

Piloting a personal financial literacy quiz in Canada

Results of developmental study

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ABSTRACT

The following report describes the design and field test of a 16-item quiz designed to measure personal financial literacy or capability in Canada that enables comparisons to national population and sub-population results. In the next phase of work, a model will be constructed and validated to weight results and construct a 5-scale index of financial capability.

Introduction

Hundreds of non-profit community organizations across Canada deliver financial information, skills training and education on personal finances to their clients, yet many struggle with program evaluation. Evaluation is often an under-funded component of grants and funding agreements. In addition, there are no widely-accepted evaluation indicators for financial literacy, making it time consuming to develop new evaluation tools and limiting the ability of the field to share best practices or contribute evidence to policy- and grant-making.

The Investment Industry Regulatory Organization of Canada (IIROC) has provided funding to Social and Enterprise Development Innovations (SEDI) to help strengthen evaluation of community-based financial literacy programs across Canada. SEDI is a national charitable organization that works to expand economic opportunity for low-income Canadians through program and policy innovation in the areas of asset building, financial literacy and self-employment. In 2008, SEDI launched the Canadian Centre for Financial Literacy (CCFL) to support the capacity of non-profit organizations to offer financial literacy services to vulnerable groups including low-income adults and youth, Aboriginal Canadians, newcomers and persons with disabilities. More information about SEDI and the CCFL is available on their website at www.sedi.org.

IIROC is a national self-regulating body for the investment industry in Canada. Funding for this project has been provided by IIROC out of revenue from fines paid in the enforcement of market conduct standards. More information about IIROC is available on their website at www.iiroc.ca

As part of a larger project to a) build consensus on common evaluation approaches among financial literacy practitioners and funders and b) develop a set of evaluation tools (such as planning guides and data collection forms), SEDI subcontracted with Jennifer Robson to develop and pilot a brief instrument that could be used in front-line financial literacy programs to measure the financial capability of clients.

Background framework to the instrument

Five principles were used to guide the creation of the instrument piloted in this study:

- Empirical methods and approaches are preferred wherever possible.
- The instrument should not be prejudiced by a respondent's income, gender, education or age.
- Financial outcomes should not be used to measure financial capability.
- Financial capability is a multi-dimensional construct.
- Financial capability is a relative construct.

The developmental framework for the instrument starts with the premise that more empirical methods and indicators are urgently needed to raise the bar on the evaluation of financial literacy programming and to improve the quality of research (descriptive and experimental) on financial literacy generally. Normative approaches can lead to

difficulties in interpreting results and in comparing results between instruments or between evaluators making different normative assumptions.

Normative approaches also are at greater potential risk of skewing results in favor of middle and upper-income respondents. The current study starts from the premise that the indicators should be income neutral, that is they should not, *a priori*, penalize or reward a respondent based on his or her income. Neutrality regarding other demographic characteristics such as gender, age and education are also important considerations in the development of a new instrument.

This same perspective also suggests that a focus on financial outcomes is not likely to be very helpful in assessing financial literacy programs and interventions. Personal financial outcomes such as financial resources (including income and net worth) and financial crisis (such as bankruptcy) are the results of multiple variables where the relationship to financial capability is complex and indirect. Personal endowments or inheritances, market fluctuations or cycles, regulatory frameworks and even chance or luck all play a role in shaping personal financial outcomes. It is illogical and unhelpful to suggest that those with better outcomes must be more capable. Similarly increases in financial knowledge may not necessarily lead to changes in financial practices and, even when practices change, this may not necessarily lead to better outcomes. In fact research suggests that there is a very weak association between financial knowledge and financial behavior.¹

The theoretical framework used in this project draws heavily on work by Elaine Kempson of Bristol University. Ms. Kempson and her colleagues at the Personal Finance Research Centre of the University have described financial capability as a composite trait made up of several domains:

- Managing day to day finances, including making ends meet and keeping track of money
- Choosing financial products and services
- Planning ahead for expected and unexpected financial costs
- Ongoing learning, including staying informed about financial topics and getting assistance or advice with personal finances.²

These domains were developed based on qualitative research in the UK and have since been validated using quantitative methods in a wide number of OECD countries. Here in

¹ Hilgert, M., J. Hogarth and S. Beverly (2003) "Household Financial Management: The Connection between Knowledge and Behavior", Federal Reserve Bulletin 309. Lusardi, A. (2009) "The Importance of Financial Literacy", Research Summary 2, National Bureau of Economic Research.

² See Kempson, E., S. Collard and N. Moore (2005) "Measuring Financial Capability: An exploratory study", published as Consumer Research Paper 37 by the Financial Services Authority, London, UK. Available on-line at:

<http://www.bristol.ac.uk/geography/research/pfrc/themes/fincap/measuring-fincap.html>

Canada, the domains were also used to inform the design of the Canadian Financial Capability Survey (CFSC) conducted by Statistics Canada in 2009.³

The data from the CFSC offer an unprecedented opportunity in Canada to develop and implement more empirical measures of financial capability that can be used by Canadian practitioners, funders and researchers to describe individual financial capability, to measure changes in individual financial capability that can be attributed to a program or intervention and to research the dynamics and factors that shape differences in financial capability. By comparing individual results to population (or sub-population) results, we can benchmark one person's responses to attitudinal, behavioral or knowledge questions to see where they stand compared to other Canadians. Some work has already been done to construct national scales for each of the 5 domains of financial capability⁴. Each scale was developed using factor-analysis, a statistical technique that looks for patterns of relationships between variables (in this case each variable would be the distribution of answers to individual survey questions) and determines whether or not these relate together to some indirectly observed larger variable. It would be difficult or at least impractical to use all of the dozens of questions that are used to construct scales using factor analysis. Instead, the aim is to design a shorter set of questions that might roughly predict a respondent's score on a set of national financial literacy scales.

A final element to the theoretic framework that underpins this project: financial capability is a relative and continuous variable. There is no absolute optimal level of financial capability beyond which no improvement is possible or desirable. Because financial products, services, regulations, needs and circumstances are constantly changing, the financial skills, attitudes and behaviors that demonstrate financial capability will always be relative to the circumstance and will always demand ongoing learning and change. This also means there is no absolute threshold that can differentiate the financially capable person from a financially "incapable" peer. Our individual financial literacy always lies along a continuum. Like measuring other relative traits like height, we measure how tall we are or how much our children grow against population-wide standardized models to compare ourselves to others, models that must be updated from time to time as population-wide norms change. The model of standardized financial capability that can be constructed using the data from the CFSC should be interpreted as a work in progress to be validated and improved on by future large surveys in Canada or abroad. The availability of the population-wide data offers an exciting opportunity to try something new and potentially better in measuring financial capability in Canada.

Research and Development

³ Statistics Canada (2009) *Canadian Financial Capability Survey*, Ottawa.

Documentation available online at:

<http://www23.statcan.gc.ca:81/imdb/p2SV.pl?Function=getSurvey&SDDS=5159&lang=en&db=imdb&adm=8&dis=2>

⁴ MacKay, S. (2010) research report to the Task Force on Financial Literacy,

Department of Finance, Government of Canada. Available online at:

<http://publications.gc.ca/site/eng/391788/publication.html>.

