The role of financial literacy in financial decisions and retirement preparedness among seniors and near-seniors

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May 2016

For the Financial Consumer Agency of Canada

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Published in 2016 by the Social Research and Demonstration Corporation

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Executive summary

It has become increasingly important for Canadians to equip themselves with sufficient knowledge, skills, and confidence to manage their personal finances before and during retirement. As highlighted in the National Strategy for Financial Literacy,[1] Canadians are living longer and leading more active lives than ever before. It is estimated that the average Canadian currently approaching retirement age can expect to live until the age of 86. People who retire at the age of 65, will have to live on their pensions and savings for an average of 21 years, and possibly longer. With the decline in coverage of workers through employer-sponsored pension plans, Canadians face an increasing personal responsibility to plan for their own retirement. In spite of this, one in three Canadian adults is not financially preparing for retirement, according to findings from the 2014 Canadian Financial Capability Survey. Furthermore, when compared to youth and prime age adults, seniors score the lowest on objective assessments of financial knowledge, yet they rate their financial confidence as the highest of any age group. This study seeks to determine the impact that this difference between financial knowledge and financial confidence has on seniors and their ability to meet their financial needs in retirement.

This study makes use of microdata from the 2014 Canadian Financial Capability Survey to examine financial knowledge and financial confidence among seniors (aged 65 and over) and near-seniors (aged 55 to 64). The study considers how knowledge and confidence are related to three domains of financial behaviour that are critical for retirement preparedness: money and debt management, future planning and savings, and best financial practices and protection measures. The study also compares individuals' financial knowledge levels with their financial confidence assessments. People are classified as either under-confident, confident or over-confident, according to their financial confidence relative to their financial knowledge.

The results of the quantitative analysis suggest that financial confidence has important effects on retirement preparedness among seniors and near-seniors. This goes beyond the simplistic view equating cautiousness with low confidence or recklessness with over-confidence. Our analysis shows that the effects of financial confidence vary according to the levels of financial knowledge.

- **High knowledge alone is not enough to lead to financially desirable behaviours:** Among the high-knowledge population of seniors and near-seniors, a lack of financial confidence can hinder good practices in personal finance. At the same time, high financial confidence can help to compensate for a lack of financial knowledge.
- **Confidence seems to direct seniors and near-seniors with low knowledge toward financially desirable behaviours in several key domains:** Highly confident individuals who are less knowledgeable are doing well in managing their debt, keeping up with their bills, checking their bank accounts frequently, having some savings or assets, having multiple insurance products, and being better prepared for unexpected changes in financial needs.

[1] Financial Consumer Agency of Canada (2014). National Strategy for Financial Literacy Phase 1: Strengthening Seniors' Financial Literacy. Ottawa, ON.

- **Overconfidence can lead seniors and near-seniors with high knowledge to make poorer financial decisions in some areas:** Those who are financially knowledgeable but over-confident are less likely to be able to keep up with bills or pay for large unexpected expenses. They are also more likely to take on consumer debt than their counterparts whose level of confidence is aligned with their knowledge.
- **Under-confident seniors and near-seniors are at a higher risk of poor financial outcomes:** Under-confident seniors and near-seniors are generally worse off than those who are confident or over-confident, in all three behavioural domains examined: money and debt management, future planning and savings, and protection measures.

Overall, the findings suggest that financial education programs and initiatives need to enhance not only objective knowledge but also financial confidence in seniors and near-seniors. When designing and targeting programs to enhance financial capability, it is important to consider not only seniors' and near-seniors' cognitive ability, but also their changing financial confidence in key skill domains.

With respect to current money and debt management, the findings suggest that **programs to improve budgeting may be better targeted to under-confident seniors and near-seniors with low knowledge**. For debt management more specifically, some over-confident groups with higher levels of financial knowledge may also benefit from educational programs to improve their handling of debt and their awareness of high-cost credit usage.

When we consider financial planning for the future, the findings suggest that under-confident seniors and near-seniors are systematically at risk of insufficient planning and saving. **Educational and support programs need to focus on improving confidence as a means of developing good planning and saving habits.** The results also indicate that additional effort may be needed to promote insurance-based products among the under-confident groups with financial knowledge in particular, as these groups appear to be under-insured.

As for ensuring best financial practices and protection measures, **efforts should be focused on increasing seniors' and near-seniors' objective financial knowledge, as well as their financial confidence in financial decision-making.** Financial confidence appears to compensate for many deficits in objectively assessed knowledge with respect to adopting best financial practices and protecting one's interests. This is particularly important for seniors and near-seniors who may not have high levels of financial knowledge as compared with other groups of Canadians.

More generally, the findings suggest that **financial literacy programs should incorporate critical activities to raise participants' awareness of their own skills**, which can include various forms of pre- and post-learning assessments. This can provide feedback mechanisms that, for the under-confident, can bolster financial confidence and, for the over-confident, can help set realistic expectations based on their actual skills, financial behaviours, and retirement preparedness. In addition to program design, the research has implications for the targeting and promotion of financial education programs. Promotional and marketing activities may be more effective in reaching and motivating enrolment among seniors and near-seniors if they are tailored to incorporate differences in confidence levels.

Introduction

Structural shifts in the Canadian retirement landscape in recent years place considerable responsibility on individuals to plan and save for their own retirement. This is the result of the increasing longevity of Canadians, as well as the decline in coverage of workers through employer-sponsored pension plans (Hui, Vincent, & Woolley, 2011). Furthermore, Canadians are living longer and leading more active lives than ever before (National Strategy for Financial Literacy, 2014). Currently, the average Canadian can expect to live until age 86. This means that today's retirees should be prepared to rely on their own pensions and savings for more than 20 years, if they retire by the age of 65.

These changes in pension coverage and demographics make it increasingly necessary for Canadians to have the capability to manage their personal finances, both before and during retirement. However, one in three Canadian adults are not financially prepared for retirement. Only two in five have a good idea of how much they need to save to maintain a desired standard of living in retirement (Financial Consumer Agency of Canada, 2014b).

Additionally, results from assessments of financial knowledge suggest that many seniors may not be well-equipped to handle their finances. Particularly, seniors did not fare well on the objective assessment of financial knowledge based on the 2014 Canadian Financial Capability Survey, scoring an average of 57 out of 100. Many seniors did not get half of the 14 objective test questions correct.

These findings raise concerns regarding the lack of financial capability among Canadian retirees and near-retirees, signalling inadequate financial preparation for this stage of their lives. Strengthening the financial knowledge and skills of seniors and adults entering retirement is urgently needed. The focus of Phase 1 of the National Strategy for Financial Literacy is to ensure that current and future seniors can make sound decisions that will lead to a financially secure retirement.

This research project aims to contribute to this goal, providing practical insights to inform policy interventions, helping boost seniors and near-seniors' competence and confidence with personal financial matters. Although there is a range of training and literacy programs to improve one's financial knowledge and skills, the effectiveness of many of these interventions is not well understood. This is mainly because of the complexity of the cognitive and behavioural processes involved in financial decision-making. Without a thorough understanding of financial knowledge, financial behaviours, and their links to financial wellbeing, it is difficult to assess the success of these financial training interventions.

Aiming to address these challenges, the first objective of this research project is to shed light on the factors that shape financial capability of seniors and near-seniors. Recent evidence suggests that the majority of the variance in financial capability is attributed to not only objective financial skills and knowledge, but also socio-demographic and psychosocial characteristics (Fernandes, Lynch Jr, & Netemeyer, 2014; Hébert & Gyarmati, 2014) including self-efficacy, resilience, motivation and engagement and social networks. This paper is exploring, both conceptually and empirically, the first of these critical factors — financial confidence — its relationship with financial knowledge and its role in shaping financial behaviours.

The second research objective is to explore the practical implications of financial confidence with respect to the effective design and targeting of policy interventions, which aim to enhance the financial preparedness of seniors and near-seniors as they enter and live in retirement. Recent literature in basic skills training shows that interventions can be more effective when they are designed and targeted in a way that maximizes alignment with individual characteristics, rather than a one-size-fits-all approach (Gyarmati et al., 2014). When programs involve a degree of tailoring of content, delivery, and support processes to the characteristics, needs, and motivations of trainees, the extent to which they are willing and able to confidently engage with program content is enhanced, as is the application of newly acquired skills and their post-intervention outcomes (Gyarmati et al., 2014). Therefore, in order to effectively design, target, and deliver financial education training to seniors and near-seniors, it is crucial to understand the implications of any misalignment that may exist between their knowledge needs and their financial confidence. Indeed, it is important to understand the relation between differing levels of knowledge and confidence in financial capability, in order to adjust intervention content and target accordingly and thereby maximize positive outcomes and return on critical government investments.

Research questions

In light of these goals, this research project addresses the following two sets of questions through an examination of data from the 2014 Canadian Financial Capability Survey (CFCS). The first set of questions aim to provide an in-depth description of the objective financial knowledge and subjective financial confidence of seniors and near-seniors.

1. To what extent is ***financial knowledge*** related to financial behaviour and decisions?
2. To what extent is ***financial confidence*** related to financial behaviour and decisions?

The second set of research questions explores the way financial knowledge and financial confidence interact and connect with behavioural tendencies:

3. When financial knowledge and financial confidence are examined ***simultaneously***, what are the factors that characterize the seniors and near-seniors with a substantial misalignment between the two attributes, or a large ***financial knowledge-confidence gap***?
4. What roles do financial knowledge and the financial knowledge-confidence gap play in the management of ***ongoing*** expenses and day-to-day financial choices among seniors and adults entering retirement?
5. What roles do financial knowledge and the financial knowledge-confidence gap play in the ***financial preparation for retirement***, including future planning and savings as well as doing due diligence and adopting measures to protect one's interests, among seniors and near-seniors?

Answers to both sets of research questions will help inform the design and delivery of effective financial training interventions, aiming to enhance not only the financial capability of seniors and near-seniors but also their retirement preparedness.

Key findings

The first major finding of this analysis indicates that as age increases, financial confidence increases, while financial knowledge scores decrease. This suggests that seniors and near-seniors tend to be more confident in their financial capability than what is warranted by the objectively assessed financial knowledge, compared to younger cohorts. However, contrary to common belief, this misalignment between perception and reality does not necessarily imply undesirable financial decision-making or behaviours among seniors and near-seniors. This positive self-perception of financial capability knowledge does not always make seniors and near-seniors worse off when it comes to personal financial management, despite their relatively low levels of objective knowledge.

The second major finding points to some discordance between the objective assessment module and the subjective assessment module in the CFCS. Particularly, there is a strong connection between financial confidence and financially desirable behaviours, regardless of knowledge levels. This implies that the financial knowledge score might not be as good a predictor of financial outcomes as the self-assessed financial confidence score. Financial confidence could be a reflection of continuing success in financial decision-making, so a lack of financial confidence is a signal of poor financial choices, and potentially inadequate financial preparation for retirement. These results also imply that it may not be surprising for seniors and near-seniors to show a higher level of financial confidence, as they have more years of experience managing their money than the younger cohorts.

Finally, findings from this research suggest that financial literacy programs need to enhance not only financial knowledge but also financial confidence among seniors and near-seniors since financial confidence appears to be the key that turns knowledge into desirable behaviours. The design and targeting of training programs should address both knowledge and confidence in order to effectively help seniors and near-seniors be more financially prepared for retirement — and to provide programming in a way that maximizes return on government investments. This study identifies a number of areas in which confidence — both under-confidence and over-confidence — among seniors and near-seniors should be considered alongside financial knowledge in the design and targeting of effective programs.

The rest of the report is organized to highlight these major findings from the analysis. Results of the literature review, including the conceptual framework of behavioural change are discussed in the next section. This is followed by a description of the dataset as well as the methodology for the empirical analysis. Subsequent sections present the results of the bivariate and multivariate analyses in detail. Finally, the report concludes with a discussion of the implications for policy, programming, and future research.

Previous literature

Seniors score the lowest on the objective assessment of financial knowledge in the CFCS compared to younger cohorts (Financial Consumer Agency of Canada, 2014b). However, they subjectively rate themselves highest on their financial confidence (the details of these assessments are presented in Box 1). This misalignment in objective and subjective assessments may be a point of concern, as it indicates that there is a gap between perception and reality in seniors' financial understanding. Theoretically, this gap may influence financial decision-making in substantial ways, many of which may have negative consequences for retirement preparedness.

Box 1 Assessments of financial knowledge in the Canadian Financial Capability Survey

Two modules in the CFCS offer different ways to assess aspects of Canadians' financial literacy. The Objective Personal Assessment module tests respondents' actual knowledge of finance. The 14 questions determine how much respondents know about concepts such as interest rates, inflation rates, stock market regulations, optimal strategies in money management, rationale behind savings, etc. Respondents who answer a lot of questions correctly are likely to be financially knowledgeable. Conversely, those who perform poorly on this module are likely to lack basic knowledge of personal finance. These questions have been used and validated in studies inside and outside Canada.

The Subjective Personal Assessment module asks respondents to reflect on their own financial understanding and skills. Respondents rate themselves on their level of financial knowledge, as well as various behavioural domains, including keeping track of money, making ends meet, and shopping around to get the best financial products. These self-assessed ratings reveal how well they perceive their own financial confidence. Higher self-rating signals a more positive self-perception of financial knowledge and skills, implying a higher level of financial confidence. For this study, a scale derived from the sum of the 4-point answers to the first five questions of the module is constructed. This 5-item scale has not been extensively validated, though a preliminary analysis of the factor structure and correlations with behavioural outcomes suggests that the scale is robust and likely valid.

These two modules are constructed to be intricately connected, and analyzing information collected from both offers an insightful look into the financial capability of Canadian seniors and near-seniors entering retirement.

For example, it is possible that seniors would underestimate the downside risks of some investments and suffer from losses that could affect their future financial wellbeing (Gamble, Boyle, Yu, & Bennett, 2014). They may also be more at risk of fraud, or they may exhaust their savings early in their retirement years.

On the other hand, it is possible that such positive self-perception may be a necessary factor that leads to desirable financial decisions and choice. Ample theoretical foundation and empirical evidence from the field of cognitive and behavioural science support this view (Bandura, 1977; Strecher, DeVellis, Becker, & Rosenstock, 1986; Stajkovic & Luthans, 1998; Moritz, Feltz, Fahrbach, & Mack, 2000; Agarwal, Sambamurthy, & Stair, 2000). In fact, a framework of behaviour change based on Bandura's social cognitive theory puts self-confidence at the core of how objective

knowledge gets translated into behaviours. Particularly, confidence influences how people feel, think, motivate themselves, and most importantly, how they behave. According to Bandura (1993), people select, construct, and interpret their environments based on self-reflection, which gives meaning and valence to external events, and subsequently influences behaviours.[2]

Why is confidence helpful in explaining the way knowledge manifests itself into behaviour change? Ability is often no longer treated as a fixed attribute observed through people's behaviour, but rather as the result of effective organization of cognitive, social, motivational, and behavioural skills that serve purposeful goals (Bandura, 1993). There is a remarkable difference between possessing knowledge and skills and being *willing and able* to put them into effective use under real-life conditions. Personal accomplishments require not only skills but also self-beliefs of confidence to use these skills well. This implies that in order to achieve a financially secured retirement, one needs not only actual financial knowledge and skills but also the self-confidence in their own ability to use them effectively.

To establish a solid theoretical ground for the use of self-confidence in this study, a conceptual framework of behavioural change is reviewed next, showing the central role that self-efficacy plays in influencing financially-desirable behaviour.

Self-efficacy and behavioural change

Conceptually, self-efficacy is defined as the level of confidence that individuals have in their own ability to succeed at a given task, as well as to cope with various life's challenges to achieve pre-defined goals. Bandura (1993) clarified that human behaviour, which is purposeful, is motivated by forethoughts embodying outcome goals. Outcome expectations contribute to goal-setting, which is influenced by self-appraisal of capabilities. People with higher self-efficacy set goals that are more challenging and make firmer plans to commit to their goals, because they believe they are capable of achieving such goals. As if this was a self-fulfilling prophecy, these people may be more likely to "outperform" those with lower self-efficacy,[3] given the same level of skills and knowledge.

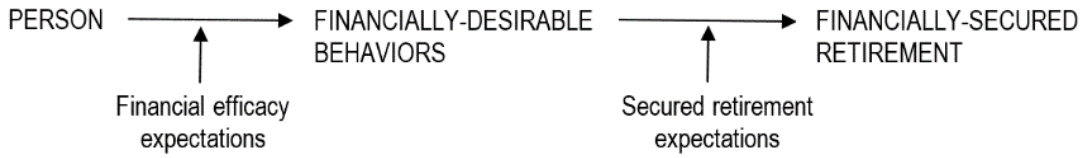
This psychological concept has important relevance to our study. Within the context of financial behaviours, positive self-perception of financial capability may encourage people toward financially desirable choices, regardless of their actual financial knowledge. Accordingly, social cognitive theory would predict that seniors and near-seniors need both financial knowledge and confidence

[2] Bandura's social cognitive theory defines one's belief in one's abilities to follow a need or desired course of actions to achieve certain outcomes as "self-efficacy". There are multiple influencing sources of self-efficacy, including mastery experiences, social modeling, and social persuasion. In contrast, self-confidence is simply one's trust on a range of resources or strengths by itself, and it could affect self-efficacy but not vice versa. Since the working definition of this study has not examined the details of the formation of the subjects' perception, "self-confidence" is the more suitable term than the precisely defined "self-efficacy". However, it should be noted that it is not possible to distinguish the two concepts in the CFCS data. Throughout the report, "self-efficacy" is used when it is specific to Bandura's theory but confidence or "self-confidence" is used when it is referring to the more loosely defined concept.

[3] Better performance could be related to the risk-taking behaviour. The theory does not draw a line on when one is not able to manage the risk.

in their own financial capability to make sound decisions, as confidence helps facilitate the application of knowledge into behaviour. Figure 1 illustrates the role that self-efficacy plays in this context.

Figure 1 Framework of behaviour change in the context of retirement preparation



Source: Adapted from Bandura's framework (1977).

This framework states that a financially secured retirement is the goal that motivates people to behave in a financially desirable way. The factors that influence their retirement preparation are *financial efficacy expectations* and *secured retirement expectations*, which make up financial self-efficacy. According to this framework, self-confidence is the causal factor that links financial knowledge with financial behaviour and decision-making. Implications from this framework also suggest that given the same level of objective knowledge, people with different degrees of self-efficacy would have different levels of retirement preparedness.

In recent years, evidence from the financial capability literature shows that the importance of self-efficacy has become more commonly acknowledged, especially on a theoretical level. The next section reviews the evolution of financial capability frameworks over time, showing that such self-reflected attributes have been treated as equally important as knowledge in influencing financial behaviour. It should be noted that some studies use the largely overlapping but distinct concept of "self-confidence" rather than the specific "self-efficacy" in their discussions. Self-confidence can be a factor of self-efficacy though the reverse is not necessarily true. Since this study constructs a measurement of self-confidence rather than self-efficacy, the discussion focuses on self-confidence even though Bandura's social cognitive theory could shed light on the interpretation of the results.

Self-confidence in financial capability frameworks

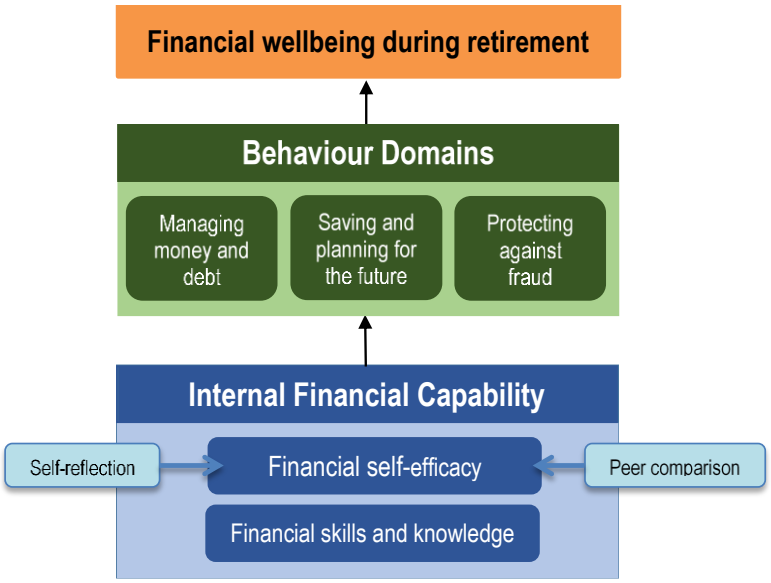
Researchers and policymakers have put more emphasis on the role that subjective attributes play in shaping financial behaviours. Although self-confidence was present in earlier versions of the financial capability framework, it was only regarded as the factor that helped people *improve* their financial capability, but was not what *defined* their financial capability (Basic Skills Agency & Financial Service Authority, 2006). Another influential framework developed by Kempson, Collard, and Moore (2006) recognized the contribution of subjective confidence in determining financially desirable behaviour, but did not specify the mechanism through which the influence is exerted.

Starting from 2010, researchers and financial educators began to focus on the way mindset interacts with actual financial knowledge to shape financial behaviours. Particularly, a framework

used in Scotland to inform financial education designs added *motivation* as the psychological factor that contributes substantially to financial capability (McQuaid & Egdell, 2010). According to this framework, motivation determines not only whether people can successfully upgrade their financial capability, but also if they become *willing and able* to apply their financial skills to their financial decision-making process. Most recently, as part of the UK Financial Capability Strategy in 2014, a framework developed by Bagwell et al. establishes a more direct link between mindset and financial self-efficacy. According to this framework, the mindset that would work with financial knowledge to facilitate desirable financial behaviour includes a sense of self-worth, the belief in one's own ability to improve or maintain their financial position, and the self-confidence to exercise one's own judgement in financial decisions. These concepts are closely related to the definition of self-efficacy used in Bandura's social cognitive theory. According to this framework, self-confidence in financial skills is equally important, if not more so, than actual financial knowledge in shaping financial capability.

Overall, the conceptual links that connect objective knowledge and self-perceived skills with behaviour are gaining more attention in the financial capability literature. The current research project adopts this direction and uses the following framework as a guideline, examining financial behavioural trends in conjunction with not only objective financial knowledge but also subjective financial confidence. Figure 2 depicts this framework.

Figure 2 Financial capability framework



Source: Adapted from Bagwell et al.'s framework (2014).

This framework indicates that in order to be financially prepared for retirement, people need not only financial knowledge and skills but also the right perception of their knowledge and skills. Objective knowledge and subjective self-efficacy interact to form internal financial capability of the

individuals. Accordingly, people with a high level of self-confidence in their financial ability are expected to have better financial outcomes than those with a low level of confidence, given the same level of knowledge. Comparing their financial outcomes with those who have a low level of confidence but a high level of knowledge has interesting implications, for both research and policy, as it may shed light on which factor is more important in determining financial wellbeing. In short, this model offers the flexibility needed to rigorously investigate the impact of any gap between perception and reality on financial behaviour and outcomes.

The next section presents the data sources as well as the methodology employed to analyze these links on an empirical level.

Data and methods

To understand the financial characteristics of seniors (aged 65 and over) and near-seniors (aged 55 to 64), the way their financial knowledge and confidence influence their money management decisions, as well as the way the financial knowledge-confidence gap in their financial skills affect these decisions, bivariate and multivariate analyses are conducted. For the empirical component of this study, the 2014 Canadian Financial Capability Survey (CFCS) is used as the data source.

Data source

Compared to all other recent population based surveys from Statistics Canada, data collected from this survey have the most relevant information for the purpose of this research project. The *Objective Personal Assessment* module from the CFCS contains ample information to derive a measure of actual financial knowledge for each respondent. The *Subjective Personal Assessment* module, which asks respondents to rate their knowledge and ability in handling various financial matters, can be used to create a scale of financial confidence.

Most importantly, the combination of these two modules allows for the construction and analysis of the relative gap between financial confidence versus financial knowledge. This is the key to understanding the role financial confidence plays in shaping financial capability and retirement preparedness of Canadian seniors and near-seniors.

Besides these measures, the CFCS also provides ample information on individuals' financial behaviour and decision-making tendencies. For example, multiple modules in the survey ask respondents about their approach to day-to-day money management and budgeting, longer-term savings and planning, as well as their choices of financial advice and products. The information collected from these survey questions is useful to construct the behavioural outcomes for the analysis. Our literature review provides support for many of these domains as best practices in personal financial management, specifically related to 1) money and debt management, 2) future planning and savings, as well as 3) protection measures, as each of these help facilitate a financially secured retirement. The derivation of these indicators is discussed in more detail in Appendix A (Table 2 to Table 4).

For this analysis, seniors and near-seniors are combined into one sample group. This is because most of the financial indicators of near-seniors are very similar to those of seniors (and distinctively less so compared to prime age adults 25 to 54 years of age), even though relatively fewer of them are retired and they may be slightly less confident in their financial knowledge than the seniors. Combining the groups of near-seniors and seniors into a single sample provides substantially better statistical power and robustness to the analysis.

Bivariate and multivariate analysis

To empirically address the research questions, bivariate and multivariate analyses are conducted. For the first three research questions on the interplay between financial knowledge, financial confidence and behaviours, the bivariate analysis reveals that financial decision-making changes

with knowledge, as well as with confidence. The way that the financial knowledge-confidence gap relates to behavioural tendencies is also explored with the bivariate analysis, which helps guide the multivariate component of the research.

