

Evaluation of the Australian MoneyMinded Financial Literacy Program

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Abstract

The issue of raising consumer financial literacy is a major initiative across a range of countries. A key dimension of financial literacy programs is the systematic evaluation of their effectiveness. One element of such evaluation involves participant rating of program effectiveness. An issue in the modelling of such data is that participants typically rate multiple elements of the program, and these multiple ratings result in a correlation structure in their responses. This paper explores different ways of modelling the correlation structure. We find strong differences in significance levels and marginal effects depending on how the correlation structure is modelled.

Keywords: Financial literacy; Correlation structure; Cluster sampling

JEL Code: D14, C25

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The issue of raising consumer financial literacy is a major initiative across a range of countries. A key dimension of financial literacy programs is the systematic evaluation of their effectiveness. One element of such evaluation involves participant rating of program effectiveness. An issue in the modelling of such data is that participants typically rate multiple elements of the program, and these multiple ratings result in a correlation structure in their responses. This paper explores different ways of modelling the correlation structure. We find strong differences in significance levels and marginal effects depending on how the correlation structure is modelled.

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1. Introduction

The issue of increasing consumer financial literacy has become a major focus of public policy and initiative across a range of countries as individual consumers are exposed to more sophisticated financial markets and greater individual responsibility for issues such as retirement savings. In the United States of America such programs include the Financial Links for Low-Income People (FLLIP) program (see Anderson, Zhan and Scott, 2004), the Federal Deposit Insurance Corporation's (FDIC) Money Smart program (see Lyons and Schrepf, 2004) and the Money Talks program for teenagers (see Varcoe and Fitch, 2003; Varcoe, Martin, Devitto and Go, 2005), while in Australia such programs include MoneyMinded (see Russell, Brooks and Nair, 2005). A key to the ongoing improvement of financial literacy is the systematic evaluation of programs (Fox, Bartholomae and Lee, 2005; Lyons, Palmer, Jayaratne and Schrepf, 2006). Well designed and comprehensive evaluations will encourage best practice, improve the effectiveness of programs and help to inform public policy (Fox et al., 2005).

In their review of the literature on the evaluation of financial literacy programs in the US, Lyons, Palmer, Jayaratne and Schrepf (2006) point out that the program evaluations typically involve a wide range of elements from summary statistics on the number of participants, participant ratings of the program and behaviour change of participants as a result of participation in the program. While studies of behaviour change (Lyons and Schrepf, 2004; Lyons, Chang and Schrepf, 2006) are important in identifying the longer term impacts as identified in Fox, Bartholomae and Lee (2005), there are constraints on using such approaches immediately on program conclusion when they are not tied to specific savings type programs. Thus, the collection of data from participants on their satisfaction with training is typically a core component of the evaluation of financial literacy education programs. In their evaluation of the FLLIP program in the US, Anderson, Scott and Zhan (2002) collect data on participant satisfaction and in their evaluation include the reporting of summary statistics on participant satisfaction levels with their training.

A challenge in the analysis of data collected on participants in such programs is the possibility that the same participant will provide ratings at multiple times throughout the

program. As a result, any analysis of such data has to capture the correlation structure involved in such responses. In other words, in cases where the data, at the very least, includes multiple evaluations done by the same individual, treating the responses as independent can lead to erroneous results and conclusions. Indeed, in this paper, we aim to illustrate the importance of identifying and accounting for the correlation structure by modelling the evaluations of usefulness of the MoneyMinded workshops.

The plan of this paper is as follows. Section two provides some details on the MoneyMinded financial literacy program. Section three describes the evaluation data that we use in our analysis and outlines the modelling framework. Section four presents and discusses the empirical results. Section five contains some concluding remarks.