A review of existing financial literacy measurement tools in Canada and internationally informed the design and development of this instrument. These included reviews of other national surveys, a review of a new cross-national survey piloted by the OECD, evaluation surveys and self-assessment quizzes developed by researchers in the US, financial literacy practitioners and even financial media and financial service providers in Canada.⁵

The primary source for question items in the new instrument is the Canadian Financial Capability Survey. This Survey was conducted by Statistics Canada as a telephone survey in 2009 using a complex, stratified sample. Questionnaire items were included based on advice from a design committee⁶, expert peer reviews and a cognitive testing process conducted with participants in 2008 to ensure respondents understood and could respond to the questionnaire items. The results from the survey now make up a dataset of responses to approximately 500 items from more than 15,000 adult Canadians.

To enable comparison with items included in the survey results, a thorough review of the questionnaire was done to identify questions that might be useful for a new instrument. In selecting questions to include in a new instrument, attention was paid to the following considerations:

1. Face validity: Does the question address one or more of the domains of financial capability?
2. Understandability: Could the question likely be understood and accurately answered by most adult respondents regardless of age, income, gender and education?
3. Comprehensiveness: Does the question contribute to a mix of measures of attitudes and behaviors for all the domains in question?
4. Predictive value: Does the question likely have a high predictive value, based on existing research?⁷
5. Practicality: Can the new instrument be limited to approximately 20 brief items to ensure it is easy to use in applied settings?

⁵ A complete list of these other instruments is available on request.

⁶ In full disclosure, the author was involved in advising on the original research and development proposal for the survey and briefly sat on the federal interdepartmental design committee for the CFCFS.

⁷ In the development of this new instrument, the selection of questions was informed by analysis on the Canadian Financial Capability Survey conducted by Dr. Stephen MacKay for the Task Force on Financial Literacy. An archived copy of Dr. MacKay's report is available from the Government of Canada at: <http://publications.gc.ca/site/eng/391788/publication.html>. Dr. MacKay's report published the results of a factor analysis he conducted on the CSFC data with input from Statistics Canada and advisors at the Task Force Secretariat, including the author. The predictive value of question items refers to the factor loading or factor scores from that report. The author intends to replicate Dr. MacKay's work in 2013.

An initial selection of question items were reviewed by members of the Advisory Group for the project, by representatives of community-based organizations and by two peer reviewers, Dr. Stephen MacKay (Birmingham) and Elaine Kempson (Bristol). Following the reviews, a few questions were eliminated, the order of questions was changed and some question items were grouped to create derived variables. In total the instrument consists of 21 questions of which 5 are re-coded to create more complex variables for a total of 16 items.

In all cases, the wording of questions was revised to make it as simple and easy to understand as possible. This also applied to the responses from the original CFCS wording. In some cases, responses were condensed or regrouped. In other cases, the response type was changed to a simple count (such as the number of different kinds of insurance held by the respondent rather than recording the types themselves).

A copy of the final instrument is attached at Appendix A. It was translated into French using the original translation from the Statistics Canada questionnaire wherever possible and using a Francophone (Quebec) translator and reviewers where wording changes required a new translation.

Purpose of the pilot study

The Canadian Financial Capability Survey (CFCS) questionnaire was designed and validated as an instrument to gather national data through a telephone survey. It surveyed a representative sample of Canadian adults and asked a large number of questions in ways that would be of interest to researchers, policy-makers and other stakeholders. While it offers a robust set of empirical data against which individual results can be compared, it became clear in the research and development phase of this project that using the questions, and responses, exactly as written in the CFCS questionnaire would not be well-suited to an instrument intended for use in community-based settings or even to be used as a self-assessment tool online. In addition to thinking about which questions to use and how to use them, it was also necessary to make changes to wording and the order of the questions. Small wording changes can lead to important changes in the ways people respond to surveys and questionnaires.⁸

The new instrument developed in this project requires cognitive testing to make sure respondents accurately understand and can answer questions and testing to make sure the final format of the questions used can be compared to responses to the original wording and order from the CFCS questionnaire. A pilot study was conducted to meet both of these tests.

Design of the pilot study

⁸ See for example Schriesheim, C. and R. Eisenbach (1995) "An Exploratory and Confirmatory Factor-Analytic Investigation of Item Wording Effects on the Obtained Factor Structures of Survey Questionnaire Measures", *Journal of Management*, Vol. 21(6), pp.1177-1193.

The study was designed as a series of face-to-face interviews with adults aged 18 and over who might be approximately representative of clients of many financial literacy programs across Canada. Unfortunately since there is little program-to-program data on the profiles of program participants across Canada, it was not possible to use a stratified sample to represent different subgroups of clients such as newcomers to Canada. Also given the pilot sample size (n=30) it is unlikely that a truly stratified approach would have yielded meaningful data. This means that the current pilot study should be replicated again with participants from subgroups if there is reason to think their understanding of certain questions or their answers to test items will be systematically different.

The current pilot consisted of 15 interviews in English and 15 interviews in French. Respondents were recruited primarily through Entraide Budgétaire, a charitable organization with more than 30 years of experience in providing financial literacy workshops and personalized counseling to clients in Ottawa. Of the 30 participants, 29 were recruited through Entraide and 1 through the Centretown Community Health Centre, a non-profit multi-service agency that had hosted an early study related to financial literacy. Participants were contacted by telephone and invited to take part in a study to test a new financial literacy quiz. They were informed they would receive a \$40 cash honorarium for their time and when they had agreed to be contacted by the research team, their name and contact information was added to a list of volunteers. Volunteers were then contacted by the interviewer, a graduate student at Carleton University with a background in social work and communications, to schedule an individual interview. Interviews were conducted at Entraide Budgétaire's offices and responses for each interviewee were recorded on an electronic spreadsheet.

All participants completed an informed consent process and were paid a \$40 honorarium at the end of the interview. A copy of the informed consent document is attached at Appendix B.

The first part of the interview consisted of the test items for the new instrument as attached at Appendix A. The interviewer read the question in full to the respondent and also read aloud any response options. The average time for this portion of the interview was between 5 and 7 minutes. Following this quiz, participants were offered a short break. After the break, the interviewer completed the second portion of the interview consisting of items taken directly from the CFCS questionnaire and asked in the same order that they appear in the CFCS questionnaire. A copy of these is available at Appendix C. Again, the interviewer read the questions and response options in full. There were a total of 54 items asked in this second part of the interview and respondents took nearly 45 minutes on average to answer all of those questions.

Participants were advised that they were participating in a test of a new quiz and were not being evaluated on their own financial literacy. They were not provided with any scores or interpretation of their responses.

Quantitative results from the pilot study and discussion

Table 1 (below) summarizes the basic demographic data that was collected for the participants. Median age for participants was above 45 years of age, median education

was some form of PSE certification (but less than a university degree) and median personal income for 2011 was below \$20,000.

The existing literature finds that stronger financial literacy is associated with age and higher education. The relationship to age is understood to be a function of financial experience – with increased age people have had more opportunities to handle their personal finances and to learn from negative and positive experiences, the latter seem to be the most effective teaching tool for future financial practices. The relationship to education is understood to be a function of higher levels of basic and essential skills such as document literacy, critical thinking and numeracy. These skills may be necessary (but not sufficient) for stronger levels of financial literacy and in fact much of the supply of financial information for learning is directed at an audience with advanced levels of numeracy, literacy and cognition.

Among the 30 participants, 6 reported that they were already retired however it is unclear whether they were still attached to the workforce in some way even if it was only to look for work or working occasionally or part-time. Participants were not asked questions about their employment status. Prior research does not find a consistent relationship between employment status and financial literacy. Similarly, the literature finds that some aspects of financial literacy, namely planning ahead, do increase with income but others, such keeping track of finances, are not significantly higher among upper income respondents.

