a description of the five money management segments identified in Section 3. There are two parts to this description. Firstly, profiles are developed for each segment based on demographic and socioeconomic characteristics, financial literacy and vulnerability to financial risk. Secondly, the segments are considered in terms of their money management behaviour; that is, in terms of the conceptual framework within which they were derived.

When interpreting these profiles, three issues should be kept in mind:

- First, it is important to note that the variables used for segmenting the population are not really discrete despite many (for example, product ownership, five point agree/disagree scales) appearing to be so. For example, while an individual might be classified as a share owner, this can range from owning a multimillion dollar share portfolio to holding a few shares received from a privatisation or demutualisation. Similarly, reading the financial section of newspapers and magazines can range from a weekly glance at the business section of *The Australian* to thorough daily reading of several Australian and international financial newspapers and magazines.

  As a result the groups defined by these variables will be neither completely homogeneous internally nor completely distinct from one another. The use of multiple variables to define the groups is also a factor that reduces the level of homogeneity.

  Thus, what the segment profiles really show are the differing probabilities of certain characteristics being present. For example, if a person is from Group 2 there is a much higher chance they will be the owner of an investment property (50 per cent of Group 2 have an investment property) than if they are from Group 5 where only 5 per cent own an investment property. However, this does not mean that everyone from Group 2 has an investment property (clearly 50 per cent do not); nor does it mean that no-one from Group 5 owns an investment property. Similarly, if a person is from Group 1 they are more likely to have an owner-occupier mortgage (51 per cent) than is a person from Group 4 (26 per cent have a mortgage); however, almost half of those in Group 1 do not have a loan of this type.

  Thus the profile descriptions focus on the biases that exist within and between the groups. At the same time each group will show some degree of heterogeneity on most of the descriptive variables that have been used in this analysis.

- Secondly, the segments are based on data collected at a single point in time (April–June 2008). Consequently, the segmentation classifies people according to their characteristics at that particular time. This does not imply that people cannot, over time, move from one segment to another. For example, it might be hypothesised that members of Group 1 could move to Group 2 as home loans are paid out and/or children leave home.

- Thirdly, the results are subject to the limitations of survey-based data mentioned in Section 2.2 (that is, the exclusion of certain population subgroups and the limited reliability of some self-reported survey measures).

Statistical testing of results

As the results presented in this report are based on sample data rather than a census of the total population, some variation between the results from the five segments will occur by chance. To help decide whether differences are meaningful (that is, whether they represent genuine differences rather than just random variation), testing of the statistical significance of these differences has been carried out. Results are only reported as different (and indicated as such in the tables) if a difference exists at the 0.05 level of statistical significance.

4.2 Sociodemographic and financial literacy profiles

To enhance our understanding of the five money management segments, this section of the report provides comparative profiles of the five segments describing:

- demographic characteristics of age, sex, educational attainment, cultural and linguistic diversity (CALD) status, geographic distribution, household type and home ownership
- socioeconomic characteristics including relative socioeconomic disadvantage, type and status of employment, source and level of income and estimates of household assets and liabilities
- financial literacy and financial vulnerability.

Demographic characteristics

Table 3 shows age and sex profiles for the five money management segments.

- Groups 4 and 5 are the youngest with average ages of 43.4 years and 40.6 years respectively (compared with a total sample average of 46.2 years). Some 39 per cent of Group 4 members are under 35 years of age, while the same is true for 37 per cent of Group 5. Group 5 also has a notably below-average representation of people aged 60 years or over (9 per cent versus 23 per cent of the total sample).

  With respect to sex, there are slightly more females in Group 5 (59 per cent versus 51 per cent of the total sample).

- Group 2 is slightly older with an average age of 49.8 years. Nonetheless, 18 per cent of this group are under 35 years of age, less than any of the other segments but still around one in five Group 2 members.

  In addition, Group 2 has a slight overrepresentation of males (58 per cent versus 49 per cent of the total sample).

Overall, however, it appears that age and sex differences between segments are not great, with a reasonable representation of all age and both sex subgroups present in each segment.

Further demographic comparisons are made in Table 4. The following differences between segments are noteworthy:

- Members of Group 2 are significantly more likely than average to have a university education (42 per cent versus 27 per cent overall). Groups 1 and 3 are also more likely than average to be university educated (36 per cent and 31 per cent respectively).

  By contrast, a disproportionate number of Groups 4 and 5 have not undertaken any formal post-secondary education (57 per cent for both groups), with around three in 10 from each group completing their formal education at, or before, Year 10.

Table 3: Demographic segment profiles: age and sex

Age and sex	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Age group						
18–24 years (%)	11	6[(a)]	4[(a)]	12	17[(b)]	13
25–34 years (%)	19	23[(b)]	14[(a)]	19	22	24[(b)]
35–44 years (%)	19	23[(b)]	19	15[(a)]	17	26[(b)]
45–59 years (%)	28	31[(b)]	34[(b)]	26	23[(a)]	29
60–69 years (%)	12	8[(a)]	16[(b)]	15[(b)]	10[(a)]	6[(a)]
70 years or over (%)	11	9[(a)]	12	12	11	3[(a)]
Average age (years)	**46.2**	**45.2**	**49.8**[(b)]	**46.8**	**43.4**[(a)]	**40.6**[(a)]
Age by sex						
Males (years)	49	49	58[(b)]	49	49	41[(a)]
18–24 years (%)	12	6	3	14	21	15
25–34 years (%)	19	22	16	19	21	21
35–44 years (%)	19	22	21	17	16	27
45–59 years (%)	28	34	34	24	21	30
60–69 years (%)	11	8	14	14	9	6
70 years or over (%)	11	8	12	12	11	1
Average age (years)	**45.5**	**45.1**	**49.2**[(b)]	**45.8**	**42.2**[(a)]	**39.7**[(a)]
Females (years)	51	51	42[(a)]	51	51	59[(b)]
18–24 years (%)	9	5	6	11	14	11
25–34 years (%)	20	23	12	19	22	26
35–44 years (%)	18	25	17	13	18	25
45–59 years (%)	28	28	34	28	24	28
60–69 years (%)	13	9	20	17	10	5
70 years or over (%)	12	9	12	12	11	5
Average age (years)	**46.8**	**45.3**	**50.7**[(b)]	**47.7**	**44.5**[(a)]	**41.3**[(a)]

(a) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
(b) Percentage is significantly larger than that shown for total sample ($p<0.05$).
Note: Means are based on category midpoints, not continuous data. Rounding may result in discrepancies between the sums of component items and the totals shown.

Table 4: Demographic profiles: education, cultural and linguistic diversity, geography, household details, per cent

Education, cultural and linguistic diversity, geography and household details	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Highest level of educational attainment						
Year 10 or below	23	16[a]	14[a]	21	27[b]	29[b]
Year 11/12	24	19[a]	18[a]	22	30[b]	27
No formal post-secondary education	**47**	**36**[a]	**32**[a]	**44**	**57**[b]	**57**[b]
Trade/TAFE/Diploma	24	27	24	25	23	26
University	27	36[b]	42[b]	31[b]	19[a]	16[a]
Language spoken at home						
English only	85	83	87	85	86	87
Other language	15	17	13	15	14	13
Aboriginal or Torres Strait Islander background						
Yes	2	1	1	1	2	4
No	98	99	99	99	98	96
Geographic—place of residence						
Capital city	65	65	66	64	64	66
Non-capital city	35	35	34	36	36	34
ARIA[c] classification						
Major city	53	55	56	53	52	53
Inner regional	33	33	32	32	34	33
Outer regional	12	10	11	13	12	13
Remote/very remote areas	2	3	1	2	2	1
Household type						
Single—live alone	21	19	15[a]	19	22	19
Single—shared household	8	5[a]	5[a]	10	10	11[b]
Single parent	9	7	4[a]	6[a]	11[b]	17[b]
Couple with children at home	32	42[b]	37[b]	29	28[a]	37
Couple with no children at home	26	25	37[b]	32[b]	24	14[a]
Other household situation	3	2	1[b]	3	4	3
Total: Have children living at home	**41**	**49**[b]	**41**	**35**[a]	**39**	**53**[b]
Family home ownership status						
Own home outright	38	33[a]	57[b]	46[b]	30[a]	14[a]
Buying home/paying it off	33	49[b]	29[a]	32	30[a]	39[b]
Renting	26	16[a]	12[a]	20[a]	38[b]	46[b]
Other situation/unknown	3	2	2	2	2	1

(a) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
(b) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(c) Accessibility/Remoteness Index of Australia (see Appendix B).
Note: Rounding may result in discrepancies between the sums of component items and the totals shown.

- There were few significant differences between the groups on CALD characteristics apart from a slightly higher representation of people from an Aboriginal or Torres Strait Islander background in Group 5 (4 per cent versus 2 per cent of the total sample). Nor were there any significant geographic differences based on capital city/non-capital city or ARIA[3] classified place of residence.
- However, differences were evident between the types of household in which group members were living. Thus:
  - 42 per cent of Group 1 lived in a 'couple household with children still at home' (versus 32 per cent of the total sample).
  - Group 2 were also more likely than average to live in a household of this type (37 per cent) but, in contrast to Group 1, they also had an above-average representation of households comprised of a couple with no resident children (also 37 per cent versus 26 per cent of the total sample).
  - Group 3 households were more likely than average to consist of a couple with no resident children (32 per cent) and were the least likely to have any children living in the household (35 per cent).
  - For Group 4 there was a slight overrepresentation of single-parent households (11 per cent versus 9 per cent of the total sample) and a slightly below-average proportion of couples with resident children (28 per cent).
  - Group 5 had the most single-parent households (17 per cent) and, perhaps reflecting the relatively high proportion of under 35s in this segment, the most people living in shared households (11 per cent versus 8 per cent of the total sample). This group was the least likely to contain households consisting of a couple with no resident children (14 per cent). As a result, Group 5 members were more likely than average to have children living in their household (53 per cent versus 41 per cent of the total sample).
- Finally:
  - Outright home ownership was highest among members of Groups 2 and 3 (57 per cent and 46 per cent respectively versus 38 per cent of the total sample).
  - Members of Group 1 were the most likely to be purchasing their home (49 per cent versus 33 per cent of the total sample).
  - Group 4 were more likely to be renting (38 per cent) than either buying their home (30 per cent) or owning it outright (30 per cent).
  - Slightly more than one in 10 (14 per cent) members of Group 5 owned their home outright. Almost one in two (46 per cent) of this group were renting and a further 39 per cent were in the process of buying their home.

Socioeconomic characteristics

Table 5 compares the segments on a range of socioeconomic indicators. It shows:

- few differences between groups insofar as the geographically-based index of relative socioeconomic disadvantage[4] is concerned. The only significant differences are an overrepresentation of Group 2 in areas exhibiting the least socioeconomic disadvantage (35 per cent versus 26 per cent of the total sample), an underrepresentation of Groups 4 and 5 in these same areas (19 per cent and 21 per cent respectively) and a slight overrepresentation of Group 4 in the areas of greatest disadvantage (19 per cent versus 14 per cent of the total sample).
- with respect to the employment situation of the five segments:
  - Members of Groups 1 and 2 were more likely to be engaged in some form of full-time, part-time or casual paid work (76 per cent and 73 per cent respectively versus 66 per cent of the total sample). Most often this employment was classified as upper white collar[5] (that is, professional or managerial) in nature. Members

of these groups who were not in paid work were most likely to describe their major activity as retired (13 per cent and 18 per cent respectively) or home duties (7 per cent and 6 per cent).