Findings from the bivariate analysis suggest that some of the observed statistical patterns are caused by spurious correlations due to confounding factors. For example, there may be demographic differences among those with different types of financial knowledge-confidence gaps, and the observed behavioural differences could be a result of these demographic differences rather than from the financial knowledge-confidence gap alone. Therefore, multivariate modeling is used to control for factors of lesser interest, isolating the effects that financial knowledge and financial confidence have on financial decision-making.

The last two research questions on the roles played by financial knowledge and financial knowledge-confidence gaps on financial management and retirement preparedness are addressed through multivariate analysis. Particularly, we explore the potential links between financial knowledge and desirable financial behaviour, controlling for variations in confidence and observable individual characteristics. The influence of the financial knowledge-confidence gap is then shown for a demographically average person within each level of financial knowledge, linking relative financial confidence with behavioural trends.

In general, the empirical analysis tests any difference in an indicator between two groups with Student t-test, while variation among three or more groups is tested with the joint F-test. Statistical significance at the levels of 10 per cent, 5 per cent, and 1 per cent are denoted. Although some analysts focus only on results with a level of significance of 5 per cent or better, this research report focuses on the patterns and relations between variables. The research team treats statistical inferences as indicators of the extent of sampling errors instead of using them as decision rules with a commonly accepted arbitrary threshold.[4]

Before presenting these results, we first examine the way indicators of financial knowledge, financial confidence, and financial behavioural trends are constructed in the CFCS dataset. The next section presents the results of these descriptive analyses.

[4] Exploratory analyses, such as this project, are not testing a definite hypothesis, and understanding the extent of sampling errors is more important than making a strong statement on various indicators. Indeed, for definite hypothesis testing with a large number of indicators under the same hypothesis, the proper methodology would correct for the issue of multiple testing (5 per cent of indicators will show up statistical significant at the 5% level even when there is zero difference).

Measuring financial knowledge and financial confidence

The CFCS offers two distinct ways to measure financial knowledge: 1) the objective assessment module reveals how much respondents know about basic financial concepts, while 2) the subjective assessment module indicates how capable and knowledgeable they think they are in terms of personal financial management. For each respondent, an objective score is derived by summing up the total number of correct answers he or she gets on the *Objective personal assessment* (OA) module. This score ranges from 0 to 14 for each individual. Only respondents who answered all 14 questions are included in the analysis.[5]

The subjective score is derived based on their answers to the first five questions in the *Subjective personal assessment* (SA) module. For each of these questions, scores ranging from 1 to 4 are assigned, with the highest score given to respondents who rate themselves as being "very knowledgeable" or "very good" at personal financial matters. By this logic, respondents who receive a high score in total are more likely to think positively about their financial skills and knowledge. This score ranges from 5 to 20 for each individual. Only individuals who answered all five questions are included in this analysis, so the least confident individuals would receive the lowest subjective score of 5.[6]

Previous studies provide evidence for the validity of the objective assessment score. However, without a careful assessment of the scale's psychometric properties and linkage to specific competency, it is premature to establish an absolute "passing" threshold. Rather, the ranking of an individual in the Canadian population based on the total number of correct answers approximately places the person in categories corresponding to their relative level of financial knowledge.

Similarly, there is no established interpretation of the absolute subjective assessment score thresholds. The ranking of each respondent's subjective score against the entire population gives an indication of how positively or negatively they see their own financial capability relative to the rest of the population. This interpretation is key in the development of an indicator of financial knowledge-confidence gap, which will be elaborated on further after the objective and subjective score distributions are presented.

5 A very small percentage of respondents answered "Don't Know" to some of the 14 questions of objective financial knowledge assessment. These cases were scored as 0 for the item. Therefore, the proportion of respondents with a score of 0 is slightly higher in this study than in studies excluding these respondents. Since the empirical analysis of this study relies on the quartile rankings rather than the exact absolute scores, scoring "Don't Know" answers as zero does not substantially affect the estimates.

6 For simplicity, the 5-item scale used in this study is only the simple sum of the item scores. Given the factor structure of the subjective assessment items and the reliance of quartile ranking, this study's results are not substantially affected if a weighted scale of the 5 items based on the factor loading is used.

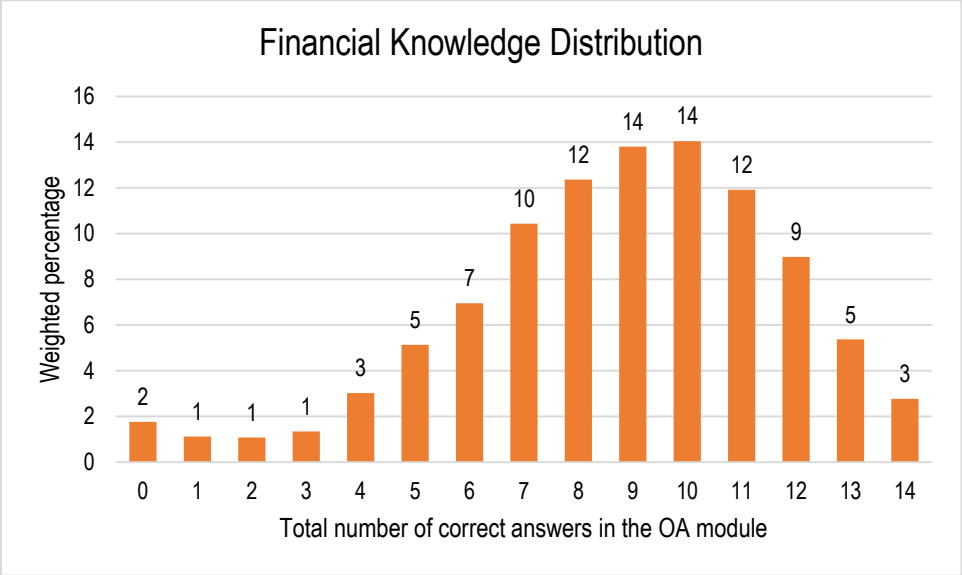
Distribution of financial knowledge and confidence scores

Figure 3 shows the financial knowledge score distribution of the population. According to this distribution, the average Canadian adult would answer 9 out of 14 questions correctly when asked about basic financial knowledge.

Figure 4 shows the population distribution of financial confidence. It indicates that the majority of Canadian adults think positively about their own financial knowledge and skills, as the distribution is skewed toward the higher end, with 54 per cent of the population receiving a score higher than 14 on this module.

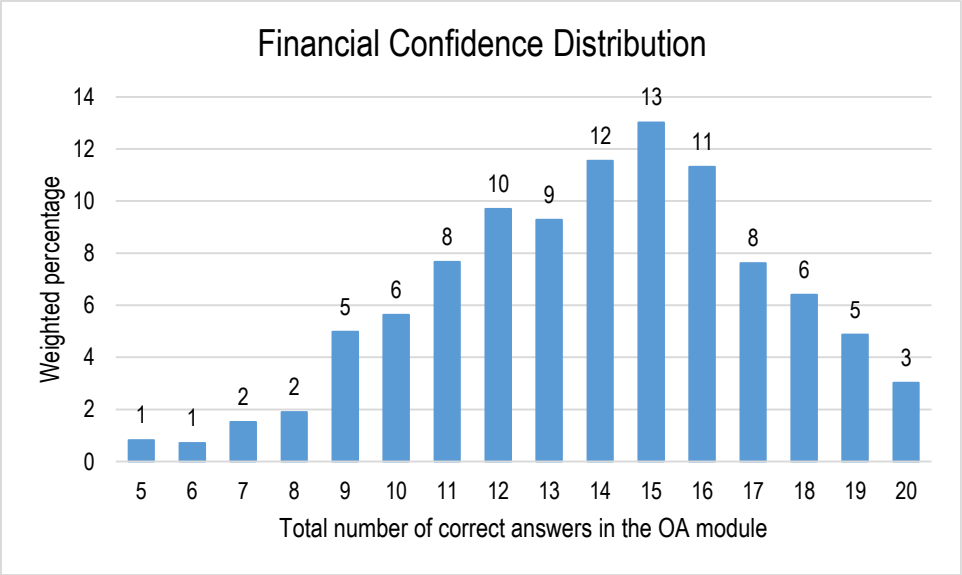
Examining how these two assessment modules are distributed in the adult population is important, since it helps to construct a financial knowledge-confidence gap indicator for subsequent analyses.[7]

Figure 3 Weighted distribution of financial knowledge scores — Adults aged 25 and over



[7] A crucial requirement of the construction of the subjective-objective gap indicator should reflect the increasing financial knowledge-confidence gap finding of FCAC (2014b). As a result, it is important to examine the two modules' distribution across the whole adult population.

Figure 4 Weighted distribution of financial confidence scores – Adults aged 25 and over



Operationalizing the financial knowledge-confidence gap in the data

Before the construction of a financial knowledge-confidence gap indicator is discussed, the rationale behind this concept is reviewed. In an ideal world of perfect information, a person would know perfectly his or her level of financial knowledge, relative to other people in the population. Rationally, the person would also develop confidence according to the reality of their actual financial knowledge. If there are perfect continuous scores of objective assessment and subjective self-assessment of a person's financial competency, the assessment score rankings of a person in the population would also be the same in a world of perfect information.

In reality, people can form all sorts of beliefs in their competency that may not correspond to their actual knowledge. For example, a person may be completely confident in his or her competency (i.e., at the 100th percentile) but only have a median level of financial knowledge (i.e., at the 50th percentile). In this case, the higher ranking of the subjective assessment score compared to the objective assessment score (a positive gap) would capture this person's *highly-confident* attitude toward his or her own financial knowledge.

Since assessments cannot avoid measurement errors, there are always some respondents who will mistakenly rate their knowledge better or worse than their objectively assessed knowledge ranking in the population, even though their actual self-perception does not realistically reflect this attitude. Therefore, it is reasonable to group people by their assessments into categories such that arbitrary misalignments arising from measurement errors are not treated as meaningful. Obtaining a financial knowledge assessment category and a financial confidence assessment category for each respondent is the crucial first step toward deriving an indicator for his or her financial knowledge-confidence gap.

First of all, the means and quartile thresholds (i.e., cut-offs for the 25th, 50th, and 75th percentiles) of the financial knowledge scores are estimated for all adults. Similarly, the means and quartile thresholds of the financial confidence scale are also estimated. Each individual score is then compared to the corresponding group thresholds.

Not only are these quartile placements useful in understanding how each individual fares compared to their peers in terms of financial knowledge and financial confidence separately, they are also indicative of how much they know compared to how confident they are in the realm of personal finance. Each respondent's quartile placement of these two scores is examined to determine the extent to which decision-making is influenced by subjective mindset and attitude, via this indicator of financial knowledge-confidence gap.

To elaborate, the assumption is that those who are realistic about their financial confidence are supposed to be in a quartile that is closely linked with their financial knowledge results. These individuals are likely to have the realistic degree of self-confidence in their financial capability, experiencing no substantial gap between their knowledge and confidence. This group is labelled as *"just-confident"*.

By contrast, differences in the quartile placements of knowledge and confidence scores would suggest that a financial knowledge-confidence gap exists. For example, the individuals may have substantial knowledge of basic finance but think that they are only moderately capable of handling their money matters. These individuals may answer a lot of questions correctly when asked about knowledge, but rate themselves more poorly than the rest of their peers when asked to reflect on their financial confidence. These individuals are likely to be placed in a knowledge score quartile that is above their own confidence score quartile. This type of mismatch between the two quartile placements suggests that these individuals are *"under-confident"* in their financial capability.

Conversely, individuals may have little knowledge of basic finance but still think highly of their ability to effectively manage their money matters. These individuals are likely to rate themselves highly when asked about their financial confidence, but do not get a lot of questions right when objectively assessed. This mismatch in perception and reality suggests that they think too positively about their financial confidence. This tendency would be captured by the fact that they get placed in a quartile of financial knowledge score that is lower than their financial confidence score quartile. These individuals are *"highly confident"* in their financial capability.[8]

In short, a financial knowledge-confidence gap indicator for each individual is constructed by matching their quartile placements in the objective and subjective assessments. Table 1 reiterates this categorization of the financial knowledge-confidence gap.

[8] It should be noted that the "highly confident" label refers to the **relative** confidence one has as compared to the result of the objective assessment. It does not refer to an absolute level of confidence. The authors have considered different sets of labels but there are no simple ones that precisely reflect the working definitions of subjective-objective assessment gaps for this study.

Table 1 Characterizing the gap between financial knowledge and confidence assessments

Financial confidence assessment score quartile	Financial knowledge assessment score quartile: First	Second	Third	Top
Top	Highly confident	Highly confident	Highly confident	Just confident
Third	Highly confident	Highly confident	Just confident	Under confident
Second	Highly confident	Just confident	Under confident	Under confident
First	Just confident	Under confident	Under confident	Under confident

The financial knowledge-confidence gap indicator may offer a close look into the individual's financial confidence, while the financial knowledge assessment score quartile gives some information about their actual financial knowledge. Before analyzing how characteristics and behaviour differ by financial knowledge and the assessment gap, it is important to understand whether the two assessments are comparable in content. The next subsection evaluates the alignment of the content between the two assessments and the results generally support the working definition. That said, after careful examination of the patterns of financial behaviour, it is found that the working definition may not perfectly reflect a relevant "financial knowledge-confidence" gap. It is possible that a high score in the objective assessment of the CFCS is more of an indication about general cognitive ability, rather than specific knowledge necessary for the financial management of seniors and near-seniors. This point will be elaborated in subsequent sections of the report.

Linkages and ranking power of knowledge and confidence assessments

Usually, a well-constructed assessment scale consists of a list of question items whose individual score distinguishes those above and those below a corresponding point on the scale. For example, if a person scores 55 in a 100-item scale, the person probably answers the 55 easiest questions correctly, but not any item that is judged to be harder (levels of difficulty may be inferred from the proportion of the population getting the item correct–higher proportion tends to be associated with easier questions). The order of items from the easiest to the most difficult reveals the competency structure of the assessment. If people in the population are classified into different competency groups, each group will have a particular item distinguishing their competencies from the group below or above. If there are two different assessments of the same domain, comparison of the assessments' competency structures and their alignment of scores would demonstrate the linkages of the two domains. Since the project's interest is in the effects of the financial knowledge-confidence gaps, some form of approximate linkages (which may not be perfect) between the two assessments is needed.

An examination of how respondents score in each of the assessments shows that generally, high score respondents distinguish themselves in certain items related to both assessments. The ranking power as well as the quartile alignment are depicted in Appendix B. There are some minor quartile misalignments of skills between the two assessments. Nevertheless, the mapping demonstrates an approximate linkage in the content of the questions.

In general, most people (of the second, third, and top quartiles) have the basic skills of making ends meet and handling daily tasks of personal finance. The first 7 items of the objective assessment are mostly in the area of "making ends meet" and "keeping track of money", while the difficult items such as comprehension of a credit report is more in line with "staying informed on financial issues".

The mapping also indicates that the objective assessment module may not distinguish people with different levels of knowledge evenly along the scale from 0 to 14, since half of the questions (7 out of 14) were answered correctly by most people. Indeed, even those in the lowest knowledge quartile were able to answer many of the easiest 7 questions. At the top half of the population, the difference between "best" and "good" may hinge on the answer to a single question. As a result, any difference between the objective and subjective assessments may also reflect the vast differences of weights (and potentially uneven measurement errors) between advanced and basic financial knowledge found in the two assessments. Nevertheless, the objective assessment module has been used in many studies and it has been shown to reveal valuable and useful information for the population, even though it may not align perfectly with the subjective assessment.

Empirical analysis of financial knowledge and financial confidence is only meaningful if the content nature of the financial knowledge-confidence gap indicator is understood. The multivariate analysis uses both the financial knowledge-confidence gap indicator and the knowledge indicator to explore how Canadian seniors and near-seniors' financial capability is shaped. The results of both the bivariate and multivariate analyses are presented in the next section.

Results of the empirical analysis

Bivariate analysis

Financial knowledge and financial behaviour

The first part of the bivariate analysis examines how various indicators of financial behaviour vary across the four quartiles of financial knowledge (Table 6 to Table 11 of Appendix C). The bivariate results confirm that financial knowledge matters for financial decision-making. Regardless of their age, people with a higher level of financial knowledge tend to do well in terms of day-to-day money management. For instance, they are more likely to have a household budget, and usually or always stay within their budget. They tend to check their bank balances as frequently as weekly or daily, and they are generally more capable of keeping up with their bills and financial commitments compared to those with lower levels of financial knowledge.

High financial knowledge is also associated with better tendency to plan and save for the future. Both prime-age adults as well as seniors and near-seniors who score in the top two quartiles of the knowledge assessment are likely to hold multiple types of assets and savings. These are well-insured individuals who tend to shop around for the best insurance products. If an unexpected expense as large as $5,000 comes up, they are more likely to be able to pay for it than those with low financial knowledge. They seem to be thinking ahead toward their retirement years, as they tend to have a good idea how much they need to save to maintain the desired standard of living during retirement. They are also confident that their household income will provide the retirement living standard they expect.

It is not surprising that these individuals are well-equipped to protect themselves. People with high levels of financial knowledge tend to keep themselves informed on financial trends through multiple sources. They are likely to consult a professional advisor when they choose financial products. They also tend to be well-prepared for old age, having a will and power of attorney arranged for their household.

Financial confidence and financial behaviour

The second part of the bivariate analysis examines how various financial behavioural indicators vary with the quartiles of financial confidence (Table 12 to Table 17 in Appendix D). We found evidence that a positive self-perception is associated with better financial management. Across all age groups, individuals with this positive view are likely to hold no debt other than mortgages or student loans. Similar to the results seen with the financial knowledge scores, people with a high confidence score also show good budgeting habits. They check their bank balances frequently, and are never behind on bill payments.

Self-perception is related with good practices in future planning and savings as well. Regardless of their age, people who have high financial confidence are likely to have multiple assets and savings. They are more likely to have received investment income in the last 12 months. They tend to be in a good position to mitigate risks, owning more than one insurance product. They are also well-

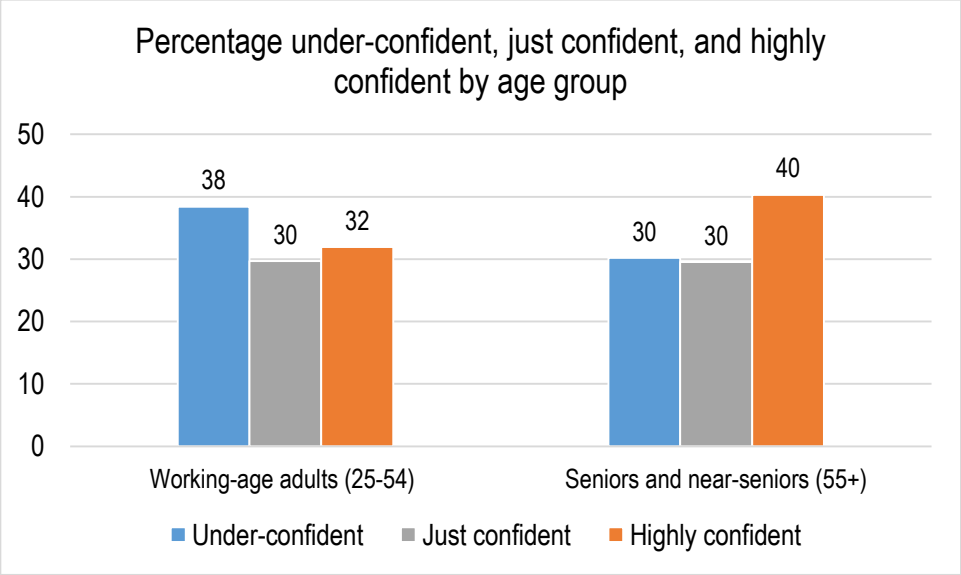
prepared to pay for unexpected expenses. Not surprisingly, these people are confident about their retirement, and they generally have a good idea how much is needed to maintain their desired living standard in retirement.

Their positive self-perception is also associated with a good ability to protect themselves. They not only stay informed on financial trends and news, but also tend to prepare themselves with basic old-age necessities, such as a will or arrangement for power of attorney.

Financial knowledge-confidence gap and demographic characteristics

When individuals are classified according to the differences between knowledge and confidence, we found that the financial knowledge-confidence gaps are associated with certain demographic characteristics. For example, seniors (65+) and near seniors (55-64) are more likely to be highly confident, while prime-age (25-64) adults tend to be under-confident. This pattern is depicted in Figure 5, where the blue bars represent the results for the group with "under-confident", the grey bars for "just-confident" and the orange bars for "highly confident" compared to objective assessment results.[9]

Figure 5 Financial knowledge-confidence gap by age

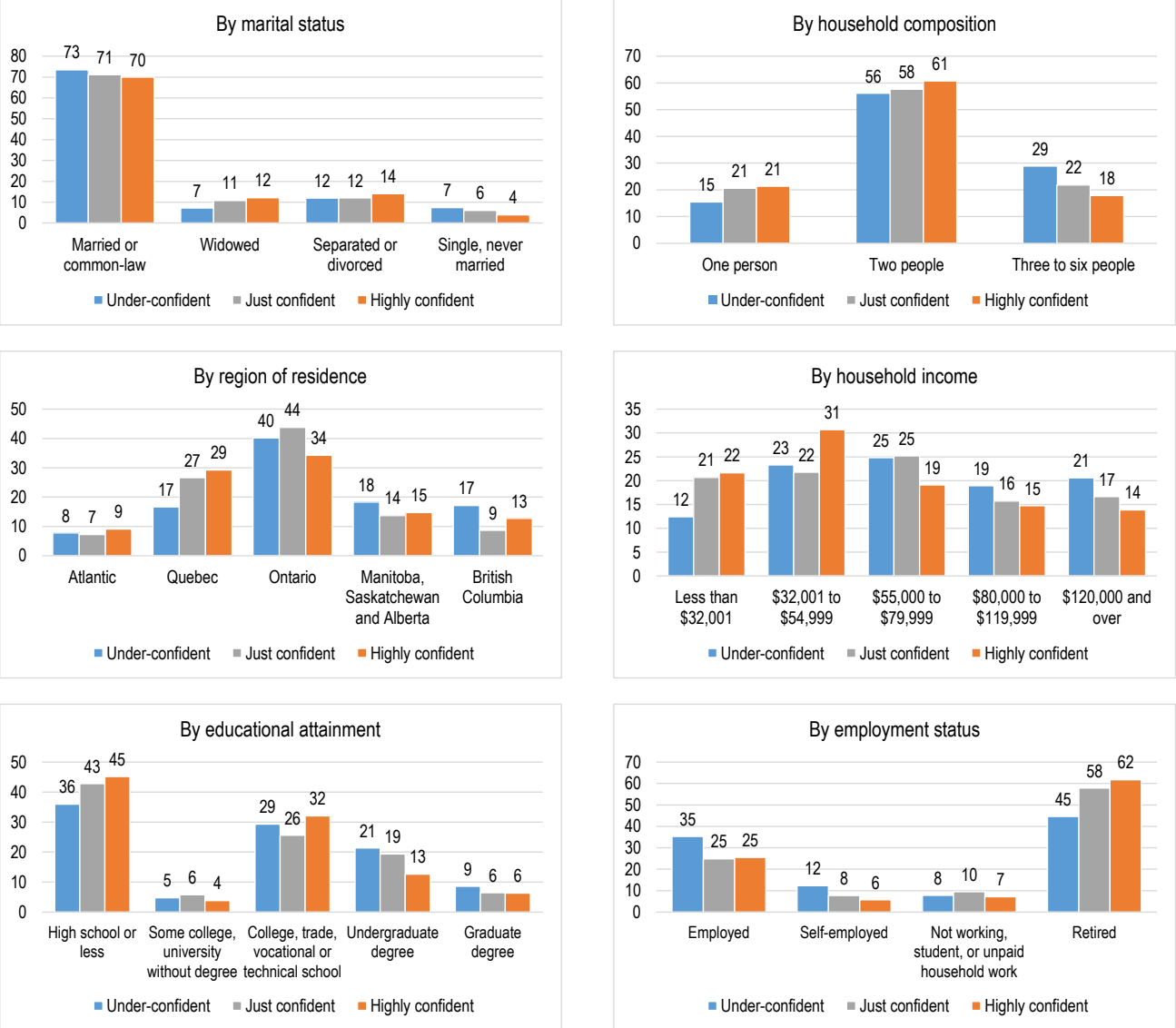


Note: All calculations are weighted by population weights provided by Statistics Canada. The differences are statistically significant at 1% level.

[9] A person is classified as highly confident if the ranking (quartile) of self-confidence in financial matters is higher than that of the objectively assessed financial knowledge. A person with a lower ranking (quartile) of self-confidence than that of the financial knowledge is classified as under-confident. Those with equal ranking are labelled as just-confident. Please refer to Table 1 and the section on "Measuring financial knowledge" for the detailed definitions.

Figure 6 provides an overview of the demographic characteristics associated with either financial under-confidence or over-confidence among seniors and near-seniors. Although some small demographic variations are detected, no single characteristic emerges as the dominating factor that can strongly predict the tendency to be under-confident or highly confident.