In short, it is unlikely that the characteristics of the sample had an important effect on the results of the study. This is particularly the case since the main variable of interest was the association of respondent’s answers to the new instrument and the CFCS items.

Table 1: Sample characteristics:

Gender	Male	Female			
# of participants	11	19			
Age	18 to 30 years	31 to 45 years	46 to 65 years		
# of participants	4	9	17		
Income	<\$20K	\$20K to < \$40K	\$40K to < \$80K	\$80K to <\$100K	\$100K +
# of participants	22	7	0	1	0
Highest education completed	Less than high school	High school diploma or equivalent	Some post-secondary but no certificate, diploma or degree	Post-secondary or professional diploma, certificate or CEGEP diploma	University degree
# of participants	3	1	6	10	10

Quantitative results from the pilot were entered into SPSS. Data entry was checked for consistency against the original collection forms and all responses were recoded into numerical values to simplify analysis. A summary of the recoding of variables is attached at Appendix D.

Table 2 below summarizes the descriptive results for the new financial literacy quiz being piloted. The numerical values for the range, mean and standard deviation are reported to give the reader a sense of the spread or distribution of the responses. A larger standard deviation indicates a wider spread of responses to the same question whereas a smaller standard deviation indicates that most respondents answered similarly and near or on the average response. The final column translates the numerical value of the average response back into a narrative answer for ease of reference.

Table 2: Descriptive statistics for quiz items

	# of valid responses	Min	Max	Mean	Std. Deviation	Mean (in narrative)
MEM1	30	1	4	2.20	.761	Keeping up, but sometimes it's a struggle
MEM2_Bill	30	1	2	1.53	.507	No, never behind on a bill
MEM2B_Housing	30	1	2	1.93	.254	No, never behind on rent or mortgage
MEM2C_Loan	30	1	2	1.77	.430	No, never behind on a loan
DER_MEM2	30	0	6	4.50	1.526	Never behind on rent or mortgage but behind on either bill or loan
KT3	30	1	2	1.17	.379	Yes, has a budget
KT3B	30	1	6	2.47	1.776	Usually stays in budget
DER_3KT	30	0	4	2.70	1.442	Has budget and usually stays in budget
KT4	30	1	6	2.90	1.398	Checks account(s) every 2 weeks
KT5	30	1	2	1.17	.379	Agrees, keeps close eye on finances
PA6	30	1	4	2.23	.971	No, not planning for retirement
PA6B	30	1	4	3.03	.809	Not very confident about retirement
DER_PA6	30	0	6	2.27	1.680	Not planning and not at all confident about retirement
PA7	30	1	2	1.67	.479	No, does not have a will
PA7B	30	1	2	1.37	.490	Yes, has insurance
DER_7PA	30	0	2	.97	.765	Has will or insurance, not both

PA8	30	1	7	3.67	1.626	Would borrow from a bank or use credit to cover unexpected cost
CP9	30	1	3	1.47	.681	Agrees, has clear idea of products needed
CP10	30	1	2	1.20	.407	Agrees, researches financial choices
SI11	30	0	5	2.10	1.807	Keeps an eye on 2 financial topics
SI12	30	1	2	1.70	.466	No, no formal financial learning in last 5 years
MEM13	30	1	4	2.47	.973	Good at making ends meet
KT14	30	1	4	1.90	.923	Good at keeping track
SI15	30	1	5	2.97	1.159	Fairly good at staying informed
CP16	30	1	5	2.50	1.306	Fairly good at choosing products

The main analysis conducted on the data was a test for association between participants' responses to the quiz items and the matching CFCS items. Given the small sample size for this pilot, both parametric and non-parametric tests were performed and significance of the correlation coefficients is reported using 2-sided *P* values since the direction of any variation between the two sets of responses can't be presumed in advance. Table 3 (below) reports the results of this analysis.

Table 3: Association between quiz and comparison CFCS items

Item pairing	Pearson <i>r</i>	Spearman's <i>rho</i>
1MEM and OE_Q17	0.339	0.356
Derived 2MEM and Derived Behind	.763**	.680**
Derived 3KT and Derived Budget	.699**	.657**
4KT and OE_Q05	.889**	.900**
5KT and SA_Q11	.595**	.704**
Derived 6PA and Derived R_Plan	0.326	0.302
Derived 7PA and Derived Plan	.945**	.945**
8PA and FM_Q02 or FM_Q03	.399*	.385*
9CP and SA_Q10	.396*	.510**
10CP and SA_Q13	.582**	.582**
11SI and FC_Q05	.899**	.900**
12SI and DM_Q09	.843**	.843**
13 MEM and SA_Q03	.686**	.678**
14KT and SA_Q02	.502**	.501**
15SI and SA_Q05	.692**	.708**
16CP and SA_Q04	.392*	.455*

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

Nearly every pairing in Table 3 above shows a strong and significant relationship which means that responses to the questions as worded on the new instrument are generally

comparable to the associated question as worded on the Canadian Financial Capability Survey. The results support the approach underlying the design of the new instrument and the use of CFCS results as an empirical comparison to help interpret individual answers.

There are two pairs of questions that did not lead to statistically significant associations between quiz and CFCS items:

1. 1MEM and OE_Q17: Questions asking respondents to evaluate how well they were keeping up with their financial obligations.
2. Derived 6PA and Derived R_Plan: Questions asking respondents to reflect on their behavior and confidence related to retirement planning.

Both of these questions invite participants to report on their confidence about their current or future financial lives. A review of the data suggests that the lack of a significant association between these pairings is likely to be due to the repeated measure nature of the pilot. Participants offered an initial response in the first part of the interview and were then asked very similar questions in the second part but after responding to a wide range of questions about their financial practices and attitudes. It is likely that the experience of answering more questions caused participants to reflect differently on their current or future financial lives and, in approximately half of the cases, to revise their perspective. This is a finding consistent with the qualitative results from other research on financial literacy and is also supported by the literature on the importance of question order. However, the results here do not support the view that participants were over-confident and then reduced their self-reported confidence after further reflection. A detailed look at the direction of the changes (whether a respondent re-assessed their circumstances to be better or worse or expressed greater or less confidence) found that participants who changed their response were as likely to respond more positively as more negatively when the question was repeated. On the basis that a more thoughtful, reflective answer may be more accurate, the results here strongly suggest that the order of the questions in the new instrument (and in other financial literacy research or evaluation instruments) place questions that ask for any kind of overall assessment of present or future financial well-being should be positioned later on.

Qualitative results from the pilot study and discussion

In addition to reporting on the quantitative analysis of the pilot, the process of interviewing participants highlighted a few qualitative observations that are worth discussion.

The first observation is that several participants asked the interviewer for feedback on how they were doing, notwithstanding a clear and repeated emphasis that the purpose of the interview was to pilot a quiz, not assess their personal financial literacy. I interpret this as an indication of a response bias that may arise in face-to-face interviews, particularly about socially, emotionally and culturally sensitive topics such as money. Notwithstanding the efforts of the interviewer to put respondents at ease, it is clear that all respondents to a questionnaire of any kind or length about personal finance are going

to experience some stress and there are likely to be some demand effects from the interviewer. For community-based agencies who are using questionnaires to assess and triage new clients or to evaluate their own program delivery, the demand effects are likely to be even greater. Where possible protocols to allow participants to read and answer questions independently or to be interviewed by someone other than a staff person providing the service may lead to more accurate answers. In this case, the accuracy of the response is a secondary concern given the repeated measures design to evaluate the new instrument.