2. The MoneyMinded Program

The MoneyMinded program is one of a range of community banking initiatives run by the ANZ Banking Corporation in Australia. The MoneyMinded program has a broad objective of assisting people to make informed financial decisions and take control of their finances for their future. The MoneyMinded program consists of six key topic areas or modules separated into 17 workshops. The six key topics are: Planning and saving, Easy payments, Understanding paperwork, Living with debt, Everyday banking and financial products and Rights and responsibilities. The program allows individual participants to choose which workshops they wish to complete. The program was developed, in part, as a response to the results from the first-ever major survey of consumer financial literacy in Australia (see ANZ 2003)). The results of this survey identified that those of lower incomes would benefit most from improved financial literacy education. Further details on the program and its objectives are available from the MoneyMinded website (<http://www.moneyminded.com.au/>).

The pilot phase of the MoneyMinded program involved an initial roll-out stage with the program being facilitated by the involvement of five major community groups. Previous research has indicated that delivery of a matched savings program through the involvement of community groups has been successful (for details see Russell and Fredline, 2004; Russell and Wakeford, 2005; Russell, Brooks, Nair and Fredline,

2005, 2006), and as such the approach of also involving community groups in the delivery has also been extended to financial literacy education.

3. Participant Evaluations and Modelling Framework

At the conclusion of each MoneyMinded workshop participants were asked to provide a rating on the usefulness of the particular workshop they had just completed. Overall, a total of 112 individual participants provided a total of 466 workshop evaluations. The evaluations were in the form of an ordinal rating of the “usefulness” of the workshop. This rating was provided on a five-point scale ranging from not at all useful (coded as 0) through to extremely useful (coded as 4). The structure of the MoneyMinded program itself gave the participants the freedom to choose from 17 workshops within the six different topics. Thus, the number of workshops attended, and the number of evaluations per individual, varies across individuals and ranges from 1 to 12.

A preliminary statistical analysis of the data is reported in Brooks *et al* (2005). In common with many evaluation studies this analysis focussed upon cross tabulation of data and treated the data as if it came from a simple random sample. The assumption that the data came from a simple random sample is a simplifying assumption as across the multiple workshops the same participants have provided multiple ratings. Moreover, by focussing upon tabulation, cross tabulation and contingency table testing the analysis does not allow for the potential that a number of factors influence the evaluation. Our analysis focuses on two key issues relating to the provision of multiple ratings by individuals: The dependence of the evaluations on other covariates and the impact of correlation structure, arising from the repeated measurements, in the evaluation data. The modelling framework used allows us to examine how, if at all, different demographic and other characteristics affect an individual’s opinion about the usefulness of a particular workshop.

To allow for the possibility that an individual’s evaluation about the usefulness of a particular workshop depends upon a set of characteristics we will assume that, for any participant i , there is an underlying, continuous variable y_i^* that represents the

perceived level of usefulness of a particular workshop. In turn, y_i^* is determined by a latent regression model¹ where:

$$y_i^* = x_i' \beta + u_i$$

The observed categorical responses are then a result of the following mapping between this latent variable and the cut-off points, α_i 's:

$$y_i = \begin{cases} 0 & \text{if } y_i^* \leq \alpha_1 \\ 1 & \text{if } \alpha_1 < y_i^* \leq \alpha_2 \\ 2 & \text{if } \alpha_2 < y_i^* \leq \alpha_3 \\ 3 & \text{if } \alpha_3 < y_i^* \leq \alpha_4 \\ 4 & \text{if } \alpha_4 \leq y_i^* \end{cases}$$

Using this mapping and assuming $u_i \sim N(0,1)$, we obtain an Ordered Probit model with the probabilities given by:

$$P_{ij} = \Pr(y_i = j) = \begin{cases} \Pr(y_i = 0|x_i) = \Phi(\alpha_1 - x_i' \beta) \\ \Pr(y_i = 1|x_i) = \Phi(\alpha_2 - x_i' \beta) - \Phi(\alpha_1 - x_i' \beta) \\ \Pr(y_i = 2|x_i) = \Phi(\alpha_3 - x_i' \beta) - \Phi(\alpha_2 - x_i' \beta) \\ \Pr(y_i = 3|x_i) = \Phi(\alpha_4 - x_i' \beta) - \Phi(\alpha_3 - x_i' \beta) \\ \Pr(y_i = 4|x_i) = 1 - \Phi(\alpha_4 - x_i' \beta) \end{cases}$$

This Ordered Probit model can be estimated under a range of assumptions concerning the sampling scheme (or correlation structure) of the data. A naïve approach would be to ignore any structure in the data and treat all the evaluation responses as separate and independent observations. This is the approach taken to the sampling scheme by Russell *et al* (2005). That is, we could ignore the fact that those 466 evaluations were provided by 112 individuals, disregarding the reality that some individuals attended and evaluated multiple workshops.