- One in five (21 per cent) members of Group 3 was retired (above the total sample figure of 17 per cent), although the majority of this group (68 per cent) were engaged in paid work.
- Members of Group 4 (64 per cent) and Group 5 (67 per cent) were also more likely to be engaged in paid work than in any other employment situation. However, some slight biases were evident in the nature of this employment with members of Group 4 more likely to be working in middle/lower white collar[6] occupations (24 per cent) and members of Group 5 more likely to be working in lower blue collar[7] occupations (14 per cent). Both groups exhibited a below-average presence in upper white collar employment (Group 4: 20 per cent; Group 5: 19 per cent). Members of Group 5 were also more likely to be unemployed (4 per cent) or engaged in home duties (17 per cent).

- For around one in four members of Group 4 (28 per cent) and Group 5 (25 per cent) a government benefit or allowance served as their main form of income—slightly above the total sample figure of 21 per cent.
- Among those who provided an estimate of their annual household income, incomes were lowest among members of Group 4 (average of $63,400; median of $52,300) and Group 5 (average of $65,600; median of $53,000). By contrast, members of Group 2 reported the highest household incomes with an annual average of $100,900 and a median of $99,100.

Two survey questions were used to estimate the value of household assets. The first question asked respondents how much money they had (either solely or jointly) in savings, investments and superannuation excluding their own home. The second asked those who either owned or who were purchasing their home to estimate its current value. The nature of these questions should be kept in mind when looking at the findings—given the questions, the estimates shown are generally only rough approximations. It should also be noted that the estimated asset values do not take account of any outstanding debt; and that those for whom a value could not be estimated have been excluded from the table. With these provisos in mind, the results in Table 6 suggest that:

- Members of Group 2 have the highest level of assets—an average of $443,000 (median of $262,000) excluding the home and, when the estimated value of the home is included, an average of $937,000 (median of $898,000). Forty-one per cent of this group reported total assets of $500,000 or more without including the value of their home.
- Group 1 have the next highest level of assets, although, compared to Group 2, they have substantially less value in assets other than the family home. A similar pattern (that is, limited value outside the family home) is evident for Group 3 whose asset values are only slightly lower than those of Group 1.
- Group 4 have significantly lower asset values than Groups 1, 2 and 3, with 60 per cent having less than $20,000 when the family home is excluded. When the family home is included, total assets for the average Group 4 household rise to $307,000 (median of $238,000).
- Reported assets for Group 5 were the lowest of the five segments. Excluding the family home, 73 per cent of this group reported less than $20,000 in assets with 41 per cent still in this situation when the value of the family home is included.

Table 5: Socioeconomic profiles: SEIFA, employment and income

SEIFA, employment type/status, income	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
SEIFA (Index of relative socioeconomic disadvantage) (%)						
SEIFA Group 1 (greatest disadvantage)	14	12	9[(a)]	12	19[(b)]	16
SEIFA Group 2	18	17	13[(a)]	19	18	21
SEIFA Group 3	21	19	23	20	23	21
SEIFA Group 4	21	23	20	20	21	20
SEIFA Group 5 (least disadvantage)	26	29	35[(b)]	28	19[(a)]	21[(a)]
Employment type/status (%)						
Doing some paid work	66	76[(b)]	73[(b)]	68	64	67
Upper white collar	27	36[(b)]	43[(b)]	29	20[(a)]	19[(a)]
Middle/lower white collar	21	22	16[(a)]	22	24[(b)]	23
Upper blue collar	10	10	9	10	10	10
Lower blue collar	7	6	4[(a)]	6	9	14[(b)]
Not doing any paid work	34	24	27	32	36	33
Unemployed	2	1[(a)]	1[(a)]	1[(a)]	3	4[(a)]
Retired	17	13[(a)]	18	21[(b)]	15	7[(a)]
Home duties	10	7[(a)]	6[(a)]	7[(a)]	11	17[(b)]
Student	3	1[(a)]	2	2	5[(b)]	2
Other	2	2	1[(a)]	1[(a)]	3	4
Main source of income (%)						
Salary, wages or business income	68	80[(b)]	72	70	65[(a)]	72
Government benefit or allowance	21	12[(a)]	8[(a)]	17[(a)]	28[(b)]	25[(b)]
Superannuation/self-funded retiree/investments	6	5	14[(b)]	7	2[(a)]	1[(a)]
Other source of income	4	2[(a)]	5[(b)]	5[(b)]	3	2[(a)]
Gross annual household income (%)						
Base: Total sample (excluding don't know/refused)	*(n=3,206)*	*(n=533)*	*(n=466)*	*(n=754)*	*(n=769)*	*(n=375)*
Less than $25,000	13	8[(a)]	3[(a)]	10[(a)]	18[(b)]	17[(b)]
$25,000 to $59,999	35	29[(a)]	23[(a)]	36	40[(b)]	40[(b)]
$60,000 to $99,999	21	25[(b)]	16[(a)]	20	21	26[(b)]
$100,000 to $149,999	19	22	29[(b)]	21	17[(a)]	12[(a)]
$150,000 or more	12	16[(b)]	28[(b)]	13	4[(a)]	6[(a)]
Average annual household income ($000s)	**75.1**	**84.7**[(b)]	**100.9**[(b)]	**79.0**[(b)]	**63.4**[(a)]	**65.6**[(a)]
Median annual household income ($000s)	**58.3**	**74.0**	**99.1**	**66.2**	**52.3**	**53.0**

(a) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
(b) Percentage is significantly larger than that shown for total sample ($p<0.05$).
Note: Means and medians are based on category midpoints, not continuous data. Rounding may result in discrepancies between the sums of component items and the totals shown.

Table 6: Socioeconomic profiles: household assets

Assets	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Estimated value of all savings and investments (excl. home) (%)						
Base: Total sample (excluding don't know/refused)	*(n=2,705)*	*(n=455)*	*(n=403)*	*(n=637)*	*(n=649)*	*(n=317)*
Less than $2,000	20	9[a]	4[a]	8[a]	29[b]	47[b]
$2,000 to $19,999	23	18[a]	5[a]	27[b]	31[b]	26
$20,000 to $99,999	23	29[b]	17[a]	26	25	17[a]
$100,000 to $499,999	21	28[b]	33[b]	25[b]	12[a]	9[a]
$500,000 or more	14	17[b]	41[b]	14	3[a]	1[a]
Average value ($000s)	**178**	**224**[b]	**443**[b]	**186**	**72**[a]	**41**[a]
Median value ($000s)	**27**	**59**	**262**	**34**	**8**	**2**
Estimated value of all savings and investments (incl. home) (%)						
Base: Total sample (excluding don't know/refused)	*(n=2,578)*	*(n=442)*	*(n=393)*	*(n=610)*	*(n=617)*	*(n=297)*
Less than $2,000	10	3[a]	1[a]	3[a]	17[b]	29[b]
$2,000 to $19,999	9	6[a]	1[a]	9	15[b]	12
$20,000 to $99,999	7	6	5	7	10[b]	8
$100,000 to $499,999	33	34	18[a]	37[b]	35	32
$500,000 or more	40	50[b]	74[b]	44[b]	23[a]	19[a]
Average value ($000s)	**514**	**620**[b]	**937**[b]	**553**[b]	**307**[a]	**253**[a]
Median value ($000s)	**405**	**516**	**898**	**447**	**238**	**164**

(a) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
(b) Percentage is significantly larger than that shown for total sample ($p<0.05$).
Note: Means and medians are based on category midpoints, not continuous data. Rounding may result in discrepancies between the sums of component items and the totals shown.

Estimates of household debt were made in a similar fashion to the asset estimates: firstly by asking respondents how much they owed (solely or jointly) on all loans, credit cards, and so on, apart from any mortgages, and secondly, by asking those respondents who held an owner-occupier, investment property or home equity mortgage for the current amount outstanding. Again, it should be noted that the figures reported are only rough approximations and that respondents for whom a value could not be estimated have been excluded from Table 7.

- The lowest debt levels are evident for Groups 3 and 4. Excluding mortgage debt, members of these groups report an average debt of $12,000 and $15,000 respectively. Both have median debt levels that are well below $1,000. When mortgage debt is included, the average rises to $74,000 for Group 3 and $59,000 for Group 4. While these figures suggest that Group 4 members might be somewhat better placed with respect to their overall debt, it should be kept in mind that members of Group 3 report higher asset values to offset their liabilities than do members of Group 4 (see Table 6).

- Average debt levels are more or less the same for Groups 1 and 2 (and well above those of the other three segments). However, there is an interesting difference between these two groups that is illustrated by the proportion with less than $2,000 in total debt. For Group 2, 39 per cent fall into this category compared with 30 per cent of Group 1. That is, more Group 2 members have very little exposure to debt (although this is still well below the levels of Groups 3 and 4 where 55 per cent and 50 per cent respectively have less than $2,000 of debt). Also, for many members of Group 2, the position is strengthened by the high value of their assets as shown in Table 6.

- Around one in four members (22 per cent) of Group 5 has less than $2,000 in total debt, the lowest proportion of all segments. However, debt for members of this group tends to concentrate in the $2,000 to $19,999 range—28 per cent have total debt in this range, higher than for any other group.

  Nevertheless, 31 per cent have more than $100,000 in total debt (the average total debt for this particular subgroup is $303,000), which, given Group 5's reported asset and income levels, is not inconsequential. This is particularly so when it is noted that members of this subgroup have, on average, non-mortgage (and potentially more expensive) debt of around $60,000 and average household incomes of $83,500. Using these averages and assuming an overall interest rate of around 8 per cent suggests this subgroup could be committing around 35 per cent of gross annual household income to loan repayments.[8]

Table 7: Socioeconomic profiles: household liabilities

		Money management segments				
Liabilities	**Total sample**	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**Group 5**
Estimated value of all debts (excl. mortgage debt) (%)						
Base: Total sample (excluding don't know/refused)	*(n=3,177)*	*(n=523)*	*(n=466)*	*(n=749)*	*(n=779)*	*(n=355)*
Less than $100	45	33[(a)]	47	56[(b)]	48	19[(a)]
$100 to $1,999	13	16	14	13	14	11
$2,000 to $19,999	26	30[(b)]	19[(a)]	21[(a)]	26	40[(b)]
$20,000 to $49,999	7	7	6	5[(a)]	7	18[(b)]
$50,000 to $99,999	3	2	3	1[(a)]	3	6[(b)]
$100,000 or more	6	11[(b)]	12[(b)]	4[(a)]	3[(a)]	6
Average debt ($000s)	**26**	**45**[(b)]	**49**[(b)]	**12**[(a)]	**15**[(a)]	**31**
Median debt ($000s)	**0.4**	**1.7**	**0.2**	**0.1**	**0.2**	**6.3**
Estimated value of all debts (incl. mortgage debt) (%)						
Base: Total sample (excluding don't know/refused)	*(n=3,130)*	*(n=513)*	*(n=457)*	*(n=739)*	*(n=772)*	*(n=351)*
Less than $100	34	19[(a)]	29[(a)]	44[(b)]	39[(b)]	13[(a)]
$100 to $1,999	10	11	10	11	11	9
$2,000 to $19,999	16	13[(a)]	11[(a)]	13[(a)]	19[(b)]	28[(b)]
$20,000 to $99,999	11	11	10	11	12	18[(b)]
$100,000 to $249,999	12	18[(b)]	13	11	11	15
$250,000 to $499,999	11	21[(b)]	16[(b)]	8[(a)]	7[(a)]	13
$500,000 or more	4	7[(b)]	10[(b)]	3	1[(a)]	3
Average debt ($000s)	**103**	**171**[(b)]	**176**[(b)]	**74**[(a)]	**59**[(a)]	**108**
Median debt ($000s)	**7.0**	**75.0**	**15.0**	**0.7**	**1.7**	**17.9**

(a) Percentage is significantly smaller than that shown for total sample (p<0.05).
(b) Percentage is significantly larger than that shown for total sample (p<0.05).
Note: Rounding may result in discrepancies between the sums of component items and the totals shown.