The second observation is that potential for response bias – particularly social desirability bias – may be greater with certain kinds of questions. Social desirability bias occurs when a respondent alters his or her response to meet what they think is the social norm or socially acceptable response. In the interviews it appeared as though some participants may have revised an initial answer about the number of financial topics they monitored to ensure they gave a non-zero answer. However, the correlation between the first and second questions about the number of topics monitored is almost perfect so it is unlikely that asking again or in a different order would yield a different outcome. Similarly, some participants hesitated or showed other signs of discomfort in answering questions about the use of fringe financial service providers including cheque cashers, payday lenders and pawnbrokers. Interestingly every one of the 30 participants in the pilot stated they had at least one deposit account with a mainstream financial institution. Self-reported estimates of the number and frequency of use of payday lenders, particularly when the response is given face-to-face, may be at the low end of the real range however without better access to industry data it is difficult if not impossible to verify this hypothesis.

Taken together the qualitative observations above suggest that care should be taken in administering any surveys or measures of financial literacy. Formats that allow respondents to complete a survey confidentially and in privacy on their own may yield more honest responses. Care should be taken to make sure that client service staff are not inadvertently signaling to respondents a desired response or type of response, either before or after service is provided. If at all possible, it may be wise to avoid having trainers/facilitators/counselors who have provided a direct service to a client be the same staff to administer a post-service survey or questionnaire instrument.

Additional considerations and next steps

As discussed at the outset of this report, a key motivation in developing this new financial literacy measurement tool is to better equip practitioners in the delivery and evaluation of financial literacy programs and services. A tool that allows practitioners to quickly and accurately get a measure of a client's financial literacy could be a useful tool at the intake stage if practitioners offer more than one option in their service delivery. If the tool shows that a participant is very strong in keeping track of their finances, relative to other adults, it may be a more efficient and effective use of program time and resources to emphasize skills development, knowledge and influencing attitudes on other domains of financial literacy. However, there is work to be done to match or link the products and services offered by financial literacy providers to the 5 domains model outlined above. Which topics in a module-based financial literacy program address gaps

in each keeping track, making ends meet, choosing products, planning ahead and staying informed (recognizing that modules may cover more than one area at a time)? For organizations offering very brief or even single-session coaching, when a client presents with an urgent crisis, is there time and is it appropriate to aim to change broader knowledge, skills or attitudes on one or more domains of financial literacy? There is so much variation in the design and implementation of financial literacy interventions in Canada that this linking of research and practice can, for now, only be done at an organizational or community-based level. The matrix below may be helpful to practitioners interested in the 5 domain model of financial literacy to think about how their own programs and services may be changing their clients' financial literacy in one or more ways.

Table 5: Starting to think about financial literacy programs in a 5-domain model

	Skills	Knowledge	Attitudes
Keeping track	How do our programs change the skills clients have to be able to keep track of their money?	How do our programs change the knowledge clients have to be able to keep track of their money?	How do our programs change the attitudes clients to motivate them to keep track of their money?
Making ends meet	How do our programs change the skills clients have to be able to make ends meet?	How do our programs change the knowledge clients have to be able to be able to make ends meet?	How do our programs change the attitudes clients to motivate them to make ends meet?
Choosing products	How do our programs change the skills clients have to be able to choose financial products and services that meet their needs?	How do our programs change the knowledge clients have to be able to chose financial products and services that meet their needs?	How do our programs change the attitudes clients to motivate them to choose financial products and services that meet their needs?
Planning ahead	How do our programs change the skills clients have to be able to plan ahead financially for expected and unexpected costs?	How do our programs change the knowledge clients have to be able to plan ahead financially for expected and unexpected costs?	How do our programs change the attitudes clients to motivate them to plan ahead financially for expected and unexpected costs?
Staying informed	How do our programs change the skills clients have to be able to stay informed about personal finance?	How do our programs change the knowledge clients have to be able to stay informed about personal finance?	How do our programs change the attitudes clients to motivate them to stay informed about personal finance?

Another motivation behind the current pilot is to develop an instrument that could be used to measure the effects of a financial literacy intervention. If we can measure someone's financial literacy in a reliable, empirical way, before they start a financial literacy program and then take another measure at some point after they have completed a program, if their financial literacy improves, we can attribute this, all else being equal, to an effect of the program. Some financial literacy programs may offer 15 or more hours of workshop-based learning plus take-home exercises to try to build new financial habits. Other financial literacy programs may only offer a few hours or less of one-on-one counseling where a client may only be seen once by the staff. The instrument developed and piloted here could be used for pre- and post-tests evaluations

to look for measurable change in someone's answers or score after a financial literacy program. However, a pre- and post-test approach is not necessarily appropriate to all types of financial literacy interventions. The instrument here is intended to get a composite estimate of an individual's overall financial literacy. If the goal of a financial literacy intervention is not to change the overall financial literacy of a client or at least an important chunk of it, then an overall measurement instrument will not be appropriate as an evaluation tool. The questions on the quiz have been labeled to make clear to users which of the 5 domains they are intended to measure so users may want to pick and chose certain domains if overall change in financial literacy is not intended or expected. Certainly the brief nature of the quiz suggests there is ample room to add questions of particular interest to an organization or researcher.

The question of timing in any pre- and post-test is also worth considering. The questions, even as adapted from the CSFC, ask participants to reflect on the future but also on their current circumstances where the time frame is the last 12 months (question 2MEM) or the last 5 years (question 12SI). Repeating the same question in too short a short-time frame may not allow for reportable change. There are at least 2 possible strategies to handle this issue:

- 1) Delaying a post-test collection until some time later, judged by the evaluator to be sufficient to capture any reportable change in the behaviors of interest. On the one hand, projects do not always have the luxury of time and funding to wait for a follow-up 6 months or longer after a client completes a program or service and project reports are often due soon after services are completed. On the other hand, an important and usually unaddressed question in most evaluations of financial literacy interventions has to do with the durability of any change. By waiting to collect a post-test (or even a second post-test) evaluators will be better placed to see whether or not any change is lasting.
- 2) Collecting a post-test measure within a shorter interval but supplementing with additional questions to look for any change in a very recent period. For example, a program that works with clients over 2 months may want to add a post-test question to 2MEM to look for any change over those 2 months. While the question that is comparable to the CFCS data may not reveal any change over a 12 month interval, the evaluation results could be interpreted with the benefit of the additional information.

Now that the new instrument has been designed, reviewed and piloted, the immediate next step will be to produce a series of tables of the comparison data from the Canadian Survey of Financial Capability⁹. In the medium-term, the available comparison data will come from a number of cross-tabulations to look at the distribution of responses among:

- All adult Canadians aged 18 and over

⁹ Analysis will be done using the public use micro-data file for the survey. Suppression of variables or grouping of responses is unlikely to be a concern for the variables of interest but should be flagged.

- All adult Canadians with a personal income below \$20,000 as a proxy for a measure of low-income.

These cross-tabulations will be used to interpret results separately for each question on the new instrument. An illustrative example is included in Box 1 below.

More customized cross-tabulations can also be created from the CFCS data to create comparisons by other characteristics of interest, beyond income. For example, an organization serving mostly low-income newcomers to Canada may want to generate a series of comparison tables for the sub-population of survey respondents with a low-income and who are refugees or landed immigrants/permanent residents. Given the number of demographic variables collected by the CFCS, a remarkable level of granularity may be possible.