Another characteristic of our data that needs to be addressed is that there exists an inherent program structure whereby the workshops themselves are grouped into several modules. Ideally therefore, we would like to at least account for the

¹ There is no constant in the regression model

correlation structure at these multiple levels, if not model it explicitly. At this point it is important to note that in cases such as ours, where the data is grouped at several levels, a multi-level modelling approach might be the most sensible method. However, given the small sample size, which is commonly a characteristic of the data obtained from pilot programs, this approach is unable to be implemented. This, on the other hand, does not mean that one should ignore the structure completely in such instances.

Recall that the log-likelihood for the ordered probit is given by:

$$\ln L(\theta) = \sum_i \sum_j y_{ij} \ln(P_{ij})$$

where:

$$y_{ij} = \begin{cases} 1 & \text{if } y_{ij} = j \\ 0 & \text{otherwise} \end{cases}$$

If we ignore the correlation structure, then we estimate the parameters and the variance-covariance matrix via the conventional means. On the other hand, assuming that there are M groups (individuals, modules etc): G_1, G_2, \dots, G_M that are independent of each other but with within-group correlation, then we could correct the variance-covariance matrix for this intra-group correlation. The following extension to the usual Huber/White/Sandwich robust estimator of variance, as first proposed by Froot (1989), allows us to adjust the standard errors for this type of cluster correlation in the observations:

$$\hat{v} = \hat{V}(\sum u_j^{(G)} u_j^{(G)}) \hat{V}$$

where \hat{V} is the conventional estimate of variance-covariance matrix and $u_k^{(G)}$ is the contribution of the kth group to $\frac{\partial \ln L(\theta)}{\partial \theta}$ (Rogers, 1993).

In order to illustrate the importance of accounting for the correlation structure in data, we estimate several models. Firstly, we take the naïve approach and assume that evaluations are independent of each other, regardless of whether they are from the

same individual or associated with workshops from the same module. This gives rise to Model 1. For Model 2 we exploit the potential correlation at multiple levels. In particular, we assume that correlation exists between evaluations of those workshops that belong to the same module and that were given by the same individual. For example, say that an individual attended three workshops each for ‘Planning and Saving’ and ‘Living with Debt’. We assume that correlation exists between his/her evaluations of the three ‘Planning and Saving’ workshops but not between these evaluations and those of the three ‘Living with Debt’ workshops. As a result, this individual’s evaluations are treated as two separate clusters.

We should note that the estimation of Model 1 and of Model 2 will yield identical estimates of the parameters of the ordered probability model but will yield different standard errors of those estimates. This could have important implications as we might conclude that certain variables were or were not significant in determining the evaluations.

Our Model 3 differs from Model 2 by postulating that perfect correlation exists between evaluations of workshops that belong to the same module and the same individual. In other words, if an individual attended all three ‘Planning and Saving’ workshops, we assume that he/she rated them all the same. Looking at our MoneyMinded data shows that this is a reasonable assumption as in 96% of cases where more than one workshop within a particular module was attended, the workshops received the same rating in terms of usefulness. The implication of the assumption of perfect correlation is that we only require one evaluation from an individual for any module that they attend.

Our final model, Model 4 is an extension to Model 3, with the additional assumption of correlation within individual evaluations. In other words, this essentially equates to assuming that participants rated the modules rather than individual workshops and then correcting for correlation between evaluations done by the same individual. As with Models 1 and 2, the estimation of Model 3 and of Model 4 will yield identical estimates of the parameters of the ordered probability model but will yield different standard errors of those estimates.