Figure 6 Subjective-objective gap by demographic characteristics – seniors and near-seniors (%)



Note: Immigration status is also found to be significantly related to variations in the subjective-objective gap. However, because this variable is dichotomized in such a way that 80% of the population falls under one category, the graphical representation of the relationship is not very informative. Therefore, the percentage breakdowns of each category with respect to immigration status are presented in table form in Appendix E.

The demographic factors that characterize the assessment gaps of seniors and near-seniors may not always be the same as those for prime-age adults. In particular, highly confident prime-age adults tend to earn a higher household income. Unlike seniors and near-seniors, prime-age adults who are under-confident tend to live in a small households. These differences in bivariate patterns between age groups could be related to the different stages of life as well as life expectations. Appendix E provides the full results of both age groups. We would like to point out that it is beyond the scope of this study to examine why and how various factors of financial knowledge-confidence gaps differ by age groups, since the interactions between life stages, social class, life expectations, and self-confidence are very complicated, and the variables required carefully constructed instruments to truly identify the underlying relations. Some of these psychosocial factors are explored in the related study by Palameta et al. (2016, forthcoming).

Financial knowledge-confidence gap and financial behaviour

Bivariate analysis also reveals that there is a link between the financial knowledge-confidence gap and financial behavioural tendencies (see tables in Appendix F). In terms of day-to-day money management, ***highly confident*** seniors and near-seniors are likely to have never requested any credit report, which may either be a cause or an effect of their confidence. They are also likely to have a household budget, and usually or always stay within their budget. They tend to be able to pay all bills on time and keep up with all financial commitments without any problem. In contrast, ***under-confident*** seniors and near-seniors tend to have requested a credit report and have not usually used a household budget.[10] They also tend to have a harder time keeping up with their financial commitments, being behind on at least one payment in the last 12 months.

In terms of saving and planning for the future, the ***highly confident*** seniors and near-seniors are more likely to have multiple types of assets, and to have more than one insurance product. The majority of the highly confident seniors and near-seniors who have not yet retired state that they are very confident in their ability to meet their expected standard of living during retirement. In contrast, ***under-confident*** individuals tend to state that they are only fairly confident or even not at all confident that they have the financial means to keep their standard of living up to their expectation. The under-confident individuals who have not retired tend to expect having at least three income sources during their retirement. These seniors are likely to hold at least four insurance products, and have two to three types of assets.

The links between financially desirable behaviour and self-confidence in financial knowledge are also observed among the prime-age adults. Appendix F reports the results of both age groups in more detail.

Box 2 summarizes the implications of the bivariate analysis.

[10] "People who do not usually use a household budget" includes those who do not have a budget and those who have a budget but never or rarely stay within it.

Box 2 Implications of the bivariate analysis

- Demographic characteristics such as age, education and household income level may explain partly the variations in the subjective-objective assessment gap as well as the financial behaviour of all age groups. The patterns suggest that objective financial knowledge and subjective financial confidence are affected by demographic characteristics as well as stage of life. Therefore, in order to isolate the partial correlations (or marginal effect) that knowledge and confidence have with financial behaviour and outcomes, multivariate modelling is needed to control for these variations.
- Understanding the demographic profile of those who are highly confident and under-confident in their financial capability can help pinpoint the sub-populations that require further attention. This can be used to tailor intervention program design to meet the specific needs of the targeted groups of interest.
- Objective financial knowledge and self-perceived financial knowledge are both important, as they are both related to financial choice and decision-making. This provides further support that financial education programs need to target both actual knowledge and subjective self-reflection in order to sufficiently address the issues of financial capability.

Because of this intricate link among objective financial knowledge, subjective financial assessment, and behavioural tendencies, the multivariate analysis zeros in on the effect that self-confidence has within each level of knowledge. Particularly, the behaviour of those who are highly confident, just-confident, and under-confident within each objective knowledge quartile is examined. The next section presents the statistical procedures used in the multivariate analysis, as well as the results.

Multivariate analysis

Regression-adjusted least-squared means

Guided by the results of the bivariate analysis, ***regression analysis*** is used to control for potential confounding factors. In particular, age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets are included as covariates, in addition to including the financial knowledge and subjective-objective gap indicators on the right hand side of the equation. The behavioural indicators are used as the left-hand side variable.

With the estimated regression coefficients of the covariates, it is possible to "simulate" the counterfactual level of any behavioural indicator if a person possessed the average characteristics of the sample.[11] The counterfactual levels can be used to calculate the regression adjusted least-

[11] Regression adjustment is the process of eliminating the variation of the dependent variable of an individual observation due to the differences of some independent variables between the individual observation and the sample means of the independent variables. i.e., $\widetilde{Y}_i = Y_i - (X_i - \bar{X})b$, where $E(\widetilde{Y}_i) = Y_i X = \bar{X}$.

squared means of the behavioural indicator, which is free of any variation that may arise due to differences in confounding covariates.

To assess how well seniors and near-seniors handle their personal finances, outcome indicators within the domains of 1) managing money and debt, 2) planning and saving for the future, and 3) best practices and protection measures are used. *Adjusted least-squared means* at various financial knowledge and confidence levels are calculated for each behavioural indicator at the average levels of controlled variables, ruling out any variation in behaviour that may arise due to differences in demographics or stage of life. The resulting variation in behaviours could therefore be attributed to financial knowledge, confidence, as well as their interaction alone, without being confounded by differences in these observable individual characteristics.[12]

These multivariate findings are presented next. The analysis looks at how behaviours change as knowledge increases. It then shows the variations caused by different levels of financial self-confidence within each knowledge quartile. This highlights not only the main effect of knowledge, but also the interactive effect that knowledge and confidence have on financial decision-making.

Multivariate results

The extent to which behavioural outcome indicators vary as financial knowledge and self-confidence change provides a deeper understanding of their interconnected relationship. Particularly, *highly confident* and *under-confident* seniors and near-seniors are juxtaposed with the *just-confident*, comparing their habits in money and debt management, future planning and savings, and protection measures.

For each domain, key indicators are graphed to show the way financial behaviours change across objective knowledge quartiles. Within each knowledge quartile, the blue bar represents the under-confident individuals, the grey bar shows the just-confident individuals, and the orange bar depicts the results of the highly confident individuals. These graphs are presented and discussed in detail in subsequent sections. Box 3 describes the general layout of the graphs to make it easier to follow and interpret the results.

[12] Since a regression is conducted for each categorical and numeric indicator, there are too many regression results for publication. The authors can provide the estimated coefficients and standard errors upon request.

Box 3 Graph layout

By construction of the subjective-objective gap, respondents in the lowest knowledge quartile cannot be under-confident, as the lowest confidence quartile they can get placed into is also the first quartile. Similarly, respondents in the fourth knowledge quartile cannot be highly confident.

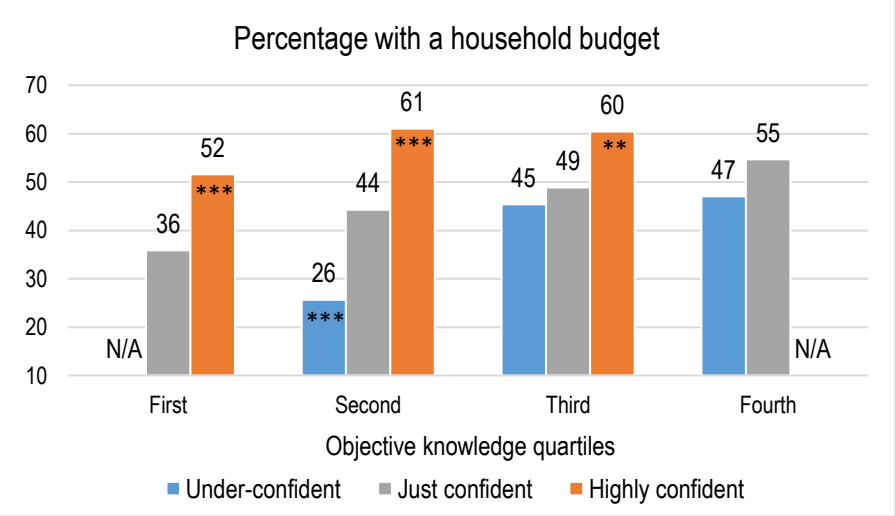
Within each knowledge quartile, the behaviour of those with under-confidence is compared against those just-confident. The stars right above the under-confident group (blue bar) in each knowledge quartile denote the level of statistical significance if any difference is detected. Level of significance of 10% is denoted with *, 5% with **, and 1% with ***. Results of the highly confident individuals are presented in the same way.

Full tables of multivariate results are included in Appendix G. Key findings are highlighted next.

Money and debt management

Figure 7 and Figure 8 summarize the results regarding budgeting behaviour of seniors and near-seniors. As shown in Figure 7, highly confident seniors and near-seniors are consistently more likely to have a budget than the just-confident, across all levels of knowledge. Having a budget tends to become more common as knowledge increases, regardless of confidence.

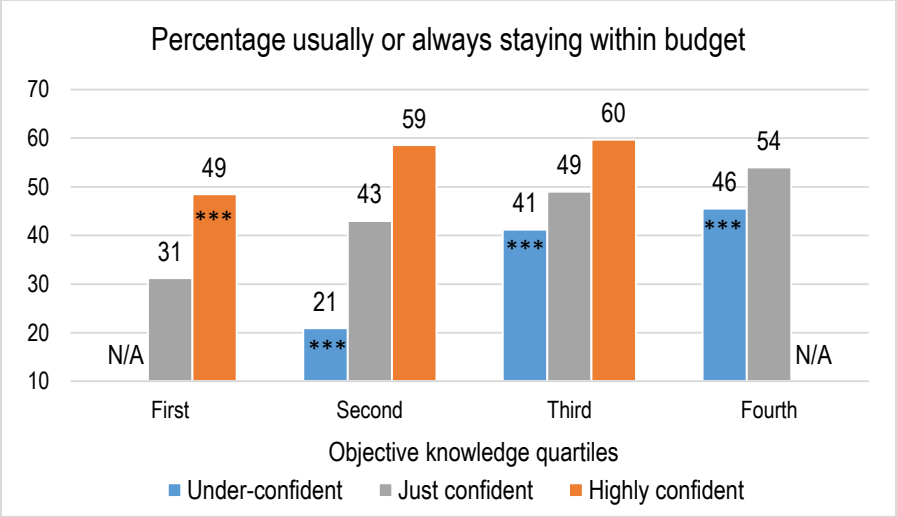
Figure 7 Have a budget



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

In addition to having a budget, highly confident individuals are also more likely to always or usually stay within their budget rather than not adhering to their budget, as demonstrated in Figure 8. The ability to stay within budget reflects the same pattern of having a budget that generally increases with knowledge. Since most people who have a budget stay within a budget, it is likely to be more important to promote budget use rather than to promote adherence to a budget.

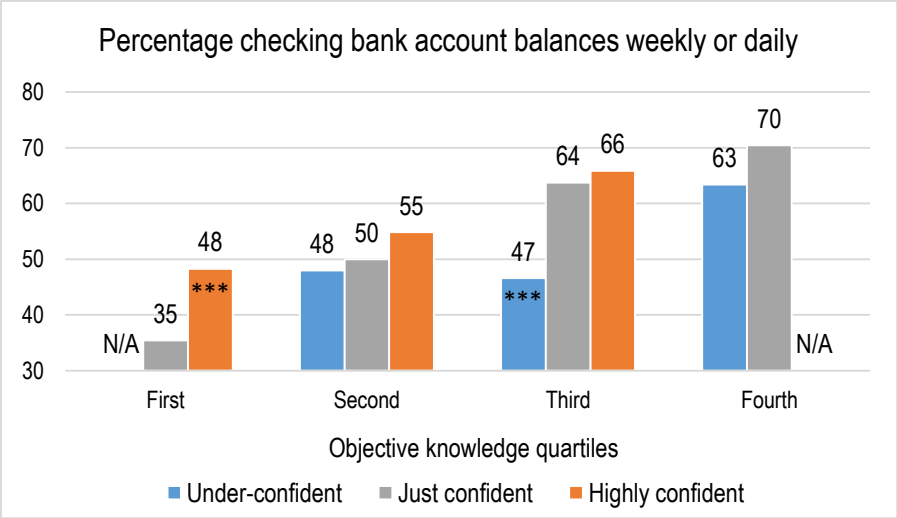
Figure 8 Stay within budget among all respondents



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01). The percentage figures are calculated based on all respondents regardless of whether they have a household budget. As a result, these percentages are different from published figures from CFCS that are conditional on those who have a household budget.

Similarly, there may be a link between confidence and good habits in checking bank balances. Among those with the ***lowest level of knowledge***, ***highly confident*** seniors and near-seniors are more likely than the just-confident group to check their balances weekly or daily. This trend is shown in Figure 9. Again, the general trend indicates a positive relation between knowledge and the good habit of checking bank balances frequently.

Figure 9 Frequency of checking bank balance

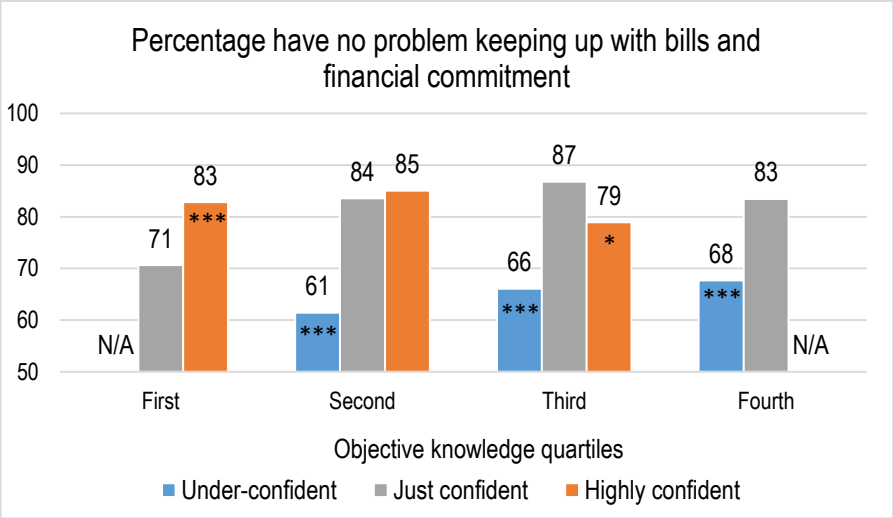


Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

Regarding bill payment, confidence may also be a compensating factor that makes up for the lack of knowledge. Figure 10 shows that despite low levels of knowledge, seniors and near-seniors who are ***highly confident*** in the ***first two knowledge quartiles*** are just as capable at keeping up with their bills as those in the higher knowledge quartile.

However, moving up the knowledge ranking to the ***third quartile***, ***highly confident*** seniors and near-seniors are less likely to keep up with their financial commitments without a problem, compared to their just-confident counterparts. On the other side of the knowledge-confidence gap, under-confident individuals are consistently worse off in this regard. In summary, we found that the effects of relatively high confidence on keeping up with bills and financial commitment differ by knowledge level, while the effects of under confidence stay negative regardless of the knowledge level.

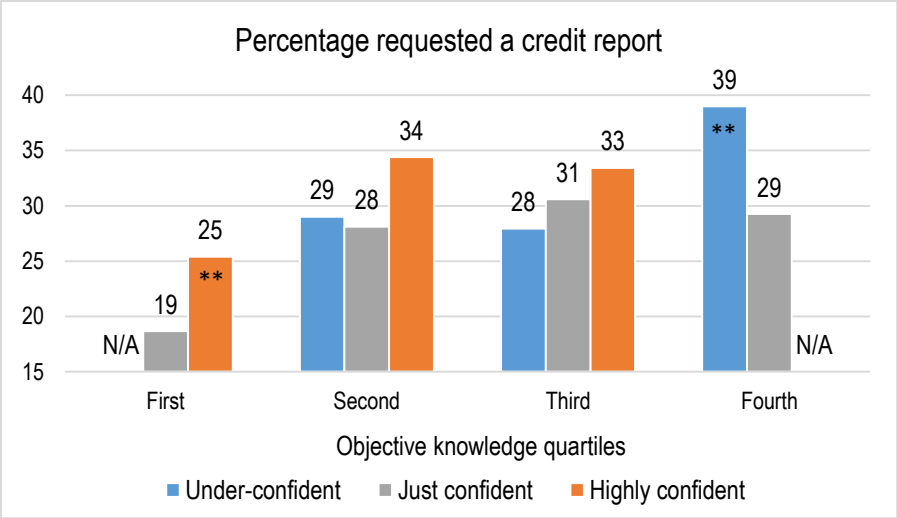
Figure 10 Ability to keep up with bills and financial commitment



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

As shown in Figure 11, the highly confident seniors and near-seniors are more likely to have requested a credit report, even if their knowledge scores are in the lowest quartile. Among those in the top quartile of financial knowledge, under-confident seniors and near-seniors are also more likely to check their credit report compared to those with no subjective-objective gap. The interesting pattern suggests that requesting a credit report, confidence, and knowledge are likely to be all endogenous. At the bottom end of financial knowledge, confidence in financial capability may reflect the proper know-how, while at the top end the confidence may reflect the lack of borrowing needs.

Figure 11 Request a credit report

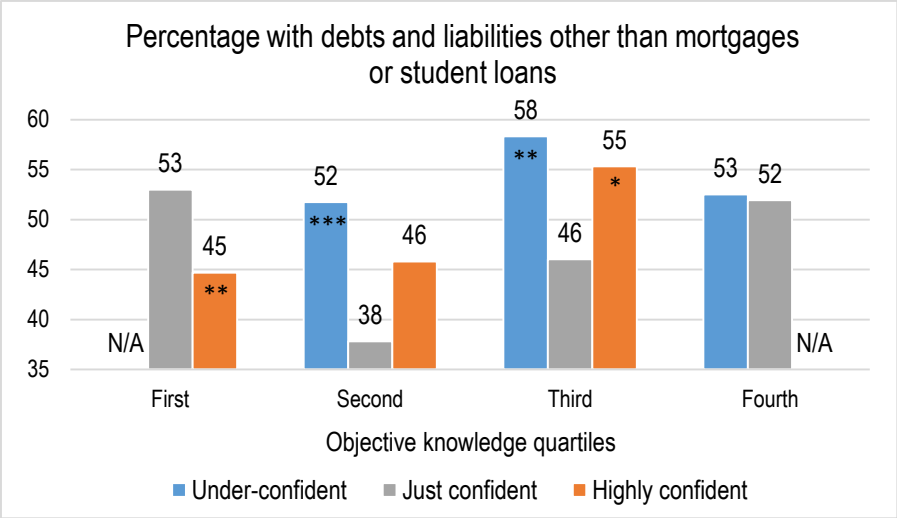


Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

Figure 12 summarizes the results regarding debt usage of seniors and near-seniors. For debts other than mortgages or student loans, confidence may actually be a compensating factor that makes up for the lack of knowledge, as the ***highly confident*** respondents in the ***lowest*** knowledge quartile are less likely to take on debt compared to the just-confident in the same knowledge level. Nevertheless, as knowledge increases, overconfidence seems to also be associated with questionable debt history. In particular, ***highly confident*** seniors and near-seniors in the ***third knowledge quartile*** are significantly more likely to take on debt than their just-confident counterparts. In other words, the effects of confidence on taking on debts other than mortgages or student loans differ by knowledge level.

Regarding those with under-confidence, the evidence indicates that they are significantly more likely to have debts and liabilities other than mortgages and student loans than the just-confident, across all knowledge quartiles. The results suggest that debt burden may reduce one's self confidence in their financial skills.

Figure 12 Debt other than mortgages or student loans



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

Overall, the desirable behaviours of money and debt management generally increase with financial knowledge. Financial confidence and actual financial behaviours also go hand in hand.

Comparing with the seniors and near-seniors without a knowledge-confidence gap, the ***highly confident*** are generally doing better, even after controlling for individual characteristics, household characteristics and stage of life. On the other hand, the ***under-confident*** seniors and near-seniors tend to be the most vulnerable group, as they are more likely to be susceptible to poor decision-making and undesirable financial outcomes in terms of money and debt management.

Although higher relative confidence among those with the lowest quartile of financial knowledge seem to do better in major aspects of money management, there are signs that they are also most likely to use high-cost credit services. As shown in Table 26 of the Appendix G, there are 6.7 per cent, 5.8 per cent and 5.4 per cent who report having used a pawnbroker, pay day loan service, and non-bank cheque-cashing service, respectively, among the highly confident seniors and near-seniors with the lowest level of knowledge. Of similar concern are those with no gap in the lowest quartile of financial knowledge, and those who are under-confident in the second quartile of financial knowledge.

Box 4 highlights the policy implications inferred from these findings.

Box 4 Policy implications – Money and debt management

Programs often only focus on individuals' lack of financial knowledge. The patterns of daily money management and debt management among seniors and near-seniors suggest that interventions and programs need to also take differing levels of confidence into account. For example, the patterns of money and debt management behaviour across various financial confidence and financial knowledge levels have a number of possible implications for the targeting and design of effective programming in the following areas:

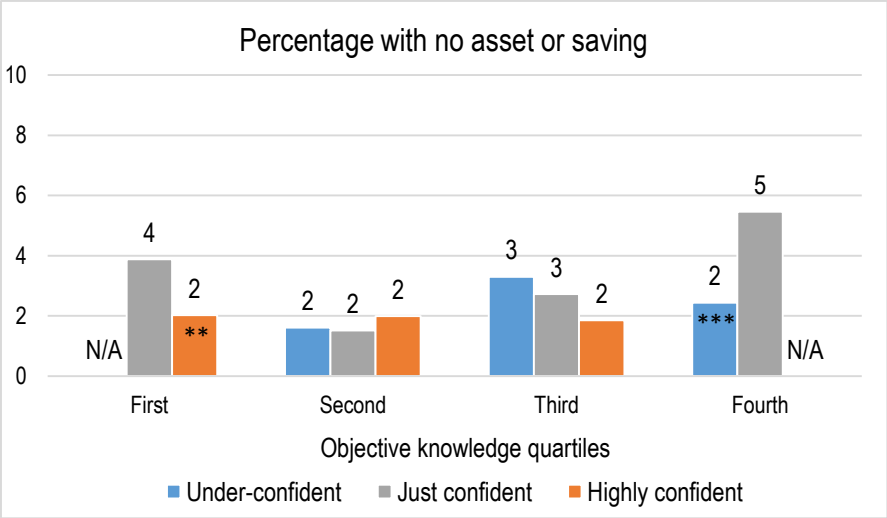
- In terms of enhancing daily money management abilities, which includes good habits in budgeting, checking bank account balance, and keeping up with bills and financial commitments, targeting low confident seniors and near-seniors (i.e., all under-confident groups and the just-confident group within the lowest level of financial knowledge) may be more cost-effective than a general program targeting all seniors and near-seniors.
- In terms of increasing capacity for effective debt management, almost all confidence and knowledge levels could benefit from educational programs or supports that encourage avoidance of debt. Even over-confident seniors and near-seniors at the higher quartiles of financial knowledge may benefit from educational programs to improve their handling of debt, given higher levels of non-mortgage debt compared to their just-confident counterparts.
- In terms of decreasing usage of high-cost credit services, those with the lowest level of financial knowledge and those who have low financial confidence could particularly use education about the costs of various credit services. Once again, even those over-confident groups with higher levels of financial knowledge appear to take on high-cost credit at relatively high rates. However, segmenting programs and promotional activities may be needed to encourage take-up among low vs. high confidence groups, given differences in their underlying motivations and the degree of awareness of their own needs.

Future planning and savings

Consistent with earlier results, findings from the domain of future planning and saving also indicate that the highly confident groups may be doing better than the just-confident at the low end of objective financial knowledge. Figure 13 demonstrates that in terms of assets and savings, the ***highly confident*** seniors and near-seniors with the ***lowest level of knowledge*** are significantly less likely to have no assets or savings in their holding.[13] Interestingly, the under-confident at the top knowledge quartile are doing just as well: they are also less likely to have no asset or saving than the just-confident, given the same high level of knowledge. In general, the percentage with no asset or saving is very small among seniors and near-seniors, and the variations across knowledge level and confidence are also materially small.

[13] The proportion of people with no assets or savings is small, as a result the standard errors associated with the statistics of this indicator are also small.

Figure 13 Assets and savings

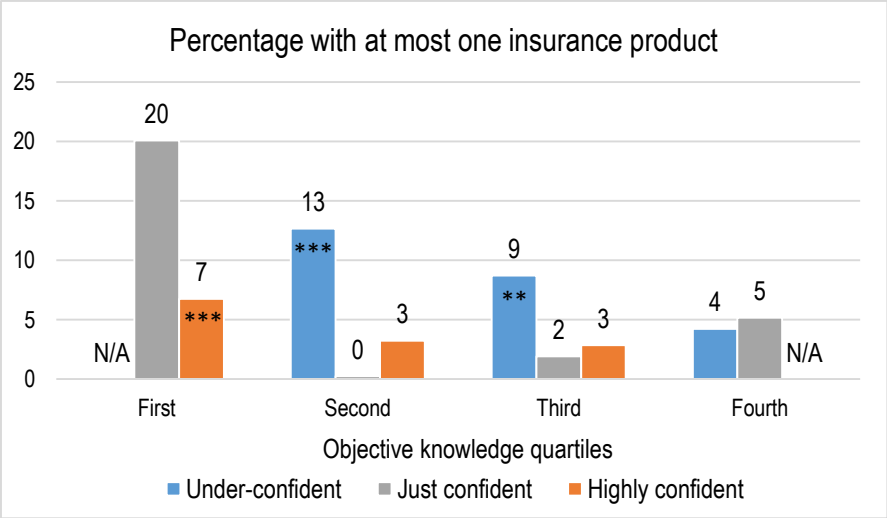


Notes: (1) These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

(2) While the percentage at the top of each bar contains rounding errors, the heights of the bars reflect the unrounded estimated values. Therefore, some of the bars vary in height even when their rounded percentage values appear to be equal.