The next phase of work will be to equip the same instrument to be scored for each of the 5 domains. To arrive at a score, a factor analysis of the CFCS data will be conducted that includes but is not limited to the comparison CFCS questions as they have been recoded for this project. The result will be a set of 5 scales that may match or differ from earlier research reports. The factor analysis will also generate a set of factor loadings for each question (or derived variable) which can then be used to create a score for each item on the piloted quiz. When scores for the items relating to the same scale are added together, they would give an estimate of an individual respondent's position on the full scale, compared to other Canadian adults. An illustrative example of this kind of application is also included in Box 1 below.

Conclusions

The current project has made substantial progress towards the end goal of having a simple but empirically scored tool to measure individual financial literacy. The design and development of new measurement tools is almost always step-wise and longer than desired but the final quality of the end product depends on getting the early stages right. Having a short set of easy to answer, easy to understand and meaningful questions that can be compared to national level data is an important contribution to the evaluation and research of financial literacy in Canada.

Box 1: Different ways to use the new quiz with comparable data: Illustrative examples

With question-to-question comparisons

A client answers the question 4KT “How often do you check the balances of any bank accounts you have” by responding “monthly”.

The comparison data from the CFCS is (for illustrative purposes only, this is not an accurate distribution from the survey data):

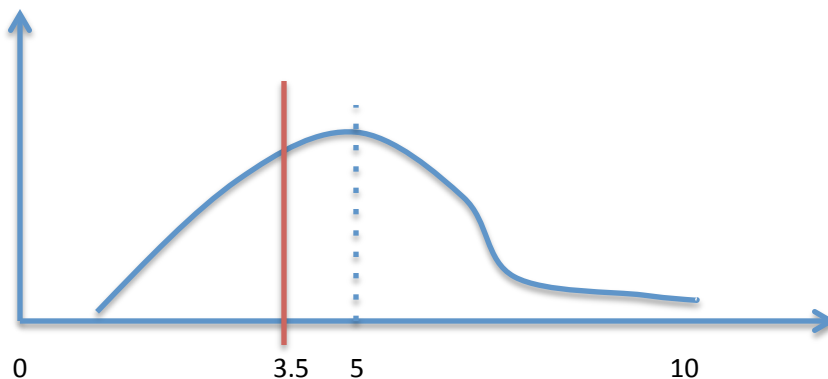
Daily: 2% of Canadians, Weekly: 18% of Canadians, Every 2 weeks: 25% of Canadians, Monthly: 25% of Canadians, Yearly: 15%, Never: 15%.

You can report that the client is similar to 25% of Canadians and checks his or her account less often than 45% of Canadians or more often than 30% of Canadians.

With a scored comparison

A client answers the quiz and answers the questions about staying informed (11SI on the number of topics monitored, 12 SI on taking a course and 15SI on the self-assessed ability to stay informed) as “2 topics”, “no” and “fairly good” respectively. The raw scores are 2, 0 and 1 which you then multiply by the factor loading or weight for each question and add the totals together. The client has a total score of 3.5 out of a possible 10.

The comparison data (graphed below) show that the average score on the “staying informed” scale was 5 and that 40% of Canadians had a score of 3.5 or lower. You can say that the client is below average and likely would be in the 40th percentile for staying informed compared to other Canadians.



Appendices

- A: Final version of new instrument as piloted.
- B: Copy of informed consent.
- C: List of full comparison questions from CFCS
- D: Recoded and derived variables

Appendix A: Final pilot instrument

Q#	Question		
1 MEM	<i>Thinking of the last 12 months, how well have you been keeping up with your financial commitments?</i>	Keeping up without any problems Keeping up but it sometimes a struggle Having real financial problems and falling behind I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2 MEM	<i>Thinking of the last 12 months, were you ever behind two months in a row or more... in paying a bill?</i>	Yes No I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.1	<i>... in paying your rent or mortgage?</i>	Yes No I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2.2	<i>... in making a loan payment?</i>	Yes No I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3 KT	<i>Do you have a household budget?</i>	Yes No I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.1	<i>How often do you stay within your budget?</i>	Always Usually Rarely Never I don't know I don't have a budget	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4 KT	<i>How often do you usually check the balances on any bank accounts you have?</i>	Daily Weekly Every two weeks Monthly Yearly Never I don't know I don't have any accounts	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5 KT	<i>I keep a close watch on my finances.</i>	Agree Disagree I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6 PA	<i>Are you planning ahead financially for when you get to retirement age? A plan could include many things like your own savings, government programs, pensions at work, family help, continuing to work, etc.</i>	Yes No I don't know I'm already retired	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6.1	<i>How confident are you that your household income in retirement will be what you hope for?</i>	Very confident Fairly confident Not very confident Not at all confident Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7 PA	<i>Do you currently have a will?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7.1	<i>Do you currently have any insurance policies such as life insurance, renters insurance or car insurance?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

8 PA	<i>If you had a large unexpected cost, for example equivalent to your take-home pay for at least 2 weeks, how would you mostly likely cover this expense?</i>	Use savings Sell an asset or personal possession Borrow from friends or family Borrow from a bank or use a credit card Go to a pawnbroker or payday lender I couldn't cover that kind of cost I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9 CP	<i>I've got a clear idea of the financial products I need.</i>	Agree Disagree I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10 CP	<i>I always research my choices before I make a decision about money.</i>	Agree Disagree I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11 SI	<i>Are there any financial things that you personally keep an eye on? Mark all that apply.</i>	House prices and sales The stock market Currency market (the Canadian vs other dollars) Interest rates Inflation Taxes The job market Pension plans or benefits at work Sales of consumer goods and services Other None of the above. I don't keep an eye on financial things.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
		Total number (Max 5)	
12 SI	<i>In the last five years, have you taken a course or program to learn about financial or economic topics?</i>	Yes No I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
13 MEM	<i>How would you rate yourself on making ends meet?</i>	Very good Good Fairly good Not very good I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
14 KT	<i>How would you rate yourself on keeping track of money?</i>	Very good Good Fairly good Not very good I don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
15 SI	<i>How would you rate yourself on staying informed on financial issues?</i>	Very good Good Fairly good Not very good I don't know Very good	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
16 CP	<i>How would you rate yourself on shopping around to get the best financial products?</i>	Very good Good Fairly good Not very good Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

CONSENT FORM

Project: Pilot test of a quiz on financial literacy

I, _____ agree to take part in a pilot study of a quiz on financial literacy. I understand this project is being conducted by Jennifer Robson with a research assistant, Jonathan Juteau, as part of a larger project for Social and Enterprise Development Innovations (SEDI). SEDI is a national charitable organization that designs and tests new programs for low-income Canadians. Entraide Budgetaire has agreed to help SEDI with this project by contacting potential participants and facilitating meeting space for interviews.

My involvement will be restricted to taking part in one (1) sixty (60) minute interview with Jennifer and/or Jonathan. The interview will cover a brief set of questions about my general financial knowledge, attitudes and habits. The purpose is to test a new financial literacy quiz, not to test my own financial literacy. I will not be given a score or my individual results.

I will not be asked to share specific details about my own finances such as my income or debts. My name and any other identifying or potentially identifying information that I may disclose during the interview will taken out of the data before it is used by the researcher and will not be published in any report or paper. My results will only be reported as part of the pool with all other participants in the study.

I understand that my interview responses will be entered into an Excel spreadsheet by the interviewer using a laptop computer. This file will be kept confidential by the interviewer and will only be given to and used by the lead researcher (Jennifer Robson). The researcher agrees to keep the completed files on a secure hard-drive using a password protection for the file. The file will be destroyed at the end of the research project.