Financial literacy

As part of the reporting of the 2008 ANZ Adult Financial Literacy Survey, a financial literacy score was calculated for each respondent.[9] This score was based on survey measures of respondents':

- numeracy
- financial understanding and competence, specifically their:
  - attitudes to spending money and saving
  - understanding of risk and the relationship between risk and return
  - understanding of the main features of basic financial services
  - understanding of superannuation
- financial responsibility, that is:
  - making appropriate life choices about financial issues
  - understanding consumer rights and responsibilities.

Several of these measures have already been discussed in relation to the money management segments defined in this project. However, Table 8 summarises all of the above information into a comparison of the financial literacy of the five money management groups. As shown in this table:

- Members of Group 2 display the highest levels of financial literacy with an average financial literacy score (FLS) of 99.1 and 38 per cent having a FLS that was in the highest one-fifth of all population scores (that is, quintile five).
- Groups 1 and 3 have more or less equivalent financial literacy profiles (FLSs of 89.1 and 89.5 respectively) although they exhibit slightly lower levels overall than Group 2.
- Financial literacy is somewhat lower for Group 4 (FLS of 74.1) and Group 5 (FLS of 77.0). Above-average proportions of both groups had FLSs that fell into quintiles 1 and 2 (that is, the lowest two-fifths of all scores)—53 per cent for Group 4 and 49 per cent for Group 5.

Table 8: Financial literacy profiles

Financial literacy	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Quintile 1 (lowest FLS) (%)	20	14[(a)]	4[(a)]	13[(a)]	27[(b)]	23
Quintile 2 (%)	19	16[(a)]	12[(a)]	16[(a)]	26[(b)]	26[(b)]
Quintile 3 (%)	21	24	17[(a)]	20	22	24
Quintile 4 (%)	21	23	29[(b)]	26[(b)]	14[(a)]	18
Quintile 5 (highest FLS) (%)	19	23[(b)]	38[(b)]	24[(b)]	10[(a)]	9[(a)]
Average FLS	**83.1**	**89.1**[(b)]	**99.1**[(b)]	**89.5**[(b)]	**74.1**[(a)]	**77.0**[(a)]

(a) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
(b) Percentage is significantly larger than that shown for total sample ($p<0.05$).
Note: FLS=financial literacy score. Rounding may result in discrepancies between the sums of component items and the totals shown.

Financial vulnerability

Finally we turn to a summary of the extent to which members of the money management segments appear vulnerable to risks associated with their financial behaviour. Various measures of risk are discussed later in this report and it should also be noted that lower levels of financial literacy (as observed for Groups 4 and 5) tend to be associated with relatively low levels of performance on important aspects of financial knowledge and behaviour including risk management.

However, the potential importance of this issue suggests there is value in bringing the key risk measures together at this point and comparing performance on them across the five money management groups.

As will be discussed in more detail later in the report (see Section 4.3), differences exist between the money management segments in the areas of:

- asset protection, with lower levels of most types of insurance evident among members of Groups 4 and 5
- less monitoring of day to day expenses by members of Groups 4 and 5
- less control of financial situation among members of Groups 1 and 5
- discomfort with current debt levels for Groups 1 and 5, including the inability to make loan repayments, in particular Group 5
- doubts about the ability to manage if a major income loss occurred, in particular Groups 4 and 5, but also Group 1. Associated with these concerns about financial resilience are the relatively low asset levels reported by members of Groups 4 and 5. While those in Group 1 appear to have considerably higher asset values than people in Groups 4 and 5, Group 1 members appear to have offset this to some degree with high levels of debt.

Other areas of financial vulnerability, which are considered in a little more detail here, include:

- awareness of the rights, responsibilities and behaviours of informed consumers of financial products and services
- awareness and understanding of investment and investment risk
- borrowing practices as they pertain to the use of non-mainstream lenders
- related to the above areas of vulnerability, self-awareness insofar as further education in financial matters is considered desirable.

Consumer rights, responsibilities and behaviours

Table 9 looks at two aspects of financial consumers—the extent to which they appear to make informed purchase decisions when obtaining new financial products and services and their awareness of some of the responsibilities arising from credit card ownership.

- Among those who have arranged a new everyday banking account, mortgage or insurance policy, members of Groups 1 and 2 are the most likely to engage in comparison shopping[10] when looking for these types of financial products. Those in Group 4 are the least likely to do this.
- Similarly, members of Groups 1 and 2 are the most likely to have used ratings agencies (like Cannex, Morningstar or SuperRatings) or organisations like the Australian Consumers' Association (ACA) to compare financial products or services while members of Group 4 are the least likely to have done this.

Insofar as awareness of the responsibilities associated with credit card ownership are concerned:

- Credit and store card holders from Groups 2 and 3 displayed the highest awareness of the primary card holder's responsibility for all debt incurred by a secondary holder of the card. Awareness of this responsibility was lowest among credit card and store card holders from Group 4.

- Almost one in two credit and store card holders from Group 4 appeared to be unaware that being more than 60 days late with the minimum credit card repayment could result in a bad credit rating.

Table 9: Informed purchase decisions and credit card holder responsibilities, per cent

	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Comparison shopping for new financial products						
Shop around 'at all' for the following products						
Base: Have arranged everyday banking account (subgroup)	*(n=1,065)*	*(n=186)*	*(n=158)*	*(n=245)*	*(n=238)*	*(n=141)*
Everyday banking account	65	76[(a)]	75[(a)]	66	55[(b)]	65
Base: Set up mortgage on home/ investment property (subgroup)	*(n=1,279)*	*(n=313)*	*(n=244)*	*(n=271)*	*(n=221)*	*(n=151)*
Mortgage	73	79[(a)]	75	73	71	69
Base: Have arranged an insurance policy (subgroup)	*(n=1,052)*	*(n=186)*	*(n=166)*	*(n=258)*	*(n=223)*	*(n=121)*
Insurance	75	79	82[(a)]	78	69[(b)]	73
Use of ratings agencies/organisations						
Base: Total sample (subgroup)	*(n=1,205)*	*(n=200)*	*(n=187)*	*(n=274)*	*(n=280)*	*(n=129)*
Either of these	**23**	**36[(a)]**	**40[(a)]**	**21**	**12[(b)]**	**18**
Financial products rating agency	6	10[(a)]	16[(a)]	5	2[(b)]	4
Organisation like ACA or their magazine *Choice*	19	30[(a)]	29[(a)]	18	11[(b)]	15
Responsibilities of credit card holders						
Base: Credit/Store card holders	*(n=2,379)*	*(n=462)*	*(n=448)*	*(n=581)*	*(n=481)*	*(n=237)*
Aware primary card holder is responsible for debt incurred by secondary card holder	77	76	84[(a)]	81[(a)]	71[(b)]	74
Base: Credit/Store card holders (subgroup)	*(n=787)*	*(n=153)*	*(n=137)*	*(n=201)*	*(n=160)*	*(n=81)*
Aware being more than 60 days late with minimum payment on a credit card can give someone a bad credit rating	64	69	69	65	55[(b)]	66

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
Note: ACA=Australian Consumers' Association.

Among those who hold investments such as shares, managed investments, investment property or term deposits, Table 10 summarises each group's vulnerability to risk in terms of their understanding and expectations in the areas of diversification, market fluctuations and the trade-off between risk and return.

- The importance of diversification appears to be well understood among most of the money management segments, Group 2 in particular. However, members of Group 4 were slightly below average in considering diversification across investment types to be 'very' or 'quite' important when looking at an investment time frame of 5 years or more.
- A similar pattern was evident in expectations of short-term fluctuations in the market value of investments. Members of Group 2 were the most likely to expect this to happen while members of Group 4 were the least likely to do so.
- Members of Group 2 were also the most likely to avoid investing in an investment offering 'a return well above market rates and no risk'.

Table 10: Vulnerability to investment risks, per cent

		Money management segments				
Investment risks	**Total sample**	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**Group 5**
Base: Have investments	*(n=1,987)*	*(n=501)*	*(n=525)*	*(n=493)*	*(n=213)*	*(n=88)*
Diversification with a 5 year or more time frame						
Importance of diversification across different investment types						
Very important	50	48	63[a]	51	31[b]	42
Quite important	28	31	23[b]	28	35[a]	29
Total: Very/quite important	**78**	**79**	**86**[a]	**79**	**66**[b]	**70**
Expectations of market investments						
Aware that short-term fluctuations in market value can be expected even with good investments	74	77	85[a]	73	59[b]	70
Reaction to investment advertised as having a return well above market rates and no risk						
Consider it 'too good to be true' and not invest	58	54	64[a]	59	55	53
Invest lightly to see how it goes before investing more heavily	36	42[a]	32[b]	34	36	42
Invest heavily to maximise the return	2	3	2	2	2	1
Don't know	4	1[b]	1[b]	4	6	3

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
Note: Rounding may result in discrepancies between the sums of component items and the totals shown.

Given that the use of certain lending sources may be both expensive and problematic for borrowers, Table 11 shows the sources of loans used by all[11] respondents in the previous 12 months. It is evident that:

- Members of Group 3 are the least likely to have borrowed money at all during this time (64 per cent had not done so). Those who had were most likely to have used mainstream lenders (20 per cent) or retailer finance (10 per cent) as their loan source.
- Members of Groups 2 and 4 also had relatively low levels of borrowing during the last 12 months. For both groups, mainstream lenders were used most often as the source of funds, although members of Group 4 were more likely than those in Group 2 to have borrowed from family or friends (15 per cent) and to have availed themselves of retailer finance (12 per cent).
- Borrowing was more prevalent among members of Group 1. Most often this was from mainstream lenders (33 per cent) although there was also significant borrowing from family or friends (18 per cent), retailers (11 per cent), finance companies (10 per cent) and, for around one in 20 (4 per cent) a pawnbroker, payday lender or debt rescue company.
- Group 5 were the most likely to have borrowed money during the previous 12 months (32 per cent had not done so versus 55 per cent of the total sample). Family or friends were most often cited as a loan source (32 per cent), followed by mainstream lenders (27 per cent). There was, however, not inconsequential use of retailer finance (18 per cent) and loans from finance companies (10 per cent) as well as from the fringe lenders of pawnbrokers, payday lenders and debt rescue companies (7 per cent).

Table 11: Lending sources used in the last 12 months, per cent

Use of lending sources	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample (subgroup)	*(n=1,162)*	*(n=184)*	*(n=187)*	*(n=274)*	*(n=281)*	*(n=118)*
Personally used to borrow money in last 12 months						
Bank, building society or credit union	24	33[(a)]	30[(a)]	20	21	27
Family or friends	14	18	3[(b)]	9[(b)]	15	32[(a)]
Store loan or interest free/retailer finance	10	11	7	10	12	18[(a)]
Finance company	7	10	7	4	6	10
Pawnbroker/payday lender/debt rescue company	2	4	1	<1	2	7[(a)]
Cash advance on salary	1	2	–	<1	1	3
Other	2	2	1	1	2	5
None of these	55	43[(b)]	59	64[(a)]	56	32[(b)]

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

The extent to which people agree they feel well informed when making financial decisions is shown in Table 12.