In choosing insurance products, the ***highly confident*** seniors and near-seniors with the ***lowest level of knowledge*** are less likely to have only one insurance policy compared to the just-confident group. This is illustrated in Figure 14. In contrast, the under-confident are not doing well, as they tend to equip themselves with at most one insurance policy only, across all knowledge quartiles. That said, the tendency to hold no more than one insurance product is likely to decrease as knowledge increases. The pattern suggests that low knowledge or low confidence may be detrimental to getting coverage of insurance.

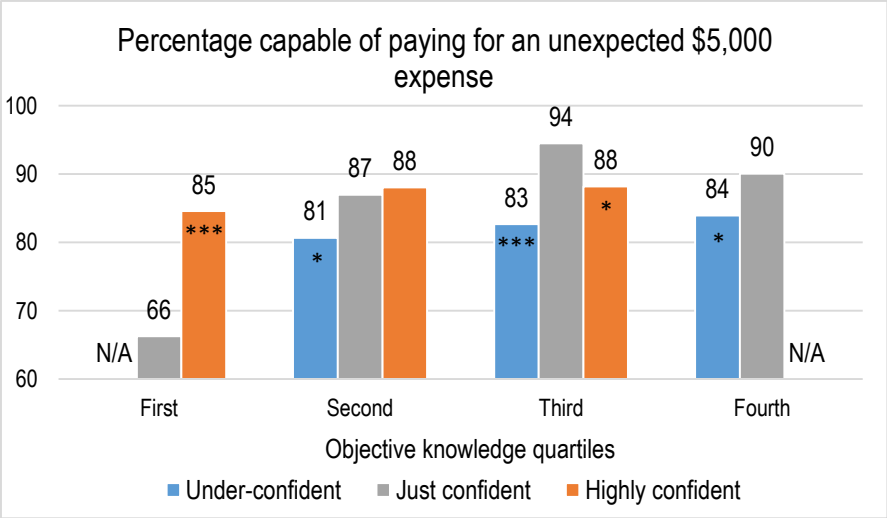
Figure 14 Insurance products



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

With respect to the ability to pay for unexpected expenses, the ***highly confident*** in the ***lower knowledge quartile*** are doing well. Figure 15 shows that they are more likely than their just-confident counterparts to be able to pay for an unexpected expense of $5,000. Moving up to the third knowledge quartile, however, people with a knowledge-confidence gap in either direction (i.e., under-confident or highly confident) are worse off than those without a gap. In summary, confidence has positive effects on the ability to pay for unexpected expense for people with lower financial knowledge but a small negative effect for those with better financial knowledge, while under-confidence has consistently negative effects.

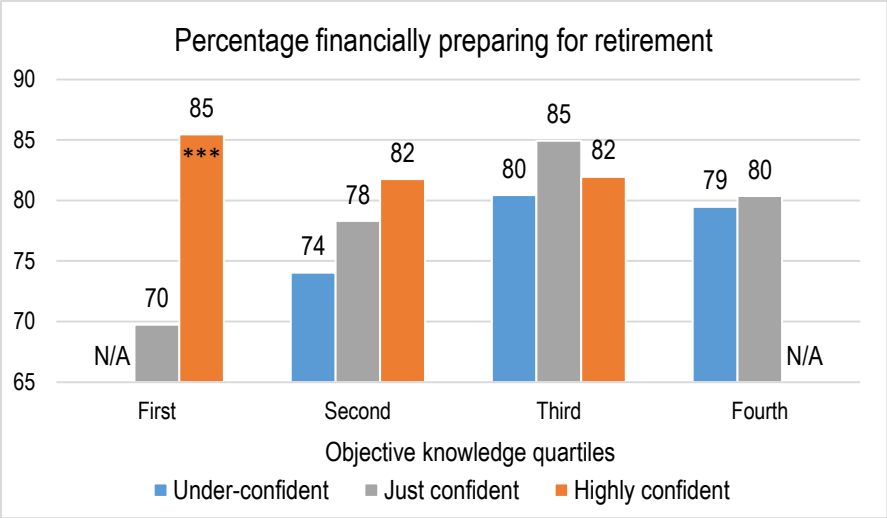
Figure 15 Paying for unexpected expense



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

The next two graphs demonstrate some aspects of retirement preparedness among seniors and near-seniors. For those who have not retired, self-reported financial preparation for retirement tends to increase with knowledge, as Figure 16 shows. When confidence is factored in, the ***highly confident*** in the ***lowest knowledge quartile*** are more likely to report being financially prepared for retirement than their just-confident counterparts. In fact, this group seems to think they are just doing as much financial preparation for retirement as those with higher levels of knowledge are. This expectation is not unfounded since they are more likely to have some source of retirement income. Only 15 per cent of the highly confident seniors and near-seniors in the lowest knowledge quartile have no sources of retirement income (Table 27 in Appendix G), which is the second lowest across all knowledge and confidence groups. The effects of confidence or under-confidence on financial preparation are smaller (and statistically insignificant) outside the bottommost quartile of financial knowledge.

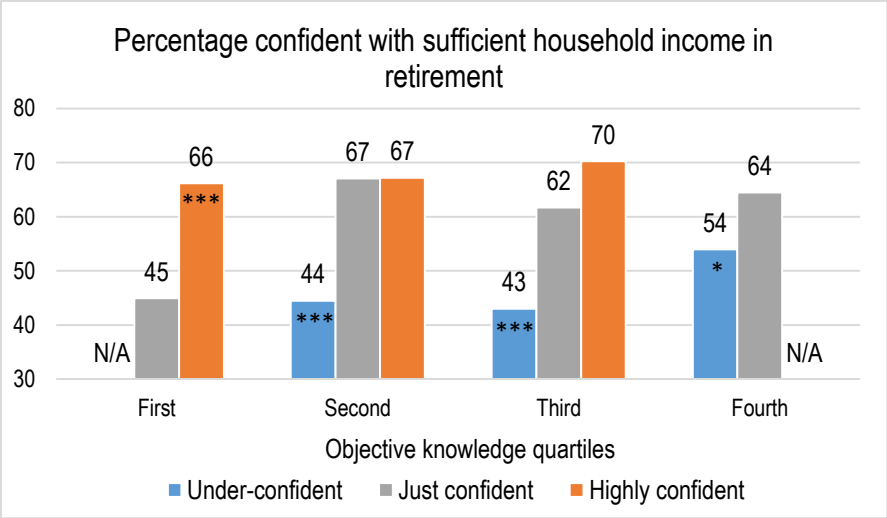
Figure 16 Financially preparing for retirement



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

Figure 17 demonstrates how well-prepared for retirement these groups are mentally. When asked if they are confident that their household income will provide the desired standard of living during retirement, seniors and near-seniors are more likely to answer positively as their knowledge levels increase. As expected, the under-confident groups are the least likely to have this positive outlook, across all knowledge quartile. A similar pattern among the under-confident group is observed on whether a person has a good idea how much money they need to maintain the desired living standard during retirement (Table 27, Appendix G). Confidence with sufficient household income in retirement are mostly related to one's confidence in financial skills but not financial knowledge.

Figure 17 Mentally preparing for retirement



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * ($p<0.1$), 5% level with ** ($p<0.05$), and 1% level with *** ($p<0.01$).

Since both indicators of retirement preparedness are also subjective and self-assessed, it is unknown whether these self-reported indicators truly indicate their actual retirement preparedness. However, those highly confident seniors and near-seniors in the lowest knowledge quartile are more likely to have savings, assets, multiple insurance products, and the capability to pay for the $5,000 unexpected expenses. Therefore, it is highly likely that they understand the importance of saving for the future, and the observed patterns in the self-reported retirement preparedness are in fact consistent.

Overall, results from the domain of planning and savings indicate that higher relative confidence may not always be a negative obstacle against desirable financial behaviours and outcomes. The highly confident seniors and near-seniors in the lowest knowledge quartile tend to be doing just as well as those with higher levels of knowledge. The under-confident groups are doing less well as their more confident counterparts. They are remarkably less likely to own multiple insurance products, are less capable to pay for large unexpected expenses, and tend to have a more negative outlook on their retirement.

The results of positive correlations of knowledge-confidence gap with planning and saving behaviour reported above may appear to be contrary to the findings of other studies of the general or younger population. Indeed, Table 23 of Appendix F shows that under-confident prime age adults use more pay-day loans and Table 24 shows that highly confident prime age adults of 25-54 are less financially prepared for retirement. It should be noted that savings and confidence are likely to be dynamically linked under the social cognitive theory. On the one hand, self-confidence is likely to be an important determinant of carrying out the actions to prepare for the future such as

saving for retirement; on the other hand, successfully preparing for the future can also give rise to one's justifiable confidence. Since seniors and near-seniors are at the stage of life where they tend to see the results of saving sooner than the younger generations, the positive correlations between confidence and savings are likely to be more apparent. In contrast, it is possible that the under-confident prime age adults are under confident since they may not be making optimal decisions. Under confident prime age adults are also using less financial advice even with higher savings.[14] All of these conjectures have shown the complexity between confidence, life stage, behaviour, and financial outcomes. Although it is not possible to estimate with cross-sectional data how much better one could do if one's confidence in financial knowledge is improved, the patterns and the theory do suggest that any intervention aiming to improve seniors' and near-seniors' confidence in future planning and savings must be practical and well-targeted.

Box 5 highlights the associated policy implications for the domain of future planning and savings.

Box 5 Policy implications – Future planning and saving

The patterns of future planning and savings among seniors and near-seniors have a number of implications for program design and targeting in the following areas:

- Educational programs and supports aiming to enhance future planning and retirement preparation should be tailored and more cost-effectively targeted to the under-confident groups and those with the lowest levels of financial confidence. Highly confident seniors and near-seniors, even those in the lowest knowledge quartiles perform as well as those in the higher quartiles of financial knowledge.
- A high level of financial knowledge does not guarantee retirement preparedness. Indeed, as long as seniors and near-seniors have secured sufficient financial resources regardless of their actual financial knowledge level, they would feel prepared for their retirement. As a result, interventions targeting retirement preparation should facilitate the accurate identification of the level of financial resources needed during retirement, offering practical advice to help seniors and near-seniors achieve financial security. Increasing financial knowledge alone may not be helpful in this particular domain.

Best financial practices and protection measures

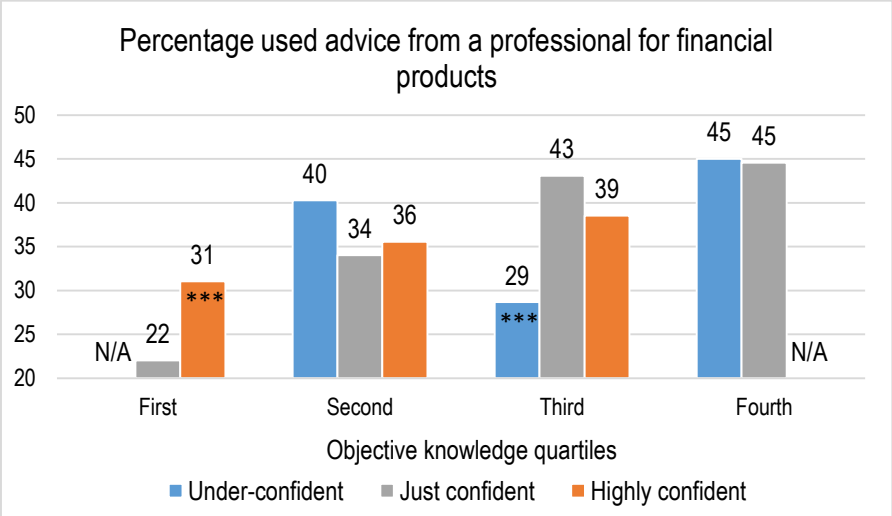
With respect to best financial practices and protecting their interests, seniors and near-seniors who perceive a better financial confidence than what they demonstrate in the knowledge assessment may not always be worse off than the just-confidents in the same knowledge quartile. As illustrated in Figure 18, ***the least knowledgeable, highly confident*** group is more likely to use professional

[14] Although the opposite pattern between older and younger cohorts is an interesting finding, to tease out the underlying factors behind the switch requires a very carefully designed study with longitudinal data. It is beyond the scope of this study to examine further.

financial advice. However, as knowledge increases to the third quartile, the under-confident ones seem less likely than the just-confident to obtain advice from a professional for financial products.

Similar patterns are found regarding the number of sources of information for financial investments, the number of financial trends they keep an eye on, and the number of sources used to monitor those trends (Table 28, Appendix G). Regardless of the levels of objectively assessed knowledge, the highly confident groups are more likely to seek information, and they use more sources to do so than their just-confident counterparts, while the under-confident groups do less monitoring.

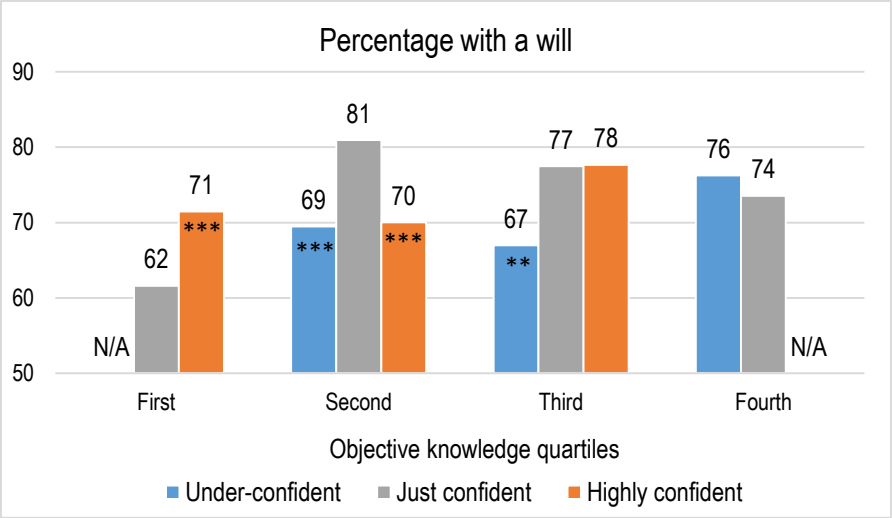
Figure 18 Using advice



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

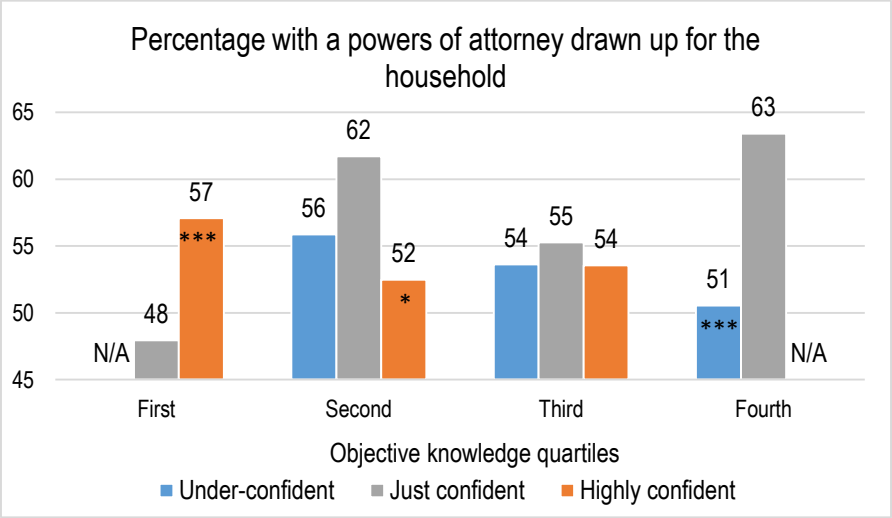
Seniors and near-seniors who are ***least knowledgeable*** but are ***highly confident*** in their financial knowledge are also more likely to have a will (see Figure 19), and to have powers of attorney drawn up for their households (see Figure 20) compared to the just-confident group with the same knowledge. Additionally, Figure 20 shows that without matching levels of confidence, high knowledge may not be a good thing. In fact, people with ***under-confidence,*** even though their knowledge scores place them in the ***top knowledge quartile,*** are just as unlikely as the just-confidence in the lowest knowledge quartile to have powers of attorney arrangements. This is consistent with the findings from the previous two behavioural domains, that is, under-confidence is related with undesirable practices and poor outcomes in personal financial management.

Figure 19 Have a will



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

Figure 20 Have powers of attorney arrangement



Note: These behavioural differences emerge even after controlling for the following potential confounding factors: age, gender, marital status, educational attainment, immigrant status, household characteristics, employment status, income, and value of financial assets. Differences that are statistically significant at 10% level are denoted with * (p<0.1), 5% level with ** (p<0.05), and 1% level with *** (p<0.01).

In general, as one moves up the objective knowledge quartiles, confidence may not always be associated with better practices in protecting themselves. That said, the results suggest that when their levels of knowledge are low, the highly confident ones tend to adopt best practices that do protect their interests.

The resulting policy implications are summarized in Box 6.

Box 6 Policy implications – Best financial practices and protection measures

Findings suggest that seniors and near-seniors with higher levels of either knowledge or confidence do better in adopting best financial practices and protection measures – and this should indeed remain a policy goal. In general, policies designed to raise financial confidence are important to increase the adoption of best financial practices, which include using proper advice, seeking multiple sources of information, and setting up a will. This is particularly important among seniors and near-seniors with the lowest level of financial knowledge.

However, financial confidence appears to compensate for many deficits in knowledge in terms of adopting best financial practices. Indeed, it is likely that raising levels of financial confidence among less confident seniors and near-seniors may be as effective, if not more so, in improving financial behaviours in this domain.

The next section provides an overall discussion of all the research findings from this study.

Discussion: Summary of findings

High knowledge alone is not enough to lead to financially desirable behaviours

The results suggest that generally, desirable financial behaviours may become more prevalent as knowledge increases. However, a closer look within each knowledge quartile reveals that confidence could act as a factor that either hinders or boosts good practices in personal finance. The financial knowledge-confidence gap indeed has an impact on financial decision-making.

Confidence seems to direct people with low knowledge toward financially desirable behaviours

In all three behavioural domains examined, the financial outcomes of the highly confident individuals in the lowest knowledge quartile are not actually concerning. They are doing well managing their debt, keeping up with their bills, and checking their bank accounts frequently. They are also likely to have some types of assets and savings, they are not likely to put themselves at risk by relying on just one insurance product, and they are generally prepared for both unexpected and expected changes in financial needs.

However, overconfidence could hamper wise decision-making for people with high knowledge in some behavioural domains

As financial knowledge levels increase, however, financial confidence may not always be a good thing. Those highly confident in the third knowledge quartile are less likely to be able to keep up with bills without a problem, or to pay for large unexpected expenses. This could potentially undermine their ability to manage their day-to-day finances, and/or to save and plan for the future.

Under-confidence seems to put people at a higher risk of poor financial outcomes

Under-confident seniors and near-seniors are generally worse off than those without a financial knowledge-confidence gap, despite having the same levels of knowledge of basic finance. They tend to hold debts other than mortgages and student loans, have no budget or are unable to stay within budget if they have one, and struggle to keep up with their bills. They are also not well-prepared for unexpected expenses. They are more likely to have no savings, and they tend to hold at most one insurance product only. It is therefore not surprising that they are more likely to fare poorly in terms of adopting practices to protect themselves, as they are unlikely to have a will or power of attorney arrangements for their households.

Implications for policy and future research

Overall, best practices in managing money and debt, planning and saving for future, as well as protection measures among seniors and near-seniors were associated with financial knowledge as well as financial confidence. Contrary to previous thinking of "gap in financial knowledge-confidence among seniors", it seems that raising seniors' financial confidence is as important as raising financial knowledge.

Policy implications

Overall, the findings suggest that financial education interventions need to ensure that they enhance not only financial knowledge but also financial confidence for seniors and near-seniors. It is important to consider not only the cognitive ability of seniors and near-seniors when designing programs to enhance financial capability, but also their changing confidence in key skill domains.

In conjunction with learning content, **financial training programs should incorporate critical activities that raise self-awareness of participants' skills and financial status**, which can include various forms of pre- and post-learning assessments. These need not be validated or lengthy assessments but rather simple exercises that provide some form of critical feedback on relevant skills and which demonstrate learning in key domains. These feedback mechanisms can both bolster financial confidence among those with low confidence and for others create realistic expectations regarding the links between their skills, financial behaviours, and outcomes such as retirement preparedness.

More specifically, the results of this research helps inform how one can tailor and target financial interventions based on knowledge and confidence levels to best align with the needs of seniors and near-seniors in several key domains.

With respect to current money and debt management, the findings suggest that **programs to improve budgeting may be better targeted at under-confident seniors and near-seniors with low knowledge**. Highly confident individuals, even those with low knowledge, appear to do relatively well with their budget, in spite of lower knowledge. However, with respect to debt management, some over-confident groups at the higher quartiles of objective financial knowledge can also benefit from educational programs or supports to improve their handling of debt and their awareness of high-cost credit usage.

Together these results suggest that to improve cost-effectiveness of programming, those that support basic budgeting may be more effectively targeted at less confident groups while debt management and credit programs can be more broadly targeted as they have wider benefits. This also has implications for the design and promotion of programs in terms of the marketing messages to motivate take-up. Segmentation of promotional activities along the domain of confidence may prove to be a critical factor in reaching and motivating action among these target groups.

When we consider financial management for the future, the findings suggest that under-confident seniors and near-seniors are systematically at risk of inadequate planning and savings. **Educational and support programs need to ensure they target specific needs related to**

confidence in order to sufficiently enhance their planning and saving habits. The results also highlight that financial literacy initiatives which focus on insurance may need additional efforts to reach the under-confident groups with low financial knowledge in particular, as they appear to be under-insured.

In regard to best financial practices and protection measures, **there is a need to raise financial knowledge and financial confidence for seniors and near-seniors – across all levels of knowledge**. Financial confidence appears to compensate for many deficits in financial knowledge in terms of adopting best financial practices and protecting one's interests. This is particularly important for seniors and near-seniors who may not be on the same level of objective competencies compared to other groups of Canadians.

Caveats and future research

Financial confidence appears to play a key role in some financial behaviours and outcomes for seniors and near-seniors. However, this study is not suggesting that overconfidence is not potentially detrimental to seniors and near-seniors' financial security and well-being. Our results simply suggest that the higher financial confidence among seniors and near-seniors may not be unwarranted. Those who have done well in many aspects of financial behaviour and decision-making could be at a stage of life where they realize they have done well, regardless of their scores on the 14-item knowledge scale. The ranking power of all items in the two objective and subjective assessment modules, as well as their mapping results, suggest that this interpretation is plausible.

There is also a need to periodically re-examine the items in the objective assessment of financial knowledge, if it will continue to be used to measure Canadian seniors and near-seniors' financial knowledge. The relevance of each item (e.g., understanding different investment types, comprehending credit reports, consulting professional financial advisors, etc.) to the current Canadian context is critical, and may indeed vary over time, and across cohorts, being more or less relevant to the financial behaviours of different age groups.

Finally, the current research does not distinguish between those whose slight overconfidence may be warranted and those who are extremely overconfident (or between the slightly and extremely under-confident) within each knowledge quartile. Further research is needed to explore if the magnitude of one's financial knowledge-confidence gap matters for financial decision-making and behaviours.