I understand that I can refuse to answer any of the questions in the interview. I understand that I can end the interview at any time and for any reason. I understand that I can withdraw my consent to be part of this research project at any time before April 1 and for any reason.

I understand that I may ask for a copy of the final report for this project by contacting Jennifer Robson at the address listed below.

I understand that at the end of the interview participants will each receive a cash honorarium of \$40.

Signed at Ottawa on _____
DATE

Name: _____
PLEASE PRINT FULL NAME

Signature: _____

COMPLETE THIS SECTION AFTER THE INTERVIEW

I acknowledge receipt of \$40.00 from the interviewer as an honorarium for participating in a research project on a financial literacy quiz.

Signature

Date

For questions about the research project:

Jennifer Robson
Riddell Program in Political Management
Carleton University
1125 Colonel By Drive
Ottawa, Ontario K1S 5B6
Tel: 613.520.2600 x8384
Email: Jennifer_robson@carleton.ca

For questions about SEDI:

Social and Enterprise Development Innovations
1110 Finch Ave West, Suite 406
Toronto, ON
M3J 2T2
www.sedi.org
Tel: 416.665.2828
E-mail: info@sedi.org

Appendix C: Comparison questions from the Canadian Financial Capability Survey

Q#	Question		
DM_Q09	<i>In the past five years, have you taken a course or program of study to increase your knowledge and understanding of the economy or financial matters?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q02	<i>How many personal chequing or savings accounts do you currently have with a bank, credit union or trust company? Please exclude any investment accounts, lines of credit and joint accounts.</i>	None ENTER NUMBER Don't know	<input type="text"/> <input type="text"/> <input type="text"/>
OE_Q02B	<i>How many joint chequing or savings accounts, that is to say, accounts that are shared with someone else, do you currently have with a bank, credit union or trust company? Please exclude any investment accounts, lines of credit or personal accounts counted above.</i>	None ENTER NUMBER Don't know	<input type="text"/> <input type="text"/> <input type="text"/>
OE_Q03	<i>With how many different institutions do you have these accounts?</i>	ENTER NUMBER None, no accounts	<input type="text"/> <input type="text"/>
OE_Q04H	<i>How do you typically check the balance for your account or accounts?</i>	I check the bank statement sent in the mail I check the statement online (internet banking) I check through telephone banking I call the bank and ask for my balance I ask for my balance, statement or update my bank book at a bank branch I ask for my balance, statement or update my bank book at an ATM/cash machine I receive a text message from the bank I never check Don't know No accounts	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q05	<i>How often do you usually check your account balance(s)?</i>	Daily Weekly Every two weeks Monthly Yearly Never Don't know Don't have account	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q11	<i>Do you have a household budget?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q12	<i>How often do you stay within your budget?</i>	Always Usually Rarely Never Don't know No budget	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q14	<i>Thinking about the last 12 months, were you ever behind two or more consecutive months in paying a bill?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
OE_Q15	<i>Still thinking about the last 12 months, were you ever behind two or more consecutive months in paying your rent or mortgage?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

OE_Q16	<i>In that same time period, were you ever behind two or more consecutive months making a loan payment?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
OE_Q17	<i>Again, thinking of the last 12 months, which one of the following statements best describes how well you and your immediate family have been keeping up with your bills and other financial commitments?</i>	<input type="checkbox"/> Keeping up with all bills and commitments without any problems <input type="checkbox"/> Keeping up with all bills and commitments, but it is sometimes a struggle <input type="checkbox"/> Having real financial problems and falling behind with bills or credit commitments <input type="checkbox"/> Don't have any bills or credit commitments <input type="checkbox"/> Don't know
FM_Q02	<i>If you had to make an unexpected expenditure today of \$500, how would you pay for this expense?</i>	<input type="checkbox"/> Use savings <input type="checkbox"/> Borrow from a friend or relative <input type="checkbox"/> Use a personal line of credit <input type="checkbox"/> Borrow from a financial institution <input type="checkbox"/> Use a credit card <input type="checkbox"/> Sell a financial asset or personal possession <input type="checkbox"/> Go to a pawnbroker or payday loan service <input type="checkbox"/> Other <input type="checkbox"/> Would not be able to pay this expenditure <input type="checkbox"/> Don't know
FM_Q03	<i>And if the expenditure were \$5,000, how would you pay for this expense?</i>	<input type="checkbox"/> Use savings <input type="checkbox"/> Borrow from a friend or relative <input type="checkbox"/> Use a personal line of credit <input type="checkbox"/> Borrow from a financial institution <input type="checkbox"/> Use a credit card <input type="checkbox"/> Sell a financial asset or personal possession <input type="checkbox"/> Go to a pawnbroker or payday loan service <input type="checkbox"/> Other <input type="checkbox"/> Would not be able to pay this expenditure <input type="checkbox"/> Don't know
FM_Q04A	<i>In the last 12 months, how many times did you or another member of your household use the following alternative financial services: A pawnbroker to sell a possession?</i>	<input type="checkbox"/> Never <input type="checkbox"/> ENTERNUMBER <input type="checkbox"/> Don't know
FM_Q04B	<i>In the last 12 months, how many times did you or another member of your household use the following alternative financial services: A payday loan service?</i>	<input type="checkbox"/> Never <input type="checkbox"/> ENTER NUMBER <input type="checkbox"/> Don't know
FM_Q04C	<i>In the last 12 months, how many times did you or another member of your household use the following alternative financial service: A cheque cashing service, other than a bank?</i>	<input type="checkbox"/> Never <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> Three times or more, enter number <input type="checkbox"/> Don't know
ME_Q01	<i>Excluding home purchases (principal residence) and the possible cost of your children's higher education, do you plan to make any purchases or expenditures of \$10,000 or more in the next three years? For example: for a new car, a cottage, major repairs or home improvements, travel abroad or for a wedding.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know
RP_Q01	<i>Are you financially preparing for your retirement either on your own or through an employer pension plan?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know

RP_Q02 Which of the following sources of revenue are included in your financial plan for retirement? Mark all that apply.

Government pension benefits (CPP, QPP, OAS, GIS)	<input type="checkbox"/>
Occupational or workplace pension plan benefits	<input type="checkbox"/>
Personal retirement savings plan benefits (RRSP, RSP)	<input type="checkbox"/>
Obtaining a reverse mortgage	<input type="checkbox"/>
Sell your financial assets (such as: stocks, bonds or mutual funds, investment funds other than RRSP or RIF)	<input type="checkbox"/>
Sell your non-financial assets (such as: a car, home or properties, art, jewels, antiques, etc.)	<input type="checkbox"/>
Use an inheritance	<input type="checkbox"/>
Rely on financial support from your extended family (including a spouse, partner)	<input type="checkbox"/>
Drawing an income from your own (or your spouse or partner's) business	<input type="checkbox"/>
Earnings from employment in retirement	<input type="checkbox"/>
Other	<input type="checkbox"/>

RP_Q08 Taking all of the various sources of retirement income into account for your household (including government sources as well as personal and occupational pensions and provisions), how confident are you that your household income in retirement will give you the standard of living you hope for?

Very confident	<input type="checkbox"/>
Fairly confident	<input type="checkbox"/>
Not very confident	<input type="checkbox"/>
Not at all confident	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

RP_Q09 Do you have a good idea of how much money you will need to save to maintain your desired standard of living when you retire?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

FC_Q01 In the past 12 months, did you make use of any advice, free or paid, on any of the following financial products? Mark all that apply.