- Most respondents agreed with this proposition, particularly members of Group 2 (95 per cent 'agree', 38 per cent 'strongly') and Group 3 (92 per cent 'agree', 27 per cent 'strongly').
- Members of Group 5 were the least likely to agree (69 per cent) they felt well informed in these circumstances.

Table 12: Informed financial decision-making, per cent

Informed decision-making	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Generally feel well informed when making financial decisions						
Strongly agree	20	14	38	27	11	11
Agree	65	74	56	64	72	59
Total: Strongly agree/agree	**85**	**87**	**95**[(a)]	**92**[(a)]	**83**	**69** [(b)]
Strongly disagree	2	2	1	1	2	6
Disagree	11	10	4	6	13	23
Total: Strongly disagree/disagree	**13**	**12**	**5**[(b)]	**7**[(b)]	**15**	**28**[(a)]
Can't say	2	1	<1	1	2	3

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).
Note: Rounding may result in discrepancies between the sums of component items and the totals shown.

Insofar as the perceived need for further financial education and/or information was concerned,[12] as shown in Table 13:

- Some 68 per cent of Group 5 members expressed a need for further financial education and/or information. While investing (29 per cent) and superannuation (25 per cent) were mentioned by a significant proportion of those who wanted more education/information, the two areas that stood out for Group 5 as having above-average demand were, rather appropriately, budgeting (31 per cent) and managing debt (20 per cent).
- Sixty per cent of Group 1 members felt they needed further financial education or information, typically in the areas of investing, superannuation, budgeting, taxation and managing debt.
- For Groups 2 and 4, 48 per cent felt some need for education/information on finance—for Group 2 in particular on the topics of investing and superannuation. Group 4 members expressed significant interest in these same areas but were also above average in seeking guidance on matters to do with borrowing, loans and mortgages.
- Group 3 were the least likely to feel they needed further financial education and/or information (43 per cent) although investing (45 per cent) and superannuation (30 per cent) were the topics mentioned most often by those who did.

It is also noteworthy that 49 per cent of respondents did not feel they needed financial education and/or information, even though their financial profile suggested they might benefit from this. In particular, this applied to Group 5 where almost one in three (32 per cent) felt this way, possibly indicating for some members of this group limited awareness of their current level of financial difficulty and the potential benefits that might be gained from obtaining appropriate financial information and advice.

Table 13: Perceived need for further financial education/information, per cent

Need for further finance education	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample (subgroup)	*(n=1,779)*	*(n=289)*	*(n=275)*	*(n=415)*	*(n=425)*	*(n=182)*
Need further education/information in relation to finance	51	60(a)	48	43(b)	48	68(a)
Base: Need further education/ information	*(n=861)*	*(n=168)*	*(n=131)*	*(n=169)*	*(n=194)*	*(n=120)*
Topics for further education/information (mentioned by more than 5%)						
Investing	39	42	56(a)	45	31(b)	29(b)
Superannuation	25	28	27	30	23	25
Budgeting	14	16	5(b)	7(b)	14	31(a)
Taxation	13	13	15	15	9	14
Borrowing, loans and mortgages	9	9	4	9	14(a)	9
Managing debt	9	11	4	6	6	20(a)
How to make complaints/ resolve disputes	7	5	6	6	9	7
General information on financial management/planning	7	7	5	3	7	12

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

4.3 Money management profiles

This section looks at the segments' money management in the areas of financial transacting, ownership of financial products (specifically loans, savings, investments and insurance), financial engagement, including the use of financial information and advice and attitudes to various aspects of financial management (planning, saving, budgeting and knowledge of consumer rights), and financial resilience.

The money management profiles have been expanded here to include most of the available information on segment members' transacting behaviour and ownership of financial products. Thus, the following profiles are not restricted just to the money management variables that were used in defining the segments.

When considering these results it should be kept in mind that some people do not have access to certain products and services (for example, because they do not fit the eligibility criteria or do not have internet access). Thus their non-use may not necessarily reflect a deliberate personal decision to reject that product or service.

Transacting behaviour

Table 14 compares the five money management segments in terms of the channels used for making financial transactions. It is evident that:

- cash is used more or less universally by all five segments
- electronic channels are more likely to be used by members of Groups 1, 2 and 5 and less likely to be used by those in Group 4
- of the non-electronic channels
  - Members of Groups 4 and 5 are less likely than average to use cheques while those in Group 2 (61 per cent) are the most likely to do so.
  - Lay-bys are more likely to be used by those in Groups 4 and 5 and money orders by members of Group 5.

With respect to the issue of cost-effective banking, it is also of interest that members of Group 5 are more likely (24 per cent) than members of the other groups to say they do not take any specific steps to minimise or avoid everyday banking fees and charges.

Table 14: Money management profiles—transacting behaviour, per cent

Transacting behaviour—methods used	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Cash	92	93	93	93	91	91
Electronic channels						
ATMs	80	83[a]	79	80	80	89[a]
EFTPOS	76	80[a]	75	74	77	88[a]
Direct debit	64	72[a]	71[a]	61	58[b]	72[a]
BPAY	52	61[a]	62[a]	52	44[b]	61[a]
Internet banking	51	64[a]	65[a]	52	43[b]	50
Telephone banking	32	37[a]	42[a]	30	26[b]	35
Non-electronic channels						
Cheques	39	43[a]	61[a]	44[a]	27[b]	22[b]
Lay-by	25	26	16[b]	17[b]	30[a]	43[a]
Money orders	20	22	14[b]	17[b]	23	27[a]
Steps taken to avoid everyday banking fees						
Take one or more steps to avoid these fees	81	86	85	85	80	76
None/don't take any steps to avoid these fees	15	12	10	13	15	24[a]
Don't know/can't say	3	2	5	2	4	0

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Product ownership—loans

Table 15 summarises ownership of credit cards and loans by the five money management segments. The following are noteworthy:

- Credit card ownership is below average among members of Groups 4 (54 per cent) and 5 (56 per cent) and above average in Group 2 (84 per cent) and Group 1 (78 per cent). The incidence of store cards is more even across segments, although members of Group 1 (16 per cent) are slightly more likely to have a card of this type while those in Group 3 (11 per cent) are slightly less likely to do so.
- Insofar as loans were concerned, a number of differences are evident between the five segments. Thus:
  - Members of Group 1 are the most likely to have an owner-occupier mortgage (51 per cent). They also display above-average use of mortgages for investment property (19 per cent), loans through line of credit or overdraft (19 per cent) and home equity loans (11 per cent).
  - Group 2 members are perhaps the heaviest users of loans, being well above average in their use of investment property mortgages (29 per cent), line of credit/overdraft (23 per cent), home equity loans (14 per cent), margin loans (8 per cent) and leasing or hire purchase arrangements (14 per cent). However, at 34 per cent, the incidence of owner-occupier mortgages in this group (that is, the type of loan least likely to offer tax advantages) is well below that seen in Group 1.
  - Group 3 are below average in their use of store cards and most types of loan.
  - Group 4 members also reported lower use of most loan types including owner-occupier mortgages (26 per cent). However, they are slightly more likely to use personal loans (19 per cent) and, at a low level, payday lenders (3 per cent).
  - Group 5 reported above-average use of personal loans (34 per cent), overdrafts (19 per cent), lease or hire purchase (15 per cent), payday loans (4 per cent) and loans from family or friends (23 per cent). They are also about average in their use of owner-occupier mortgages (37 per cent).

Table 15: Money management profiles—ownership of lending products, per cent

Financial product ownership—lending	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Credit/store cards						
Credit card	65	78 (a)	84 (a)	67	54 (b)	56 (b)
Store card	13	16 (a)	15	11 (b)	13	14
Loans						
Owner-occupier mortgage	34	51 (a)	34	32	26 (b)	37
Personal loan	17	14	10 (b)	13 (b)	19 (a)	34 (a)
Line of credit/overdraft	14	19 (a)	23 (a)	10 (b)	9 (b)	19 (a)
Mortgage for investment property	11	19 (a)	29 (a)	8 (b)	2 (b)	5 (b)
Loan from family/friends	10	11	4 (b)	7 (b)	10	23 (a)
Lease or hire purchase	9	10	13 (a)	7 (b)	7 (b)	15 (a)
Home equity loan	7	11 (a)	14 (a)	6	3 (b)	7
Margin loan	2	3	8 (a)	1	<1 (b)	0 (b)
Payday loan	2	1	1	<1 (b)	3 (a)	4 (a)

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Hence, of the five money management segments, Groups 3 and 4 exhibit relatively low loan use. Group 2 are significant users of loans, particularly of the types of loan that are frequently used for investment purposes. In this they are similar to Group 1, except that members of Group 1 are more likely to also have an owner-occupier mortgage. Group 5 show a relatively high incidence of most types of loan, other than those (that is, investment property mortgages and margin loans) most likely to be used for investment purposes.

Product ownership—savings and investments

Table 16 shows the five segments' ownership of transacting and savings accounts and investments.

- Virtually everyone held an everyday transacting account with no significant differences evident across the five groups.
- Insofar as other deposit products and investments are concerned:
  - Members of Group 2 are well above average in their ownership of all these product types.
  - Group 1 shows a similar profile to Group 2, although at a somewhat lower incidence for almost all of these products.
  - Group 3 also has a relatively high incidence of high interest savings accounts (52 per cent) but, unlike Group 1, is below average in direct ownership of shares and managed funds (39 per cent) and investment property (14 per cent).
  - Members of Groups 4 and 5 are significantly less likely than average to hold all these types of savings products and investments.

In summary, members of Group 2 are heavily involved in all types of savings and investments, as are members of Group 1, although at a somewhat lower level. Group 3 has a slightly more conservative profile in this area with less exposure to shares, managed funds and investment property but relatively high use of more conventional cash deposits. Members of Groups 4 and 5 are below average in their use of savings products and investments.

Table 16: Money management profiles—ownership of savings/investment products, per cent

Financial product ownership—savings/investments	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Everyday transacting account	97	97	99	97	97	99
Mainstream deposits						
High interest savings account	46	54(a)	71(a)	52(a)	35(b)	31(b)
Term deposit	20	28(a)	45(a)	20	9(b)	4(b)
Other deposits						
Bonds, debentures, notes, etc.	4	5	17(a)	1(b)	<1(b)	1(b)
Growth investments						
Superannuation fund	76	85(a)	90(a)	80(a)	68(b)	76
Directly held shares/managed investments	43	73(a)	96(a)	39(b)	13(b)	14(b)
Directly held investment property	19	31(a)	50(a)	14(b)	5(b)	7(b)
Retirement income products						
Base: Aged 55 years or more	*(n=1,303)*	*(n=169)*	*(n=238)*	*(n=361)*	*(n=267)*	*(n=67)*
Retirement income stream product (for example, annuity)	20	26(a)	32(a)	23(a)	8(b)	3(b)

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Product ownership—insurance

Risk management, through the ownership of various types of insurance, is summarised in Table 17. Among those for whom the ownership of specific types of insurance appears to be appropriate:

- Groups 1 and 2 exhibit similar, relatively high levels of ownership of these insurance products. The only notable differences between these two groups are Group 2's higher incidence of private health insurance (80 per cent versus 67 per cent in Group 1) and, among those in full-time work, income protection insurance (45 per cent versus 36 per cent).
- For Group 3 the incidence of these products is generally lower than for Groups 1 and 2.
- Groups 4 and 5 have insurance product profiles that are similar to each other and that show below-average holding for most of these types of insurance. Interestingly, while Group 4 and 5 motor vehicle owners are below average in their use of comprehensive motor vehicle insurance, they have tended to use third party insurance instead rather than doing without vehicle insurance altogether.