3. Results

Descriptive statistics for variables in our dataset are reported in Table 1. As shown the majority of our variables are binary in nature. In addition to the usual demographics such as age, gender and educational attainment, we also include measures of household size in terms of number of adults and children under 18 in the household. The income variable is categorical in nature, ranging from 1 (“less than \$120 per week”) to 12 (“\$1500 or more per week”). The variable “Uses Cheques” is equal to 1 if a respondent uses cheques as a payment method and 0 otherwise. Schreiner and Sherraden (2005) argue that balancing a chequebook and avoiding bounced cheques requires math skills and perseverance and signals financial sophistication. Thus, we include this variable as a measure of respondents’ initial financial sophistication/literacy. The last set of variables was created from a set of questions in the pre-training survey where the participants were asked if they felt they needed more financial knowledge in each of the areas. Inclusion of these variables into our models will allow us to evaluate how useful the workshops were in terms of addressing each of those topics.

TABLE 1 ABOUT HERE

The results of the initial estimation of our four models are reported in Tables 2A and 2B. Note there was no “not useful at all” evaluations and therefore we were only able to estimate α_2 , α_3 and α_4 . As shown in Table 2A², for Model 1 we find a wide range of socio-demographic variables to be significant. All of the age and household structure variables are found to be significant, along with income and the variables relating to university education and the “use of cheques”. The results also indicate that the participants’ initial financial knowledge requirements regarding planning and saving, types of paperwork and everyday banking have a significant impact on how the workshops were rated in terms of usefulness. In contrast, when we exploit the correlation structure in individual responses to workshops in the same module (Model 2) although the coefficients stay the same, we find that the statistical significance of all of the variables falls. In other words, when we penalise the standard errors by

² In Table 2A and all subsequent tables there is no estimate of α_1 for the reason stated previously.

assuming that correlation exists between evaluations of workshops that belong to the same module and that were given by the same individual, many of the variables that were significant in the naïve model no longer have a significant impact. However, the income and university education effects remain very strong, along with the initial knowledge requirements regarding everyday banking.

TABLE 2A ABOUT HERE

In Model 3, we proceed by extending the correlation structure assumption to that of correlation being perfect between an individual's evaluations of the workshops in the same module. The results of estimation are shown in Tables 3A and 3B. Given that we only used a single evaluation per module from each individual, our sample size is smaller and the coefficients estimated are different from those in models 1 and 2. As can be seen, we still find a very strong income effect, but most of the remaining variables are now insignificant. This includes the university education variable which was previously found to have a highly significant impact on the perceived usefulness of workshops. If we then allow for the correlation of an individual's responses across modules, we again find less statistical significance across all variables, although the statistically significant income effect still remains. As shown in Table 3B, not much else is significant at 5% apart from the income and the 45-54 age group variables.

TABLE 2B ABOUT HERE

In order to better illustrate the differences between the results and the potential conclusions that one would draw from each of the models, we proceed by estimating parsimonious (restricted) versions of each model. We do so by restricting the set of variables to those cases where the z-scores on the variables exceed unity in absolute terms. The results are reported in Table 3, and are broadly consistent with the results from the initial estimation.

TABLES 3A AND 3B ABOUT HERE

Comparison of the results in Tables 2 and 3 clearly illustrate the differences in terms of which variables are found to be statistically significant depending on how the

correlation structure in the data is modelled. When we ignore the correlation structure and treat all of the evaluations as independent (Model 1) only two variables have a z-score of less than 1, six variables are statistically significant at the 1% level, and a further five variables are also statistically significant at the 5% level. In contrast, when we allow for the most complex set of correlations in our modelling (Model 4) across both individuals and modules, seven variables have a z-score of less than 1, no variables are statistically significant at the 1% level, and only two variables are statistically significant at the 5% level. Thus, if we treat the usefulness ratings as independent, we would conclude that in addition to the age, income and household composition variables, both university education and the initial level of financial literacy also have a strong and significant impact. However, in model 4 where we allow for the most complex correlation structure there is no longer a significant effect of these two variables and thus they do not appear in the parsimonious version.