Retirement planning	<input type="checkbox"/>
Children's education planning	<input type="checkbox"/>
Estate planning	<input type="checkbox"/>
Insurance	<input type="checkbox"/>
Tax planning	<input type="checkbox"/>
General financial planning (saving and investment strategies)	<input type="checkbox"/>
Anything else	<input type="checkbox"/>
No advice available or couldn't find any advice	<input type="checkbox"/>
No, did not use any advice	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

FC_Q02 Where did you get your advice? Ask respondent to list and mark number of sources listed.

ENTER NUMBER	<input type="checkbox"/>
None, no advice	<input type="checkbox"/>

FC_Q04 People get information about financial investments from many sources. What sources do you feel most influence your decisions about the financial investments you make? Mark all that apply.

Advertisements	<input type="checkbox"/>
Magazines	<input type="checkbox"/>
Newspapers	<input type="checkbox"/>
Radio or Television	<input type="checkbox"/>
Internet	<input type="checkbox"/>
Advice from a Financial Advisor	<input type="checkbox"/>
Advice from a knowledgeable friend	<input type="checkbox"/>
Other	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

FC_Q05 *Are there any things that you personally keep an eye on, such as changes in ...? Mark all that apply*

	The housing market	<input type="checkbox"/>
	The stock market	<input type="checkbox"/>
	The currency (money) market	<input type="checkbox"/>
	Interest rates	<input type="checkbox"/>
	Inflation	<input type="checkbox"/>
	Taxation	<input type="checkbox"/>
	The job market	<input type="checkbox"/>
	Pension plans, and benefits	<input type="checkbox"/>
	Sales of consumer goods and services	<input type="checkbox"/>
	Other	<input type="checkbox"/>
None of the above	<input type="checkbox"/>	
Total number (Max 5)		<input type="checkbox"/>

FC_Q06 *How do you tend to monitor these things? Mark all that apply*

	Newspapers	<input type="checkbox"/>
	Financial / business pages in newspapers	<input type="checkbox"/>
	Financial magazines (Forbes, The Economist, Les Affaires)	<input type="checkbox"/>
	Actualité, Times, Newsweek	<input type="checkbox"/>
	Radio and television business and financial programming	<input type="checkbox"/>
	Internet (email, Web, text messaging, newsfeeds, etc.)	<input type="checkbox"/>
	Financial advisor	<input type="checkbox"/>
	Other	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

FC_Q07 *Could you please tell me which of the following types of insurances you currently own?*

	Auto	<input type="checkbox"/>
	Life	<input type="checkbox"/>
	Disability	<input type="checkbox"/>
	Loss of income (e.g. payment protection insurance)	<input type="checkbox"/>
	Property (home)	<input type="checkbox"/>
	Renters (content)	<input type="checkbox"/>
	Travel	<input type="checkbox"/>
	Other	<input type="checkbox"/>
	None of the above	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

FC_Q08 *Do you have all your insurance policies with one company?*

	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>
	No insurance	<input type="checkbox"/>

FC_Q09 *Do you currently have a will?*

	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

FC_Q10 *Do you currently have powers of attorney drawn up for your household?*

	Yes	<input type="checkbox"/>
	No	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

SA_Q01 *How would you rate your level of financial knowledge?*

	Very knowledgeable	<input type="checkbox"/>
	Knowledgeable	<input type="checkbox"/>
	Fairly knowledgeable	<input type="checkbox"/>
	Not very knowledgeable	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

SA_Q02	<i>How would you rate yourself on the following area of financial management: ... keeping track of money?</i>	Very good Good Fairly good Not very good Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q03	<i>How would you rate yourself on the following area of financial management: ... making ends meet?</i>	Very good Good Fairly good Not very good Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q04	<i>How would you rate yourself on the following area of financial management: ... shop around to get the best financial product such as loans or insurance rates?</i>	Very good Good Fairly good Not very good Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q05	<i>How would you rate yourself on each of the following areas of financial management: ... staying informed on financial issues?</i>	Very good Good Fairly good Not very good Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q10	<i>Please tell me if you agree or disagree with the following statement. I've got a clear idea of the sorts of financial products that I need.</i>	Agree Disagree Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q11	<i>Please tell me if you agree or disagree with the following statement: I keep a close personal watch on my financial affairs.</i>	Agree Disagree Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q12	<i>Please tell me if you agree or disagree with the following statement. I know enough about investments to choose ones that are suitable for my circumstances.</i>	Agree Disagree Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
SA_Q13	<i>Please tell me if you agree or disagree with the following statement. I always research my choices thoroughly before making any financial decisions.</i>	Agree Disagree Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
OA_Q01	<i>The next part of the interview is different. This section, which has some questions about financial matters, is like a quiz. But don't worry it is not an exam. Have fun, and answer as best as you can. If the inflation rate is 5% and the interest rate you get on your savings is 3%, will your savings have at least as much buying power in a year's time?</i>	Yes No Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
OA_Q02	<i>A credit report is...?</i>	A list of your financial assets and liabilities A monthly credit card statement A loan and bill payment history A credit line with a financial institution Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
OA_Q03	<i>Who insures your stocks in the stock market?</i>	The National Deposit Insurance Corporation The Securities and Exchange Commission The Bank of Canada No one Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

OA_Q04 *True or false. By using unit pricing at the grocery store, you can easily compare the cost of any brand and any package size.*

True	<input type="checkbox"/>
False	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q05 *If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?*

A young single woman with two young children	<input type="checkbox"/>
A young single woman without children	<input type="checkbox"/>
An elderly retired man, with a wife who is also retired	<input type="checkbox"/>
A young married man without children	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q06 *If you had a savings account at a bank, which of the following statements would be correct concerning the interest that you would earn on this account?*

Sales tax may be charged on the interest that you earn	<input type="checkbox"/>
You cannot earn interest until you pass your 18th birthday	<input type="checkbox"/>
Earnings from savings account interest may not be taxed	<input type="checkbox"/>
Income tax may be charged on the interest if your income is high enough.	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q07 *Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?*

Young working couples with no children	<input type="checkbox"/>
Young working couples with children	<input type="checkbox"/>
Older, working couples saving for retirement	<input type="checkbox"/>
Older people living on fixed retirement income	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q08 *Emily has saved \$2,000 for her university expenses by working part-time. Her plan is to start university next year and she needs all of the money she saved. Which of the following is the safest place for her university money?*

Corporate bonds	<input type="checkbox"/>
Mutual Funds	<input type="checkbox"/>
A bank savings account	<input type="checkbox"/>
Locked in a safe at home	<input type="checkbox"/>
Stocks	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q09 *Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?*

A twenty-five year corporate bond	<input type="checkbox"/>
A house financed with a fixed-rate mortgage	<input type="checkbox"/>
A 10-year bond issued by a corporation	<input type="checkbox"/>
A certificate of deposit at a bank	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q10 *Under which of the following circumstances would it be financially beneficial to borrow money to buy something now and repay it with future income?*

When something goes on sale	<input type="checkbox"/>
When the interest on the loan is greater than the interest obtained from a savings account	<input type="checkbox"/>
When buying something on credit allows someone to get a much better paying job	<input type="checkbox"/>
It is always more beneficial to borrow money to buy something now and repay it with future income	<input type="checkbox"/>
Don't know	<input type="checkbox"/>

OA_Q11 Which of the following statements is not correct about most ATM (Automated Teller Machine) cards?