Table 17: Money management profiles—ownership of insurance products, per cent

Financial product ownership—insurance	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Private health insurance	55	67[(a)]	80[(a)]	61[(a)]	40[(b)]	36[(b)]
Life insurance	34	48[(a)]	52[(a)]	33	22[(b)]	28[(b)]
Base: Own/buying/renting home	*(n=3,413)*	*(n=563)*	*(n=518)*	*(n=813)*	*(n=804)*	*(n=380)*
Contents insurance	74	86[(a)]	90[(a)]	78[(a)]	62[(b)]	61[(b)]
Base: Own/buying home	*(n=2,579)*	*(n=483)*	*(n=465)*	*(n=668)*	*(n=515)*	*(n=211)*
Building insurance	80	86[(a)]	88[(a)]	82	73[(b)]	72[(b)]
Base: Own/buying a motor vehicle	*(n=2,804)*	*(n=477)*	*(n=464)*	*(n=684)*	*(n=618)*	*(n=307)*
Comprehensive motor vehicle insurance	87	92[(a)]	95[(a)]	88	83[(b)]	79[(b)]
Third party motor vehicle insurance only	10	6[(b)]	4[(b)]	10	13[(a)]	14[(a)]
Total: Either comprehensive or third party insurance	**97**	**98**	**99**	**97**	**95**	**93**[(b)]
Base: Working full-time	*(n=1,434)*	*(n=287)*	*(n=264)*	*(n=344)*	*(n=305)*	*(n=158)*
Income protection insurance (full-time workers)	30	36[(a)]	45[(a)]	29	19[(b)]	27

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Financial engagement—use of information and advisers

An indication of respondents' engagement with their personal finances and investments is presented in Table 18. This table shows the proportion of respondents who have used each source of information and each type of adviser for assistance with their finances and financial decision-making. From the table it can be seen that:

- Members of Group 2 are more likely than any other group to report using all the sources of financial information shown (only 7 per cent had not used any of these) and also to have used these types of financial adviser (just 1 per cent had not used any of these advisers).
- Group 1 are also well above average in their use of these sources of financial information and advice, although generally at a somewhat lower level than members of Group 2.
- Group 3 make less use of financial information sources than Groups 1 and 2, although their use of the financial sections of newspapers/magazines (44 per cent), financial internet sites (26 per cent) and books and other financial publications (26 per cent) are all about average. This is also true of their use of most financial advisers except for stock brokers (7 per cent), tax specialists (22 per cent) and insurance brokers (10 per cent).
- Use of all the sources of financial information and types of financial adviser shown in Table 18 is below average among members of Groups 4 and 5 and is especially low in Group 4.

In considering these findings it should be kept in mind that socioeconomic factors (such as those discussed in Section 4.2) can influence a person's need for some of these services and information sources. For example, those with low household incomes would, at first glance, be less likely to need the services of a financial planner than those whose household income is relatively high. Nevertheless, from a money management segmentation perspective, it is clear that certain segments (Groups 1 and 2 in particular) make much greater use of financial information and advice than others.

Table 18: Money management profiles—use of financial information and advisers, per cent

Investment information and advice	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Used these sources of financial information in last 5 years						
Financial section of newspapers/ magazines	42	60[(a)]	81[(a)]	44	20[(b)]	24[(b)]
Financial industry publications	27	45[(a)]	64[(a)]	24[(b)]	7[(b)]	12[(b)]
Financial internet sites	27	46[(a)]	54[(a)]	26	10[(b)]	17[(b)]
Books/other financial publications	26	41[(a)]	58[(a)]	26	8[(b)]	14[(b)]
Government financial publications (e.g. ASIC, FAHCSIA, etc.)	23	38[(a)]	51[(a)]	20[(b)]	8[(b)]	12[(b)]
Financial seminars	15	23[(a)]	40[(a)]	12[(b)]	3[(b)]	4[(b)]
Publications from community organisations	12	18[(a)]	22[(a)]	10[(b)]	5[(b)]	8[(b)]
Total: None of these	**39**	**15**[(b)]	**7**[(b)]	**36**	**62**[(a)]	**56**[(a)]
Use these sources of financial advice in last 5 years						
Financial planner	34	50[(a)]	70[(a)]	36	14[(b)]	15[(b)]
Accountant	45	63[(a)]	79[(a)]	44	25[(b)]	32[(b)]
Stock broker	10	12[(a)]	34[(a)]	7[(b)]	1[(b)]	2[(b)]
Tax specialist	26	40[(a)]	50[(a)]	22[(b)]	11[(b)]	19[(b)]
Centrelink Financial Information Service Officer	11	14	12	11	9[(b)]	12
Insurance broker	12	19[(a)]	30[(a)]	10[(b)]	4[(b)]	7[(b)]
Mortgage broker	18	30[(a)]	28[(a)]	16	10[(b)]	14
Bank manager/employee	39	53[(a)]	55[(a)]	38	27[(b)]	34[(b)]
Total: None of these	**22**	**5**[(b)]	**1**[(b)]	**18**	**39**[(a)]	**33**[(a)]

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Financial engagement—management of finances

The second aspect of financial engagement considered in this analysis was concerned with people's feelings about the management of their personal finances—that is, their views on financial planning, saving, budgeting and their rights as a user of financial services. Table 19 summarises key measures in each of these areas and shows that:

- Members of Groups 2 and 3 have similar profiles and are more likely than average to agree with the view that planning is important. They also appear to have below-average difficulties with saving, above-average use of written records for budgeting and below-average uncertainty about their rights as financial consumers.

- Group 1 shows similarities to Groups 2 and 3 with respect to the importance of planning but, compared to Groups 2 and 3, members of Group 1 are more likely to have difficulty setting money aside, are less likely to use written records for budgeting and are less confident about their consumer rights.
- Members of Group 4 are the least likely to agree with the proposition that financial planning is important, are more likely than average to say they spend all their income as soon as they get it and also to only keep ‘a bit of an eye’ on expenses or to not monitor them at all. They also exhibit above-average uncertainty about their rights as financial consumers and about their ability to complain effectively if they have problems with a bank or other financial institution.
- Group 5 has a similar profile to Group 4. However, members of Group 5 are slightly less confident about their consumer rights, slightly more positive about the importance of financial planning and much more likely to have difficulties with saving.

Table 19: Money management profiles—management of finances, per cent

Management of finances	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Planning						
Agree it is important to have a long-term financial plan	88	95[(a)]	98[(a)]	96[(a)]	78[(b)]	85
Agree it is important to have a short-term financial plan	83	89[(a)]	93[(a)]	90[(a)]	74[(b)]	83
Saving—agree with the following …						
I have problems setting money aside for major financial outlays	24	27	4[(b)]	4[(b)]	26	76[(a)]
I spend all my income as I get it and don't plan for the future	14	10[(b)]	1[(b)]	1[(b)]	19[(a)]	51[(a)]
Budgeting						
Keep eye on expenses only 'a bit' or 'not at all'	23	24	15[(b)]	16[(b)]	28[(a)]	31[(a)]
Use written records to keep a close eye on expenses	30	28	40[(a)]	35[(a)]	24[(b)]	27
Knowledge of consumer rights						
Disagree very clear about rights if have problem with a financial institution	28	32[(a)]	19[(b)]	21[(b)]	32[(a)]	38[(a)]
Not confident could make an effective complaint against a bank or other financial institution	35	34	21[(b)]	29[(b)]	43[(a)]	49[(a)]

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

Financial resilience

Key measures for the third money management domain, financial resilience, are presented in Table 20.

- Again, members of Groups 2 and 3 exhibit similar profiles with indications of relatively high levels of financial resilience. That is, few members of either group feel their financial situation is 'out of control', are uncomfortable with their current debt or would be unable to manage for a time if they experienced a major loss of income. Almost no-one in either of these groups has been unable to make a loan repayment during the last 12 months.
- Group 4 members are more likely than average to feel they could not manage if they had a major loss of income. However, few have missed loan repayments and a below-average 14 per cent feel uncomfortable with their total level of debt.
- Members of Group 1 appear more financially stretched. Around one in four feel their financial situation is at least sometimes 'out of control' (27 per cent), 24 per cent are uncomfortable with their current debt and 23 per cent feel they would be unable to manage if they suffered a major loss of income.
- Finally, Group 5 appear to be the most financially pressured group with much higher scores on all four of these indicators of financial difficulty than any of the other groups.

Table 20: Money management profiles—financial resilience, per cent

Financial resilience	Total sample	Money management segments				
		Group 1	Group 2	Group 3	Group 4	Group 5
Base: Total sample	*(n=3,500)*	*(n=576)*	*(n=526)*	*(n=829)*	*(n=828)*	*(n=384)*
Financial situation out of control all/most of the time/fluctuates	23	27[(a)]	4[(b)]	4[(b)]	19	83[(a)]
Have been unable to make loan repayment in last 12 months	8	10	1[(b)]	<1[(b)]	3[(b)]	44[(a)]
Very/somewhat uncomfortable with total amount of debt	19	24[(a)]	6[(b)]	4[(b)]	14[(b)]	66[(a)]
Disagree could manage for period of time if major income loss	24	23	5[(b)]	7[(b)]	30[(a)]	68[(a)]

(a) Percentage is significantly larger than that shown for total sample ($p<0.05$).
(b) Percentage is significantly smaller than that shown for total sample ($p<0.05$).

5 Segment summaries

5.1 Introduction

This final section of the report draws together the profiling information from Sections 3 and 4 to provide a summary snapshot for each of the money management segments. For the most part, each segment is described separately, although on occasions comparisons are drawn with other groups when it is felt this will enhance the understanding of the group under consideration.

When considering these descriptions, the issues discussed in Section 4.1 should be kept in mind. That is:

- While the profiles focus on the biases that exist between the groups, each group will show some degree of heterogeneity on most of the descriptive variables used in this analysis. Further, there will also be some degree of overlap between groups in terms of their financial attitudes and behaviours.
- The profiles are based on point-in-time measures and do not imply that people cannot, over time, move from one segment to another.
- The profiles are subject to the limitations of survey-based data, including the exclusion of certain population subgroups and the limited reliability of some self-reported survey measures.

5.2 Money management group descriptions

Group 1: High income and asset levels but struggling with high debt (18.2 per cent of the population)

Sociodemographics

Most members of this group are in paid employment, typically working in upper white collar occupations, with relatively high household incomes. This group includes a high proportion of couples with children living in the household and an above-average proportion of university graduates.

A relatively high proportion are currently buying their home.

Money management

Members of Group 1 have high levels of debt that are only offset to a limited degree by the value of the family home. While there is relatively high ownership of savings products and investments, for the most part these do not appear to have achieved especially high values. Group 1 members show considerable interest in investing (they are heavy users of financial information and financial advisers), and financial literacy in this group is above average.

Possibly reflecting the group's relatively high debt levels, there are some signs of financial pressure evident with around one in four members of Group 1 feeling their finances are 'out of control' at least some of the time; a similar proportion uncomfortable with their current level of debt; one in 10 unable to make at least one loan repayment during the last 12 months; and above-average use of pawnbrokers, payday lenders and debt rescue companies.