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Appendix A: Financial behaviour indicators from CFCS

Table 2 Managing money and debt

Behaviour indicators	Survey questions and answers
Have debts	**AD_Q11**
No debt other than mortgages or student loans	None of these debts or liabilities
	Mortgages
	Student loans
Other debts or liabilities	Other answers
Requested a credit report	**FC_Q11**
Yes, at least once	Within the last 12 months
	Within the last 5 years
	Within the last decade
	More than 10 years ago
Never	Never
Use of pawnbroker	**FM_Q04A**
Yes, at least once	Answers greater than 0
No	0
Use of payday loan service (FM04B)	**FM_Q04B**
Yes, at least once	Answers greater than 0
No	0
Use of non-bank cheque-cashing service	**FM_Q04C**
Yes, at least once	Answers greater than 0
No	0
Number of personal and joint accounts	**OE_Q02A and OE_Q02B**
Average number of accounts	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
Frequency of checking bank balances	**OE_Q05**
Less than monthly	Never
	Yearly
Monthly	Monthly
Every two weeks	Every two weeks
Weekly or daily	Weekly
	Daily
Method of payment for day-to-day purchases	**OE_Q08**
With cash or debit card	With cash
	With a debit card (bankcard)
Credit card or other methods	With a credit card
	Other

Behaviour indicators	Survey questions and answers
Ability to stay within budget	**OE_Q11 and OE_Q12**
No household budget	"No" on Q11
Never or rarely within budget	"Yes" on Q11 and: "Never" on Q12 "Rarely" on Q12
Usually within budget	"Yes" on Q11 and "Usually" on Q12
Always within budget	"Yes" on Q11 and "Always" on Q12
Keep up with bills and financial commitment	**OE_Q17**
Falling behind	Having real financial problems and falling behind with bills or credit commitments
Keep up with a struggle	Keeping up with all bills and commitments, but it is sometimes a struggle
Keep up without problem	Keeping up with all bills and commitments without any problem
Ever behind on payment	**OE_Q14, OE_Q15, and OE_Q16**
Behind in at least two	Answered "Yes" to at least two of the questions
Behind in one	Answered "Yes" to one of the questions
Behind in none	Answered "No" to all three questions
Ever declared bankruptcy	**FM_Q07**
Yes	Yes
No	No

Note: Unless otherwise stated, answers coded as “Don’t know” and “Refused” are excluded from the analysis.

Table 3 Future planning and savings

Behaviour indicators	Survey questions and answers
Number of assets and savings	**AD_Q01, AD_Q03, AD_Q05, AD_Q07, AD_Q09**
0	Count how many times respondents answered "Yes" or indicated they own such assets
1	
2	
3	
4 or more	
Received investment income in the last 12 months	**IN_Q01C**
No	No
Yes	Yes
Number of insurance products	**FC_Q07**
Average	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
0 or 1	Count the total number of insurance products indicated in this question
2 or 3	
4 or more	
All insurance policies with one company	**FC_Q08**
No insurance	Those who got skipped out the question
Not all in the same company	No
All in the same company	Yes
Unexpected expenditure of $500 or $5000	**FM_Q02 and FM_Q03**
Can't pay either amount	Those who answered "Would not be able to pay this amount" on both questions
Can pay $500	Those who chose all other options on Q02
Can pay $5000	Those who chose all other options on Q03
Financially preparing for retirement	**RP_Q01**
No	No
Yes	Yes
Number of retirement sources	**RP_Q02**
Average	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
0	Count the total number of retirement sources indicated in this question
1	
2	
3	
4	
5	
6	

Behaviour indicators	Survey questions and answers
Confident that household income will provide desired standard of living during retirement	**RP_Q08**
Not at all confident	Not at all confident
Not very confident	Not very confident
Fairly or very confident	Fairly confident
	Very confident
Have a good idea how much money needed to maintain desired living standard during retirement	**RP_Q09**
No	No
Yes	Yes

Note: Unless otherwise stated, answers coded as "Don't know" and "Refused" are excluded from the analysis.

Table 4 Protection self-interests

Behaviour indicators	Survey questions and answers
Use advice for financial products	**FC_Q01 and FC_Q03**
Did not use any advice	No advice available or couldn't find any advice No, did not use any advice
Used advice	Indicated usage of advice for any of the product in Q01, and:
Used advice not from a professional	Answered "No" on Q03 (unpaid advice suggests that it is not from a financial professional)
Used advice from a professional	Answered "Yes" on Q03 (paid advice suggests that it is from a financial professional)
Number of sources of information for financial investments	**FC_Q04**
Average	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
0	Count the total number of information sources indicated in this question
1	
2 or more	
Number of financial trends keep an eye on	**FC_Q05**
Average	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
0	Count the total number of financial trends indicated in this question
1	
2 or 3	
4 or more	
Number of sources used to monitor those trends	**FC_Q06**
Average	Estimated means by knowledge quartiles, types of subjective-objective gap, etc.
0	Count the total number of sources indicated in this question
1	
2	
3 or more	
Have a will	**FC_Q09**
No	No
Yes	Yes
Have powers of attorney drawn up for household	**FC_Q10**
No	No
Yes	Yes

Note: Unless otherwise stated, answers coded as “Don’t know” and “Refused” are excluded from the analysis.

Appendix B: The links between objective and subjective assessments of financial knowledge

An examination of how respondents score in each of the assessments shows that generally, high score respondents distinguish themselves in certain items related to both assessments. To give an example, we compare the questions that characterize those in the lowest quartiles of both assessments. For the objective assessment, the majority of those who are in the first quartile were likely to answer question 12, 14, 5, 4, 13, 6, and 11 correctly (in a descending order of likelihood), but not the others. For the subjective assessment, those in the lowest quartile tend to see themselves as being very good at making ends meet, but not the other domains. These individuals are less likely to answer question 11 on the objective assessment correctly, however. This indicates a misalignment in the quartiles of the two assessments. The ranking power as well as the quartile misalignment are depicted in 0.

The quartile misalignment can be observed in the second and third quartiles of the two assessments as well. Nevertheless, the mapping demonstrates an approximate linkage in the content of the questions. The first 7 items of the objective assessment are mostly in the area of "making ends meet" and "keeping track of money", while the difficult items such as comprehension of a credit report is more in line with "staying informed on financial issues".

The mapping also indicates that the objective assessment module may not be a very strong tool to distinguish people with different levels of knowledge, since half of the questions (7 out of 14) were answered correctly by most people. Indeed, even those in the lowest knowledge quartile were able to answer many of the bottom 7 questions.

This mapping was done on the entire sample of adults aged 25 and over. A similar pattern of misalignment can be found for the sub-sample of seniors and near-seniors. These mapping results help inform the operationalization of the financial knowledge-confidence gap in the data.

Table 5 Levels of difficulty of objective and subjective assessment questions

Objective Assessment Items		Objective assessment	Subjective assessment	Subjective Assessment Items	
OA_12	Which can hurt your credit rating				
OA_14	Which will help lower the cost of a house				
OA_5	Who would need the greatest amount of life insurance				
OA_4	T/F - Easily compare the cost of any brand			SA_3	Making ends meet
OA_13	What affects amount of interest paid on a loan				
OA_6	If had savings account which statement on interest is correct		Lowest quartile		
OA_11	Which statement not correct about ATM cards	Lowest quartile		SA_2	Keeping track of money
OA_8	Safest place for university money		Second quartile	SA_4	Shopping around to get the best financial product
OA_1	Savings provide same buying power at retirement	Second quartile			
OA_7	Who would have problems during periods of high inflation			SA_5	Staying informed on financial issues
OA_9	Which investment best protects savings if sudden increase in inflation	Third quartile	Third quartile		
OA_2	A credit report - Comprehension				
OA_10	Which circumstances would it be beneficial to borrow money			SA_1	Level of financial knowledge
OA_3	Who insures stocks in the stock market	Top quartile	Top quartile		

Appendix C: Linking financial knowledge with behaviour

Table 6 Knowledge and the management of money and debt – Seniors and near-seniors

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Have debts									
No debt other than mortgages or student loan	68.9	(1.5)	62.8	(1.7)	53.0	(2.0)	57.2	(2.2)	***
Other debts or liabilities	31.1	(1.5)	37.2	(1.7)	47.0	(2.0)	42.8	(2.2)	***
Requested a credit report									
Yes, at least once	17.2	(1.4)	28.1	(1.5)	29.6	(1.8)	34.4	(2.0)	***
Never	82.8	(1.4)	71.9	(1.5)	70.4	(1.8)	65.6	(2.0)	***
Use of pawnbroker									
Yes, at least once	4.2	(0.5)	1.9	(0.5)	1.3	(0.6)	0.4	(0.7)	***
No	95.8	(0.5)	98.1	(0.5)	98.7	(0.6)	99.6	(0.7)	***
Use of payday loan service									
Yes, at least once	4.3	(0.5)	1.8	(0.5)	2.1	(0.6)	0.1	(0.7)	***
No	95.7	(0.5)	98.2	(0.5)	97.9	(0.6)	99.9	(0.7)	***
Use of non-bank cheque-cashing service									
Yes, at least once	4.4	(0.5)	0.9	(0.5)	1.5	(0.6)	0.3	(0.7)	***
No	95.6	(0.5)	99.1	(0.5)	98.5	(0.6)	99.7	(0.7)	***
Number of personal and joint accounts									
Average number of accounts	2.1	(0.0)	2.5	(0.0)	2.8	(0.1)	3.1	(0.1)	***
Frequency of checking bank balances									
Less than monthly	7.0	(0.7)	3.2	(0.7)	3.6	(0.8)	1.4	(0.9)	***
Monthly	40.9	(1.5)	27.8	(1.6)	23.5	(1.8)	17.3	(2.1)	***
Every two weeks	17.3	(1.2)	20.2	(1.4)	17.6	(1.5)	12.4	(1.8)	***
Weekly or daily	34.9	(1.6)	48.9	(1.8)	55.2	(2.0)	68.9	(2.3)	***
Method of payment for day-to-day purchases									
With cash or debit card	76.5	(1.5)	74.0	(1.6)	63.4	(1.8)	53.4	(2.1)	***
Credit card or other methods	23.5	(1.5)	26.0	(1.6)	36.6	(1.8)	46.6	(2.1)	***
Ability to stay within budget									
No household budget	57.7	(1.6)	58.8	(1.8)	55.1	(2.0)	55.6	(2.3)	
Never within budget	0.8	(0.3)	1.0	(0.3)	0.4	(0.3)	0.1	(0.4)	
Rarely within budget	1.8	(0.4)	0.9	(0.4)	1.7	(0.5)	1.5	(0.6)	
Usually within budget	15.1	(1.3)	20.2	(1.4)	20.3	(1.6)	24.3	(1.8)	***
Always within budget	24.5	(1.3)	19.1	(1.5)	22.5	(1.7)	18.5	(1.9)	**
Keep up with bills and financial commitment									
Falling behind	1.1	(0.4)	1.6	(0.4)	1.8	(0.5)	0.7	(0.5)	
Keep up with a struggle	20.3	(1.2)	19.2	(1.4)	16.2	(1.6)	15.4	(1.8)	*
Keep up without problem	78.6	(1.3)	79.1	(1.4)	82.0	(1.6)	83.9	(1.8)	*

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Ever behind on payment									
Behind in at least two	0.6	(0.2)	0.6	(0.3)	0.3	(0.3)	0.8	(0.3)	
Behind in one	4.6	(0.7)	6.3	(0.8)	4.9	(0.9)	2.9	(1.0)	*
Behind in none	94.7	(0.7)	93.1	(0.8)	94.9	(0.9)	96.3	(1.0)	
Ever declared bankruptcy									
Yes	6.5	(0.8)	9.4	(0.9)	5.7	(1.0)	3.1	(1.1)	***
No	93.5	(0.8)	90.6	(0.9)	94.3	(1.0)	96.9	(1.1)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 7 Knowledge and future planning and savings – Seniors and near-seniors

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings									
0	1.8	(0.4)	1.1	(0.4)	1.2	(0.5)	1.7	(0.5)	
1	36.2	(1.3)	19.2	(1.4)	13.1	(1.6)	5.0	(1.8)	***
2	28.3	(1.4)	24.2	(1.6)	27.7	(1.8)	24.0	(2.0)	
3	17.8	(1.3)	25.0	(1.4)	16.9	(1.6)	21.7	(1.8)	***
4 or more	16.0	(1.4)	30.4	(1.6)	41.1	(1.8)	47.6	(2.0)	***
Received investment income in the last 12 months									
No	88.4	(1.3)	78.3	(1.5)	69.9	(1.7)	57.6	(1.9)	***
Yes	11.6	(1.3)	21.7	(1.5)	30.1	(1.7)	42.4	(1.9)	***
Number of insurance products									
Average	2.5	(0.0)	3.1	(0.0)	3.4	(0.1)	3.6	(0.1)	***
0 or 1	23.7	(1.0)	10.1	(1.2)	6.3	(1.3)	3.8	(1.5)	***
2 or 3	51.8	(1.6)	52.8	(1.8)	48.2	(2.0)	47.9	(2.3)	
4 or more	24.6	(1.5)	37.0	(1.7)	45.5	(1.9)	48.2	(2.2)	***
All insurance policies with one company									
No insurance	23.4	(1.0)	10.2	(1.2)	6.3	(1.3)	3.6	(1.5)	***
Not all in the same company	34.8	(1.6)	45.8	(1.7)	57.7	(2.0)	66.4	(2.2)	***
All in the same company	41.7	(1.6)	44.0	(1.7)	36.0	(2.0)	30.0	(2.2)	***
Unexpected expenditure of $500 or $5000									
Can't pay either amount	8.6	(0.7)	4.8	(0.8)	0.9	(0.9)	1.7	(1.0)	***
Can pay $500	23.1	(1.1)	12.3	(1.2)	9.0	(1.4)	5.8	(1.6)	***
Can pay $5000	68.3	(1.2)	82.9	(1.4)	90.1	(1.5)	92.5	(1.7)	***
Financially preparing for retirement									
No	37.0	(2.3)	26.1	(2.5)	15.3	(2.6)	10.5	(2.8)	***
Yes	63.0	(2.3)	73.9	(2.5)	84.7	(2.6)	89.5	(2.8)	***
Number of retirement sources									
Average	1.7	(0.1)	2.3	(0.1)	2.9	(0.1)	3.2	(0.1)	***
0	37.9	(2.3)	26.6	(2.5)	15.7	(2.6)	12.2	(2.8)	***
1	7.8	(1.2)	5.1	(1.3)	3.8	(1.3)	1.5	(1.4)	***
2	22.1	(2.2)	20.4	(2.4)	18.2	(2.5)	16.9	(2.6)	
3	17.7	(2.3)	23.0	(2.5)	25.4	(2.6)	29.1	(2.8)	**
4	8.8	(1.9)	16.0	(2.1)	14.0	(2.1)	20.4	(2.3)	***
5	5.4	(1.5)	5.1	(1.6)	15.7	(1.7)	7.5	(1.8)	***
6	0.4	(1.2)	3.7	(1.3)	7.2	(1.4)	12.4	(1.5)	***

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement									
Not at all confident	7.6	(1.7)	10.4	(1.9)	15.2	(1.9)	9.6	(2.0)	**
Not very confident	32.3	(2.4)	30.1	(2.6)	19.8	(2.7)	15.1	(2.9)	***
Fairly confident	37.9	(2.8)	47.9	(3.0)	41.8	(3.1)	50.9	(3.3)	**
Very confident	22.2	(2.3)	11.5	(2.4)	23.1	(2.5)	24.4	(2.7)	***
Have a good idea how much money is needed to maintain desired standard of living during retirement									
No	70.3	(2.8)	58.8	(2.9)	45.2	(3.0)	25.9	(3.2)	***
Yes	29.7	(2.8)	41.2	(2.9)	54.8	(3.0)	74.1	(3.2)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 8 Knowledge and protection measures – Seniors and near-seniors

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Use advice for financial products									
Did not use any advice	78.0	(1.5)	62.9	(1.6)	59.3	(1.9)	43.4	(2.1)	***
Used advice	22.0	(1.5)	37.1	(1.6)	40.7	(1.9)	56.6	(2.1)	***
Used advice not from a professional	5.0	(0.8)	6.0	(0.8)	7.1	(1.0)	7.2	(1.1)	
Used advice from a professional	17.3	(1.4)	31.2	(1.6)	33.6	(1.8)	49.4	(2.0)	***
Number of sources of information for financial investments									
Average	0.9	(0.0)	1.2	(0.0)	1.3	(0.0)	1.6	(0.1)	***
0	41.2	(1.4)	25.4	(1.5)	18.5	(1.7)	12.9	(2.0)	***
1	42.5	(1.6)	50.3	(1.8)	49.5	(2.0)	48.9	(2.3)	***
2 or more	16.3	(1.4)	24.2	(1.5)	32.0	(1.7)	38.3	(2.0)	***
Number of financial trends keep an eye on									
Average	1.3	(0.1)	2.0	(0.1)	2.6	(0.1)	3.5	(0.1)	***
0	59.2	(1.5)	41.1	(1.7)	28.8	(1.9)	21.9	(2.2)	***
1	13.7	(1.1)	15.8	(1.3)	18.5	(1.5)	14.1	(1.6)	*
2 or 3	12.8	(1.2)	20.2	(1.3)	21.1	(1.5)	17.5	(1.7)	***
4 or more	14.4	(1.3)	22.8	(1.5)	31.6	(1.7)	46.4	(1.9)	***
Number of sources used to monitor these trends									
Average	0.8	(0.1)	1.4	(0.1)	1.7	(0.1)	2.3	(0.1)	***
0	59.6	(1.5)	41.2	(1.7)	28.9	(1.9)	21.9	(2.2)	***
1	17.4	(1.3)	21.7	(1.4)	23.6	(1.6)	17.0	(1.8)	***
2	11.5	(1.2)	16.3	(1.3)	18.3	(1.5)	20.9	(1.7)	***
3 or more	11.5	(1.3)	20.8	(1.4)	29.1	(1.6)	40.1	(1.9)	***
Have a will									
No	33.2	(1.4)	25.5	(1.5)	22.8	(1.7)	15.8	(2.0)	***
Yes	66.8	(1.4)	74.5	(1.5)	77.2	(1.7)	84.2	(2.0)	***
Have powers of attorney drawn up for household									
No	48.5	(1.6)	44.5	(1.8)	44.5	(2.0)	37.9	(2.3)	***
Yes	51.5	(1.6)	55.5	(1.8)	55.5	(2.0)	62.1	(2.3)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 9 Knowledge and the management of money and debt – Prime-age adults (25-54)

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Have debts									
No debt other than mortgages or student loan	47.9	(1.7)	34.5	(1.8)	30.7	(1.7)	34.6	(2.2)	***
Other debts or liabilities	52.1	(1.7)	65.5	(1.8)	69.3	(1.7)	65.4	(2.2)	***
Requested a credit report									
Yes, at least once	40.5	(1.8)	42.0	(1.9)	49.3	(1.7)	50.1	(2.2)	***
Never	59.5	(1.8)	58.0	(1.9)	50.7	(1.7)	49.9	(2.2)	***
Use of pawnbroker									
Yes, at least once	7.5	(0.7)	3.3	(0.7)	1.6	(0.7)	2.4	(0.9)	***
No	92.5	(0.7)	96.7	(0.7)	98.4	(0.7)	97.6	(0.9)	***
Use of payday loan service									
Yes, at least once	10.3	(0.8)	3.5	(0.9)	5.6	(0.8)	1.7	(1.0)	***
No	89.7	(0.8)	96.5	(0.9)	94.4	(0.8)	98.3	(1.0)	***
Use of non-bank cheque-cashing service									
Yes, at least once	6.5	(0.6)	1.3	(0.6)	1.7	(0.6)	1.5	(0.7)	***
No	93.5	(0.6)	98.7	(0.6)	98.3	(0.6)	98.5	(0.7)	***
Number of personal and joint accounts									
Average number of accounts	2.0	(0.0)	2.5	(0.0)	2.5	(0.0)	2.9	(0.1)	***
Frequency of checking bank balances									
Less than monthly	4.2	(0.6)	2.4	(0.7)	3.1	(0.6)	2.0	(0.8)	
Monthly	12.8	(1.0)	8.6	(1.1)	7.1	(1.0)	7.7	(1.3)	***
Every two weeks	22.0	(1.4)	15.3	(1.5)	17.4	(1.4)	16.8	(1.7)	***
Weekly or daily	61.0	(1.6)	73.7	(1.7)	72.4	(1.6)	73.5	(2.1)	***
Method of payment for day-to-day purchases									
With cash or debit card	76.9	(1.6)	71.7	(1.7)	69.1	(1.6)	54.4	(2.1)	***
Credit card or other methods	23.1	(1.6)	28.3	(1.7)	30.9	(1.6)	45.6	(2.1)	***
Ability to stay within budget									
No household budget	59.1	(1.8)	43.0	(1.9)	46.4	(1.7)	50.6	(2.2)	***
Never within budget	0.7	(0.4)	1.3	(0.4)	1.2	(0.4)	0.9	(0.5)	
Rarely within budget	1.7	(0.6)	3.3	(0.6)	2.9	(0.6)	3.8	(0.7)	*
Usually within budget	23.4	(1.7)	34.5	(1.7)	34.5	(1.6)	33.4	(2.1)	***
Always within budget	15.2	(1.3)	17.8	(1.3)	15.0	(1.2)	11.3	(1.6)	**
Keep up with bills and financial commitment									
Falling behind	4.5	(0.6)	2.5	(0.6)	2.2	(0.6)	1.4	(0.7)	***
Keep up with a struggle	34.7	(1.7)	34.1	(1.8)	37.6	(1.7)	32.9	(2.1)	
Keep up without problem	60.8	(1.7)	63.4	(1.8)	60.1	(1.7)	65.7	(2.2)	

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Ever behind on payment									
Behind in at least two	5.0	(0.6)	2.8	(0.6)	2.1	(0.6)	1.2	(0.8)	***
Behind in one	10.5	(1.1)	11.7	(1.1)	11.4	(1.1)	6.8	(1.4)	**
Behind in none	84.5	(1.2)	85.6	(1.3)	86.5	(1.2)	92.0	(1.5)	***
Ever declared bankruptcy									
Yes	9.7	(1.0)	7.8	(1.1)	11.6	(1.0)	9.3	(1.3)	*
No	90.3	(1.0)	92.2	(1.1)	88.4	(1.0)	90.7	(1.3)	*

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 10 Knowledge and future planning and savings – Prime-age adults (25-54)

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings									
0	2.6	(0.4)	1.0	(0.4)	0.7	(0.4)	0.0	(0.5)	***
1	36.4	(1.5)	23.6	(1.6)	18.8	(1.5)	11.1	(1.9)	***
2	28.2	(1.5)	30.2	(1.6)	23.3	(1.5)	17.3	(2.0)	***
3	17.2	(1.5)	23.6	(1.6)	26.0	(1.5)	27.6	(1.9)	***
4 or more	15.5	(1.5)	21.7	(1.6)	31.1	(1.5)	44.0	(1.9)	***
Received investment income in the last 12 months									
No	94.3	(1.3)	86.6	(1.3)	80.5	(1.2)	72.3	(1.6)	***
Yes	5.7	(1.3)	13.4	(1.3)	19.5	(1.2)	27.7	(1.6)	***
Number of insurance products									
Average	2.7	(0.1)	3.2	(0.1)	3.7	(0.1)	4.0	(0.1)	***
0 or 1	29.0	(1.3)	15.3	(1.4)	11.3	(1.3)	6.9	(1.6)	***
2 or 3	39.1	(1.7)	42.7	(1.8)	32.9	(1.7)	28.4	(2.2)	***
4 or more	31.9	(1.7)	42.0	(1.8)	55.8	(1.7)	64.8	(2.2)	***
All insurance policies with one company									
No insurance	29.2	(1.3)	15.3	(1.4)	11.4	(1.3)	6.7	(1.6)	***
Not all in the same company	39.3	(1.7)	49.5	(1.8)	60.0	(1.7)	72.4	(2.2)	***
All in the same company	31.6	(1.6)	35.1	(1.7)	28.7	(1.6)	21.0	(2.1)	***
Unexpected expenditure of $500 or $5000									
Can't pay either amount	7.7	(0.7)	3.2	(0.8)	3.4	(0.7)	1.7	(0.9)	***
Can pay $500	24.7	(1.3)	13.5	(1.4)	11.7	(1.3)	10.2	(1.6)	***
Can pay $5000	67.6	(1.4)	83.3	(1.5)	84.8	(1.4)	88.1	(1.8)	***
Financially preparing for retirement									
No	44.0	(1.5)	25.9	(1.6)	21.9	(1.5)	12.3	(2.0)	***
Yes	56.0	(1.5)	74.1	(1.6)	78.1	(1.5)	87.7	(2.0)	***
Number of retirement sources									
Average	1.5	(0.1)	2.4	(0.1)	2.6	(0.1)	3.0	(0.1)	***
0	46.4	(1.6)	27.4	(1.6)	22.8	(1.5)	12.4	(2.0)	***
1	8.5	(0.9)	7.2	(1.0)	7.5	(0.9)	7.0	(1.2)	
2	15.7	(1.2)	14.9	(1.3)	13.5	(1.2)	13.0	(1.6)	
3	15.0	(1.4)	18.3	(1.5)	24.9	(1.4)	27.5	(1.8)	***
4	6.9	(1.2)	18.2	(1.3)	15.9	(1.2)	21.0	(1.6)	***
5	3.9	(0.9)	6.6	(0.9)	7.0	(0.9)	12.0	(1.1)	***
6	3.5	(0.9)	7.4	(0.9)	8.3	(0.9)	7.2	(1.1)	***

Objective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement									
Not at all confident	14.1	(1.1)	9.3	(1.1)	8.3	(1.0)	4.5	(1.3)	***
Not very confident	25.5	(1.5)	21.9	(1.6)	22.6	(1.5)	15.8	(1.9)	***
Fairly confident	44.3	(1.8)	52.8	(1.9)	53.2	(1.8)	56.3	(2.3)	***
Very confident	16.2	(1.4)	16.1	(1.4)	15.9	(1.3)	23.4	(1.7)	***
Have a good idea how much money is needed to maintain desired standard of living during retirement									
No	68.4	(1.9)	59.6	(1.8)	49.5	(1.7)	45.2	(2.2)	***
Yes	31.6	(1.9)	40.4	(1.8)	50.5	(1.7)	54.8	(2.2)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 11 Knowledge and best practices / protection measures – Prime-age adults (25-54)

