# A multi-dimensional analysis of the value of financial advice to households in Canada

HENLEY BUSINESS SCHOOL

THE UNIVERSITY OF READING

Dissertation submitted to the Faculty of the International Capital Market Association (ICMA) Centre in partial fulfilment of the requirements for the degree of

Doctor of Business Administration (DBA)

Preet Banerjee

January 2023

# Declaration

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Preet Banerjee

January 23rd, 2023

# Certificate of readiness to be included in library

I grant powers of discretion to the University Librarian to allow this thesis to be copied in whole or in part without further reference to me. This permission covers only single copies made for study purposes, subject to normal conditions of acknowledgement.

# Acknowledgements

I would like to express my sincere gratitude to my primary supervisor, Professor Walid Hejazi, for his invaluable guidance, patience, and support throughout my doctoral journey. Professor Hejazi has been an exceptional mentor, always making time for me without hesitation or fail, providing insightful feedback on my research, and for serving as a role model and mentor. His wealth of knowledge and expertise have been invaluable resources, and I am deeply grateful for the opportunity to have worked under his supervision.

In addition to his technical expertise, Professor Hejazi has also been a constant source of support and encouragement, always pushing me to strive for excellence and never losing faith in my abilities. His patience and understanding have been greatly appreciated, especially during the more challenging moments of my DBA.

I am deeply grateful to Professor Hejazi for his unwavering commitment to my academic and professional development. His guidance has been instrumental in shaping my career. I am honoured to have had the opportunity to work with such a brilliant and dedicated supervisor.

Thank you, Walid.

I would also like to acknowledge my initial secondary supervisor, Charles Ward whose guidance and encouragement in the early phase of this research was much welcomed. After his retirement, I had the good fortune of being paired with Dr. John Chessher, whose deep industry and academic expertise in global financial markets has been a rich resource from which to draw. Dr. Chessher has been phenomenally supportive and his encouragement and guidance in the final stages of this dissertation were critical.

Thank you also to Professor Doug Hyatt, Professor Rafael Gomez, and Professor Harry Krashinsky for helpful comments and feedback over the years since this research journey first started. I would be remiss to omit thanks to Professor Claire Collins who was instrumental in setting a high bar at the outset of this journey.

Dr. Cheryl Hurst was, and is, a role model who provided support and encouragement along the final stages of preparing this dissertation. I am especially lucky in that we are life partners.

I would also like to thank Dr. Michelle Hurst for letting me bother her with statistics questions.

Louise Hillier and Becky Kite have provided tremendous support throughout the DBA journey. I thank them for their patience[1].

And to Ron, Jacky, and my parents, Dr. Diponkar Banerjee and Raju Banerjee: yes, it's done now.

---

[1] Endless patience.

# Abstract

This research contributes to the understanding of the value of financial advice to households in Canada by differentiating the market for financial advice into 18 specific channels and applying both portfolio centric as well as non-portfolio centric measures of value. Controls for the receipt of financial planning and endogenous factors that impact household financial outcomes are also applied.

The results of this study suggest that the value of financial advice for households depends on the type of advice channel used and the financial outcomes being measured. Traditional financial advice channels, which offer advice alongside investment execution, are effective in improving household financial outcomes for wealthier households when using a portfolio-based measure of value, but there is little evidence of value for traditional financial advice channels targeting the mass market. However, when considering traditional financial advice channels for average Canadian households, the receipt of financial planning was found to have a significant and positive impact across a multi-dimensional framework. Additionally, the results showed that DIY investors (those who opt for a "do it yourself" approach to investing) were associated with higher levels of investable assets compared to the reference group, which comprised those who used the 'no advice' condition. The 'no advice' reference group were respondents who identified a bank teller as their primary channel of advice, controlled for demographic differences, and duration of use of primary channel of advice. This suggests that the idea of a simple dichotomy between financially advised households and DIY investors may be too simple of a framework for determining the value of financial advice, and that overall, heterogeneity of households plays an important role in the determination of value, especially when accounting for endogenous factors.

By considering these results against a differentiated framework for the market for financial advice (considering the inter- and intra-channel differences in the market for financial advice) and using three separate outcome measures for households, this research makes several contributions to the existing literature on the value of financial advice to households, particularly regarding the importance of financial planning and the interaction effect between financial planning and the type of advice channel utilized.

To assess the efficacy of financial advice, three different outcome measures were studied: current Investable Assets, a Holistic Wealth Score, and Comprehensive Financial Confidence. The first measure is focused on Investable Asset levels, while the latter two are non-portfolio centric measures. The Holistic Wealth Score is a measure of the breadth of financial advice received, while Comprehensive Financial Confidence captures an intangible

benefit of financial advice. These non-portfolio centric measures also align with emerging industry service offerings in the market for contemporary financial advice, as portfolio management becomes more commoditized.

# Contents

# List of figures

# List of tables

# List of abbreviations

APA     American Psychological Association

DB       Defined Benefit (pension plan)

DC       Defined Contribution (pension plan)

CFA     Chartered Financial Analyst

CFC     Comprehensive Financial Confidence

CFP     Certified Financial Planner

HWS    Holistic Wealth Score

IIROC   Investment Industry Regulatory Organization of Canada

KPI      key performance indicator

MFDA  Mutual Fund Dealers Association of Canada

OEO    Order Execution Only

OSFI    Office of the Superintendent of Financial Institutions

RPP     Registered Pension Plan

UoR     University of Reading

WHO    World Health Organization

# 1   Introduction

## 1.1   Focus of research

The value of financial advice to households does not appear to have consensus. Previous research has largely examined the value of financial advice in the context of investment and portfolio management but efforts to differentiate the market for financial advice into specific channels and to apply both portfolio centric and non-portfolio centric measures of value is relatively new territory as market offerings have evolved over time.

The focus of this research is to contribute to the understanding of the value of financial advice to households in Canada by analyzing the effectiveness of differentiated financial advice channels and by considering the role of financial planning as well as endogenous factors that impact household financial outcomes.

This study also uses multiple outcome measures to assess the efficacy of financial advice. In particular, the use of non-portfolio centric measures, such as a Holistic Wealth Score and a Comprehensive Financial Confidence measure, aligns with emerging industry trends and allows for the examination of intangible benefits of financial advice.

The main research question for this study is: what is the value of financial advice for households in Canada, and how does it vary by channel and financial outcome measure? To answer this question, three objectives are proposed: 1) to differentiate the market for financial advice into specific channels, 2) to apply both portfolio centric and non-portfolio centric measures of value, and 3) to consider the impact of financial planning and other endogenous factors on household financial outcomes.

A quantitative design was employed on cross-sectional survey data with a final sample size of 1,446 households in Canada using multiple regression analysis.

## 1.2   Background

There is a well-established market for personal financial advice, with a variety of channels through which such advice can be accessed. Despite the growing transparency of the costs of financial advice and products, the value received by households remains somewhat unclear. This lack of clarity is due, in part, to the absence of a consensus framework for measuring the value of the services received. Financial advisors, acting as agents, are often compensated through commissions, asset-gathering metrics, or sales quotas. These incentives have been shown to influence the behaviour of financial advisors and may not

always align with the interests of their clients, potentially exacerbating agency conflicts and information asymmetry.

In addition to these issues, there is a lack of uniformity in the portfolio of advice services offered across and within different channels of financial advice, a wide variation in the quality of practitioners within these channels, and a general lack of financial literacy among financial consumers. This can make it difficult for individuals to navigate the complex financial product and advice landscape.

Despite the importance of personal financial planning, it has not attained the same level of academic prominence as other financial topics or professions. In 2004, Lewis Altfest published a review in the American Economist in which he argued that personal financial planning was a rapidly growing discipline with roots in various academic theories, but called for more research to elevate it to the level of corporate finance and investments. Subsequent calls for research in this area have come from both academic (Becker, 1974; Black Jr., Ciccotello and Skipper Jr., 2002) and practitioner (Overton, 2008; David B. Yeske, 2010) journals, highlighting the gap in knowledge surrounding contemporary financial advice.