TABLES 4A AND 4B ABOUT HERE

A further illustration of the different inferences drawn in the different models is explored in the context of the marginal effects reported in Tables 4A and 4B, from models 1 and 4, respectively. As can be seen, according to the naïve model (Model 1), the participants' education as well as the initial financial literacy levels and knowledge requirements do have a significant impact on how the workshops are evaluated. We find that those individuals who felt that they needed more knowledge regarding planning and saving, types of paperwork and everyday banking, were significantly more likely to find the workshops "extremely useful". In case of everyday banking, these individuals were also significantly less likely to rate the workshops as "not very useful". Similarly, those with a university degree or a higher level of financial sophistication, as measured by the "use of cheques" variable, are found to be significantly less likely to rate the workshops as "extremely useful". However, when we account for the correlation structure at the module and individual levels, we find that these initial knowledge levels and requirements do not significantly affect the usefulness rating. The factor that consistently comes through all of our specifications is that regarding the individuals' income, indicating that those with lower income levels are more likely to report that they found the program to be "extremely useful".

The differences in conclusions drawn are clear. The naïve model would lead us to believe that the program worked better for lower income groups as well as those with lower levels of educational attainment and financial literacy. However, when we account for the repeated measurement feature and the inherent structure of our data, we find that much of what was previously found to be significant is either not significant or has a reduced significance level. This is particularly relevant given that typically the evaluations of such programs do not even go as far as to estimate more complex econometric models but rather focus on descriptive statistics and contingency tables.

4. Conclusion

This paper has explored the importance of modelling the correlation structure in a dataset involving the evaluation of a financial literacy program. We find that a cluster sampling modelling type approach works well in the context of evaluation of financial literacy programs and our results demonstrate that the modelling of the correlation structure can have important implications. In other words, our analysis illustrates that treating the evaluations as independent and disregarding the inherent correlation structure can lead to erroneous conclusions in terms of variable significance and the associated significance of marginal effects. Across all of the specifications that were explored, the variable that comes through as having the strongest influence is income. More specifically, we find that lower income levels are associated with higher satisfaction ratings of the financial literacy program. This is an important finding in a public policy context given the results in the national financial literacy study conducted by ANZ (2003) show a relationship between income and financial literacy levels. It also shows that the targeting of many of these programs internationally at low income groups as detailed in Anderson, Zhan and Scott (2004) and Lyons, Chang and Schrepf (2006) is relevant and should be an effective means of raising national financial literacy levels.

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Table 1: Descriptive Statistics

Variable	Mean	Median	Mode	Min	Max
Age Groups					
15-24	0.037	0	0	0	1
25-34	0.207	0	0	0	1
35-44	0.452	0	0	0	1
45-54	0.200	0	0	0	1
55-64	0.067	0	0	0	1
65+	0.037	0	0	0	1
Female (Y/N)	0.869	1	1	0	1
Income	8.046	8	7	2	12
No. of Adults in H/hold	1.783	2	1	1	5
No. of Children under 18 in H/hold	1.475	1	0	0	7
High School or less (Y/N)	0.402	0	0	0	1
TAFE/Tech. College Education (Y/N)	0.220	0	0	0	1
On Job Training (Y/N)	0.015	0	0	0	1
University Education (Y/N)	0.364	0	0	0	1
Uses Cheques (Y/N)	0.374	0	0	0	1
More Financial Knowledge Needed:					
Planning and Saving (Y/N)	0.708	1	1	0	1
Payment Methods (Y/N)	0.358	0	0	0	1
Types of Paperwork (Y/N)	0.475	0	0	0	1
Debt (Y/N)	0.555	1	1	0	1
Everyday Banking (Y/N)	0.431	0	0	0	1
Rights and Responsibilities (Y/N)	0.482	0	0	0	1