Objective Assessment - Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Use of advice for financial products									
Did not use any advice	73.3	(1.7)	63.5	(1.8)	53.8	(1.7)	40.7	(2.2)	***
Used advice	26.7	(1.7)	36.5	(1.8)	46.2	(1.7)	59.3	(2.2)	***
Used advice not from a professional	7.0	(1.0)	6.3	(1.0)	8.5	(1.0)	13.8	(1.2)	***
Used advice from a professional	20.7	(1.6)	30.3	(1.7)	37.6	(1.6)	45.5	(2.1)	***
Number of sources of information for financial investments									
Average	1.3	(0.0)	1.5	(0.0)	1.6	(0.0)	1.6	(0.1)	***
0	27.8	(1.3)	12.1	(1.3)	12.0	(1.3)	8.7	(1.6)	***
1	45.1	(1.8)	50.8	(1.9)	47.6	(1.7)	48.4	(2.2)	
2 or more	27.1	(1.7)	37.0	(1.8)	40.5	(1.7)	43.0	(2.1)	***
Number of financial trends keep an eye on									
Average	1.3	(0.1)	2.1	(0.1)	2.5	(0.1)	3.3	(0.1)	***
0	50.3	(1.6)	33.7	(1.7)	25.9	(1.6)	20.5	(2.1)	***
1	19.9	(1.4)	21.8	(1.5)	17.7	(1.4)	15.9	(1.8)	**
2 or 3	19.0	(1.5)	20.9	(1.5)	26.2	(1.4)	22.1	(1.9)	***
4 or more	10.8	(1.5)	23.5	(1.6)	30.2	(1.5)	41.5	(1.9)	***
Number of sources used to monitor these trends									
Average	1.0	(0.1)	1.5	(0.1)	1.7	(0.1)	2.0	(0.1)	***
0	50.4	(1.6)	33.8	(1.7)	25.9	(1.6)	20.5	(2.1)	***
1	25.1	(1.6)	27.9	(1.7)	30.6	(1.6)	31.0	(2.0)	**
2	13.6	(1.3)	17.9	(1.4)	18.3	(1.3)	17.1	(1.7)	**
3 or more	10.9	(1.4)	20.4	(1.5)	25.2	(1.4)	31.4	(1.8)	***
Have a will (FC09)									
No	76.4	(1.6)	71.5	(1.7)	62.5	(1.6)	56.3	(2.1)	***
Yes	23.6	(1.6)	28.5	(1.7)	37.5	(1.6)	43.7	(2.1)	***
Have powers of attorney drawn up for household									
No	79.4	(1.5)	77.5	(1.6)	72.1	(1.5)	69.4	(1.9)	***
Yes	20.6	(1.5)	22.5	(1.6)	27.9	(1.5)	30.6	(1.9)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Appendix D: Linking self-perception with behaviour

Table 12 Financial confidence and the management of money and debt – Seniors and near-seniors

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Have debts									
No debt other than mortgages or student loan	54.6	(1.8)	63.4	(2.1)	62.8	(2.0)	60.8	(1.8)	***
Other debts or liabilities	45.4	(1.8)	36.6	(2.1)	37.2	(2.0)	39.2	(1.8)	***
Requested a credit report									
Yes, at least once	22.4	(1.6)	26.4	(1.9)	30.3	(1.8)	28.6	(1.6)	***
Never	77.6	(1.6)	73.6	(1.9)	69.7	(1.8)	71.4	(1.6)	***
Use of pawnbroker									
Yes, at least once	2.5	(0.6)	3.1	(0.7)	0.6	(0.6)	3.4	(0.6)	***
No	97.5	(0.6)	96.9	(0.7)	99.4	(0.6)	96.6	(0.6)	***
Use of payday loan service									
Yes, at least once	3.0	(0.6)	3.4	(0.7)	0.9	(0.6)	3.1	(0.6)	**
No	97.0	(0.6)	96.6	(0.7)	99.1	(0.6)	96.9	(0.6)	**
Use of non-bank cheque-cashing service									
Yes, at least once	1.4	(0.5)	3.0	(0.6)	0.8	(0.6)	3.2	(0.5)	***
No	98.6	(0.5)	97.0	(0.6)	99.2	(0.6)	96.8	(0.5)	***
Number of personal and joint accounts									
Average number of accounts	2.3	(0.0)	2.7	(0.1)	2.7	(0.1)	2.8	(0.0)	***
Frequency of checking bank balances									
Less than monthly	8.5	(0.7)	2.8	(0.9)	3.4	(0.8)	1.8	(0.8)	***
Monthly	32.3	(1.7)	30.3	(2.0)	26.3	(1.8)	23.7	(1.7)	***
Every two weeks	17.5	(1.4)	19.1	(1.6)	17.6	(1.5)	12.7	(1.4)	**
Weekly or daily	41.8	(1.8)	47.8	(2.2)	52.7	(2.0)	61.7	(1.9)	***
Method of payment for day-to-day purchases									
With cash or debit card	76.1	(1.7)	73.1	(2.0)	66.0	(1.9)	58.2	(1.7)	***
Credit card or other methods	23.9	(1.7)	26.9	(2.0)	34.0	(1.9)	41.8	(1.7)	***
Ability to stay within budget									
No household budget	67.2	(1.8)	57.9	(2.1)	50.7	(2.0)	46.8	(1.8)	***
Never within budget	1.2	(0.3)	0.3	(0.3)	0.1	(0.3)	0.5	(0.3)	**
Rarely within budget	3.2	(0.4)	2.4	(0.5)	0.5	(0.5)	0.1	(0.5)	***
Usually within budget	13.3	(1.4)	17.6	(1.7)	27.2	(1.6)	20.2	(1.4)	***
Always within budget	15.1	(1.5)	21.6	(1.8)	21.4	(1.7)	32.4	(1.5)	***

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Keep up with bills and financial commitment									
Falling behind	3.3	(0.4)	0.2	(0.4)	0.4	(0.4)	0.1	(0.4)	***
Keep up with a struggle	31.9	(1.3)	15.8	(1.6)	11.3	(1.5)	9.5	(1.4)	***
Keep up without problem	64.8	(1.4)	84.0	(1.6)	88.3	(1.5)	90.4	(1.4)	***
Ever behind on payment									
Behind in at least two	1.4	(0.3)	0.9	(0.3)	0.1	(0.3)	0.0	(0.3)	***
Behind in one	8.9	(0.7)	2.1	(0.9)	5.3	(0.8)	0.9	(0.8)	***
Behind in none	89.7	(0.8)	97.1	(0.9)	94.6	(0.9)	99.0	(0.8)	***
Ever declared bankruptcy									
Yes	8.1	(0.9)	5.4	(1.1)	7.4	(1.0)	6.0	(0.9)	
No	91.9	(0.9)	94.6	(1.1)	92.6	(1.0)	94.0	(0.9)	

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 13 Financial confidence and future planning and savings – Seniors and near-seniors

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings									
0	2.0	(0.5)	1.8	(0.6)	1.1	(0.5)	2.1	(0.5)	
1	28.8	(1.4)	17.8	(1.7)	17.9	(1.6)	11.5	(1.4)	***
2	33.1	(1.6)	27.7	(1.9)	24.8	(1.8)	20.2	(1.6)	***
3	19.1	(1.4)	18.5	(1.7)	21.0	(1.6)	23.5	(1.5)	*
4 or more	17.0	(1.6)	34.3	(2.0)	35.3	(1.8)	42.7	(1.7)	***
Received investment income in the last 12 months									
No	83.2	(1.5)	80.1	(1.8)	73.7	(1.7)	63.1	(1.6)	***
Yes	16.8	(1.5)	19.9	(1.8)	26.3	(1.7)	36.9	(1.6)	***
Number of insurance products									
Average	2.9	(0.1)	3.0	(0.1)	3.3	(0.1)	3.5	(0.1)	***
0 or 1	19.3	(1.1)	10.2	(1.3)	6.2	(1.2)	4.5	(1.1)	***
2 or 3	45.7	(1.8)	53.7	(2.1)	54.1	(2.0)	50.0	(1.8)	***
4 or more	34.9	(1.7)	36.0	(2.1)	39.7	(2.0)	45.5	(1.8)	***
All insurance policies with one company									
No insurance	19.5	(1.1)	9.5	(1.3)	6.3	(1.2)	4.3	(1.1)	***
Not all in the same company	45.3	(1.8)	52.2	(2.2)	51.9	(2.0)	54.1	(1.8)	***
All in the same company	35.2	(1.8)	38.3	(2.1)	41.9	(2.0)	41.6	(1.8)	**
Unexpected expenditure of $500 or $5000									
Can't pay either amount	9.1	(0.7)	2.1	(0.9)	2.9	(0.8)	1.5	(0.7)	***
Can pay $500	22.0	(1.2)	11.2	(1.5)	9.1	(1.3)	8.8	(1.2)	***
Can pay $5000	69.0	(1.3)	86.7	(1.6)	88.0	(1.5)	89.7	(1.4)	***
Financially preparing for retirement									
No	24.8	(2.1)	22.3	(2.7)	13.4	(2.5)	12.5	(2.4)	***
Yes	75.2	(2.1)	77.7	(2.7)	86.6	(2.5)	87.5	(2.4)	***
Number of retirement sources									
Average	2.3	(0.1)	2.6	(0.1)	2.9	(0.1)	2.8	(0.1)	***
0	25.5	(2.1)	22.7	(2.7)	13.5	(2.5)	14.6	(2.4)	***
1	7.7	(1.1)	3.8	(1.5)	4.6	(1.4)	2.5	(1.3)	**
2	21.8	(2.2)	17.3	(2.8)	17.7	(2.6)	25.8	(2.5)	*
3	22.4	(2.3)	23.3	(3.0)	31.0	(2.7)	21.5	(2.6)	*
4	11.1	(1.9)	19.5	(2.5)	15.2	(2.3)	19.1	(2.2)	**
5	6.4	(1.5)	6.9	(2.0)	10.2	(1.8)	12.0	(1.7)	*
6	5.1	(1.2)	6.5	(1.6)	7.8	(1.5)	4.5	(1.4)	

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement									
Not at all confident	18.6	(1.7)	5.1	(2.1)	6.9	(2.0)	8.9	(1.9)	***
Not very confident	37.0	(2.2)	20.6	(2.9)	21.9	(2.7)	9.9	(2.6)	***
Fairly confident	35.3	(2.7)	56.6	(3.4)	52.9	(3.2)	46.1	(3.1)	***
Very confident	9.1	(2.1)	17.6	(2.7)	18.3	(2.5)	35.1	(2.4)	***
Have a good idea how much money is needed to maintain desired standard of living during retirement									
No	67.0	(2.6)	60.3	(3.4)	36.8	(3.1)	32.0	(3.0)	***
Yes	33.0	(2.6)	39.7	(3.4)	63.2	(3.1)	68.0	(3.0)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 14 Financial confidence and protection measures – Seniors and near-seniors

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Use of advice for financial products									
Did not use any advice	70.4	(1.7)	60.3	(2.1)	60.6	(1.9)	56.1	(1.8)	***
Used advice	29.6	(1.7)	39.7	(2.1)	39.4	(1.9)	43.9	(1.8)	***
Used advice not from a professional	6.1	(0.9)	8.7	(1.1)	5.9	(1.0)	6.1	(0.9)	
Used advice from a professional	23.7	(1.7)	31.2	(2.0)	33.5	(1.8)	37.9	(1.7)	***
Number of sources of information for financial investments									
Average	1.0	(0.0)	1.3	(0.1)	1.2	(0.0)	1.4	(0.0)	***
0	34.6	(1.5)	22.8	(1.8)	21.7	(1.7)	18.2	(1.6)	***
1	47.2	(1.8)	47.2	(2.1)	52.7	(2.0)	47.1	(1.8)	
2 or more	18.2	(1.6)	30.0	(1.9)	25.6	(1.8)	34.7	(1.6)	***
Number of financial trends keep an eye on									
Average	1.4	(0.1)	2.1	(0.1)	2.4	(0.1)	3.3	(0.1)	***
0	55.6	(1.7)	38.9	(2.0)	30.8	(1.9)	25.0	(1.7)	***
1	15.3	(1.3)	15.2	(1.6)	17.4	(1.5)	16.1	(1.3)	
2 or 3	14.0	(1.4)	21.7	(1.6)	20.2	(1.5)	17.9	(1.4)	***
4 or more	15.0	(1.6)	24.2	(1.9)	31.6	(1.8)	40.9	(1.6)	***
Number of sources used to monitor these trends									
Average	0.9	(0.1)	1.6	(0.1)	1.7	(0.1)	2.0	(0.1)	***
0	55.7	(1.7)	38.9	(2.0)	31.0	(1.9)	25.3	(1.7)	***
1	18.5	(1.4)	18.8	(1.7)	23.5	(1.6)	21.4	(1.5)	*
2	12.7	(1.3)	15.4	(1.6)	18.7	(1.5)	20.3	(1.4)	***
3 or more	13.1	(1.5)	26.8	(1.8)	26.9	(1.7)	33.0	(1.6)	***
Have a will (FC09)									
No	38.0	(1.5)	19.6	(1.8)	22.0	(1.7)	18.3	(1.6)	***
Yes	62.0	(1.5)	80.4	(1.8)	78.0	(1.7)	81.7	(1.6)	***
Have powers of attorney drawn up for household									
No	53.7	(1.8)	39.0	(2.1)	41.7	(2.0)	37.3	(1.8)	***
Yes	46.3	(1.8)	61.0	(2.1)	58.3	(2.0)	62.7	(1.8)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 15 Financial confidence and the management of money and debt – Prime-age adults (25-54)

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Have debts									
No debt other than mortgages or student loan	35.2	(1.6)	32.6	(2.0)	39.2	(1.8)	42.3	(2.1)	***
Other debts or liabilities	64.8	(1.6)	67.4	(2.0)	60.8	(1.8)	57.7	(2.1)	***
Requested a credit report									
Yes, at least once	46.9	(1.6)	48.0	(2.1)	46.4	(1.9)	48.2	(2.2)	
Never	53.1	(1.6)	52.0	(2.1)	53.6	(1.9)	51.8	(2.2)	
Use of pawnbroker									
Yes, at least once	4.1	(0.6)	5.9	(0.8)	3.6	(0.7)	0.8	(0.8)	***
No	95.9	(0.6)	94.1	(0.8)	96.4	(0.7)	99.2	(0.8)	***
Use of payday loan service									
Yes, at least once	6.5	(0.7)	7.4	(0.9)	4.4	(0.9)	3.0	(1.0)	***
No	93.5	(0.7)	92.6	(0.9)	95.6	(0.9)	97.0	(1.0)	***
Use of non-bank cheque-cashing service									
Yes, at least once	3.2	(0.5)	3.8	(0.7)	3.0	(0.6)	0.9	(0.7)	**
No	96.8	(0.5)	96.2	(0.7)	97.0	(0.6)	99.1	(0.7)	**
Number of personal and joint accounts									
Average number of accounts	2.3	(0.0)	2.3	(0.1)	2.6	(0.0)	2.7	(0.1)	***
Frequency of checking bank balances									
Less than monthly	4.9	(0.6)	2.6	(0.7)	1.4	(0.7)	3.1	(0.8)	***
Monthly	10.3	(0.9)	7.8	(1.2)	9.0	(1.1)	8.3	(1.3)	
Every two weeks	20.0	(1.2)	21.9	(1.6)	14.8	(1.5)	13.4	(1.7)	***
Weekly or daily	64.9	(1.5)	67.7	(1.9)	74.8	(1.8)	75.2	(2.1)	***
Method of payment for day-to-day purchases									
With cash or debit card	75.8	(1.5)	72.2	(1.9)	64.1	(1.8)	56.6	(2.0)	***
Credit card or other methods	24.2	(1.5)	27.8	(1.9)	35.9	(1.8)	43.4	(2.0)	***
Ability to stay within budget									
No household budget	57.5	(1.6)	48.2	(2.1)	44.8	(1.9)	39.1	(2.2)	***
Never within budget	1.3	(0.3)	1.4	(0.4)	0.1	(0.4)	0.9	(0.4)	**
Rarely within budget	5.1	(0.5)	2.3	(0.7)	1.0	(0.6)	1.7	(0.7)	***
Usually within budget	28.6	(1.5)	35.6	(1.9)	37.9	(1.8)	27.9	(2.1)	***
Always within budget	7.5	(1.1)	12.5	(1.4)	16.3	(1.3)	30.5	(1.5)	***
Keep up with bills and financial commitment									
Falling behind	3.9	(0.5)	0.8	(0.7)	3.9	(0.6)	0.4	(0.7)	***
Keep up with a struggle	46.4	(1.5)	35.8	(1.9)	26.4	(1.8)	25.5	(2.1)	***
Keep up without problem	49.7	(1.5)	63.3	(2.0)	69.7	(1.8)	74.1	(2.1)	***

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Ever behind on payment									
Behind in at least two	4.3	(0.6)	2.5	(0.7)	3.8	(0.7)	0.4	(0.8)	***
Behind in one	16.6	(1.0)	6.8	(1.2)	6.0	(1.1)	7.2	(1.3)	***
Behind in none	79.1	(1.1)	90.6	(1.4)	90.2	(1.3)	92.4	(1.5)	***
Ever declared bankruptcy									
Yes	11.8	(1.0)	8.6	(1.2)	10.7	(1.1)	7.1	(1.3)	**
No	88.2	(1.0)	91.4	(1.2)	89.3	(1.1)	92.9	(1.3)	**

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 16 Financial confidence and future planning and savings – Prime-age adults (25-54)

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings									
0	1.7	(0.3)	2.4	(0.4)	0.3	(0.4)	0.1	(0.5)	***
1	28.4	(1.3)	25.0	(1.7)	18.3	(1.6)	14.0	(1.8)	***
2	29.4	(1.4)	25.4	(1.8)	23.2	(1.7)	22.8	(1.9)	***
3	22.3	(1.4)	23.9	(1.8)	21.0	(1.6)	29.1	(1.9)	***
4 or more	18.1	(1.4)	23.4	(1.8)	37.2	(1.7)	34.0	(1.9)	***
Received investment income in the last 12 months									
No	89.2	(1.2)	86.3	(1.5)	77.1	(1.4)	79.8	(1.6)	***
Yes	10.8	(1.2)	13.7	(1.5)	22.9	(1.4)	20.2	(1.6)	***
Number of insurance products									
Average	3.1	(0.1)	3.4	(0.1)	3.7	(0.1)	3.6	(0.1)	***
0 or 1	22.0	(1.1)	13.8	(1.5)	11.5	(1.3)	6.8	(1.6)	***
2 or 3	36.2	(1.5)	37.7	(2.0)	30.9	(1.8)	43.5	(2.1)	***
4 or more	41.9	(1.6)	48.5	(2.1)	57.6	(1.9)	49.7	(2.2)	***
All insurance policies with one company									
No insurance	22.1	(1.1)	13.6	(1.5)	11.5	(1.3)	6.9	(1.6)	***
Not all in the same company	51.6	(1.6)	54.8	(2.1)	57.6	(1.9)	60.5	(2.2)	***
All in the same company	26.3	(1.5)	31.5	(1.9)	30.9	(1.7)	32.6	(2.0)	**
Unexpected expenditure of $500 or $5000									
Can't pay either amount	5.7	(0.7)	3.6	(0.8)	4.6	(0.8)	2.0	(0.9)	***
Can pay $500	21.1	(1.1)	11.8	(1.4)	10.3	(1.3)	8.4	(1.5)	***
Can pay $5000	73.2	(1.2)	84.6	(1.6)	85.2	(1.5)	89.6	(1.7)	***
Financially preparing for retirement									
No	32.7	(1.4)	30.1	(1.8)	21.0	(1.7)	17.2	(2.0)	***
Yes	67.3	(1.4)	69.9	(1.8)	79.0	(1.7)	82.8	(2.0)	***
Number of retirement sources									
Average	2.0	(0.1)	2.4	(0.1)	2.6	(0.1)	2.6	(0.1)	***
0	34.1	(1.4)	31.8	(1.8)	21.9	(1.7)	18.1	(2.0)	***
1	8.7	(0.9)	3.8	(1.1)	8.4	(1.0)	10.5	(1.2)	***
2	16.6	(1.1)	14.0	(1.5)	13.1	(1.4)	14.8	(1.6)	
3	17.8	(1.3)	20.4	(1.7)	24.6	(1.6)	23.5	(1.8)	***
4	11.3	(1.1)	15.7	(1.5)	16.1	(1.4)	20.4	(1.6)	***
5	5.2	(0.8)	5.4	(1.1)	10.1	(1.0)	8.3	(1.1)	***
6	6.3	(0.8)	8.9	(1.0)	5.9	(0.9)	4.3	(1.1)	**

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement									
Not at all confident	13.6	(1.0)	9.4	(1.2)	6.7	(1.1)	6.0	(1.3)	***
Not very confident	29.3	(1.3)	25.5	(1.7)	15.6	(1.6)	10.0	(1.8)	***
Fairly confident	46.5	(1.6)	52.0	(2.1)	56.2	(1.9)	52.3	(2.3)	***
Very confident	10.6	(1.2)	13.0	(1.6)	21.5	(1.5)	31.7	(1.7)	***
Have a good idea how much money is needed to maintain desired standard of living during retirement									
No	71.7	(1.6)	57.0	(2.0)	51.9	(1.8)	32.1	(2.2)	***
Yes	28.3	(1.6)	43.0	(2.0)	48.1	(1.8)	67.9	(2.2)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Table 17 Financial confidence and best practices / protection measures – Prime-age adults (25-54)

Subjective Assessment – Ranking	1st quartile		2nd quartile		3rd quartile		4th quartile		
	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	
Use of advice for financial products									
Did not use any advice	64.2	(1.6)	60.9	(2.0)	51.2	(1.9)	51.3	(2.2)	***
Used advice	35.8	(1.6)	39.1	(2.0)	48.8	(1.9)	48.7	(2.2)	***
Used advice not from a professional	8.8	(0.9)	4.9	(1.2)	8.7	(1.1)	12.1	(1.2)	***
Used advice from a professional	26.5	(1.5)	34.0	(1.9)	40.9	(1.8)	36.5	(2.1)	***
Number of sources of information for financial investments									
Average	1.5	(0.0)	1.6	(0.1)	1.6	(0.0)	1.4	(0.1)	***
0	16.5	(1.1)	14.2	(1.4)	11.2	(1.3)	14.5	(1.6)	**
1	47.8	(1.6)	43.3	(2.1)	50.7	(1.9)	54.7	(2.2)	***
2 or more	35.7	(1.5)	42.5	(2.0)	38.0	(1.8)	30.7	(2.1)	***
Number of financial trends keep an eye on									
Average	1.4	(0.1)	2.1	(0.1)	2.5	(0.1)	3.7	(0.1)	***
0	51.9	(1.4)	30.3	(1.9)	23.1	(1.7)	17.2	(2.0)	***
1	18.2	(1.2)	21.0	(1.6)	23.5	(1.5)	11.0	(1.7)	***
2 or 3	15.1	(1.3)	25.3	(1.7)	25.5	(1.6)	25.2	(1.8)	***
4 or more	14.7	(1.4)	23.3	(1.7)	27.9	(1.6)	46.6	(1.9)	***
Number of sources used to monitor these trends									
Average	1.0	(0.1)	1.4	(0.1)	1.9	(0.1)	2.1	(0.1)	***
0	52.0	(1.4)	30.5	(1.9)	23.1	(1.7)	17.2	(2.0)	***
1	22.9	(1.4)	33.8	(1.9)	31.0	(1.7)	30.3	(2.0)	***
2	12.6	(1.2)	15.5	(1.5)	17.7	(1.4)	21.0	(1.6)	***
3 or more	12.5	(1.3)	20.2	(1.7)	28.2	(1.5)	31.5	(1.8)	***
Have a will									
No	78.9	(1.5)	70.2	(1.9)	60.3	(1.7)	52.3	(2.0)	***
Yes	21.1	(1.5)	29.8	(1.9)	39.7	(1.7)	47.7	(2.0)	***
Have powers of attorney drawn up for household									
No	82.5	(1.4)	78.5	(1.8)	69.8	(1.6)	62.4	(1.9)	***
Yes	17.5	(1.4)	21.5	(1.8)	30.2	(1.6)	37.6	(1.9)	***

Note: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. Stars at the end of each row indicate that there is a significant difference in the corresponding behaviour between at least two of the quartiles. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level.