Hence, despite their relatively high incomes, there seems likely to be pressure on Group 1 households as a result of high debt levels, particularly debt associated with owner-occupier mortgages, and by the fact that many still have children living at home and requiring financial support.

The majority of this group expressed interest in further financial education, particularly in the areas of investing, superannuation, budgeting, taxation and debt management.

Group 2: Savvy investors (16.0 per cent of the population)

Sociodemographics

Members of Group 2 are, on average, slightly older than other groups (average age is 49.8 years) and there are slightly more males than females in this group. There is a high proportion of university graduates and, reflecting this, members of this group are most likely to be working in upper white collar occupations and earning household incomes that are well above average.

Typically, those in Group 2 live in couple households, more than one in three have no children living with them, and the majority own their home outright.

Money management

Members of Group 2 are keen investors—there is a high incidence of deposit products and growth investments, and asset values are the highest of all groups. Members of this group have significant debt (although less than those in Group 1); however, this appears to be used for investment purposes rather than for owner-occupier home loans. They make extensive use of financial information and advisers and their assets are typically well insured. There is little evidence of financial stress among the members of this group.

While financial literacy is the highest of all groups, around half of all Group 2 members expressed some interest in further financial education, particularly in the areas of investing, superannuation and taxation.

Group 3: Conservative with high assets (26.2 per cent of the population)

Sociodemographics

Group 3 has an above-average representation of households consisting of a couple with no resident children. Almost half own their home outright, the second highest level of outright home ownership after Group 2. A further one in three are in the process of buying their home and, among this subgroup, most have relatively modest total debt of less than $250,000.

Two-thirds are in paid employment and there is also an above-average proportion of retirees in this group. Household incomes are slightly higher than average but significantly lower than those found in Groups 1 and 2.

Money management

Members of Group 3 display a more conservative approach to investment than either Group 1 or Group 2. Debt levels are the lowest of all groups, while asset values are relatively high, particularly when the family home is taken into account. However, ownership of growth investments (such as shares and investment property) is below average while there is a bias towards holding assets in mainstream deposit products like high interest savings accounts and term deposits. Financial literacy is relatively high, there is a high degree of control in the management of expenses and little evidence of financial difficulty among the members of Group 3.

It seems likely that their financial situation is strengthened by the comparatively high level of outright home ownership and relatively low levels of debt among those who are still paying their home off. Members of Group 3 are also the most likely to be living in a household with no children requiring financial support. These factors are likely to be offsetting Group 3's slightly lower level of household income compared to Group 2 and to account for the more or less equal levels of financial resilience in these two groups.

Members of Group 3 are the least likely to feel they need further financial education (43 per cent versus 51 per cent of the total sample).

Group 4: Struggling with relatively low income, assets and financial literacy (27.1 per cent of the population)

Sociodemographics

Members of Group 4 are slightly younger than average (average age of 43.4 years) and the majority have no formal post-secondary education. About half the group have children living at home and there is a slightly above-average proportion of single parents. Group 4 are much more likely to be renting or buying their home than they are to own it outright and are more likely to be living in areas of high relative socioeconomic disadvantage.

Although around two-thirds are in paid employment, household incomes are well below those of Groups 1, 2 and 3, and the proportion whose main source of income is a government benefit or allowance is relatively high.

Money management

Members of Group 4 are below-average users of most types of lending products (including credit cards) and of savings/deposit accounts and growth investments, possibly because low incomes and assets could make them ineligible for some products/services or make others less relevant to their current situation. Debt levels are low, as are asset values, apart from the family home.

Financial literacy is the lowest of all five groups. Also, a relatively high proportion display a somewhat casual approach to monitoring their expenses (that is, only keep 'a bit of an eye' on them or don't monitor them at all) although it should be noted that some may 'get away with' this because their low debt levels result in relatively high levels of disposable income, despite having household incomes that are low in an absolute sense. Use of insurance is below average and members of this group are less likely than average to engage in comparison shopping when looking for a new financial product or service.

They also show some signs of financial stress, certainly more than Groups 2 and 3. Around one in five feel their finances are 'out of control' at least some of the time and 30 per cent feel they couldn't manage if they experienced a major loss of income. Potentially placing pressure on their financial situation are relatively low household incomes, and high levels of renting or home purchase (as opposed to outright home ownership) and of children still living at home.

Nevertheless, despite signs of financial pressure, most generally feel they are well informed when making financial decisions and slightly more than half do not feel they need further education or information in relation to finance. At the same time, many in this group appear to have a relatively simple financial situation and for them, further information/education may offer limited benefit.

Group 5: Struggling with relatively low income, assets and financial literacy and high debt (12.5 per cent of the population)

Sociodemographics

Group 5 is the youngest group with an average age of 40.6 years. The majority do not have formal post-secondary education. Members of this group are the most likely to have children living at home and there is a relatively high proportion of single parents. Few in Group 5 own their home outright, with most either renting or in the process of buying.

Two-thirds are in paid employment with a slightly above-average proportion working in lower blue collar occupations. Annual household incomes are below average and there is a relatively high proportion whose main source of income is a government benefit or allowance. The employment and income levels are about the same as those found in Group 4.

Money management

Members of Group 5 appear to be under the most financial pressure of all groups and are the most likely to be experiencing difficulty in controlling their financial situation. Asset values are low especially if the family home is not included—in these circumstances half the group have $2,000 or less in all savings and investments. At the same time debt levels are relatively high and there is also above-average use of more expensive types of loan including lease/hire purchase, payday lenders, retailer finance, personal loans and line of credit/overdraft facilities. Some 37 per cent of this group have an owner-occupier mortgage raising a question as to whether use of the more expensive loan facilities, rather than mortgage redraw, results from limited awareness of the redraw facility or from not being ahead on loan repayments.

Group 5 exhibits a high degree of financial vulnerability with the above-average use of potentially problematic and expensive lending sources mentioned above, relatively low levels of financial literacy, below-average use of insurance to manage risk and financial resilience measures that show, by a wide margin, the highest levels of financial difficulty of the five groups. Specifically, 83 per cent feel their finances are 'out of control' at least some of the time, 66 per cent are uncomfortable with their current level of debt, 44 per cent have been unable to make a loan repayment during the last 12 months and 68 per cent feel they could not manage if they experienced a major loss of income.

Sociodemographic factors with the potential to influence the financial situation of this group include their relatively low household incomes, low asset values, high levels of (potentially expensive) debt and an above-average proportion of households with resident children requiring financial support.

Two-thirds feel they need further education or information in relation to finance, particularly on budgeting, investing, superannuation and managing debt. The above-average interest in information/education on budgeting and debt management suggests some self-recognition of the financial difficulties facing many members of this group and a desire to do something about them. The use of Centrelink Financial Information Service Officers by about one in 10 members of Group 5 also points to some interest in obtaining help to deal with financial matters.

5.3 Conclusions

In conclusion, this analysis has shown that the Australian population can be segmented into five broad groups defined by people's money management behaviour. The five groups, and the key financial issues defining them, are as follows:

- Group 1 has high levels of income and assets but members tend to be struggling with high levels of debt.

- Group 2 members also have high levels of income and assets but lower levels of debt, and hence, less financial vulnerability, than do those in Group 1. Members of this group also have the highest financial literacy of all five groups.
- Group 3 exhibits a more conservative approach to investment with relatively high levels of assets that are biased towards mainstream deposit products rather than growth assets, and low levels of debt. Like Group 2, the financial vulnerability of this group is relatively low and financial literacy is relatively high.
- Group 4 have relatively low incomes, low asset levels and relatively low financial literacy. Their financial vulnerability is significantly greater than that of Groups 2 and 3 but is ameliorated to a degree by the relatively low level of debt carried by members of this group.
- Group 5 are the most financially vulnerable group with low levels of income and assets, relatively low financial literacy and relatively high levels of debt that is typically financed through more expensive and potentially problematic lending sources.

Despite the existence of clear differences between these five groups, there was also evidence of some heterogeneity within each group. Each one appeared to contain subgroups exhibiting varying degrees of exposure to risk of encountering financial difficulty. Further research that focuses on identifying, describing and understanding these ‘at risk’ subgroups appears to offer a potentially fruitful direction for the future.

Appendix A: Detailed analytic methodology

A1 Introduction

The analysis of the 2008 *ANZ Survey of Adult Financial Literacy in Australia* data was a three stage project, aimed at creating robust and meaningful segments relating to money management behaviour, and profiling the population by segment in order to provide a sound understanding of the characteristics of each group.

The first stage of the project was to undertake scoping and exploratory data analysis in order to assess the likely feasibility of analyses, to identify issues for the analysis and to develop an approach to conducting the segmentation. The second and third stages were to undertake the segmentation analysis, provide detailed profiles of the various segments and report on the methodology and results. This document describes the approach to conducting the segmentation study and the analytical and data issues explored.

A1.1 Segmentation analysis

Segmentation analysis covers a family of techniques used to identify natural groupings in a dataset. In this case the dataset consists of survey data and the groups are based on responses to a number of attitudinal and behavioural questions. Segmentation analysis can use techniques such as principal component analysis, cluster analysis, regression, and classification trees and correspondence analysis, among others. These multivariate techniques identify which variables have responses that group together, and allow the grouping of respondents into 'clusters' or 'segments' that share important characteristics.

A1.2 Statistical techniques

This section provides a brief description of the various statistical techniques used in the current segmentation analysis. Although the techniques discussed here were all investigated, not all were used for the final segmentation. In our experience, the most appropriate techniques to use depend on the dataset, and the interpretability and meaningfulness of the resulting segments must be considered in determining the 'best' techniques for a given dataset. Hence, the approach taken for this project was to conduct exploratory segmentation analysis, using several techniques, and decide on the most appropriate technique or combination of techniques after reviewing the resulting segments. Further refinement of the segmentation was then undertaken using the chosen methods.

Principal component analysis

Principal component analysis (PCA) is a multivariate technique that can be used to explore the relationships between variables and identify those variables that provide the most information in terms of grouping or separating respondents based on their answers.

Technically speaking, PCA linearly transforms the data to a new coordinate system such that the greatest variance by any projection of the data lies on the first coordinate axis (called the first principal component), the second greatest variance on the second coordinate axis (called the second principal component) and so on. All coordinate axes are orthogonal to each other and therefore uncorrelated.

Each principal component is a new variable that is a linear combination of the original variables, but for each component only a small number of the original variables are given significant loadings and these variables will exhibit relatively high (positive or negative) correlations. By reviewing the magnitude and signs of the loadings for the variables with significant loadings it is possible to gain an understanding of the types of respondents who would achieve a 'high' score (positive or negative) on a particular principal component.

For any dataset the number of principal components that can be extracted is equal to the number of variables in the dataset. However, as each principal component extracted explains less of the variation than the previously extracted component, later components can generally be ignored without losing significant information.

Cluster analysis

Cluster analysis attempts to identify a set of groups that minimise variation within a group and maximise variation between groups—that is, to form natural 'clusters' of similar respondents. There are various types of cluster analysis, with both hierarchical cluster analysis and *k*-means cluster analysis used for this project.

Hierarchical clustering

Hierarchical cluster analysis begins with each individual respondent forming a separate cluster and then combining clusters one at a time until there is just one overall cluster containing all respondents. The 'distance' between individual respondents is calculated from responses to the variables of interest. While several distance measures can be used, the Euclidean distance is commonly used and was used here. At each stage, the two clusters that are most similar to each other (that is, are the shortest distance apart) are combined to create a new cluster. Once a cluster has multiple respondents the distance between clusters can be calculated in a number of different ways:

- the smallest distance measure between any two respondents in the separate clusters (single linkage)
- the largest distance between any two respondents in the separate clusters (complete linkage)
- other methods between these two extremes.