	You can get cash anywhere in the world with no fee	<input type="checkbox"/>
	You must have a bank account to have an ATM card	<input type="checkbox"/>
	You can generally get cash 24 hours-a-day	<input type="checkbox"/>
	You can generally obtain information concerning your bank balance at an ATM machine	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

OA_Q12 Which of the following can hurt your credit rating?

	Making late payments on loans and debts	<input type="checkbox"/>
	Staying in one job too long	<input type="checkbox"/>
	Living in the same location too long	<input type="checkbox"/>
	Using your credit card frequently for purchases	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

OA_Q13 What can affect the amount of interest that you would pay on a loan?

	Your credit rating	<input type="checkbox"/>
	How much you borrow	<input type="checkbox"/>
	How long you take to repay the loan	<input type="checkbox"/>
	All of the above	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

OA_Q14 Which of the following will help lower the cost of a house?

	Paying off the mortgage over a long period of time	<input type="checkbox"/>
	Agreeing to pay the current rate of interest on the mortgage for as many years as possible	<input type="checkbox"/>
	Making a larger down payment at the time of purchase	<input type="checkbox"/>
	Making a smaller down payment at the time of purchase	<input type="checkbox"/>
	Don't know	<input type="checkbox"/>

Appendix D: Recoded and Derived Variables

Quiz item	Text	Responses	Recodes	Comparison item	Text	Responses	Recodes
1MEM	Keeping up with financial obligations	Keeping up, no problems Keeping up, but struggle Real problems, falling behind Don't know	No answer = Don't know	OE_Q17	Keeping up with financial obligations	Keeping up, no problems Keeping up, but struggle Real problems, falling behind No bills or obligations Don't know	No bills or obligations = don't know No answer = don't know
2MEM	In 12 months, behind on bill?	Yes No Don't know	No answer = Don't know	OE_Q14	In 12 months, behind on bill?	Yes No Don't know	No answer = don't know
2.1	Behind on rent or mortgage?	Yes No Don't know	No answer = Don't know	OE_Q15	Behind on rent or mortgage?	Yes No Don't know	No answer = don't know
2.2	Behind on loan payment?	Yes No Don't know	No answer = Don't know	OE_Q16	Behind on loan	Yes No Don't know	No answer = don't know
DERIVED 2MEM	Behind on major obligations		Yes or don't know on ALL Yes or DK on rent or mortgage +1 Yes or DK on rent or mortgage and NO Yes or DK on loan and bill Yes or DK on loan or bill No on all	DER_BEHIND	Behind on major obligation		Yes or don't know on ALL Yes or DK on rent or mortgage +1 Yes or DK on rent or mortgage and NO Yes or DK on loan and bill Yes or DK on loan or bill No on all
3KT	Have budget?	Yes No Don't know		OE_Q11	Have budget?	Yes No Don't know	No answer = don't know
3.1	Stay in budget?	Always Usually Rarely Never Don't know No budget	No answer = Don't know	OE_Q12	Stay in budget?	Always Usually Rarely Never Don't know No budget	No answer = don't know
DERIVED 3KT	Budget and in budget		DK Budget and DK Stay No budget Budget and Never Budget and Rarely Budget and Usually Budget and Always	DER_BUDGET	Budget and in budget		DK Budget and DK Stay No budget Budget and Never Budget and Rarely Budget and Usually Budget and Always

4KT	Frequency of checking account balance	Daily Weekly Bi-weekly Monthly Yearly Never Don't know No account	No answer = Don't know	OE_Q05	Check account(s)	Daily Weekly Bi-weekly Monthly Yearly Never Don't know No account	No answer = don't know
5KT	Keep close watch on personal finances	Agree Disagree Don't know	No answer = Don't know	SA_Q11	Keep close watch on personal finances	Agree Disagree Don't know	No answer = don't know
6PA	Planning ahead for retirement	Yes No Don't know Already retired	No answer = don't know	RP_Q01	Planning ahead for retirement	Yes No Don't know Already retired	No answer = don't know
6.1	Confidence about retirement	Very Fairly Not very Not at all		RP_Q08	Confidence about retirement	Very Fairly Not very Not at all Don't know	
DERIVED 6PA	Planning and confidence in retirement		Yes or Already retired AND Very Yes or Already retired AND Fairly Yes or Already retired AND Not very Yes or Already retired AND Not at all No or Don't know AND Not at all No or Don't know AND Not very No or Don't know AND Very or Fairly	DER_RPLAN	Planning and confidence		Yes or Already retired AND Very Yes or Already retired AND Fairly Yes or Already retired AND Not very Yes or Already retired AND Not at all No or Don't know AND Not at all No or Don't know AND Not very No or Don't know AND Very or Fairly
7PA	Have a will	Yes No Don't know	No answer = don't know	FC_Q09	Have will	Yes No Don't know	No answer = don't know
7.1	Have insurance	Yes No Don't know	No answer = don't know	FC_Q07	Have insurance	# of types 0-3 Don't know	No answer = Don't know
DERIVED 7PA	Planning		Yes will AND Yes Insurance Yes will AND No or DK Insurance No or DK will AND Yes Insurance No or DK Will AND No or DK Insurance	DER_PLAN	Planning	Yes will AND Yes Insurance Yes will AND No or DK Insurance No or DK will AND Yes Insurance No or DK Will AND No or DK Insurance	

8PA	Cover unexpected cost of 2 weeks	Use savings Sell asset Borrow from friends or family Borrow from FI or credit Pawnbroker payday lender Couldn't cover Don't know	No answer = Don't know	FM_Q02 IF INCOME<60K	Cover \$500 expenditure	Use savings Borrow from friend or relative Use personal line of credit Use credit card Sell asset Got to pawnbroker or payday lender Other Couldn't cover Don't know	No answer = don't know
				FM_Q03 IF INCOME >60K	Cover \$5000 expenditure	Use savings Borrow from friend or relative Use personal line of credit Use credit card Sell asset Got to pawnbroker or payday lender Other Couldn't cover	
9CP	Clear idea of products	Agree Disagree Don't know	No answer = Don't know	SA_Q10	Clear idea of products	Agree Disagree Don't know	No answer = don't know
10CP	Research choices	Agree Disagre Don't know	No answer = Don't know	SA_Q13	Research choices	Agree Disagree Don't know	No answer = don't know
11SI	Follow financial topics	0-5 topics	No answer = 0	FC_Q05	Keep an eye on ... (mark all that apply)		Count responses 0-5+, No answer = 0
12SI	Taken course or program in 5 yrs?	Yes No Don't know	No answer = Don't know	DM_Q09	Taken course or program in 5yrs?	Yes No Don't know	No answer = don't know
13MEM	Rate on making ends meet	Very good Good Fairly good Not very good Don't know	No answer = Don't know	SA_Q03	Rate on making ends meet	Very good Good Fairly good Not very good Don't know	No answer = don't know
14KT	Rate on keeping track	Very good Good Fairly good Not very good Don't know		SA_Q02	Rate on keeping track	Very good Good Fairly good Not very good Don't know	No answer = don't know
15SI	Rate on staying informed	Very good Good Fairly good Not very good Don't know		SA_Q05	Rate on staying informed	Very good Good Fairly good Not very good Don't know	No answer = don't know
16CP	Rate on chosing products	Very good Good Fairly good Not very good Don't know		SA_Q04	Rate on chosing products	Very good Good Fairly good Not very good Don't know	No answer = don't know