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Improving the Commonwealth Bank of Australia - Melbourne Institute Observed Financial Wellbeing Scale

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Commonwealth Bank of Australia and Melbourne Institute Financial Wellbeing Scales Technical Report No. 3
Executive Summary
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Executive Summary

In March 2018, in a first-of-its-kind analysis, Commonwealth Bank of Australia (CBA) and the Melbourne Institute: Applied Economic & Social Research (MI) developed two related, yet distinct, multi-item summative scales of Australians' financial wellbeing.

- The CBA-MI Reported Financial Wellbeing Scale is formed from people's responses to 10 questions about their perceptions and experiences of their financial outcomes.
- The CBA-MI Observed Financial Wellbeing Scale (version 1) is formed from five measures from customers' financial records that describe outcomes from their cash balances, savings, credit, and payments over a 12-month period.

Both scales are based on a careful conceptualisation of Australians' financial wellbeing and were developed through rigorous Item Response Theory (IRT) quantitative methods. Each scale has strong measurement properties, which were confirmed in alternate samples, and each is correlated with many financial and personal characteristics and thus externally valid. However, the properties of version 1 of the Observed Financial Wellbeing Scale, while good, are not as strong as those of the Reported Financial Wellbeing Scale. A strong Observed Financial Wellbeing Scale using banking data is valuable for many purposes and stakeholders.

This report describes results from a project that improved the Observed Financial Wellbeing Scale. As with the first version, the improved scale takes the sum of outcomes from five categorical bank-record measures and adjusts that sum so that the final values range from 0 to 100. The component measures describe customers' payment problems, frequency of low liquid balances, net spending, ability to raise funds, and savings balances. Each measure has four or five outcomes (compared to two or three for version 1), and the improved scale has twice as many possible outcomes (20 compared to 10 for version 1). The outcomes of the component measures include more positive financial conditions than the previous measures, allowing the scale to better discriminate between differences in high levels of financial wellbeing. The improved scale also has stronger agreement among the component measures (i.e., higher reliability) than version 1.

The Distribution of the Observed Financial Wellbeing Scale (version 2) and Its Components

We construct and analyse the improved Observed Financial Wellbeing Scale using a sample of people from an on-line survey who indicated that they did most or all of their banking with CBA. With the customers' permission, the survey responses were linked to transaction and account records from the bank.

Among these customers, scores from the improved Observed Financial Wellbeing Scale have an approximate 'bell shape' that ranges over all the possible outcomes from 0 to 100. The distribution is slightly skewed toward higher scale values and has a median value of 57.9. We apply descriptive categories to the scores and find that:

- 18.4 per cent of customers were 'having trouble' (had scores of 26.3 or below, which implied that they experienced the worst possible outcome for one or more observed financial wellbeing conditions)
- 31.3 per cent were 'just coping' (had scores of 31.6 - 52.6, which implied they

experienced a negative outcome for one or more observed conditions)

- 35.1 per cent were 'getting by' (had scores of 57.9 - 78.9, which implied the averages of their observed outcomes were in neutral or second-highest categories), and
- 15.2 per cent were 'doing great' (had scores of 84.2 or higher, which implied they experienced the best possible outcome for one or more observed conditions).

The improved Observed Financial Wellbeing Scale is positively related to the Reported Financial Wellbeing Scale—customers with high financial wellbeing on one scale also tend to have high financial wellbeing on the other. The scales have a (Spearman) correlation of 46 per cent, an improvement of 15%, or 6 percentage points. Thirty per cent of customers have scores that are in the same quintile of the distributions for the two scales, and 70 per cent have scores that are within one quintile of each other for the two scales.

Although most customers in our sample have neutral or positive outcomes for the components of the scale, substantial fractions have very negative outcomes:

- 8 per cent were in arrears for six months or more or had multiple severe payment problems,
- 12 per cent had liquid balances below one week's expenses for at least three-quarters of the year,
- 13 per cent spent more than 80 per cent of their inflows in 11 or 12 months of the year,
- 12 per cent could raise a month's expenses from their own account balances and available credit on 15 or fewer days per year, and
- 15 percent have a substantially fewer savings than people their own age.

Associations with Measured Characteristics

We present a conceptual model in which people's personal and household characteristics, external conditions and events, and financial behaviours contribute to their financial wellbeing (see Figure 5.1). We conduct unconditional correlation analyses to investigate whether these characteristics are associated with the improved Observed Financial Wellbeing Scale in ways that are consistent with the predictions of the model. This serves as a test of the external validity of the scale.