## 1.3 Implications for research

This doctoral study addresses a gap in knowledge surrounding the value of contemporary financial advice for households by adopting a multi-dimensional framework of outcome measures and applying it to the receipt of financial advice across a differentiated spectrum of financial advice channels. By using both portfolio centric and non-portfolio centric measures, this research aims to provide a more comprehensive understanding of the value of financial advice beyond traditional portfolio management.

This study has the potential to make several contributions to the academic literature on the value of financial services. First, the use of a multi-dimensional framework of outcome measures allows for a more nuanced evaluation of the value of financial advice, considering both tangible and intangible benefits. Second, the differentiation of the financial advice market into specific channels provides insight into the relative effectiveness of different types of financial advice. Finally, controlling for the receipt of financial planning addresses intra-channel heterogeneity and allows for a more thorough examination of the factors that contribute to the value of financial advice.

Overall, this research enhances the academic understanding of the value of financial services beyond portfolio and investment management, informing both practitioners and researchers in the field.

20

## 1.4  Implications for practice

Differentiating the market for financial advice into specific channels and applying both portfolio centric and non-portfolio centric measures of value provides insights into which models of financial advice are most effective in improving the financial outcomes of households. Not only would this inform industry strategy, this benefits consumers by providing information to assist them when selecting the appropriate channels of advice.

In addition, the findings of this research can help to address concerns about agency conflicts and information asymmetry within the industry. By identifying the factors that contribute to the value of financial advice and how they vary by channel, this study can inform efforts to align the incentives of financial advisors with the interests of their clients and promote transparency in the financial advice process.

Overall, the results of this research have the potential to improve the quality and effectiveness of personal financial advice, which can ultimately benefit both providers of financial advice and financial consumers.

## 1.5  Thesis structure

Chapter 2 provides a literature review on the value of financial advice to households. It describes the evolution of the personal financial advice industry, the delineation of investment advice and financial planning in the context of financial advice, and describes the body of research measuring the value of financial advice. This is followed by the theoretical framework in Chapter 3 which draws from this literature. The research methodology used in this thesis is documented in Chapter 4 and is then followed by the analysis and results, mainly using multiple linear regression, in Chapter 5. Chapter 6 provides the conclusions, recommendations to industry, regulators, and policymakers, and recommendations for future research.

# 2 Literature Review

## 2.1 Introduction

The focus of this thesis is to further the understanding of the value of financial advice to households and the impact of endogenous factors of financial consumers with respect to outcomes and financial advice.

Quantifying the value of financial advisors to households has historically focused on portfolio-centric measures in the academic literature. However, contemporary models of financial advice have evolved across multiple dimensions. These models vary in the comprehensiveness of advice offered, the mode of facilitation (human advisors versus 'robo-advisors' versus self-facilitation), and cost models. This dissertation will also examine the effects of these developments on the assessment of value provided by personal financial advisors.

The academic literature on the value of personal financial advice predominantly focuses on investment performance and similarly uses the term 'financial advice' in an investment-centric reference. In many studies, financial advice and investment advice seem to be used interchangeably. While terminology used in industry practice is similarly poorly defined, a differentiation between investment (and portfolio) advice and other facets of personal financial advice clearly exists.

This literature review will first establish the scope of the research question with respect to societal importance. Then, a review of the different categories of financial advice available to households is presented to help delineate the landscape of financial advice that exists in reality. A review of literature assessing the value along these primary groupings of financial advice follows (investment advice, personal finance advice, financial planning advice). Finally, the contributions this thesis adds to the literature is presented.

## 2.2 Why is personal wealth management important?

The ability of households to maintain a certain standard of living over a lifetime is important not only to the individual household, but to an overall economy's prospects as well. Government policies around the degree of individual responsibility for savings and retirement income are therefore systemically important to economies (Poterba, 2014). As younger households accumulate financial assets to prepare for retirement, in aggregate they purchase these assets from individuals who are already retired and in a decumulation phase of wealth management. As retirees sell financial assets to younger generations, the proceeds

of those sales fund lifestyle consumption. Therefore, demographic considerations weigh heavily on asset values, investment, and economic performance (Deaton, 2012). Poterba notes that higher-income households are more sensitive to capital market fluctuations, private pensions, earnings, and assets, while lower income households are more sensitive to changes in social security programs. So while the types of financial decisions faced by higher- and lower-income households may be different, the optimization of these decisions have bearings at a micro- and macro-economic level.

Early economic theory (Life Cycle Theory of Consumption) about household consumption posited that spending and saving patterns differ over one's lifetime in order to smooth consumption (Modigliani and Brumberg, 1954). Foregoing consumption during a working career to accumulate savings and investments in order to fund consumption during retirement would allow for a smoothing of consumption over a lifetime even though labour income is not constant.

In any country, the balance between private, voluntary savings and investments versus publicly-funded social programs is set by government policy. In many OECD countries, the burden of retirement income funding has slowly shifted towards the individual for decades (Mackenzie, 2010).

While the absolute number of employees in Canada with registered pension plan (RPP) coverage has increased during the time period of 1989 to 2019 (5.1 million to 6.5 million), the size of the workforce has grown at a higher rate which has led to a decrease in the proportion of employees in Canada with registered pension plan membership from 43% to 37% during the same timeframe (Office of the Superintendent of Financial Institutions Canada, 2021).

Registered pension plans generally fall into two broad categories: defined benefit pension plans (DB pension plans) and defined contribution pension plans (DC pension plans). A defined benefit pension plan provides a prescribed retirement income level according to a specified formula. It is generally considered more desirable by retirees versus a defined contribution plan in which the income in retirement is variable and is subject to depletion before death of the recipient. The proportion of all RPP members in Canada who hold defined benefit pension plans has decreased, but the decline has been acute for private sector employees. The Office of the Chief Actuary, which operates under the purview of the Office of the Superintendent of Financial Institutions in Canada, noted in the same 2021 report that while the proportion of public sector registered pension plan members with defined benefit pensions (vs defined contribution pensions) decreased from 98% to 91%

between 1989 to 2019, the corollary statistic for private sector employees fell from 85% to just 39% during the same timeframe.

The Center for Retirement Research at Boston College provided a review of retirement preparedness in the United States which analysed the Federal Reserve's Survey of Consumer Finances over multiple periods (Munnell, A. H., Webb, A. Golub-Sass, 2012). Using the National Retirement Risk Index (NRRI), the percentage of households at risk of not maintaining their living standards after transitioning to retirement increased from 44 percent to 53 percent between 2007 and 2010. They note that the 2010 results incorporate the effects of the Great Financial Crisis (GFC) which would largely explain the change in share. However, the 2007 results (44 percent) still indicate that roughly half of American households may not be fully prepared for a standard of living in retirement to which they are accustomed, and perhaps expect.

Approximately one in seven Americans were 65 years of age or older in 2014 but by 2029, that number is expected to increase to one in five (US Census Bureau, 2015). Reliance on personal financial advice increases with age, while increased market complexity and regulation has also contributed to an increased need for personal financial advice (Finke, 2012). According to the Bureau of Economic Analysis, the "Finance and Insurance" industry accounted for 6.94% of gross domestic product of the United States in 2014. This suggests that the industry of personal financial advice holds considerable importance to the individual household as well as to the overall economy.

As a result of the decline in retirement security provided by social programs and defined benefit pension plan coverage, the importance of private savings and investments of the household has increased. In Canada, private retirement savings would include registered retirement savings plans (RRSPs), tax-free savings accounts (TFSAs), and other personal savings vehicles.

Financial advice may play a role in augmenting personal savings rates, management of financial assets, and other household financial decisions that have implications not only for the household but the overall economy. Optimizing welfare of the household is thus desirable and it is here where the financial services industry has traditionally provided many services under the general category of financial advice. Financial advice is part of a properly functioning market for financial products that includes not only investment assets, but also insurance products, credit products, and more.

If consumers are unable to properly navigate the myriad product options available, financial advice could help individuals make better decisions (Inderst and Ottaviani, 2012b).

## 2.3 Need for financial advice

John Campbell (2006) found that analysing portfolio diversification, stock market participation, and mortgage choices revealed that some households make large mistakes. These households tended to be less financially capable and less educated than households that made fewer investment mistakes. One source of these errors may be attributed to avoidance behaviour. Households may be perceptive of their lack of financial literacy and therefore will avoid investing in risky assets. This may lead to a failure to realize consumption potential over a lifetime for these households.