Obviously the starting point (each respondent as an individual cluster) and the end point (all respondents in a single cluster) of the analysis do not provide useful segments, so it is necessary to determine an appropriate set of clusters from an intermediate stage. This determination is often done by reviewing a dendrogram of the cluster analysis, which is a tree diagram that shows the arrangement and the degree of separation between clusters at each stage.

k-means clustering

k-means clustering defines *k* clusters by choosing *k* starting points and combining respondents into clusters in a way that minimises the sum of squares from respondents to the cluster centres. Since the choice of the *k* starting points can change the final clusters, it is good practice to perform the analysis on multiple sets of randomly chosen starting points (unless there is additional information available that can be used to define an appropriate set of starting points) to obtain convergence to a single set of final clusters. For this project each *k*-means clustering analysis was based on 25 sets of randomly chosen starting points, which provided good convergence.

A2 Methodology

The overall approach taken to the segmentation analysis was to determine segments based on clustering of scores from a principal component analysis. An iterative approach was used, with results from each stage reviewed for meaningfulness in terms of money management.

A2.1 Identifying relevant variables

As the statistical techniques used require complete data (that is, each question included in the analysis must be answered for a respondent to be classified into a segment), a large number of questions were not considered for inclusion in the analysis. These were all questions that were only asked of certain groups of respondents. Questions that were asked of all respondents and considered relevant for inclusion in the analysis were:

- A1 Payment methods used (transacting behaviour)
- B1 Types of accounts, investments, insurances held (ownership of financial products)
- B3 Sources of information for financial decision-making
- B4 Advisers consulted regarding finances
- F1 Comfort with amount of money owed
- F2 General feeling about current financial situation
- F4a Types of repayments missed in past 12 months
- F4b Reasons for missing any repayments in past 12 months
- H2 Extent to which household expenses are monitored
- I1 Level of agreement with statements relating to financial issues:
  - It is important to me to have a long-term financial plan.
  - It is important to me to have a financial plan for the short-term.
  - I spend all of my income as I get it and don't really plan for the future.
  - I feel out of control with my borrowing and credit card generally.
  - If I had a major loss of income I could manage for a period of time.
  - I have problems setting money aside for major financial outlays (for example, paying insurance or taking a holiday).
- J2 Level of agreement with statements relating to consumer rights and responsibilities:
  - You generally feel well informed when making financial decisions.
  - Providers of financial products and services have a legal duty to provide clear information to consumers.
  - You are very clear about your rights if you have a problem with a financial institution.
  - Consumers have a duty of honest disclosure when taking out a financial service or product and may face penalties for not doing so.

A2.2 Missing data

While the relevant variables listed above were asked of all respondents, they were not necessarily answered by all respondents. In this context an answer of 'don't know' or a refusal to answer are both considered as missing data items. For each question only a small percentage of respondents were unable or unwilling to provide an answer, so rules were created for the imputation of missing values, which were implemented prior to conducting the PCAs. However, as initial results using the imputed data were somewhat ambiguous and unintuitive, and it was known that respondents with missing data were much more likely to be from the older age groups, it was considered that the imputation process was likely to be biasing the results and the analyses were rerun on data with no imputation.

The final analyses therefore excluded some respondents from the segmentation process; however, the results were much more interpretable and meaningful.

A2.3 Standardising data

In PCA, variables must be prepared for the analysis to ensure that all variables are considered appropriately. Without some form of scaling the PCA may result in some variables dominating the analysis when they have a larger variance simply due to the scale that the variables are measured on. For example, questions measuring a respondent's level of agreement are measured on a scale from 1 to 4 and would be expected to have a larger variance than simple yes/no questions. Therefore, all variables used in the segmentation were standardised (that is, centred to have a mean of 0 and scaled to a standard deviation of 1) for the PCA and calculation of component scores.

A2.4 Exploratory PCA

A series of PCAs were run using combinations of the variables outlined in Section A2.1 and also a number of new variables derived from the original variables, which were thought might assist in simplifying or interpreting the analysis. A summary of the impact of individual questions or sets of questions is provided below.

A1: Types of payment methods respondents used

- A review of frequencies by age group showed marked age effects:
  - cheques—use increases with age
  - ATMs and EFTPOS—use decreases with age
  - credit cards, direct debit, BPAY, etc—low use for very young (perhaps because they can not get these payment options, or do not require them while living with their parents) and older groups (who perhaps no longer need them or do not trust them/are not familiar with them)
  - loans from family and friends and payday loans—highest for very young (perhaps they can not get any other form of loan).
- PCAs focusing on just these variables initially showed some tendencies towards grouping into older style and newer electronic style payment options. However, when included in larger PCAs that incorporated the other relevant variables, the results were less distinct, with both old and new style payments loading on the same components.
- There were no clearly interpretable patterns in component loadings.

Consequently, it was decided to exclude the A1 variables from the final PCA.

B1: Accounts, investments and insurance types

- The account types were excluded as they did not add to the results. Loadings on high order components were generally low, with an occasional, apparently random, high loading.
- The investment types were included in separate PCAs as either single variables or a summed variable (number of investment types held). In the final PCA the individual investment products, other than very common investments (savings accounts and superannuation), were included.
- The insurance types were included in separate PCAs as either single variables or a summed variable (number of insurances held). The summed variable excluded 'third party vehicle insurance only'. These variables did not load significantly on the higher order components and were excluded from the final PCA.

B3: Sources of information

- Individual variables did not provide meaningful information; however, a single variable summing the number of information sources used was included in the final PCA.

B4: Advisers consulted

- Individual variables did not provide meaningful information; however, a single variable summing the number of advisers consulted was included in the final PCA.

F1: Comfort with amount of money owed

- Included in final PCA.

F2: General feeling about current financial situation

- Included in final PCA.

F4: Payments missed

- Two new variables were created:
  - the number of payment types missed
  - reason for missed payment recoded into ‘no missed payments’, ‘missed payment but for reasons other than lack of planning’ or ‘missed payment due to lack of planning’.
- As the majority of respondents had not missed any payments the two variables were quite highly correlated and therefore only the recoded reason for missed payment variable was included in the final PCA.

H2: Extent to which household expenses are monitored

- While included in the final PCA, did not load significantly on the three highest order components retained for the cluster analysis.

I1: Financial management—planning and saving

- All except I1.7 included in final PCA (I1.7 was not asked of all respondents).

J2: Consumer rights and responsibilities

- While included in the final PCA, these variables did not load significantly on the three highest order components retained for the cluster analysis.

A2.5 Clustering

The first three components from the final PCA were retained for the cluster analysis. All variable loadings of less than 0.3 (in absolute value) were considered not significant and set to zero. Factor scores (because some loadings were artificially zeroed these should technically not be termed component scores) were then calculated for each respondent.

The respondents’ factor scores were then used to classify the respondents into segments by applying cluster analysis. The *k*-means clustering approach (using 25 randomly chosen sets of starting points) was preferred over the hierarchical clustering method, as it created segments that were closer to even in size. The hierarchical approach tended to produce one or two very large clusters, then additional clusters that were very small.

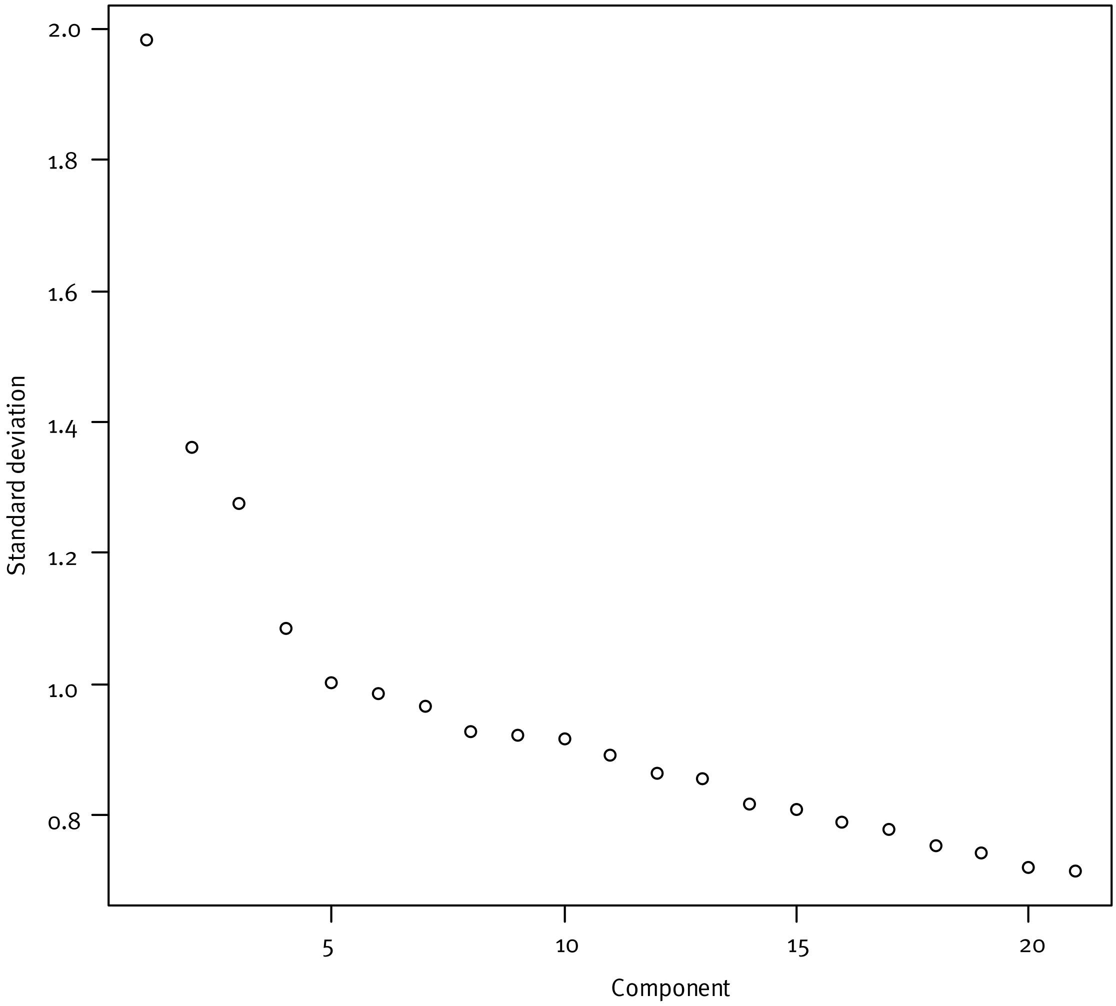
The results of *k*-means clustering with k=3, 4, 5 and 6 were reviewed and the five cluster solution was chosen as the most relevant.

A3 Results

Results for the final PCA are provided below, consisting of a scree plot, the percentage of variance explained and rotated component loadings (with values of absolute value less than 0.3 suppressed).

Based on the scree plot (Figure A1) and percentage of variance explained (Table A1), we investigated retaining three or four components for the cluster analysis. The results of the four component clustering were less meaningful, with less differentiation between the segments and hence the three component clustering was used.

Figure A1: Scree plot for final PCA



Note: Values of absolute value <0.3 have been suppressed.