Table 2A: Estimation Results – General Specifications of Models 1 and 2

		Model 1		Model 2	
	Coeff. Estimate	Standard Error	P-value	Standard Error	P-value
Age Groups					
15-24	-0.9857	0.3604	0.006	0.5430	0.069
25-34	-0.4624	0.2714	0.088	0.3616	0.201
35-44	-0.6775	0.2540	0.008	0.3550	0.056
45-54	-1.1468	0.2774	0.000	0.3843	0.003
Female (Y/N)	0.3866	0.2406	0.108	0.2994	0.197
Income	-0.1289	0.0330	0.000	0.0421	0.002
No. of Adults in H/hold	0.1754	0.0805	0.029	0.0949	0.065
No. of Children in H/hold	0.1071	0.0537	0.046	0.0587	0.068
TAFE/Tech. College (Y/N)	-0.2790	0.1930	0.148	0.2327	0.231
On Job Training (Y/N)	-0.4363	1.1801	0.712	0.4643	0.347
University Education (Y/N)	-0.5529	0.1807	0.002	0.2148	0.010
Use Cheques (Y/N)	-0.3437	0.1484	0.021	0.1974	0.082
More Fin. Knowledge Needed:					
Planning and Saving (Y/N)	0.3842	0.1672	0.022	0.2185	0.079
Payment Methods (Y/N)	-0.2491	0.1488	0.094	0.1785	0.163
Types of Paperwork (Y/N)	0.3663	0.1484	0.014	0.1987	0.065
Debt (Y/N)	0.1190	0.1421	0.402	0.1757	0.498
Everyday Banking (Y/N)	0.4319	0.1340	0.001	0.1855	0.020
Rights and Responsibilities (Y/N)	-0.1913	0.1259	0.129	0.1743	0.272
α_2	-3.3777	0.4957		0.6230	
α_3	-2.3176	0.4775		0.6051	
α_4	-0.6686	0.4692		0.5979	

	Model 1	Model 2
Log (Pseudo)Likelihood	-418.12	-418.12
Number of Observations	466	466
Number of Clusters	N/A	282
Chi Squared (18)	117.2	111.34
P-value	0.0000	0.0000

Table 2B: Estimation Results – General Specifications of Models 3 and 4

	Model 3			Model 4	
	Coeff. Estimate	Standard Error	P-value	Standard Error	P-value
Age Groups					
15-24	-1.1242	0.4996	0.024	0.6016	0.062
25-34	-0.582	0.3716	0.117	0.4914	0.236
35-44	-0.8238	0.3586	0.022	0.4403	0.061
45-54	-1.1604	0.3752	0.002	0.5367	0.031
Female (Y/N)	0.554	0.3158	0.079	0.4275	0.195
Income	-0.1219	0.0399	0.002	0.0556	0.028
No. of Adults in H/hold	0.1341	0.1003	0.181	0.1366	0.326
No. of Children in H/hold	0.1214	0.0613	0.048	0.085	0.153
TAFE/Tech. College (Y/N)	-0.2522	0.2195	0.251	0.2684	0.347
On Job Training (Y/N)	0.054	1.1889	0.964	0.5846	0.926
University Education (Y/N)	-0.2527	0.2189	0.248	0.2585	0.328
Use Cheques (Y/N)	-0.1835	0.1729	0.289	0.2401	0.445
More Fin. Knowledge Needed:					
Planning and Saving (Y/N)	0.3284	0.2044	0.108	0.3035	0.279
Payment Methods (Y/N)	-0.1672	0.1731	0.334	0.2234	0.454
Types of Paperwork (Y/N)	0.3475	0.1736	0.045	0.2711	0.200
Debt (Y/N)	0.1535	0.1758	0.383	0.2340	0.512
Everyday Banking (Y/N)	0.4271	0.1688	0.011	0.2189	0.051
Rights and Responsibilities (Y/N)	-0.2448	0.1629	0.133	0.2130	0.250
<hr/>					
α_2	-3.0691	0.6343		0.768	
α_3	-1.9429	0.6073		0.7466	
α_4	-0.4277	0.5983		0.7376	

	Model 3	Model 4
Log (Pseudo)Likelihood	-262.62	-262.62
Number of Observations	282	282
Number of Clusters	N/A	112
Chi Squared (18)	50.51	62.58
P-value	0.0001	0