The existence of cognitive errors and the high price of information acquisition were offered as a basis for a theory of financial advice (Bluethgen *et al.*, 2011). This would imply that value could be derived from reducing financial mistakes. While this particular research was investment-centric, these frameworks put forth could be extended to other financial matters of the household as well.

Errors in financial decision making also tend to increase with age (Agarwal *et al.*, 2009), with roughly half of octogenarians suffering from cognitive impairment. Errors in financial decision making are not relegated to investment and portfolio management, but extend to other financial areas, such as credit behaviour. Agarwal et al. found that financial decision making error rates follow a "u-shaped" pattern over a lifetime. Younger households tend to make more mistakes, possibly due to a lack of financial literacy, while older households tend to make more mistakes due to cognitive impairment. Middle-aged adults tend to make the fewest mistakes, but still make mistakes. Within even the group of middle-aged adults who tend to make the fewest errors, these households may still lack the sophistication to manage their own financial affairs in their entirety (Malmendier & Shanthikumar 2007).

## 2.4 History of financial advice

The framework for the financial advice industry is rooted in Albert Ando and Franco Modigliani's Life Cycle Hypothesis of Saving (Ando and Modigliani, 1963). This theory posits that individuals and households pull their income forwards and subsequently push income into the future through debt and savings in order to smooth out their average annual consumption over a lifetime. Younger individuals may not yet be at their prime earning potential but may want to acquire an education, a home, vehicles, and other large assets. It is rational to use debt to finance these purchases while younger, pay off the debts over time, and then accumulate savings and assets later in a career when earnings increase so that they may use these assets to help fund consumption during retirement when their labour

income is lower or zero. The retail financial industry's provision of advice or transactional services along these two facets of personal finance, borrowing and investing, was described by Greenbaum and Haywood (1971) as primarily an industry of intermediation.

The financial services industries in various countries have seen a trend away from transactional intermediation on a compartmentalized basis and towards a "financial supermarket" model through consolidation (Wilmarth, 2002). Wilmarth focuses his analysis on the United States between 1975 and 2000, but the Canadian landscape shared this overall trend. Financial services in Canada are arguably more concentrated than in the United States. The largest six banks in Canada command more than 90% of all banking assets in the country (Department of Finance Canada, 2016). Each of these banks have multiple business lines including day-to-day banking, mortgage and credit, investment and wealth management, and insurance products.

The delineation between compartmentalized, execution-focused intermediation and more holistic, advice-focused intermediation seems to have a genesis around the 1970s. Nobel laureate Gary Becker advocated that many more household decisions could be analysed by the academic community by applying the science of economics to decisions such as the division of labour at home between married partners (Becker, 1974). But a market for advice for these household decisions was advancing more quickly than theory. In 1969, a small group of industry executives began discussing the need for more holistic financial advice for households which marked the creation of an industry association that is now known as the International Association for Financial Planning (IAFP) (Yeske, 2016). Yeske notes that the first cohort of Certified Financial Planner (CFP®) designation holders followed shortly thereafter in 1973.

## 2.5  Heterogeneity of financial advice

It is important to recognize that financial advice is not uniformly defined and can take on many different forms. Any discussions about the value of financial advice must therefore be made in the appropriate context. Figure 2.1 shows the delineation of the domains of financial advice.

**Figure 2.1 Financial advice domains**
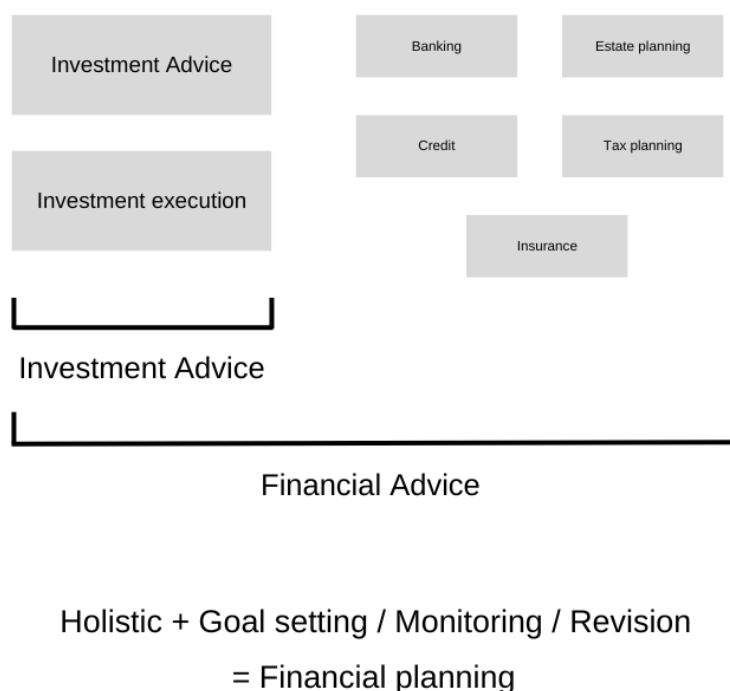
Anyone who provides services related to investment intermediation could be considered an investment advisor or a financial advisor. Investment advice generally only pertains to advice on securities, though this term could also be applied to non-securities investments such as direct real estate investment. Much of the academic literature studying the value of financial advice is centred around investment intermediation (Mullainathan, Noeth and Schoar, 2012; von Gaudecker, 2015; Brown *et al.*, 2021). However, households receive advice on non-investment related decisions as well (see right-hand side of Figure 2.1). For households with limited or no investable assets, they may still receive advice on structuring debt, managing insurance, taxes, and other non-investment related considerations.

Financial advice can also be siloed (transactional), or it can be holistic. Holistic or comprehensive advice could consider multiple facets of household finances instead of using a siloed approach to individual decisions but may not necessarily involve a financial planning process.

Financial planning generally refers to an advice process in the context of goal establishment, financial strategy determination, monitoring, and adjustment. These goals could encompass multiple facets of financial decisions such as retirement funding, education savings, tax planning, estate planning, and other areas (Altfest, 2004).

## 2.6 Channels of financial advice

A broad overview of the Canadian financial sector is presented in Figure 2.2 to provide the reader with the overall landscape of financial service entities in the Canadian marketplace.

**Figure 2.2 Canada's financial sector**

| 13 Branches of Canada's Financial Sector | |
|---|---|
| **Large Banks** | Provide full spectrum of financial services to retail and commercial clients (BMO, BNS, CM, NBC, RBC, TD) |
| **Small and medium sized banks** | Smaller scale full-service banking operations or niche business lines (e.g. Canadian Western Bank, Equitable Bank, HomEquity Bank, etc.) |
| **Trust and loan companies** | Similar to banks but can offer trust services and more fiduciary related functions (many are owned by banks) |
| **Life insurers** | Life and health insurance products, insurance-based investment products (e.g. Great-West Life Assurance, Manulife, Sun Life) |
| **Property and casualty insurance companies** | Home and auto insurance (e.g. Intact, Aviva, Desjardins, etc.) |
| **Mortgage lenders and insurers** | Banks as well as non-prudentially regulated mortgage lenders. Insurers include Sagen, CMHC, etc. |
| **Foreign financial institutions** | Serve foreign business in Canada, also includes reinsurers |
| **Credit unions and caisses populaires** | Financial cooperatives, member-based (e.g. Atlantic Central, Central 1 Credit Union, Quebec cooperatives under the Desjardins Group) |
| **Securities dealers and exchanges** | Capital markets intermediaries (e.g. TSX, TSX-V, MX, CSE, NEO) |
| **Financial market infrastructures** | Clearing, settlement, record keeping for payments, securities, and derivatives (e.g. LVTS, CDSX, CDCS) |
| **Payment card network operators** | Enable payments like debit and credit (Interac, Visa, MasterCard, AMEX, etc.) |
| **Other financial sector entities** | Not regulated prudentially, such as pay-day loan companies, leasing companies |
| **Financial sector regulators** | Federal and provincial regulators. Federal financial sector oversight bodies: Bank of Canada, Canada Deposit Insurance Corporation, Financial Consumer Agency of Canada, Office of the Superintendent of Financial Institutions |

Source: Adapted from (Department of Finance Canada, 2016)

There are many different channels of financial advice available to financial consumers. Lewis Altfest suggests that personal financial planning "is a process that literally incorporates all items of financial interest to an individual" (Altfest, 2004). However, the financial services industry has several main branches of functions related to household financial considerations, such as investment execution, investment advice, insurance, taxation, credit and lending, estate planning, and financial planning.