Appendix E: Knowledge-confidence gap and demographics

Table 18 Seniors and near-seniors (55+)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident			Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	
Gender									
Male	48.1	(1.8)		49.8	(1.8)		43.6	(1.6)	**
Female	51.9	(1.8)		50.2	(1.8)		56.4	(1.6)	**
Marital status									
Married or common-law	73.5	(1.6)		71.1	(1.7)		70.0	(1.4)	
Widowed	7.2	(1.1)	**	10.8	(1.1)		12.1	(1.0)	
Separated or divorced	11.9	(1.2)		12.1	(1.2)		14.0	(1.1)	
Single, never married	7.4	(0.8)		6.0	(0.8)		3.9	(0.7)	*
Household composition									
One person	15.5	(1.4)	**	20.6	(1.4)		21.4	(1.2)	
Two people	55.9	(1.8)		57.6	(1.8)		60.8	(1.5)	
Three to six people	28.7	(1.5)	***	21.8	(1.5)		17.9	(1.3)	**
Region									
Atlantic	7.8	(1.0)		7.2	(1.0)		9.1	(0.9)	
Quebec	16.7	(1.6)	***	26.7	(1.6)		29.2	(1.3)	
Ontario	40.1	(1.8)		43.8	(1.8)		34.3	(1.5)	***
Manitoba, Saskatchewan and Alberta	18.3	(1.3)	**	13.7	(1.3)		14.7	(1.1)	
British Columbia	17.1	(1.2)	***	8.6	(1.2)		12.7	(1.0)	**
Household income									
Less than $32,001 (0 to 20%)	12.4	(1.4)	***	20.7	(1.4)		21.6	(1.2)	
$32,001 - $54,999 (21 to 40%)	23.3	(1.6)		21.8	(1.6)		30.7	(1.4)	***
$55,000 - $79,999 (41 to 60%)	24.8	(1.5)		25.2	(1.5)		19.1	(1.3)	***
$80,000 - $119,999 (61 to 80%)	18.9	(1.3)	*	15.7	(1.4)		14.7	(1.2)	
$120,000 and over (81 to 100%)	20.6	(1.3)	**	16.6	(1.4)		13.8	(1.2)	
Educational attainment									
High school or less	36.0	(1.8)	***	42.8	(1.8)		45.2	(1.5)	
Some college, university without degree	4.8	(0.8)		5.8	(0.8)		3.8	(0.7)	*
College, trade, vocational or technical school	29.3	(1.7)		25.6	(1.7)		32.1	(1.4)	***
University undergraduate degree	21.4	(1.4)		19.4	(1.4)		12.6	(1.2)	***
University graduate degree (including professional degrees)	8.6	(0.9)		6.4	(0.9)		6.3	(0.8)	
Aboriginal status									
Non-Aboriginal	98.6	(0.5)		97.6	(0.5)		98.5	(0.4)	
Aboriginal	1.4	(0.5)		2.4	(0.5)		1.5	(0.4)	

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Immigration status								
Non-Immigrant	85.2	(1.4)	**	80.6	(1.4)	83.1	(1.2)	
Immigrant	14.8	(1.4)	**	19.4	(1.4)	16.9	(1.2)	
Employment status								
Employed	35.2	(1.6)	***	24.9	(1.6)	25.5	(1.4)	
Self-employed	12.3	(1.0)	***	7.7	(1.0)	5.7	(0.9)	
Not working, student, or unpaid household work only	7.8	(1.0)		9.5	(1.0)	7.1	(0.9)	*
Retired	44.6	(1.8)	***	57.9	(1.8)	61.7	(1.5)	

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 19 Prime-age adults (25-54)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Gender								
Male	49.5	(1.6)		52.3	(1.8)	49.7	(1.7)	
Female	50.5	(1.6)		47.7	(1.8)	50.3	(1.7)	
Marital status								
Married or common-law	65.3	(1.5)	**	70.6	(1.7)	69.6	(1.6)	
Widowed	0.4	(0.3)		0.1	(0.4)	2.7	(0.3)	***
Separated or divorced	10.1	(0.9)	**	6.9	(1.0)	6.6	(0.9)	
Single, never married	24.2	(1.3)		22.4	(1.5)	21.1	(1.4)	
Household composition								
One person	13.9	(1.0)	***	9.8	(1.1)	8.2	(1.1)	
Two people	23.2	(1.3)		23.1	(1.5)	21.4	(1.4)	
Three to six people	62.9	(1.5)	*	67.1	(1.7)	70.4	(1.6)	
Region								
Atlantic	6.0	(0.8)		7.0	(0.9)	7.0	(0.9)	
Quebec	22.1	(1.3)	*	25.6	(1.5)	23.0	(1.5)	
Ontario	34.8	(1.5)	*	38.8	(1.7)	42.9	(1.7)	*
Manitoba, Saskatchewan and Alberta	21.2	(1.2)	**	16.6	(1.4)	17.6	(1.3)	
British Columbia	15.9	(1.0)	**	12.0	(1.2)	9.5	(1.1)	
Household Income								
Less than $32,001 (0 to 20%)	7.2	(0.9)	***	10.9	(1.0)	10.5	(1.0)	
$32,001 - $54,999 (21 to 40%)	14.3	(1.1)		12.5	(1.3)	17.0	(1.2)	**
$55,000 - $79,999 (41 to 60%)	21.6	(1.3)		22.8	(1.4)	18.8	(1.4)	**
$80,000 - $119,999 (61 to 80%)	28.1	(1.4)	**	23.8	(1.6)	32.6	(1.5)	***
$120,000 and over (81 to 100%)	28.9	(1.4)		30.0	(1.6)	21.1	(1.5)	***
Educational attainment								
High school or less	20.4	(1.4)	**	25.3	(1.5)	31.2	(1.5)	***
Some college, university without degree	7.3	(0.7)		6.7	(0.8)	3.6	(0.8)	***
College, trade, vocational or technical school	36.8	(1.5)	**	31.4	(1.7)	40.1	(1.7)	***
University undergraduate degree	24.3	(1.3)		25.5	(1.5)	17.9	(1.4)	***
University graduate degree (including professional degrees)	11.1	(0.9)		11.0	(1.1)	7.2	(1.0)	***
Aboriginal status								
Non-Aboriginal	96.8	(0.6)		96.5	(0.7)	95.9	(0.7)	
Aboriginal	3.2	(0.6)		3.5	(0.7)	4.1	(0.7)	
Immigration status								
Non-Immigrant	86.5	(1.3)	***	77.5	(1.4)	73.9	(1.4)	*
Immigrant	13.5	(1.3)	***	22.5	(1.4)	26.1	(1.4)	*

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Employment status								
Employed	74.3	(1.4)		73.7	(1.5)	75.6	(1.5)	
Self-employed	10.8	(0.9)		11.7	(1.1)	8.2	(1.0)	**
Not working, student, or unpaid household work only	14.2	(1.1)		13.0	(1.2)	15.2	(1.2)	
Retired	0.7	(0.3)	**	1.7	(0.4)	1.0	(0.4)	

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Appendix F: Subjective-objective gap and behaviour

Table 20 Bivariate results on money and debt management – Seniors and near-seniors (55+)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Have debts								
No debt other than mortgages or student loan	47.7	(1.8)	***	37.9	(1.8)	35.8	(1.5)	
Other debts or liabilities	52.3	(1.8)	***	62.1	(1.8)	64.2	(1.5)	
Requested a credit report								
Yes, at least once	30.6	(1.6)	***	23.3	(1.6)	27.3	(1.4)	*
Never	69.4	(1.6)	***	76.7	(1.6)	72.7	(1.4)	*
Use of pawnbroker								
Yes, at least once	2.0	(0.5)		1.6	(0.5)	3.0	(0.5)	*
No	98.0	(0.5)		98.4	(0.5)	97.0	(0.5)	*
Use of payday loan service								
Yes, at least once	2.3	(0.6)		1.6	(0.6)	3.2	(0.5)	**
No	97.7	(0.6)		98.4	(0.6)	96.8	(0.5)	**
Use of non-bank cheque-cashing service								
Yes, at least once	0.7	(0.5)	*	1.9	(0.5)	2.8	(0.4)	
No	99.3	(0.5)	*	98.1	(0.5)	97.2	(0.4)	
Number of personal and joint accounts								
Average number of accounts	2.7	(0.0)		2.6	(0.0)	2.5	(0.0)	*
Frequency of checking bank balances								
Less than monthly	3.9	(0.7)		4.7	(0.7)	2.6	(0.6)	**
Monthly	23.6	(1.7)	***	29.8	(1.7)	30.1	(1.4)	
Every two weeks	17.8	(1.4)		14.9	(1.4)	17.6	(1.2)	
Weekly or daily	54.7	(1.8)		50.6	(1.9)	49.7	(1.6)	
Method of payment for day-to-day purchases								
With cash or debit card	31.7	(1.7)		32.9	(1.7)	31.5	(1.5)	
Credit card or other methods	68.3	(1.7)		67.1	(1.7)	68.5	(1.5)	
Ability to stay within budget								
No household budget	64.5	(1.8)	*	60.0	(1.8)	46.1	(1.5)	***
Never within budget	0.8	(0.3)		0.6	(0.3)	0.6	(0.2)	
Rarely within budget	2.6	(0.5)	**	1.2	(0.5)	1.1	(0.4)	
Usually within budget	18.4	(1.4)		18.6	(1.5)	21.6	(1.3)	
Always within budget	13.7	(1.5)	***	19.6	(1.5)	30.6	(1.3)	***

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Keep up with bills and financial commitment								
Falling behind	2.6	(0.4)	***	1.0	(0.4)	0.2	(0.3)	
Keep up with a struggle	26.2	(1.4)	***	15.7	(1.4)	12.4	(1.2)	*
Keep up without problem	71.1	(1.4)	***	83.2	(1.4)	87.4	(1.2)	**
Ever behind on payment								
Behind in at least two	1.3	(0.3)	***	0.2	(0.3)	0.5	(0.3)	
Behind in one	7.2	(0.8)	***	4.1	(0.8)	3.2	(0.7)	
Behind in none	91.5	(0.8)	***	95.7	(0.8)	96.3	(0.7)	
Ever declared bankruptcy								
Yes	5.7	(0.9)		5.2	(0.9)	8.3	(0.8)	***
No	94.3	(0.9)		94.8	(0.9)	91.7	(0.8)	***

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 21 Bivariate results on future planning and savings – Seniors and near-seniors (55+)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings								
0	1.0	(0.4)	*	2.2	(0.4)	1.3	(0.4)	
1	14.5	(1.4)	***	21.1	(1.4)	20.2	(1.2)	
2	29.9	(1.6)	*	25.9	(1.6)	24.4	(1.4)	
3	21.6	(1.5)	*	18.1	(1.5)	21.7	(1.3)	*
4 or more	33.0	(1.7)		32.6	(1.7)	32.4	(1.5)	
Received investment income in the last 12 months								
No	74.3	(1.6)		72.2	(1.6)	77.7	(1.4)	***
Yes	25.7	(1.6)		27.8	(1.6)	22.3	(1.4)	***
Number of insurance products								
Average	3.3	(0.1)		3.2	(0.1)	3.1	(0.0)	
0 or 1	8.8	(1.1)	**	12.4	(1.1)	9.3	(0.9)	**
2 or 3	49.8	(1.8)	*	45.0	(1.8)	54.3	(1.6)	***
4 or more	41.4	(1.8)		42.6	(1.8)	36.4	(1.5)	***
All insurance policies with one company								
No insurance	8.9	(1.1)	**	12.4	(1.1)	8.9	(0.9)	**
Not all in the same company	55.7	(1.8)		52.9	(1.8)	45.6	(1.6)	***
All in the same company	35.5	(1.8)		34.6	(1.8)	45.5	(1.5)	***
Unexpected expenditure of $500 or $5000								
Can't pay either amount	3.2	(0.7)	***	6.9	(0.7)	2.8	(0.6)	***
Can pay $500	11.6	(1.2)		12.9	(1.2)	12.9	(1.1)	
Can pay $5000	85.2	(1.4)	***	80.1	(1.4)	84.3	(1.2)	**
Financially preparing for retirement								
No	16.5	(2.0)	*	21.9	(2.3)	19.1	(2.1)	
Yes	83.5	(2.0)	*	78.1	(2.3)	80.9	(2.1)	
Number of retirement sources								
Average	2.9	(0.1)	***	2.4	(0.1)	2.5	(0.1)	
0	16.8	(2.0)	**	23.4	(2.4)	19.8	(2.1)	
1	4.0	(1.1)	*	6.9	(1.3)	3.9	(1.1)	*
2	18.6	(2.1)		19.9	(2.4)	23.8	(2.2)	
3	26.4	(2.2)		21.6	(2.5)	24.5	(2.3)	
4	14.3	(1.9)		18.6	(2.1)	14.6	(1.9)	
5	8.3	(1.4)		7.3	(1.7)	10.5	(1.5)	
6	11.5	(1.2)	***	2.3	(1.4)	2.8	(1.2)	

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement								
Not at all confident	13.8	(1.6)		10.8	(1.9)	7.5	(1.7)	
Not very confident	28.8	(2.2)		25.0	(2.6)	18.4	(2.3)	*
Fairly confident	45.3	(2.6)		42.5	(3.0)	48.5	(2.7)	
Very confident	12.1	(2.0)	***	21.7	(2.4)	25.6	(2.1)	
Have a good idea how much money is needed to maintain desired standard of living during retirement								
No	54.1	(2.6)		48.7	(3.1)	46.5	(2.8)	
Yes	45.9	(2.6)		51.3	(3.1)	53.5	(2.8)	

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 22 Bivariate results on protection measures – Seniors and near-seniors (55+)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Use of advice for financial products								
Did not use any advice	56.3	(1.8)	***	63.3	(1.8)	64.2	(1.5)	
Used advice	43.7	(1.8)	***	36.7	(1.8)	35.8	(1.5)	
Used advice not from a professional	7.0	(0.9)		7.2	(0.9)	5.6	(0.8)	
Used advice from a professional	36.8	(1.7)	***	29.8	(1.7)	30.3	(1.5)	
Number of sources of information for financial investments								
Average	1.3	(0.0)	*	1.2	(0.0)	1.3	(0.0)	*
0	20.4	(1.5)	***	28.2	(1.6)	23.2	(1.3)	**
1	51.5	(1.8)	*	46.7	(1.8)	48.1	(1.6)	
2 or more	28.1	(1.6)		25.1	(1.6)	28.6	(1.4)	*
Number of financial trends keep an eye on								
Average	2.2	(0.1)		2.2	(0.1)	2.5	(0.1)	*
0	36.9	(1.8)	***	45.2	(1.8)	33.4	(1.5)	***
1	16.2	(1.3)		13.7	(1.3)	16.4	(1.1)	
2 or 3	19.7	(1.4)	***	13.9	(1.4)	20.6	(1.2)	***
4 or more	27.2	(1.6)		27.3	(1.6)	29.6	(1.4)	
Number of sources used to monitor these trends								
Average	1.6	(0.1)	***	1.4	(0.1)	1.6	(0.1)	***
0	36.9	(1.8)	***	45.2	(1.8)	33.7	(1.5)	***
1	20.2	(1.4)	**	15.9	(1.5)	23.1	(1.3)	***
2	16.2	(1.4)		15.9	(1.4)	18.2	(1.2)	
3 or more	26.6	(1.6)		23.0	(1.6)	25.1	(1.4)	
Have a will								
No	26.6	(1.6)		25.6	(1.6)	25.1	(1.4)	
Yes	73.4	(1.6)		74.4	(1.6)	74.9	(1.4)	
Have powers of attorney drawn up for household								
No	46.4	(1.8)		42.4	(1.8)	43.4	(1.6)	
Yes	53.6	(1.8)		57.6	(1.8)	56.6	(1.6)	

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 23 Bivariate results money and debt management – Prime-age adults (25-54)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Have debts								
No debt other than mortgages or student loan	68.3	(1.5)	**	63.5	(1.7)	56.2	(1.6)	***
Other debts or liabilities	31.7	(1.5)	**	36.5	(1.7)	43.8	(1.6)	***
Requested a credit report								
Yes, at least once	48.8	(1.6)		47.1	(1.8)	44.1	(1.7)	
Never	51.2	(1.6)		52.9	(1.8)	55.9	(1.7)	
Use of pawnbroker								
Yes, at least once	2.1	(0.6)	***	6.0	(0.7)	3.0	(0.6)	***
No	97.9	(0.6)	***	94.0	(0.7)	97.0	(0.6)	***
Use of payday loan service								
Yes, at least once	4.3	(0.7)	***	8.1	(0.8)	4.1	(0.8)	***
No	95.7	(0.7)	***	91.9	(0.8)	95.9	(0.8)	***
Use of non-bank cheque-cashing service								
Yes, at least once	1.5	(0.5)	***	3.9	(0.6)	2.7	(0.5)	
No	98.5	(0.5)	***	96.1	(0.6)	97.3	(0.5)	
Number of personal and joint accounts								
Average number of accounts	2.5	(0.0)		2.5	(0.0)	2.3	(0.0)	***
Frequency of checking bank balances								
Less than monthly	2.7	(0.5)		3.4	(0.6)	2.8	(0.6)	
Monthly	8.2	(0.9)	*	10.5	(1.0)	8.2	(1.0)	
Every two weeks	18.8	(1.2)		15.8	(1.4)	18.4	(1.3)	
Weekly or daily	70.3	(1.4)		70.3	(1.6)	70.6	(1.6)	
Method of payment for day-to-day purchases								
With cash or debit card	29.4	(1.5)	***	37.0	(1.6)	28.5	(1.6)	***
Credit card or other methods	70.6	(1.5)	***	63.0	(1.6)	71.5	(1.6)	***
Ability to stay within budget								
No household budget	53.4	(1.6)	***	45.5	(1.8)	45.7	(1.7)	
Never within budget	1.5	(0.3)	*	0.7	(0.4)	0.5	(0.3)	
Rarely within budget	4.8	(0.5)	***	2.4	(0.6)	1.0	(0.6)	*
Usually within budget	31.6	(1.5)	***	38.6	(1.7)	27.8	(1.6)	***
Always within budget	8.7	(1.1)	**	12.8	(1.3)	25.0	(1.2)	***
Keep up with bills and financial commitment								
Falling behind	2.1	(0.5)		2.8	(0.6)	3.1	(0.5)	
Keep up with a struggle	44.2	(1.5)	***	30.9	(1.7)	27.6	(1.6)	
Keep up without problem	53.7	(1.5)	***	66.3	(1.7)	69.3	(1.6)	

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Ever behind on payment								
Behind in at least two	2.5	(0.5)		3.2	(0.6)	3.6	(0.6)	
Behind in one	12.8	(0.9)	**	9.7	(1.1)	6.7	(1.0)	**
Behind in none	84.7	(1.0)		87.1	(1.2)	89.7	(1.2)	
Ever declared bankruptcy								
Yes	11.3	(0.9)	**	8.5	(1.1)	9.3	(1.0)	
No	88.7	(0.9)	**	91.5	(1.1)	90.7	(1.0)	

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 24 Bivariate results future planning and savings – Prime-age adults (25-54)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Number of assets and savings								
0	0.7	(0.3)	*	1.6	(0.4)	1.3	(0.4)	
1	20.9	(1.3)		23.2	(1.5)	23.3	(1.4)	
2	24.9	(1.4)		22.9	(1.5)	28.6	(1.5)	***
3	24.9	(1.3)		24.2	(1.5)	21.8	(1.5)	
4 or more	28.7	(1.4)		28.1	(1.6)	25.0	(1.5)	
Received investment income in the last 12 months								
No	82.8	(1.1)		80.6	(1.3)	88.0	(1.3)	***
Yes	17.2	(1.1)		19.4	(1.3)	12.0	(1.3)	***
Number of insurance products								
Average	3.5	(0.1)	**	3.4	(0.1)	3.3	(0.1)	
0 or 1	13.3	(1.1)	*	16.2	(1.2)	13.7	(1.2)	
2 or 3	34.2	(1.5)		35.5	(1.7)	41.3	(1.6)	**
4 or more	52.4	(1.6)	*	48.3	(1.8)	44.9	(1.7)	
All insurance policies with one company								
No insurance	13.2	(1.1)	*	16.3	(1.2)	13.8	(1.2)	
Not all in the same company	62.6	(1.5)	***	54.7	(1.8)	48.1	(1.7)	***
All in the same company	24.1	(1.4)	**	29.1	(1.6)	38.1	(1.6)	***
Unexpected expenditure of $500 or $5000								
Can't pay either amount	3.9	(0.6)		4.0	(0.7)	4.6	(0.7)	
Can pay $500	14.6	(1.1)		13.7	(1.2)	12.9	(1.2)	
Can pay $5000	81.6	(1.2)		82.4	(1.4)	82.5	(1.3)	
Financially preparing for retirement								
No	22.3	(1.4)	***	28.9	(1.6)	26.2	(1.5)	
Yes	77.7	(1.4)	***	71.1	(1.6)	73.8	(1.5)	
Number of retirement sources								
Average	2.6	(0.1)	***	2.2	(0.1)	2.3	(0.1)	
0	23.0	(1.4)	***	30.5	(1.6)	27.9	(1.5)	
1	7.0	(0.8)		7.9	(1.0)	9.0	(0.9)	
2	15.3	(1.1)		14.3	(1.3)	15.2	(1.2)	
3	21.7	(1.3)		22.1	(1.5)	20.2	(1.4)	
4	16.9	(1.1)	***	12.2	(1.3)	16.3	(1.2)	**
5	8.1	(0.8)	**	5.6	(0.9)	7.6	(0.9)	
6	8.0	(0.8)		7.3	(0.9)	3.9	(0.8)	***

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Confident that household income will provide desired standard of living during retirement								
Not at all confident	9.3	(0.9)		8.3	(1.0)	10.1	(1.0)	
Not very confident	26.2	(1.3)	***	19.7	(1.5)	18.0	(1.4)	
Fairly confident	51.1	(1.6)	*	55.7	(1.8)	48.4	(1.8)	***
Very confident	13.4	(1.2)		16.3	(1.4)	23.4	(1.3)	***
Have a good idea how much money is needed to maintain desired standard of living during retirement								
No	60.8	(1.6)	*	56.6	(1.8)	49.1	(1.8)	***
Yes	39.2	(1.6)	*	43.4	(1.8)	50.9	(1.8)	***

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Table 25 Bivariate results best practices / protection measures – Prime-age adults (25-54)

Gap between subjective and objective assessments of financial knowledge	Under-confident			Just confident		Highly confident		
	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	
Use of advice for financial products								
Did not use any advice	55.0	(1.5)	**	60.0	(1.8)	59.4	(1.7)	
Used advice	45.0	(1.5)	**	40.0	(1.8)	40.6	(1.7)	
Used advice not from a professional	9.0	(0.9)	*	6.6	(1.0)	9.3	(1.0)	**
Used advice from a professional	36.0	(1.5)		33.7	(1.7)	31.8	(1.6)	
Number of sources of information for financial investments								
Average	1.6	(0.0)	***	1.5	(0.0)	1.5	(0.0)	
0	10.7	(1.1)	***	15.6	(1.2)	16.6	(1.2)	
1	44.7	(1.6)	***	51.9	(1.8)	50.2	(1.7)	
2 or more	44.6	(1.5)	***	32.6	(1.7)	33.2	(1.6)	
Number of financial trends keep an eye on								
Average	2.0	(0.1)	***	2.6	(0.1)	2.2	(0.1)	***
0	34.9	(1.5)		33.6	(1.7)	29.5	(1.6)	*
1	18.6	(1.2)		16.1	(1.4)	21.0	(1.3)	**
2 or 3	22.4	(1.3)	*	19.0	(1.5)	25.0	(1.4)	***
4 or more	24.1	(1.4)	***	31.2	(1.6)	24.5	(1.5)	***
Number of sources used to monitor these trends								
Average	1.4	(0.1)	**	1.6	(0.1)	1.5	(0.1)	
0	34.9	(1.5)		33.7	(1.7)	29.5	(1.6)	*
1	28.7	(1.4)		26.7	(1.6)	30.9	(1.6)	*
2	15.2	(1.2)		14.7	(1.3)	19.2	(1.3)	**
3 or more	21.1	(1.3)	*	24.9	(1.5)	20.3	(1.4)	**
Have a will								
No	70.4	(1.5)	*	66.6	(1.7)	63.7	(1.6)	
Yes	29.6	(1.5)	*	33.4	(1.7)	36.3	(1.6)	
Have powers of attorney drawn up for household								
No	76.4	(1.4)		77.2	(1.6)	69.7	(1.5)	***
Yes	23.6	(1.4)		22.8	(1.6)	30.3	(1.5)	***

Notes: Least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. For each demographic characteristics, the proportion of the under-confident individuals is compared with the just-confident. The stars associated with each under-confident cell indicate that a significant difference is detected. * denotes 10% significance level, ** denotes 5% significance level, and *** denotes 1% significance level. The proportion of the highly confident is also compared with the just-confident, and any detected significant difference is denoted in the same way.