As expected, observed financial wellbeing is positively associated with customers' incomes and especially with the level of their self-reported transaction and savings account balances. More generally, the improved Observed Financial Wellbeing scale has:

Strong positive associations (correlations above 0.3) with:

- total bank deposits
- ability to balance spending and savings
- savings habits
- organisation for everyday spending

Strong negative associations (correlations below -0.3) with:

- difficulties paying rent and mortgage
- holding a car or personal loan
- overspending

Moderate positive associations (correlations between 0.1 and 0.3) with:

- total household income
- superannuation balances
- mortgage offset balances
- investment portfolio balances
- home ownership
- being retired
- education
- self-reported health
- having a sense of control in life
- having clear savings goals
- having a preference not to live on credit
- being a metropolitan resident
- social contact
- not needing community or government support
- holding a term deposit account
- holding a credit card
- holding a mortgage offset account
- holding a mortgage for an investment property
- holding an investment portfolio
- planning for one's financial future
- regularly reviewing finances
- credit card management
- willingness to sacrifice for the future

Moderate negative associations (correlations between -0.3 and -0.1) with:

- being a non-home owner
- the amount of rent and mortgage payments
- disabilities that impact work
- mental distress
- finding finances confusing
- number of dependent children at home
- unpaid care responsibilities that impact work
- experiencing a financial worsening
- needing community/government services but not being able to access them
- using emergency community/government services
- buying things one cannot afford
- putting off making financial decisions

The patterns of associations are similar to those for the Reported Financial Wellbeing Scale.

Multivariate Analyses

We also conduct *multivariate analyses* of the associations between financial wellbeing and people's characteristics. These analyses indicate the partial, or direct, associations of the characteristics holding the influences of other related characteristics constant. For example, the positive unconditional association between organised spending and financial wellbeing from the correlation analyses could appear if organised spenders have higher incomes, more schooling, or other financial behaviours that improve their financial wellbeing rather than organised spending having a direct relationship. Multivariate analyses adjust for this. Our multivariate analyses examine the same set of characteristics as the correlation analyses, except for the amounts of assets and debts, which we consider to be financial outcomes.

Many associations from the correlation analysis also appear in the multivariate analyses and therefore seem to reflect direct influences.

Positive associations that appear in both analyses:

- total household income
- home ownership
- education
- a preference not to live on credit
- being a metropolitan resident
- holding a term deposit account
- holding a mortgage offset account
- ability to balance spending and savings
- savings habits
- credit card management

Negative associations that appear in both analyses:

- difficulties paying rent and mortgage
- dependent children at home
- needing community/government services but not being able to access them
- using emergency community/government services
- holding a car or personal loan
- overspending

The multivariate analyses also point to a few characteristics that are associated with higher reported financial wellbeing but *lower* observed financial wellbeing, including

- greater understanding of financial products
- a greater sense of control in life
- experiencing a financial improvement
- putting off making financial decisions

As with the correlation analyses, the multivariate analyses indicate that people's incomes have a consistent positive association with the improved Observed Financial Wellbeing Scale; however, the strength of the association is modest. A doubling of annual income is only associated with a 1.0-point gain in observed financial wellbeing. The associations with several financial behaviours, including people's savings habits, spending restraint, credit card management, and preferences not to live on credit are much stronger than the associations with income.

Implications

The improved version of the CBA-MI Observed Financial Wellbeing Scale is a powerful tool for describing the financial wellbeing of Australians. The scale combines many elements of financial wellbeing outcomes, including day-to-day spending outcomes, precautionary credit and balance outcomes, and savings balance outcomes. The scale's strong positive association with the CBA-MI Reported Financial Wellbeing Scale and the consistent associations with many characteristics from our conceptual model increase our confidence in the measure.

The strong associations with people's financial behaviours and attitudes, including their savings habits, spending restraint, credit card management, and preferences not to live on credit, have important implications for public and private institutions because these characteristics can be changed. Helping people improve these behaviours can help them increase their financial wellbeing.

Several indicators of disadvantage including unemployment, the need and use of community and government support, and problems with housing affordability are strong predictors of low financial wellbeing in both the correlational and multivariate analyses. Helping people to escape the conditions of disadvantage should be a central concern, regardless of how much we might also help them change their financial behaviours.

Our results also suggest that the confidence that comes from feeling a strong sense of control over one's finances and having a good understanding of finances may be a hidden risk factor for financial problems. Programs and initiatives to help people gain financial knowledge and financial control may need to be mindful of not sparking false confidence.

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