Financial consumers may use siloed advice if engaging with a channel of advice that is compartmentalized in structure while certain channels of advice are able to operate between these branches. Financial planners generally, and financial advisors occasionally, liken themselves to "financial quarterbacks" when purporting to provide this function as a conduit between branches (Curtis, 2020).

In a column in The New York Times written by Tara Siegel Bernard titled "Beware of Fancy Financial Adviser Titles", she writes:

> Most investors don't realize that when they walk into a bank or brokerage firm branch, the representatives there are essentially free to emblazon their business cards with whatever titles they please — financial consultants, advisers, wealth managers, to name a few. But if you're looking for someone who is qualified to give smart advice about all aspects of your financial life while keeping costs down, you may not be in the right place.

(Bernard, 2012)

A number of financial services regulators in Canada conducted a mystery shopper exercise for investment advice and their report was jointly published in 2015 (the Ontario Securities Commission, the Mutual Fund Dealers Association, and Investment Industry Regulatory Organization of Canada).

An excerpt from their report:

> From the perspective of an investor, the number and variety of titles encountered when shopping for advice can make the process of choosing an advisor a complex one. The use of certain titles does not always give sufficient information regarding an advisor's specific qualifications, expertise, or accreditations. Moreover, titles that differ across and within firms may suggest to a potential investor that advisors offer different types of investment products or services when they do not. The issue is further complicated by the use of certain qualifying adjectives in business titles, such as "senior" or "vice president" that may or may not denote rank within an organization. These titles may lead to an impression that

an advisor has greater experience, credentials, or tenure than a peer whose title lacks such a qualifier, or that the advisor has a certain position in the firm hierarchy associated with a specific corporate function.

**(*Mystery Shopping For Investment Advice*, 2015)**

This same report revealed that over a course of 88 different mystery shopping visits 48 different business titles were used. It is important to note that the three entities that published the report only regulate investment-licensed financial services practitioners. There may be many more titles used by non-investment licensed financial advisors.

Taking together the complexity and confusion in business titles of investment advisors and extending any degree of similar complexity to non-investment related advice, it seems clear that it would be difficult for financial consumers to evaluate their options.

## 2.7  Individual investor performance

There is a growing body of evidence that retail investors generally exhibit inferior risk-adjusted returns. Implicitly, this suggests that financial advice, specifically investment advice, could provide value. However, as discussed elsewhere in this literature review, agency issues, competency issues, and selection issues add to the discussion. This section will provide a review of studies which identify possible aspects of investment underperformance that households exhibit.

In a landmark paper, Brad Barber and Terrance Odean (2000) found that retail investors performance was negatively correlated with the frequency of trading activity. The higher the level of trading activity of an individual investor's portfolio, the greater the drag on return performance. Looking at over 66,000 households over seven years at a discount brokerage firm in the United States from 1991 to 1996, it was found that the most active traders underperformed the market by 6.5% annualized (16.4% annual returns vs 17.9% for their benchmark). The average household also underperformed the market during this time, although by a smaller margin (1.5%).

Given the trend around the world for households to shoulder more responsibility for retirement security, Benartzi and Thaler (2001) set out to analyse one aspect of related decision-making in this arena: the asset allocation decisions of members of defined contribution pension plans. Their results indicate that households made naïve decisions about asset allocation based on a heuristic of dividing their allocation into essentially equal parts based on the number of funds made available to them in their plans (the "1/n strategy").

Therefore, the asset allocation weightings to equities versus fixed income was largely determined by the number of equity funds available versus fixed income funds available.

With respect to passive, index-tracking funds, such as an S&P500 index fund, the lower cost funds and the funds with the lowest tracking error should accrue the largest fund flows as, all other factors being equal, reducing these costs leads to the highest return for investors. However, it was shown that large new fund flows were directed to inferior index funds (lowest performing by virtue of higher costs). If a market for index funds exists with informed and uninformed investors, then if the uninformed investors are advised by distributors with agency conflicts (distribution commissions), inferior funds can attract capital (Elton, Gruber and Busse, 2004). This suggests two ideas: that uninformed investors exist, and that financial advisor agency conflicts exist and are harmful.

Retail investors' general underperformance could be associated with a variety of factors. The consumption of security analyst recommendations by institutional investors versus individual investors shows that households may process information differently than professional investors. Accounting for the tendency of security analysts to bias price targets upwards in general, and to a higher degree when their brokerage is or has been involved in investment banking operations of the security issue, institutional investors discount recommendations. "Strong buys" are associated with buying behaviour, "buys" are associated with no trading response, "holds" are associated with selling behaviour. These effects are exacerbated when the analyst has a relationship with the investment banking affiliates of the underlying issue. Individual investors tend to follow the recommendations blindly, exhibiting no discounting of the analyses (Malmendier and Shanthikumar, 2007).

Normative investing theories suggest that holding a passively managed portfolio of index tracking funds, such as exchange-traded funds (ETFs), would lead to better portfolio performance for investors. It would appear that this might be "easier said than done". This is mainly due to investors who purchase index ETFs not using them as intended by the prescriptive financial theories: investors do not necessarily seek out the lowest cost product (while cost variance for index funds tracking an index may be large), they may be tempted to time the investment markets by buying and selling these ETFs instead of holding them for long periods of time, and product proliferation may overwhelm less sophisticated investors. Customers of a German securities brokerage were separated into index ETF users and "non-users", and it was found that the index ETF users' portfolio performance did not increase (Bhattacharya *et al.*, 2017). By simulating a buy and hold strategy for all the ETFs purchased by investors who purchased those ETFs in their accounts, counterfactual portfolios were compared to the actual performance for these accounts (which included periodic selling and

repurchasing of ETFs). The trading activity was calculated to be a drag on portfolio potential performance of 0.77 percent per year. In other words, for investors who were purchasing index ETFs, had they simply bought and held ETFs instead of trading them, they would have realized higher portfolio returns (0.77 percent annualized). Compared to a buy and hold strategy with a low-cost, diversified index tracking ETF (tracking the MSCI World Index), index ETF users underperformed by 1.69% per year.

Investors in this study were shown to exhibit the same trading behaviour before and after using index ETF products. If they traded non-ETFs heavily before purchasing ETFs, they continued to trade the index ETFs heavily as well. So, while passively managed investment products have been considered a worthy innovation for investors, investors are abusing them and receiving few of the potential benefits of modern finance theory prescriptions.

## 2.8  Value of professional investment managers

This thesis measures the value of financial advisors and other financial advice channels to the household. However, given that financial advice channels can often act as intermediaries between households and investment funds, a brief review of investment fund manager performance is provided to give more context to the importance of investment advice functions of channels of advice.

Professional investment managers such as mutual fund managers, hedge fund managers, and other institutional investment managers are often judged heavily based on risk-adjusted returns. Over longer periods of time, mutual fund companies with underperforming funds may close these funds as their profitability declines or to eliminate poor performance from certain reporting. By adjusting for this survivor bias and adding back the performance of funds that had closed it was shown that there was little evidence to support the existence of skilled portfolio managers in aggregate to collectively earn back their fees (Carhart 1997). The data set analysed (1962 to 1993, diversified equity mutual funds in the United States) revealed that while the top decile funds earned back their costs, the lowest decile performing funds underperformed by approximately twice their costs, and overall, most funds underperform by approximately the amount of their costs.

Portfolio manager skill was found in some funds (Berk and Green, 2004). However, capital flows to outperforming managers persisted until the outperformance dissipated. When fund managers exhibit outperformance, capital is attracted to the fund and the characteristics that may have been responsible for previous outperformance may not apply to the new capital. An often-used metaphor is that a small tugboat is very manoeuvrable, but a large ship can take more time to correct course. A rational market would consist of capital looking for the

tugboats until the point that they become large ships. As such, persistence of outperformance may get more difficult over time.