Table 3A: Estimation Results – Parsimonious Specifications of Models 1 and 2

	Model 1			Model 2	
	Coeff. Estimate	Standard Error	P-value	Standard Error	P-value
Age Groups					
15-24	-0.9832	0.3603	0.0060	0.5422	0.0700
25-34	-0.4425	0.2710	0.1030	0.3585	0.2170
35-44	-0.658	0.2532	0.0090	0.3516	0.0610
45-54	-1.1125	0.2744	0.0000	0.3800	0.0030
Female (Y/N)	0.3962	0.2350	0.0920	0.2864	0.1670
Income	-0.1228	0.0322	0.0000	0.0405	0.0020
No. of Adults in H/hold	0.1815	0.0800	0.0230	0.0942	0.0540
No. of Children in H/hold	0.1167	0.0526	0.0270	0.0584	0.0450
TAFE/Tech. College (Y/N)	-0.2474	0.1896	0.1920	0.2353	0.2930
On Job Training (Y/N)	-	-	-	-	-
University Education (Y/N)	-0.5471	0.1791	0.0020	0.2102	0.0090
Use Cheques (Y/N)	-0.3337	0.1477	0.0240	0.1966	0.0900
More Fin. Knowledge Needed:					
Planning and Saving (Y/N)	0.4456	0.1528	0.0040	0.2040	0.0290
Payment Methods (Y/N)	-0.1985	0.1359	0.1440	0.1692	0.2410
Types of Paperwork (Y/N)	0.3840	0.1465	0.0090	0.1937	0.0470
Debt (Y/N)	-	-	-	-	-
Everyday Banking (Y/N)	0.4079	0.1310	0.0020	0.1843	0.0270
Rights and Responsibilities (Y/N)	-0.1895	0.1258	0.1320	0.1752	0.2790
α_2	-3.2557	0.4719		0.5966	
α_3	-2.1977	0.4529		0.5868	
α_4	-0.5530	0.4456		0.5759	

	Model 1	Model 2
Log (Pseudo)Likelihood	-418.53	-418.53
Number of Observations	466	466
Number of Clusters	N/A	282
Chi Squared (18)	116.38	68.76
P-value	0.0000	0.0000

Table 3B: Estimation Results – Parsimonious Specifications of Models 3 and 4

	Model 3			Model 4		
	Coeff. Estimate	Std. Error	P-value	Coeff. Estimate	Std. Error	P-value
Age Groups						
15-24	-1.0597	0.4949	0.032	-0.7026	0.4602	0.127
25-34	-0.5413	0.3706	0.144	-0.4748	0.4794	0.322
35-44	-0.7763	0.3566	0.030	-0.6293	0.4664	0.177
45-54	-1.0929	0.3690	0.003	-0.9753	0.5266	0.064
Female (Y/N)	0.5533	0.3040	0.069	0.5653	0.3465	0.103
Income	-0.1139	0.0387	0.003	-0.114	0.0476	0.017
No. of Adults in H/hold	0.1395	0.0995	0.161	-	-	-
No. of Children in H/hold	0.1213	0.0599	0.043	0.155	0.072	0.031
TAFE/Tech. College (Y/N)	-0.2277	0.2173	0.295	-	-	-
On Job Training (Y/N)	-	-	-	-	-	-
University Education (Y/N)	-0.2859	0.2146	0.183	-	-	-
Use Cheques (Y/N)	-0.1824	0.1722	0.289	-	-	-
More Fin. Knowledge Needed:	-	-	-	-	-	-
Planning and Saving (Y/N)	0.3706	0.1803	0.040	0.3893	0.2375	0.101
Payment Methods (Y/N)	-	-	-	-	-	-
Types of Paperwork (Y/N)	0.3257	0.1628	0.045	0.334	0.2126	0.116
Debt (Y/N)	-	-	-	-	-	-
Everyday Banking (Y/N)	0.3934	0.1635	0.016	0.2463	0.1976	0.213
Rights and Responsibilities (Y/N)	-0.2511	0.1625	0.122	-0.2697	0.1954	0.168
α_2	-2.9597	0.5986		-2.8422	0.7520	
α_3	-1.8441	0.5709		-1.7399	0.7259	
α_4	-0.3377	0.5634		-0.243	0.7107	