Table A1: Variance explained by each component for the final PCA

Component	% variance	Cumulative % variance	Component	% variance	Cumulative % variance
1	18.8%	18.8%	12	3.6%	74.2%
2	8.8%	27.6%	13	3.5%	77.7%
3	7.7%	35.3%	14	3.2%	80.9%
4	5.6%	40.9%	15	3.1%	84.0%
5	4.8%	45.7%	16	3.0%	86.9%
6	4.6%	50.3%	17	2.9%	89.8%
7	4.4%	54.8%	18	2.7%	92.5%
8	4.1%	58.9%	19	2.6%	95.1%
9	4.0%	62.9%	20	2.5%	97.6%
10	4.0%	66.9%	21	2.4%	100.0%
11	3.8%	70.7%			

The factor loadings (that is, component loadings with any absolute values less than 0.3 set to 0) for the three retained components are shown in Table A2. Only variables that loaded on the first three components are shown in the table (16 variables), even though additional variables were included in the PCA (21 variables in total). The variables that did not load on any of the first three components were H2 (extent to which household expenses are monitored) and J2.1 to J2.4 (consumer rights and responsibilities).

Table A2: Rotated factor loadings for the first three components of the final PCA

Question	C1	C2	C3
B14 Managed investments other than superannuation	0	0.653	0
B15 Shares	0	0.658	0
B16 Term deposits	0	0.434	0
B17 An investment property	0	0.452	0
B18 Other investments such as debentures, bonds, notes or derivatives	0	0.400	0
F1 How comfortable with amount owing	0.630	0	0
F2 How in control of current financial situation	0.719	0	0
I1.1 Importance of long-term financial plan	0	0	0.639
I1.2 Importance of short-term financial plan	0	0	0.607
I1.3 Spend income as received and don't plan for future	–0.529	0	–0.492
I1.4 Feel out of control with borrowing and credit card	–0.628	0	0
I1.5 Could manage for a period following major loss of income	0.497	0	0
I1.6 Problems setting money aside for major financial outlays	–0.626	0	0
Number of information sources used (derived variable)	0	0.517	0.470
Number of advisers consulted (derived variable)	0	0.558	0.441
Payment missed reason classification (derived variable)	–0.547	0	0

k-means cluster analysis was conducted on the factor scores from the first three principal components, to extract three, four, five and six clusters, with the five cluster solution producing the most meaningful results. Table A3 shows the cluster sizes for the five cluster solution and the segment mean factor scores.

Table A3: Segment sizes and mean factor scores

		Segment mean factor scores		
Segment number	**Segment size**	**Factor 1**	**Factor 2**	**Factor 3**
1	576	–0.98	1.39	0.46
2	526	2.12	3.30	1.89
3	829	2.19	–0.41	0.62
4	828	–0.35	–1.68	–1.34
5	384	–4.87	–1.41	–1.10
Overall[(a)]	3,143	0.06	0.08	0.08

(a) Overall size and mean factor scores based on respondents who answered all questions used for segmentation analysis.

Figure A2: Respondent factor scores by respondent segment

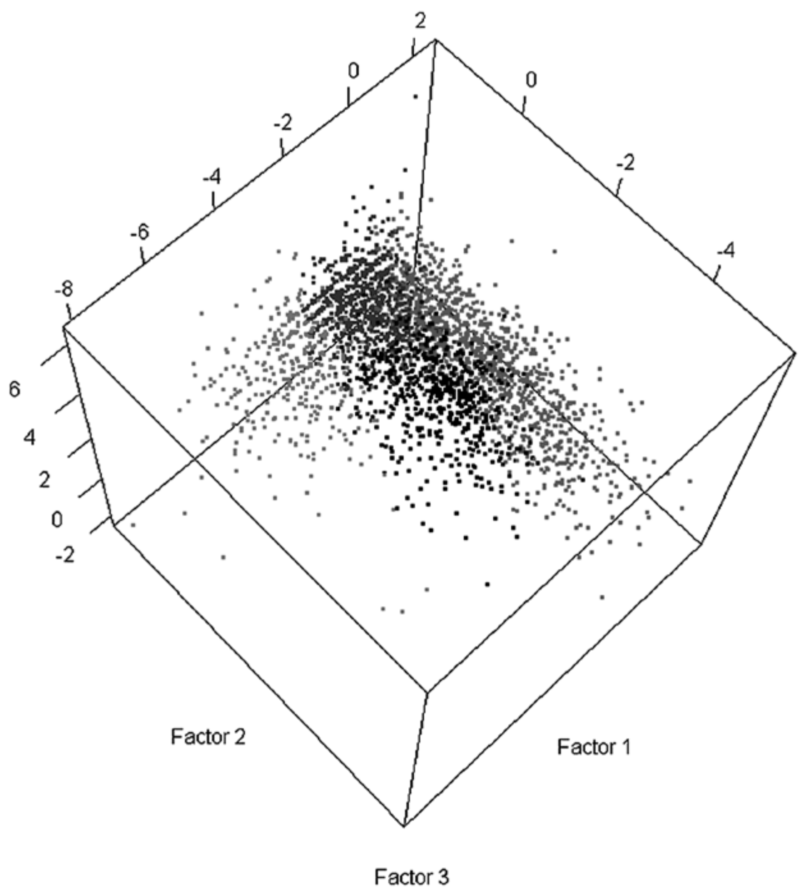


Figure A2 shows respondents' scores on each of the three factors, with each segment identified by a different shade. While the segments are not clearly distinct clusters, there is relatively little overlap on the factor scores between segments, thus validating the segmentation approach and results.

Appendix B: Examples of Australian Geographical Classification Remoteness Areas

Table B1: Remoteness structure: Australian Standard Geographical Classification

Remoteness Area	Description	Examples
Major cities	Geographic distance imposes minimal restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.	Sydney, Newcastle, Wollongong, Melbourne, Geelong, Brisbane, Gold Coast, Adelaide, Perth and Canberra
Inner regional	Geographic distance imposes some restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.	Tamworth, Wagga Wagga (New South Wales), Ballarat, Bendigo (Victoria), Rockhampton, Bundaberg, Gladstone (Queensland), the Adelaide Hills (South Australia), Bunbury (Western Australia), Hobart and Launceston (Tasmania)
Outer regional	Geographic distance imposes a moderate restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.	Broken Hill, Griffith, Gunnedah (New South Wales), Horsham, Swan Hill, Traralgon (Victoria), Roma, Cairns (Queensland), Port Augusta, Mount Gambier (South Australia), Albany (Western Australia), Burnie (Tasmania), and Darwin (Northern Territory)
Remote	Geographic distance imposes a high restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.	Cobar (New South Wales), the northern Wimmera district (Victoria), Charters Towers and Cooktown (Queensland), Port Lincoln (South Australia), the Kalgoorlie goldfields (Western Australia), parts of the West Coast (Tasmania), Alice Springs and Katherine (Northern Territory)
Very remote	Geographic distance imposes the highest restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.	The far west parts of New South Wales and Queensland, northern South Australia and Western Australia, most of the Northern Territory and Flinders and King Islands in Bass Strait (Tasmania)

Remoteness is calculated using the road distance to the nearest urban centre in each of five classes based on population size. The Remoteness Classification (RC) divides Australia into six Remoteness Areas (RAs): major cities of Australia; inner regional Australia; outer regional Australia; remote Australia; very remote Australia; and migratory. For further information, see ABS 2006b.

The key element in producing the structure is the preparation of the Accessibility/Remoteness Index of Australia (ARIA+) grid. ARIA+ scores are first calculated for each urban centre and are then interpolated to create a one-kilometre grid covering the whole of Australia. Each grid square carries a score of remoteness from an index of scores ranging from 0 (zero) through to 15. The data custodian of the grid remains the National Key Centre for Social Applications of Geographic Information System (GISCA), at The University of Adelaide, South Australia. Australian Bureau of Statistics (ABS) RAs are created by averaging the ARIA+ scores within Census Collection Districts (CDs), then aggregating the CDs up into the six ABS RA categories based on the averaged ARIA+ score.

RA categories are defined in the ASGC RCs as follows:

- major cities of Australia: CDs with an average ARIA index value of 0 to 0.2
- inner regional Australia: CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
- outer regional Australia: CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
- remote Australia: CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
- very remote Australia: CDs with an average ARIA index value greater than 10.53.

List of shortened forms

ABS	Australian Bureau of Statistics
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
CALD	Cultural and linguistic diversity
CD	Collection Districts
FLS	Financial literacy score
PCA	Principal component analysis
RA	Remoteness Areas
RC	Remoteness Classification
GISCA	National Key Centre for Social Applications of Geographic Information System

Endnotes

1. ANZ website, Corporate Responsibility, <www.anz.com/about-us/corporate-responsibility/community/financial-literacy-inclusion/research>.
2. A full technical description is provided at Appendix A.
3. ARIA (Accessibility/Remoteness Index of Australia) is an ABS classification based on the premise that remoteness is a factor of the relative distance one must travel to access a full range of services. ARIA measures the remoteness of a point based on road distances to the nearest ABS defined urban centre. ARIA scores provide the basis for the Australian Standard Geographical Classification remoteness structure. For examples see Appendix B.
4. ABS Socio-Economic Indexes for Areas (SEIFA) is a set of four indices created from Census data that show how disadvantaged or advantaged each Census collection district is relative to all others (some collection districts are not assigned an index value because of small populations or missing data). Disadvantage refers to an individual's access to material and social resources and their ability to participate in society relative to what is commonly accepted by the wider community. The Index of Relative Socio-economic Disadvantage is used here. (See ABS 2006a for a more detailed explanation and discussion.) All postal areas have been allocated to quintiles based on their relative level of socioeconomic disadvantage.
5. Major groups 1 (Managers) and 2 (Professionals) in ABS 2009.
6. Major groups 4 (Community and Personal Service Workers), 5 (Clerical and Administrative Workers) and 6 (Sales Workers), in ABS 2009.
7. Major groups 7 (Machinery Operators and Drivers) and 8 (Labourers), in ABS 2009.
8. This is a rough estimate that assumes amortisation of $303,000 of debt over 20 years at an annual interest rate of 8 per cent and a gross annual household income of $83,500. The assumptions are probably conservative, particularly the interest rate given the types of loan/lender used by some members of this group.
9. See Section 2.2 of the report *ANZ Survey of Adult Financial Literacy in Australia* (2008) for more detail on the calculation of financial literacy scores.
10. The questions on comparison shopping were only asked of randomly selected subgroups of the total sample.
11. This question was only asked of a randomly selected subgroup of the total sample.
12. This question was only asked of a randomly selected subgroup of the total sample.

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2. *Low fertility: a discussion paper*
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3. *The identification and analysis of indicators of community strength and outcomes*
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4. *Hardship in Australia: an analysis of financial stress indicators in the 1998–99 Australian Bureau of Statistics Household Expenditure Survey*
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5. *Welfare Reform Pilots: characteristics and participation patterns of three disadvantaged groups*
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7. *Income support customers: a statistical overview 2001*
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8. *Inquiry into long-term strategies to address the ageing of the Australian population over the next 40 years*
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9. *Inquiry into poverty and financial hardship*
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11. *Inquiries into retirement and superannuation*
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12. *A compendium of legislative changes in social security 1908–1982*
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13. *A compendium of legislative changes in social security 1983–2000*
    Part 1 1983–1993, Part 2 1994–2000
    Bob Daprè (2006)

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kylie valentine and Marianne Rajkovic, with Brooke Dinning and Denise Thompson; Marianne Rajkovic, Denise Thompson and kylie valentine (2011)