Kosowski et al. (2006) suggested that mutual funds managers' skill was important. They found that the best and worst managers' performances could not be completely attributed to luck. They also suggest that growth oriented equity fund managers could exhibit alpha (in a four-factor model framework) as well as persistence in performance. Contrary to this, (Fama and French, 2010) put forward that identifying skilled mutual fund managers out of the distribution of all mutual funds would be difficult as the overall distribution of performances was essentially indistinguishable from the distributions expected by chance. Harvey and Liu (2022) reconcile the difference in findings as being attributed to differences in the econometric methodologies used in each study. Their conclusion suggests that other research that has relied on either of these two methodologies should be revisited. Thus, research into teasing out skill from luck in mutual fund manager performance is still evolving.

## 2.9  Investment Advice versus Financial Planning

Investment advice and financial planning are not synonymous terms. Investment advice pertains to one domain of household finances. Financial planning is a process-based engagement that generally considers multiple domains of household financial decisions, and this may or may not include investment advice.

Financial consumers revealed preferences for a "supermarket" type of approach for their financial services needs in a survey-based study from the late 1990s in the United States (Bae and Sandager, 1997). Advice was shown to be desired across multiple dimensions of household financial matters, with a preference for financial planners at independent financial firms.

Thomas Warschauer (2002) provides a synopsis of the emergence of financial planning. Many financial services firms offer a multitude of financial services such as investment advice and execution, insurance, access to credit, personal banking, and more. But the various business lines may not also coordinate with each other when dealing with an individual or household. The term "financial planning" was not always well received by the industry. A few financial services firms barred employees from using the term, possibly due to concerns about liability of a higher duty of care, or a requirement to place client interests ahead of firm interests.

In the 1970s, independent financial planning firms were largely established by financial advisors who left incumbent financial services firms. Their focus was more holistic rather

than fragmented. These "mavericks" (as Warschauer describes them) established a school of financial planning called the College for Financial Planning which created the Certified Financial Planner credential in 1972. Other organizations established during this time (and shortly thereafter) eventually morphed into the more recognized organizations in the United States today: the Financial Planning Association (FPA), the Certified Financial Planner Board of Standards (CFP Board), and the National Association of Personal Financial Advisors (NAPFA).

Warschauer also provides a detailed delineation between financial advice and financial planning:

> "What is financial planning? Is it the same thing as financial advice or financial consulting? To be clear on the concept we should explore the definition of financial planning, the process itself, the breadth of planning and its content. CFP Board's definition of financial planning states: 'Personal financial planning' or 'financial planning' denotes the process of determining whether and how an individual can meet life goals through the proper management of financial resources. (CFP Board, 2001)

> This definition includes key elements of goals and the use of resources; however, it omits some critical aspects of the process. A somewhat more complete definition might be: Financial Planning is the process that takes into account client's personality, financial status and the socio-economic and legal environments and lead to the adoption of strategies and use of financial tools that are expected to aid in achieving the client's financial goals (Warschauer, 2002).

> The process is the key, even in the definition. The process, according to Certified Financial Planner Board of Standards (CFP Board, 2001), includes six steps:

> 1. Establish and define the client-planner relationship.
> 2. Gather client data, including goals.
> 3. Analyse and evaluate client financial status.
> 4. Develop and present financial planning recommendations and/or alternatives.
> 5. Implement the financial planning recommendations.
> 6. Monitor the financial planning recommendations.

> One is not doing financial planning if one omits an element of the definition or a step in the process. One can be a financial adviser or consultant or give financial advice without being a financial planner, but one is not practicing as a financial planner without the elements of the definition and the process intact."

**Source:** (Warschauer, 2002)

Black, Jr., Ciccotello, and Skipper, Jr. (2002) note that the reliance of multiple channels of financial advice poses problems in coordination. An individual may deal with various

providers of advice in a compartmentalized fashion that may not be optimal from a household perspective. As an example, an investment advisor might provide competent advice with respect to building a portfolio, but an estate lawyer may later find that the asset location (as opposed to asset allocation) of the portfolio is not optimized from an estate planning perspective. An insurance advisor may similarly find that had a household's estate been structured differently, a previously sound insurance portfolio may need adjustment. This compartmentalized approach is depicted in Figure 2.3, adapted from their work (Black Jr., Ciccotello and Skipper Jr., 2002).

**Figure 2.3 Compartmentalized financial advice**
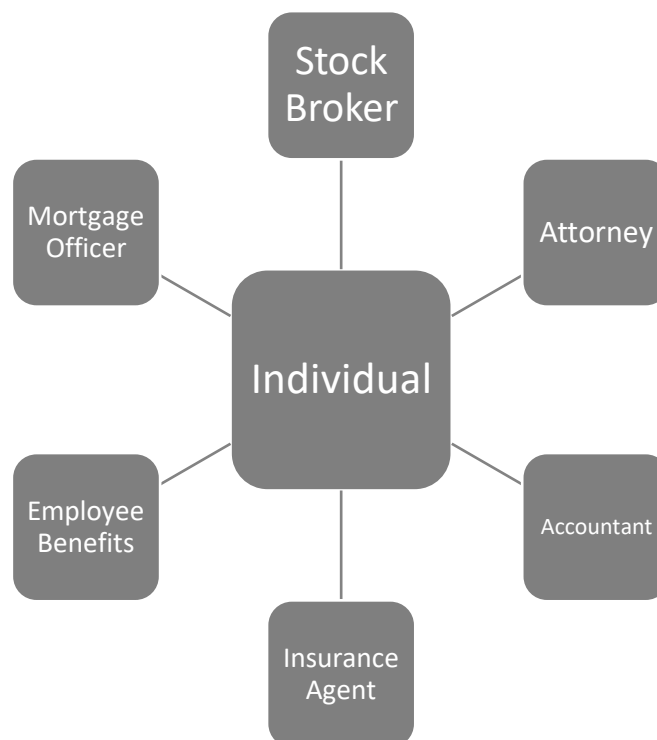


**Source: Adapted from** (Black Jr., Ciccotello and Skipper Jr., 2002)**.**

Figure 2.4 shows the nature of a coordinated approach, something that a comprehensive wealth manager or financial planner might provide. The coordination of advice may optimize advice to increase outcomes over a siloed approach.