	Model 3	Model 4
Log (Pseudo)Likelihood	-263.26	-282.82
Number of Observations	282	304
Number of Clusters	N/A	112
Chi Squared (18)	49.24	29.73
P-value	0.0000	0.0017

Table 4A: Marginal Effects from Parsimonious Specifications of Model 1

Model 1								
	Not Very Useful		Somewhat Useful		Useful		Extremely Useful	
	M.E.	z	M.E.	z	M.E.	z	M.E.	z
Age Groups								
15-24	0.0572	1.31	0.1889	2.28	0.0579	1.19	-0.3040	-3.84
25-34	0.0117	1.19	0.0658	1.48	0.0869	1.93	-0.1644	-1.70
35-44	0.0183	1.64	0.0983	2.32	0.1255	3.11	-0.2421	-2.76
45-54	0.0653	1.84	0.2101	3.35	0.0688	1.77	-0.3442	-5.62
Female (Y/N)	-0.0128	-1.10	-0.0647	-1.43	-0.0647	-2.73	0.1422	1.85
Income	0.0026	2.25	0.0166	3.53	0.0279	3.52	-0.0472	-3.81
No. of Adults in H/hold	-0.0038	-1.75	-0.0246	-2.20	-0.0413	-2.20	0.0697	2.26
No. of Children in H/hold	-0.0025	-1.75	-0.0158	-2.16	-0.0266	-2.15	0.0448	2.22
TAFE/Tech. College (Y/N)	0.0063	1.02	0.0365	1.19	0.0498	1.50	-0.0926	-1.34
University Education (Y/N)	0.0114	1.97	0.0718	3.00	0.1260	2.95	-0.2092	-3.10
Use Cheques (Y/N)	0.0078	1.64	0.0471	2.12	0.0714	2.35	-0.1263	-2.30
More Fin. Knowledge Needed:								
Planning and Saving (Y/N)	-0.0131	-1.78	-0.0695	-2.49	-0.0803	-3.61	0.1629	3.11
Payment Methods (Y/N)	0.0046	1.21	0.0279	1.39	0.0429	1.53	-0.0754	-1.48
Types of Paperwork (Y/N)	-0.0078	-1.93	-0.0503	-2.60	-0.0896	-2.50	0.1477	2.64
Everyday Banking (Y/N)	-0.0088	-2.03	-0.0550	-2.98	-0.0921	-3.00	0.1558	3.14
Rights and Resp. (Y/N)	0.0040	1.28	0.0257	1.49	0.0430	1.49	-0.0727	-1.51

Table 4B: Marginal Effects from Parsimonious Specifications of Model 4

Model 4								
	Not Very Useful		Somewhat Useful		Useful		Extremely Useful	
	M.E.	z	M.E.	z	M.E.	z	M.E.	z
Age Groups								
15-24	0.0312	0.83	0.1345	1.30	0.0813	3.03	-0.2469	-1.81
25-34	0.0125	0.74	0.0751	0.90	0.0944	1.18	-0.1819	-1.03
35-44	0.0168	0.93	0.0985	1.24	0.1248	1.59	-0.2401	-1.41
45-54	0.0469	0.95	0.1854	1.52	0.1041	2.49	-0.3363	-2.31
Female (Y/N)	-0.0215	-0.94	-0.1035	-1.40	-0.0802	-2.83	0.2052	1.83
Income	0.0023	1.66	0.0163	2.48	0.0262	2.08	-0.0449	-2.39
No. of Children in H/hold	-0.0032	-1.51	-0.0222	-1.86	-0.0356	-2.16	0.061	2.15
More Fin. Knowledge Needed:								
Planning and Saving (Y/N)	-0.0106	-1.10	-0.0629	-1.53	-0.0754	-1.79	0.1489	1.69
Types of Paperwork (Y/N)	-0.0069	-1.42	-0.0476	-1.66	-0.0765	-1.44	0.1310	1.58
Everyday Banking (Y/N)	-0.0052	-0.99	-0.0355	-1.17	-0.056	-1.29	0.0967	1.26
Rights and Resp. (Y/N)	0.0057	1.18	0.0388	1.31	0.0613	1.38	-0.1058	-1.39