Appendix G: Regression-adjusted Least-squared means

Table 26 Money and debt management – Seniors and near-seniors

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident			Just confident		Highly confident			Under-confident			Just confident		Highly confident			Under-confident			Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE
Have debts																										
No debt other than mortgages or student loan	47.0	(3.9)	55.3	(3.4)	**	48.3	(4.2)	***	62.2	(4.9)	54.2	(3.5)		41.7	(3.8)	**	54.0	(4.8)	44.7	(4.4)	*	47.5	(3.9)		48.1	(4.3)
Other debts or liabilities	53.0	(3.9)	44.7	(3.4)	**	51.7	(4.2)	***	37.8	(4.9)	45.8	(3.5)		58.3	(3.8)	**	46.0	(4.8)	55.3	(4.4)	*	52.5	(3.9)		51.9	(4.3)
Requested a credit report																										
Yes, at least once	18.7	(3.7)	25.4	(3.1)	**	29.0	(3.9)		28.1	(4.5)	34.4	(3.3)		27.9	(3.5)		30.6	(4.5)	33.4	(4.2)		39.0	(3.6)	**	29.3	(4.0)
Never	81.3	(3.7)	74.6	(3.1)	**	71.0	(3.9)		71.9	(4.5)	65.6	(3.3)		72.1	(3.5)		69.4	(4.5)	66.6	(4.2)		61.0	(3.6)	**	70.7	(4.0)
Use of pawnbroker																										
Yes, at least once	3.8	(1.2)	6.7	(1.1)	***	6.8	(1.3)	***	1.4	(1.5)	1.3	(1.1)		1.8	(1.2)		2.3	(1.5)	2.2	(1.4)		-0.3	(1.2)		1.3	(1.4)
No	96.2	(1.2)	93.3	(1.1)	***	93.2	(1.3)	***	98.6	(1.5)	98.7	(1.1)		98.2	(1.2)		97.7	(1.5)	97.8	(1.4)		100.3	(1.2)		98.7	(1.4)
Use of payday loan service																										
Yes, at least once	3.2	(1.3)	5.8	(1.1)	**	4.2	(1.4)	**	0.4	(1.6)	0.9	(1.2)		2.8	(1.2)		1.4	(1.6)	1.5	(1.5)		-0.6	(1.3)		0.2	(1.4)
No	96.8	(1.3)	94.2	(1.1)	**	95.8	(1.4)	**	99.6	(1.6)	99.1	(1.2)		97.2	(1.2)		98.6	(1.6)	98.5	(1.5)		100.6	(1.3)		99.8	(1.4)
Use of non-bank cheque-cashing service																										
Yes, at least once	3.2	(1.2)	5.4	(1.0)	**	0.6	(1.2)		0.9	(1.4)	0.6	(1.0)		1.2	(1.1)		1.4	(1.4)	1.2	(1.3)		-0.8	(1.1)		0.6	(1.3)
No	96.8	(1.2)	94.6	(1.0)	**	99.4	(1.2)		99.1	(1.4)	99.4	(1.0)		98.8	(1.1)		98.6	(1.4)	98.8	(1.3)		100.8	(1.1)		99.4	(1.3)
Number of personal and joint accounts																										
Average number of accounts	2.2	(0.1)	2.2	(0.1)		2.2	(0.1)	***	2.6	(0.1)	2.5	(0.1)		2.4	(0.1)		2.5	(0.1)	2.5	(0.1)		2.7	(0.1)		2.7	(0.1)
Frequency of checking bank balances																										
Less than monthly	7.1	(1.6)	0.6	(1.3)	***	3.2	(1.7)	**	-1.0	(1.9)	0.5	(1.4)		2.3	(1.5)		0.3	(1.9)	2.2	(1.7)		-0.2	(1.5)		-1.9	(1.7)
Monthly	34.7	(3.7)	31.0	(3.2)		27.0	(4.0)		24.8	(4.6)	19.6	(3.3)		23.6	(3.5)		22.4	(4.5)	17.2	(4.2)		17.4	(3.6)		17.5	(4.0)
Every two weeks	22.8	(3.2)	20.0	(2.7)		21.8	(3.5)		26.2	(3.9)	25.1	(2.9)		27.4	(3.1)	***	13.6	(3.9)	14.8	(3.6)		19.4	(3.2)		13.9	(3.5)
Weekly or daily	35.4	(4.1)	48.3	(3.4)	***	48.0	(4.4)		50.0	(5.0)	54.8	(3.6)		46.6	(3.9)	***	63.7	(4.9)	65.9	(4.5)		63.4	(4.0)		70.4	(4.4)

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident		Just confident		Highly confident		Under-confident		Just confident		Highly confident		Under-confident		Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE
Method of payment for day-to-day purchases																					
With cash or debit card	71.1	(3.7)	74.6	(3.1)		78.2	(3.9)	81.1	(4.5)	68.8	(3.3)	***	79.5	(3.5)	***	59.9	(4.6)	54.4	(4.1)		63.4	(3.6)		69.9	(4.0)
Credit card or other methods	28.9	(3.7)	25.4	(3.1)		21.8	(3.9)	18.9	(4.5)	31.2	(3.3)	***	20.5	(3.5)	***	40.1	(4.6)	45.6	(4.1)		36.6	(3.6)		30.1	(4.0)
Ability to stay within budget																					
No household budget	63.9	(4.1)	48.0	(3.5)	***	75.1	(4.3)	***	55.4	(5.0)	39.6	(3.7)	***	55.4	(3.9)		50.9	(5.0)	39.2	(4.6)	**	52.7	(4.0)	*	44.8	(4.4)
Never or rarely within budget	4.9	(1.2)	3.5	(1.0)		4.0	(1.2)	1.7	(1.4)	1.8	(1.1)		3.4	(1.1)	**	0.5	(1.4)	1.1	(1.3)		1.8	(1.2)		1.2	(1.3)
Usually and always within budget	31.2	(4.1)	48.5	(3.5)	***	20.9	(4.3)	***	42.9	(5.0)	58.6	(3.6)		41.2	(3.9)	***	48.6	(4.9)	59.7	(4.6)		45.5	(4.0)	***	54.0	(4.4)
Keep up with bills and financial commitment																					
Falling behind	2.1	(0.8)	0.2	(0.7)	***	1.1	(0.9)	0.3	(1.0)	0.2	(0.7)		3.5	(0.8)	***	0.4	(1.0)	0.5	(0.9)		1.7	(0.8)		0.4	(0.9)
Keep up with a struggle	27.2	(2.9)	17.0	(2.5)	***	37.5	(3.1)	***	16.1	(3.7)	14.7	(2.6)		30.4	(2.8)	***	12.8	(3.6)	20.5	(3.3)	*	30.6	(2.9)	***	16.2	(3.2)
Keep up without problem	70.7	(3.0)	82.8	(2.5)	***	61.4	(3.2)	***	83.6	(3.7)	85.0	(2.7)		66.1	(2.8)	***	86.8	(3.6)	79.0	(3.4)	*	67.7	(2.9)	***	83.5	(3.2)
Ever behind on payment																					
Behind in at least two	0.6	(0.7)	1.4	(0.6)		2.6	(0.7)	**	0.2	(0.9)	0.0	(0.6)		0.8	(0.7)		0.7	(0.8)	0.5	(0.8)		1.8	(0.7)	*	0.5	(0.8)
Behind in one	9.3	(1.6)	7.5	(1.4)		11.0	(1.7)	9.8	(2.0)	6.7	(1.5)		10.6	(1.6)		9.8	(2.0)	6.6	(1.9)		10.2	(1.6)	***	5.1	(1.8)
Behind in none	90.1	(1.7)	91.1	(1.5)		86.4	(1.9)	90.0	(2.2)	93.2	(1.6)		88.7	(1.7)		89.6	(2.1)	92.9	(2.0)		88.0	(1.7)	***	94.3	(1.9)
Ever declared bankruptcy																					
Yes	5.8	(2.0)	7.0	(1.7)		7.9	(2.1)	7.3	(2.5)	11.7	(1.8)	*	7.8	(1.9)		5.1	(2.4)	6.7	(2.2)		3.4	(2.0)		6.3	(2.2)
No	94.2	(2.0)	93.0	(1.7)		92.1	(2.1)	92.7	(2.5)	88.3	(1.8)	*	92.2	(1.9)		94.9	(2.4)	93.3	(2.2)		96.6	(2.0)		93.7	(2.2)

Notes: By construction of the subjective-objective gap, respondents in the lowest knowledge quartile cannot be under-confident, as they cannot have a confidence quartile lower than the first quartile. Similarly, respondents in the fourth knowledge quartile cannot be highly confident.

Within each knowledge quartile, the behaviour of the under-confident is compared with the just-confident. Regression-adjusted least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. The stars right above the under-confident bars in each knowledge quartile denote the level of statistical significance if any difference is detected. Level of significance of 10% is denoted with *, 5% with **, and 1% with ***. Results of the highly confident individuals are presented in the same way.

Table 27 Future planning and savings – Seniors and near-seniors

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident			Just confident	Highly confident		Under-confident		Just confident	Highly confident			Under-confident			Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE
Number of assets and savings																						
0	3.9	(0.9)	2.0	(0.7)	**	1.6	(0.9)		1.5	(1.1)	2.0	(0.8)		3.3	(0.8)		2.7	(1.1)	1.9	(1.0)		2.4	(0.9)	***	5.5	(0.9)
1	30.1	(2.6)	26.6	(2.3)		25.3	(2.8)	*	19.4	(3.3)	18.6	(2.4)		22.4	(2.5)	*	16.2	(3.2)	17.4	(3.0)		16.5	(2.6)		17.5	(2.9)
2	28.5	(3.6)	27.4	(3.0)		21.7	(3.8)		23.0	(4.4)	20.9	(3.2)		31.6	(3.4)		28.4	(4.4)	24.6	(4.0)		32.3	(3.5)	*	24.2	(3.9)
3	23.3	(3.3)	20.7	(2.8)		25.1	(3.5)		24.2	(4.1)	29.1	(3.0)		20.0	(3.2)		14.0	(4.1)	19.5	(3.8)		24.5	(3.3)	**	16.6	(3.6)
4 or more	14.2	(3.3)	23.3	(2.8)	***	26.2	(3.5)		31.8	(4.1)	29.4	(3.0)		22.7	(3.2)	***	38.6	(4.1)	36.7	(3.8)		24.3	(3.3)	***	36.2	(3.6)
Received investment income in the last 12 months																						
No	83.3	(3.3)	88.0	(2.8)		81.1	(3.5)		76.8	(4.1)	77.4	(2.9)		83.4	(3.1)	**	73.6	(4.0)	65.5	(3.7)	*	75.2	(3.2)	***	63.8	(3.6)
Yes	16.7	(3.3)	12.0	(2.8)		18.9	(3.5)		23.2	(4.1)	22.6	(2.9)		16.6	(3.1)	**	26.4	(4.0)	34.5	(3.7)	*	24.8	(3.2)	***	36.2	(3.6)
Number of insurance products																						
Average	2.9	(0.1)	3.2	(0.1)	***	3.2	(0.1)		3.3	(0.1)	3.3	(0.1)		3.2	(0.1)	***	3.7	(0.1)	3.5	(0.1)		3.2	(0.1)	*	3.4	(0.1)
0 or 1	20.1	(2.3)	6.8	(2.0)	***	12.7	(2.4)	***	0.3	(2.8)	3.2	(2.1)		8.7	(2.2)	**	1.9	(2.8)	2.8	(2.6)		4.2	(2.3)		5.2	(2.5)
2 or 3	40.5	(4.0)	55.1	(3.4)	***	48.1	(4.3)	**	61.8	(5.0)	56.9	(3.6)		53.6	(3.9)	**	43.4	(4.9)	55.3	(4.6)	**	62.3	(4.0)	***	49.6	(4.4)
4 or more	39.4	(3.7)	38.2	(3.2)		39.3	(4.0)		38.0	(4.7)	39.9	(3.4)		37.7	(3.6)	***	54.7	(4.6)	41.8	(4.3)	**	33.5	(3.7)	***	45.2	(4.1)
All insurance policies with one company																						
No insurance	21.1	(2.3)	6.8	(1.9)	***	12.6	(2.4)	***	0.5	(2.8)	3.4	(2.0)		8.9	(2.2)	**	2.2	(2.8)	3.0	(2.6)		4.6	(2.3)		4.7	(2.5)
Not all in the same company	53.5	(4.1)	52.4	(3.4)		50.6	(4.3)	*	60.6	(5.0)	57.5	(3.6)		63.2	(3.9)		69.3	(4.9)	56.5	(4.6)	**	67.1	(4.0)		67.8	(4.4)
All in the same company	25.4	(4.1)	40.8	(3.4)	***	36.8	(4.3)		38.9	(5.0)	39.1	(3.6)		27.9	(3.9)		28.5	(4.9)	40.6	(4.6)	**	28.3	(4.0)		27.4	(4.4)
Unexpected expenditure of $500 or $5000																						
Can't pay either amount	10.4	(1.6)	1.0	(1.3)	***	6.1	(1.7)	***	-0.6	(1.9)	1.2	(1.4)		0.9	(1.5)		0.8	(1.9)	1.0	(1.8)		3.0	(1.5)		3.2	(1.7)
Can pay $500	23.3	(2.6)	14.4	(2.2)	***	13.2	(2.8)		13.6	(3.2)	10.7	(2.3)		16.4	(2.5)	***	4.7	(3.2)	10.8	(3.0)	*	13.1	(2.6)	**	6.7	(2.9)
Can pay $5000	66.3	(2.7)	84.6	(2.3)	***	80.7	(2.9)	*	87.0	(3.4)	88.1	(2.4)		82.7	(2.6)	***	94.5	(3.3)	88.2	(3.1)	*	83.9	(2.7)	*	90.1	(3.0)

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident		Just confident		Highly confident		Under-confident		Just confident		Highly confident		Under-confident		Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE	$\bar{x}$	SE
Financially preparing for retirement																					
No	30.3	(4.6)	14.6	(3.9)	***	26.0	(4.5)	21.7	(6.4)	18.2	(4.1)	19.6	(4.0)	15.1	(5.2)	18.1	(5.0)	20.5	(3.9)	19.6	(5.0)
Yes	69.7	(4.6)	85.4	(3.9)	***	74.0	(4.5)	78.3	(6.4)	81.8	(4.1)	80.4	(4.0)	84.9	(5.2)	81.9	(5.0)	79.5	(3.9)	80.4	(5.0)
Number of retirement sources																					
Average	2.3	(0.2)	2.7	(0.2)	**	2.5	(0.2)	2.4	(0.3)	2.7	(0.2)	2.9	(0.2)	3.1	(0.2)	2.8	(0.2)	2.9	(0.2)	*	2.5	(0.2)
0	30.9	(4.7)	15.0	(3.9)	***	27.2	(4.6)	23.8	(6.5)	18.3	(4.1)	19.7	(4.1)	14.5	(5.3)	18.8	(5.0)	20.9	(3.9)		24.4	(5.0)
1	5.8	(2.7)	7.1	(2.3)		6.9	(2.6)	*	14.3	(3.7)	2.1	(2.4)	***	4.3	(2.4)	4.4	(3.1)	3.6	(2.9)	2.5	(2.3)	0.7	(2.9)
2	10.8	(5.0)	24.0	(4.2)	***	13.7	(4.9)	14.7	(7.0)	17.1	(4.4)	11.6	(4.4)	14.8	(5.7)	18.3	(5.4)	12.7	(4.2)	17.8	(5.4)
3	21.0	(5.6)	18.3	(4.7)		12.8	(5.5)	14.4	(7.7)	30.4	(4.9)	*	26.4	(4.9)	22.9	(6.3)	20.4	(6.0)	29.7	(4.7)	21.8	(5.9)
4	20.9	(4.5)	17.5	(3.8)		23.4	(4.4)	18.6	(6.2)	21.1	(4.0)	14.9	(4.0)	17.5	(5.2)	16.2	(4.9)	12.8	(3.8)	***	28.4	(4.8)
5	10.2	(3.6)	17.4	(3.0)	**	13.3	(3.5)	8.4	(5.0)	7.6	(3.2)	15.8	(3.1)	22.5	(4.1)	21.7	(3.9)	6.7	(3.0)		6.4	(3.8)
6	0.3	(2.7)	0.7	(2.3)		2.6	(2.7)	5.8	(3.8)	3.4	(2.4)	7.4	(2.4)	3.4	(3.1)	0.9	(3.0)	14.7	(2.3)	***	0.5	(2.9)
Confident that household income will provide desired standard of living during retirement																					
Not at all confident	12.2	(3.8)	8.4	(3.2)		16.7	(3.8)	11.0	(5.2)	10.3	(3.3)	29.2	(3.3)	***	15.7	(4.3)	18.8	(4.2)	17.3	(3.2)	23.3	(4.1)
Not very confident	42.8	(5.2)	25.4	(4.4)	***	38.8	(5.1)	**	21.9	(7.2)	22.5	(4.6)	27.8	(4.5)		22.6	(5.9)	10.9	(5.7)	28.7	(4.3)	***	12.2	(5.6)
Fairly or very confident	44.9	(5.5)	66.2	(4.6)	***	44.4	(5.4)	***	67.0	(7.6)	67.2	(4.8)	43.0	(4.8)	***	61.7	(6.3)	70.2	(6.1)	54.0	(4.6)	*	64.5	(5.9)
Have a good idea how much money needed to maintain desired living standard during retirement																					
No	71.2	(6.0)	66.5	(4.9)		72.6	(5.6)	64.2	(8.0)	44.5	(5.0)	**	70.6	(5.0)	***	41.2	(6.6)	26.4	(6.3)	*	40.1	(4.8)	**	27.6	(6.1)
Yes	28.8	(6.0)	33.5	(4.9)		27.4	(5.6)	35.8	(8.0)	55.5	(5.0)	**	29.4	(5.0)	***	58.8	(6.6)	73.6	(6.3)	*	59.9	(4.8)	**	72.4	(6.1)

Notes: By construction of the subjective-objective gap, respondents in the lowest knowledge quartile cannot be under-confident, as they cannot have a confidence quartile lower than the first quartile. Similarly, respondents in the fourth knowledge quartile cannot be highly confident.

Within each knowledge quartile, the behaviour of the under-confident is compared with the just-confident. Regression-adjusted least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. The stars right above the under-confident bars in each knowledge quartile denote the level of statistical significance if any difference is detected. Level of significance of 10% is denoted with *, 5% with **, and 1% with ***. Results of the highly confident individuals are presented in the same way.

Table 28 Best practices / protection measures – Seniors and near-seniors

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident			Just confident		Highly confident			Under-confident			Just confident		Highly confident			Under-confident			Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$	SE
Use advice for financial products																										
Did not use any advice	70.5	(3.7)	60.1	(3.2)	***	53.9	(4.0)		49.8	(4.6)	58.1	(3.4)	*	61.6	(3.6)	*	52.9	(4.6)	54.2	(4.2)		49.9	(3.7)		47.1	(4.1)
Used advice	29.5	(3.7)	39.9	(3.2)	***	46.1	(4.0)		50.2	(4.6)	41.9	(3.4)	*	38.4	(3.6)	*	47.1	(4.6)	45.8	(4.2)		50.1	(3.7)		52.9	(4.1)
Used advice not from a professional	8.0	(2.1)	9.0	(1.8)		5.8	(2.2)	***	16.3	(2.6)	6.5	(1.9)	***	9.8	(2.0)	**	4.0	(2.5)	7.3	(2.4)		5.0	(2.1)		8.3	(2.3)
Used advice from a professional	22.0	(3.6)	31.1	(3.1)	***	40.3	(3.9)		34.0	(4.5)	35.6	(3.3)		28.7	(3.5)	***	43.1	(4.4)	38.5	(4.1)		45.0	(3.6)		44.6	(4.0)
Number of sources of information for financial investments																										
Average	1.0	(0.1)	1.3	(0.1)	***	1.1	(0.1)	**	1.5	(0.1)	1.5	(0.1)		1.3	(0.1)		1.4	(0.1)	1.5	(0.1)		1.5	(0.1)	**	1.7	(0.1)
0	36.4	(3.3)	20.9	(2.8)	***	19.7	(3.5)		20.3	(4.1)	14.3	(3.0)		21.3	(3.1)	***	8.7	(4.0)	6.5	(3.7)		13.4	(3.3)		12.7	(3.6)
1	47.0	(4.1)	49.7	(3.5)		60.6	(4.4)	**	46.8	(5.1)	50.6	(3.7)		46.7	(4.0)	**	59.7	(5.1)	53.3	(4.7)		54.2	(4.1)	*	45.2	(4.5)
2 or more	16.6	(3.6)	29.4	(3.1)	***	19.7	(3.8)	***	32.9	(4.5)	35.1	(3.2)		32.0	(3.4)		31.6	(4.4)	40.2	(4.1)	*	32.4	(3.6)	**	42.0	(3.9)
Number of financial trends keep an eye on																										
Average	1.6	(0.2)	2.4	(0.2)	***	2.0	(0.2)		2.4	(0.3)	2.9	(0.2)	**	2.0	(0.2)	*	2.4	(0.2)	3.7	(0.2)	***	2.8	(0.2)	***	4.0	(0.2)
0	61.6	(3.7)	40.7	(3.2)	***	52.1	(4.0)	***	37.4	(4.6)	23.7	(3.3)	***	38.2	(3.6)		32.1	(4.6)	15.0	(4.2)	***	26.2	(3.7)		25.6	(4.1)
1	7.0	(3.0)	11.8	(2.6)	*	8.1	(3.2)		12.9	(3.7)	12.4	(2.7)		16.5	(2.9)		18.3	(3.7)	15.3	(3.4)		15.9	(3.0)	***	5.7	(3.3)
2 or 3	12.8	(3.2)	20.1	(2.8)	**	17.9	(3.4)		23.3	(4.0)	30.9	(2.9)	*	26.5	(3.1)	*	19.5	(3.9)	24.7	(3.6)		19.7	(3.2)		19.4	(3.5)
4 or more	18.6	(3.5)	27.5	(3.0)	***	21.9	(3.8)		26.3	(4.4)	33.1	(3.2)		18.8	(3.4)	**	30.1	(4.3)	45.0	(4.0)	***	38.2	(3.5)	***	49.3	(3.9)
Number of sources used to monitor those trends																										
Average	0.9	(0.1)	1.3	(0.1)	***	0.9	(0.1)	**	1.3	(0.2)	2.0	(0.1)	***	1.3	(0.1)		1.5	(0.2)	1.9	(0.1)	**	1.9	(0.1)		1.9	(0.1)
0	61.5	(3.7)	41.1	(3.2)	***	52.2	(4.0)	***	37.4	(4.6)	23.7	(3.3)	***	38.3	(3.6)		32.2	(4.6)	15.5	(4.2)	***	26.3	(3.7)		25.8	(4.1)
1	14.8	(3.3)	25.2	(2.9)	***	22.9	(3.6)		28.1	(4.2)	27.0	(3.0)		24.6	(3.2)		28.1	(4.1)	33.6	(3.8)		27.6	(3.3)	**	18.1	(3.7)
2	15.1	(3.1)	14.7	(2.7)		14.8	(3.3)		16.0	(3.9)	22.6	(2.8)	*	21.0	(3.0)	**	12.9	(3.8)	24.9	(3.5)	***	17.0	(3.1)	**	26.1	(3.4)
3 or more	8.6	(3.4)	19.1	(2.9)	***	10.1	(3.6)	*	18.4	(4.2)	26.7	(3.1)	*	16.0	(3.3)	**	26.8	(4.2)	26.0	(3.9)		29.0	(3.4)		30.0	(3.7)

Objective Assessment - Ranking	First Quartile					Second Quartile					Third Quartile					Fourth Quartile				
Gap between subjective and objective assessments of financial knowledge	Just confident		Highly confident			Under-confident			Just confident	Highly confident			Under-confident	Just confident	Highly confident			Under-confident			Just confident	
	$\bar{x}$	SE	$\bar{x}$	SE		$\bar{x}$	SE		$\bar{x}$ SE	$\bar{x}$ SE			$\bar{x}$ SE	$\bar{x}$ SE	$\bar{x}$ SE			$\bar{x}$	SE		$\bar{x}$	SE
Have a will																						
No	38.4	(3.2)	28.5	(2.7)	***	30.5	(3.4)	***	19.0 (4.0)	30.0 (2.9)	***		33.0	(3.1)	**	22.5 (3.9)	22.4 (3.6)		23.7	(3.2)		26.5 (3.5)
Yes	61.6	(3.2)	71.5	(2.7)	***	69.5	(3.4)	***	81.0 (4.0)	70.0 (2.9)	***		67.0	(3.1)	**	77.5 (3.9)	77.6 (3.6)		76.3	(3.2)		73.5 (3.5)
Have powers of attorney drawn up for household																						
No	52.1	(3.9)	42.9	(3.3)	***	44.1	(4.2)		38.3 (4.8)	47.5 (3.5)	*		46.4	(3.7)		44.7 (4.7)	46.4 (4.4)		49.5	(3.9)	***	36.6 (4.2)
Yes	47.9	(3.9)	57.1	(3.3)	***	55.9	(4.2)		61.7 (4.8)	52.5 (3.5)	*		53.6	(3.7)		55.3 (4.7)	53.6 (4.4)		50.5	(3.9)	***	63.4 (4.2)

Notes: By construction of the subjective-objective gap, respondents in the lowest knowledge quartile cannot be under-confident, as they cannot have a confidence quartile lower than the first quartile. Similarly, respondents in the fourth knowledge quartile cannot be highly confident.

Within each knowledge quartile, the behaviour of the under-confident is compared with the just-confident. Regression-adjusted least-squared means are denoted with $\bar{x}$, and standard errors are in parenthesis. The stars right above the under-confident bars in each knowledge quartile denote the level of statistical significance if any difference is detected. Level of significance of 10% is denoted with *, 5% with **, and 1% with ***. Results of the highly confident individuals are presented in the same way.

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