**Figure 2.4 Coordinated financial advice model**
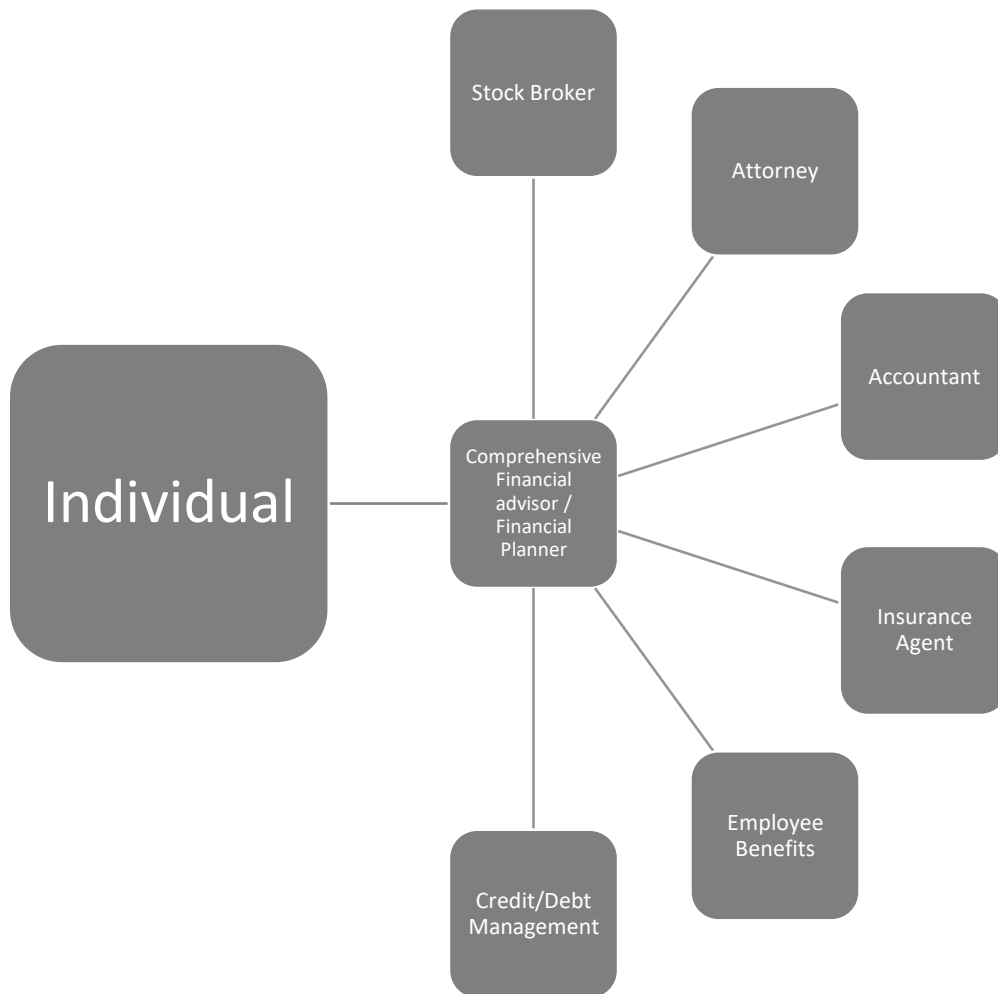


**Source: Adapted from** (Black Jr., Ciccotello and Skipper Jr., 2002)**.**

Providers of financial advice have also evolved to providing additional services beyond traditional investment and portfolio management-based relationships (Trahan et al. 2012). Software-based financial planning tools have evolved to provide self-service options for financial consumers as well as allowing for more financial advisors to provide additional financial advice beyond portfolio management. There is value to the prevention of financial losses beyond portfolio losses (Ibbotson et al. 2008), guidance to smooth consumption over a lifetime (Hanna 2010), tax minimization, estate planning, cash flow management, and more (Srinivas 1999).

The terms "financial advisor" and "financial planner" are only two examples of a myriad of titles used within financial services (Overton 2007; Bernard 2012), and until recently only the financial planner title was protected in limited jurisdictions. However, legislation was recently

introduced which sought to codify the use of the titles "financial planner" and "financial advisor" in Canada's largest province by population, Ontario (*Financial Professionals Title Protection Act*, 2019). Investor advocates have roundly criticized the implementation of the act as only serving to further confuse consumers (O'Hara, 2022).

Titling is important from a consumer's perspective. They might perceive anyone providing advice on financial matters to fall under the general category of "financial advisor" (Griffith-Green 2014). But within the industry, a "financial planner" is largely regarded as providing comprehensive advice and will normally also follow a relatively standardized planning process which involves discreet steps such as information gathering, goal setting, plan formulation, implementation, ongoing monitoring, and review (Srinivas 1999; Overton 2008).

## 2.10 Value of Investment Advice

This section will discuss the literature on the value of investment advice. For clarity, the determinations of value are portfolio-centric measures and do not account for non-portfolio centric types of advice.

Several studies have found no evidence that advised portfolios perform differently than unadvised portfolios on risk-adjusted bases (Kramer, 2012; Allie, West and Willows, 2016). Looking at self-directed investors who switched to using investment advisors, Kramer notes that compared to propensity-matched non-switching self-directed investors, they reduced home-bias, increased asset class diversification, lowered equity allocations overall, and purchased more mutual funds. Overall, advised and un-advised investors were found to have similar returns when controlling for investment style differences and market timing decisions, but portfolio compositions were different. The positive value added by investment advisors in this study was due to increased diversification.

Allie, West, and Willows (2016) studied the performance of over four thousand South African investors over a ten-year period. No evidence in return performance was observed between advised and non-advised investors, but advised investors exhibited significantly more trading activity. Given the costs incurred by trading, this adds to the evidence of investment advice value being negated by higher costs.

Several studies have provided evidence of a net performance drag for investment advice.

Even before factoring the extra costs of investment advice and fund distribution, Bergstresser, Chalmers and Tufano (2009) found that mutual funds sold by brokers earned investors lower returns on a risk-adjusted basis for domestic investments compared to direct-sold funds. Therefore, the costs of distribution for purchasing funds through an investment

advice intermediary would lower these returns even further. The authors suggest that intangible benefits must be realized by investors (such as emotional benefits) and that agency conflicts for intermediaries are significant.

This are similar results to those observed by Foerster et al. (2014) in a study of Canadian financial advisors. Compared to passive investment benchmarks, the advised portfolios underperformed after accounting for commissions and fees. However, they found that advised households were positively influenced with respect to their savings rates and other financial planning related behaviours. The high costs of portfolio advice may then be subsidized by planning related value provided in those engagements.

In a study comparing advised versus non-advised German households, the implementation of investment advice resulted in more portfolio diversification and less risk for previously unadvised households. Higher trading activity also resulted, but this is explained by the transactions required to implement the advice (Gerhardt and Hackethal, 2009). The authors acknowledge that an initial comparison within 65,000 investors suggested that the effect of investment advice may be smaller than other studies had previously suggested. In a later study, also on German households, advised accounts were shown to have lower returns and poorer risk-adjusted returns versus unadvised households in general, with the effects exacerbated by bank financial advisors versus independent financial advisors (Hackethal, Haliassos and Jappelli, 2012). Taken together, this could suggest that unadvised households who acknowledge they need assistance will then seek that assistance but it's possible unadvised households who could either be more financially literate or confident may choose to forego advice which they see as inferior or too expensive versus the benefits.

A study of members of the Oregon University Systems defined contribution retirement plan found that within that system, it was possible to receive personalized, in-person consultations with investment brokers. The advised investors exhibited higher-risk portfolios than the unadvised investors. Further, they earned lower returns while taking on more risk (Chalmers and Reuter, 2010). In a follow up paper, Chalmers and Reuter found that replacing the investment brokers' advice with target date fund options produced higher risk-adjusted returns (Chalmers and Reuter, 2020). This would suggest that conflicted advice is worse than no advice, but is contingent on a thoughtful default investment option being available. When a default investment option is not available, the existence of investment brokers can help investors stomach market risk and even conflicted advice could be better than no advice.

Mullainathan, Noeth and Schoar (2012b) provided evidence that financial advisors generate negative value to investors by reinforcing investor biases as opposed to debiasing them. The authors noted cases where investors with low-cost index funds ended up switching to higher-cost, lower performing actively managed mutual funds because of financial advisor intervention. These results could be explained by agency issues of the advisors.

Hoechle et al. (2017) noted that financial advisors may help reduce behavioural biases of individual investors, but not to an extent greater than the reduction in financial wealth caused by advisors due to poor investment selections.

Having a financial advisor for more than four years was associated with a higher level of financial assets than unadvised households from a sample of Canadian investors (Montmarquette and Viennot-Briot, 2015). This may not speak directly to the quality of investment advice as the increased savings rate of advised households could be responsible for the increased levels of wealth, despite inferior investment performance. It should be noted that the survey used in this study introduced a survivor bias error where households who used financial advisors previously but did not at the time of the survey response were categorized as unadvised. If a household terminated a relationship with an advisor due to poor performance but was considered unadvised for the data analysis, this would reduce the performance of the unadvised group incorrectly. This paper was used by the financial services industry in Canada to suggest a causal relationship between having a financial advisor and an increase in wealth, but one of the authors of the paper indicated that claims about causality were not supported (Banerjee, 2012).

Marc Kramer noted that even as recently as 2016, academic assessment of the impact of financial advice was lacking (Kramer, 2016). Many studies provide evidence of negative value of financial advisors, some studies show no significant difference between advised and unadvised portfolios, and a few studies show positive value of advice on portfolios. It seems evident that more variables of control are required to further the research in this area. As will be presented below, financial literary, advice seeking behaviour, access to advice, emotional benefits of advice, and endogeneity are all candidates for further research into the question of financial and investment advice value.

## 2.10.1    Investment advice adherence

In an experiment where 8,000 customers of a German securities brokerage were offered unbiased investment advice, investors were provided with portfolio management advice at no cost if they decided to take advantage of the advice. The advice was provided by means of an algorithm and so the advice was standardized. The brokerage also waived the trading

commissions if customers implemented the advice. Only 5% of investors agreed to receive the advice. Of those who accepted the advice, very few people followed the prescriptions for their portfolios. Conditional on following the advice, investor portfolio performance did improve. The study found that an inverse correlation between the need for advice and the acceptance of free advice existed: those who needed it the most were the least likely to take advantage of the offer (Bhattacharya *et al.*, 2012). Given that these were self-directed clients, they may have been predisposed to making their own trading decisions. However, the study provided evidence that access to unbiased advice is necessary but not sufficient to improve investment portfolio construction for retail customers.

Individuals' affinity for other people like themselves (homophily) was shown to have an effect of financial advice adherence (Stolper and Walter, 2018). Men were found to be more likely to follow the advice of male financial advisors and financial advisors of the same age as themselves. Women were found to be more likely to follow the advice of financial advisors who had the same marital or parental status as themselves. These effects were mitigated by a reduction in the information asymmetry between advisor and client (i.e. higher financial literacy) as well as by the length of the relationship that a client had with a financial firm in general. This suggests that advisors and firms may find benefit in investing in processes designed to align advisors to clients along these dimensions to increase advice adherence.

Reiter-Gavish, Qadan, and Yagil (2021) build on previous research examining whether investors follow financial advice given. Looking at just under 300,000 investment accounts they find that investment experience and occupational complexity correlate inversely with following advice. In other words, more sophisticated households are more likely to discount the value of advice. They also note that women are more likely to follow advice than men. Widowers and divorced individuals are also more likely to follow advice than investors who are married.

## 2.11 Value of financial advice

With respect to quantifying the value of financial advisors in the context of holistic household financial decisions (and not only investment related decisions) there is comparatively less research on this domain in the academic literature. Gerhardt and Fischer (2007) note that the term "financial advice" had not been clearly defined in literature to date at that time.

Gerhardt and Fisher also state that investors generally suffer wealth losses compared to the prescriptions of normative finance theories. Normative finance describes what financial consumers should do, while positive finance is associated with what financial consumers actually do. The authors suggest that financial advice could potentially be a corrective factor.

They make several assumptions in their prescriptive model for future research on the value of financial advice. The first assumption is that advisors have an interest in protecting consumers from wealth losses, cautioning that agency issues need to be examined. The second assumption is that financial advisors have superior skills to individual investors which would be a source of value. This assumption also considers that advisors are less affected by behavioural considerations that lead to welfare loss than individual investors. The third assumption is that financial advisors follow an advice process that is uniform. It should be noted that all of these assumptions are offered to test hypotheses relating to the value derived from financial advice, not to be taken as results. Their prescriptive model also takes into consideration the less tangible benefits of financial advice (such as the value of reducing anxiety, for example). The utility of factors like lower levels of anxiety or higher confidence levels may be important factors to examine further when considering how to measure the value of financial advice.

The mere existence of financial advice could serve to improve the quality of products available to retail investors, but the authors note that agency issues could override the benefits of an improved product marketplace as intermediaries could act in their own interests over their clients (Inderst and Ottaviani, 2012a).

Professional finance advice was shown to have a positive relationship with financial assets and emergency funds for German households (Liu *et al.*, 2019a). In particular, the savings rates of individuals with lower levels of self-control were more positively correlated with the receipt of financial advice, showing an interaction effect of financial advice and self-control.

The division between financial advice and financial planning can be somewhat blurred in the academic literature. Practitioner journals more strongly delineate the differences between investment advice, transactional financial advice, holistic financial advice, and financial planning.

## 2.12 Financial Planning

While early, seminal papers in the field of finance offered the framework for many contemporary practices in personal financial planning, the development of an academically rigorous framework has stalled (Yeske, 2010). Many studies in the journals that comprise the *Financial Times'* Business School Research Rankings offer limited examples of research that goes beyond considering investment or portfolio performance with respect to individual households or financial advice, and the concept of comprehensive financial planning is rarely cited (*Financial Times*, 2012).

Practitioners have lamented the lack of theoretical underpinnings to the management of household finance for decades (Becker, 1974; Altfest, 2004; Overton, 2008; McClure, 2014). Significant academic effort has been focused in areas such as portfolio construction, investment performance, and behaviour of investors with respect to investment decisions, but many contemporary wealth management practitioners also advise households in matters related to insurance, cash flow management, estate planning, taxation, and other areas (Srinivas, 1999; R. Overton, 2007; McClure, 2014).

Many professions such as engineering, law, and medicine have university courses, programs, and degrees conferred at the undergraduate, graduate, and doctoral levels. Personal financial advice did not have a rigorous body of knowledge and levels of educational degrees until much more recently, and even into the 2000s did not have the standing as a true profession. While there were a few graduate programs at universities around the world, they were relatively rare (Warschauer, 2002).

As some practitioners move away from investment portfolio-centric advice and towards a more comprehensive management approach of household finances, the ability to measure the value of financial advice needs to reflect this new paradigm. If financial advisors no longer solely compete on portfolio performance, then the value of their advice can no longer be judged solely against this metric.

The divide between academia and industry has a long history. A 1973 paper by Eugene Carter in *The Journal of Finance* references "financial planning" but this is in the context of corporate finance, not household finance.

Gary Becker (1974) cited John Kenneth Galbraith as having criticized the theories of economics with ignoring the behaviour of households. Becker himself suggested that mitigating against losses through insurance had value, and proposed integrating insurance considerations into Consumption Theory (Becker and Ehrlich, 1972).

In 2002, Black, Jr., Ciccotello, and Skipper strongly articulate that the requirement for comprehensive personal financial planning is "well grounded theoretically, although research to guide the appropriate application of the theory remains lacking." They assert that the development of personal financial planning practice has occurred despite a lack of theoretical underpinnings. This void could be responsible for the industry's lack of perception as a bona fide profession. A passage from their paper:

> *"Few disciplines achieve recognition and respect without a strong theory base, particularly within higher education. We believe that PFP will prove no exception. Thus, unless PFP can articulate a conceptually sound basis on which to build, its*

*study will remain largely outside mainstream academia…We know of no respected profession without academic underpinning and recognized academic standing.*

*We believe that the lack of a clearly articulated theoretical base for PFP and a corresponding lack of rigorous PFP-related academic research explain, in large part, why there are so few doctoral programs in PFP. Moreover, Masters-level programs in PFP are also rare – contrary to the situation in other professions. Thus, our underlying thesis is that the comprehensive PFP advisor is unlikely ever to be recognized as a true professional without greater attention being given to these conceptual matter and, ultimately, to study falling within university setting, particularly at the graduate and doctoral levels."*

Altfest (2004) argues that the term "Home economics" had been coined by economists applying classical theories to the household, and roots which may form part of any formal theory of personal financial planning could possibly be traced to work from Modigliani, Markowitz, and Becker.

John Campbell (2006) addressed the standing of household finances in *The Journal of Finance*, suggesting that it "lacks definition and status within our profession", despite attracting much interest.

These sentiments are shared from the practitioner's perspective. *The Journal of Financial Planning*, a leading practitioner journal published by The Financial Planning Association, has been in publication for over 30 years but there are few articles that mention any formal theories of financial planning. Rather, there is an ongoing recognition of the absence of such theory (McClure 2014). McClure cites an editorial appearing in the November 2011 issue of *The Journal of Financial Planning*, written by Lance Richlin, that suggests the industry of financial planning was still looking for even a basic theory.

It is clear from the overview of the evolution of research on the value of personal financial advice from both an academic perspective and a practitioner perspective that both camps have ultimately called for the development of a formalized theory of personal financial advice, having independently identified its importance.

## 2.12.1    A grand theory of personal finance or financial planning

Personal financial planning has been described as addressing all areas of financial interest to the household. This includes tax planning, cash flow planning, investment planning, risk management through insurance and other indemnification strategies, retirement planning, and estate planning (Altfest, 2004; Overton, 2007; Overton, 2008). Industry studies have also

suggested that the value a financial advisor brings to clients lies within comprehensive wealth management, planning strategies, and guidance as opposed to solely investment performance, and more specifically, investment outperformance (McKinsey, 2012; AEGON, 2013; Vanguard, 2013).

Lewis Altfest remarked the following in his paper discussing the origins and future of personal financial planning:

> "Personal financial planning (PFP) is a fairly new and growing discipline. Its origins are in the underacknowledged contribution by Modigliani, and by Becker and Markowitz. PFP deserves academic recognition and additional academic research in the area. It would be extremely useful if a separate personal financial planning theory were articulated…Furthermore, PFP coursework and textbooks should be elevated in academic content to place them on a par with the corporate finance and investments areas. With proper support, PFP is likely to achieve the greater prominence it deserves alongside other well-recognized academic financial areas and other professional disciplines."

**Source:** Altfest (2004)

Numerous researchers have echoed the call for an overarching framework and have offered suggestions as to the various components that would need to be recognized by a grand theory of personal finance. A collection of these suggestions are included below in Table 2.1.

**Table 2.1 Suggested Calls for Constructs in a Theory of Personal Finance**

| Component | Description | Source |
|---|---|---|
| Life Cycle Theory | Smoothing of consumption over a lifetime | (Ando and Modigliani, 1963; Campbell, 2006; R. Overton, 2007; Schuchardt *et al.*, 2007; Agarwal *et al.*, 2009; Cull, 2009; Yeske, 2010) |
| Life Focused Financial Planning | Deeper discovery, individual goal setting, Theory of allocation of time | (S.Becker, 1965; Leo, 2008; Marsden, Zick and Mayer, 2011) |
| Financial Security | Financial stability may be more important that increasing wealth for some households | (Garmaise, 2010) |
| Personal Financial Ratios | Quantitative measurement of financial standing | (Farrell, 2006) |
| Life Insurance | Theory of demand for insurance | (Becker and Ehrlich, 1972) |

| | | |
|---|---|---|
| **Disability Insurance** | Human capital (future labour income) is a valuable asset | (Ibbotson *et al.*, 2008) |
| **Estate Planning** | Financial implications at end of life | (Overton, 2008) |
| **Financial Literacy** | Ability to make financial decisions | (Lusardi and Mitchell, 2014) |
| **Tax Planning** | Reducing taxation | (Bae and Sandager, 1997) |
| **Modern Portfolio Theory** | Adapt MPT to include non-portfolio assets such as insurance, future income, government benefits, etc. | (Cull, 2009; David B. Yeske, 2010; Yeske, 2010) |
| **Capital Asset Pricing Model** | Portfolio Management | (Carhart, 1997; Shapira and Venezia, 2001; Malmendier and Shanthikumar, 2007; R. Overton, 2007; Cull, 2009; Redhead, 2014) |
| **Efficient Market Hypothesis** | Portfolio Management | (Cull, 2009) |
| **Decision Making** | Utility Theory, Prospect Theory | (Modigliani and Brumberg, 1954; Kahneman and Tversky, 1986) |
| **Agency Theory** | Understanding conflicts of interest | (Jensen and Meckling, 1976; Eisenhardt, 1989) |
| **Behavioural Considerations** | Integration of emotions and attitudes into financial advice | (Shefrin and Thaler, 1988; Wyczalkowski, 1995; Thaler and Benartzi, 2004; Grable and Carr, 2014) |
| **Academia and Professionalism** | Master and Doctoral level programs of study required | (Warschauer, 2002) |
| **Strategic Planning** | Theories of strategic planning work with implementation of financial planning process | (R. Overton, 2007; Yeske, 2010) |
| **Neuroeconomics** | Neurology combined with microeconomics should be addressed by financial advice | (Goetz, 2008) |

Source: Author

## 2.13 Intangible benefits of advice

Bergstresser, Chalmers, and Tufano's (2009) research on the costs and benefits of intermediated mutual fund purchases by investors yielded negative tangible benefits to households. One of their hypotheses was that significant intangible benefits must exist that they do not observe.

Retirees with financial advisors reported feeling more confident that their financial assets would be sufficient to cover their needs during retirement (Salter, Harness and Chatterjee, 2011). They also reported higher feelings of financial security and a higher degree of confidence that their retirement portfolios were being managed well. This research was correlational in nature and did not address causality, but this also suggests that the value of financial advice may have non-portfolio related measurements, such as emotional benefits or the non-tangible benefits described by Bergstresser, Chalmers, and Tufano.

## 2.14 Agency Issues

Agency issues within the financial services industry are a concern (Finke, Huston, and Winchester, 2011). Many financial advisors' interests may not be aligned with consumers' interests as many financial advice practitioners are compensated based on product sales or asset management fees.

Because equity investments may offer a higher rate of compensation for financial advisors or revenue generation for firms versus less risky investments, there may be an incentive to recommend riskier portfolios to clients. This was demonstrated by data showing that the implemented portfolios of investors working with financial advisors did not fall in line with individual investor risk profiles (Jansen, Fischer and Hackethal, 2008).

There seem to be many financial incentives that guide financial advisor behaviour in ways that are detrimental to investors. A significant amount of financial advisor compensation is derived using "trailing commissions". These ongoing commissions are paid by mutual fund manufacturers to the financial advisor. These commissions originate from the investment fund's annual expenses which the investor bears. Kickbacks allow for higher management fees to be charged overall, which lower net returns to the investor (Stoughton, Wu and Zechner, 2011).

Inderst and Ottaviani (2012a) note that disclosure of conflicts of interest (whereby consumers are aware of the advisor incentives) may lead to better product recommendations. Knowing that the consumer is wary, the advisor would have an incentive to work harder to ensure that the advice is optimal. If the consumer is unaware of advisor incentives, they could be

exposed to higher commission (lower value) investment funds and inappropriate insurance policies.

However, complicating the agency problem is the effect of disclosure by financial advisors to clients about conflicts of interest. It is thought that disclosure might be a remedy to reduce agency effects, but in a series of experiments testing this hypothesis it was shown that disclosure could produce pressure on advisees to follow that advice (Sah, Loewenstein and Cain, 2012). The authors suggest that two main reasons for these results are what are known as "insinuation anxiety" and "the panhandler effect". Insinuation anxiety is the feeling that refusing conflicted advice will signal distrust of the advisor which would lead to tension. The panhandler effect is an altruistic pressure to follow advice after the interests of the advisor have been revealed. Similar to some interactions with panhandlers on the street, an individual may part with their money for the benefit of someone else from time to time

It is generally accepted that portfolios should be aligned with individual investors' risk tolerances, time horizons, financial capacity, and financial sophistication. In a study of Canadian households, it was shown that financial advisors may not customize portfolios to an individual's unique requirements completely. Rather, advisor fixed-effects play a strong role in determining asset allocations, with asset allocation of an advisor's own portfolio strongly predicting the asset allocations of their clients (Foerster *et al.*, 2017).

Investment products sold through financial advisors tend to be expensive. These higher costs translate into lower returns, all other things being equal. This is sometimes referred to as the "costs matters hypothesis" (Bogle, 2003). Another study of Canadian financial advisors shows that agency conflicts may not play as large a factor in the delivery of suboptimal advice as one might believe (Linnainmaa, Melzer and Previtero, 2018). Canadian financial advisors were shown to exhibit the same investment behaviours in their personal portfolios that they recommended to their clients including frequent trading, performance chasing, and the use of higher cost investment products. Both groups' portfolios were also under-diversified. The advisors who retired from the financial advice industry continued to exhibit these same behaviours in their personal investment activity. The study suggests that these financial advisors do not exhibit these behaviours as a strategy to convince retail investors to invest in a similar matter despite a conflict of interest, but that they exhibit behaviours because they believe they are appropriate. This suggests that financial advisors may subtract value to clients with respect to investment performance and that this may be due to competence.

When the behaviour of life insurance agents in India was examined, it was shown that they make unsuitable recommendations driven by commission incentives (Anagol, Cole and Sarkar, 2017). If clients had a poor understanding of the various types of insurance policies and strategies they required, the life insurance agents tended to provide any products that could be sold as opposed to driving the clients to the correct products. The life insurance agents focused on maximizing their own compensation at the expense of recommending the appropriate amount of insurance coverages. Further, when life insurance agents had access to products that required commission disclosures, they were more likely to recommend other products that did not have the same disclosure requirements.

When investment clients of a Swiss bank used financial advice to facilitate trades, profitability increased for the bank relative to unadvised trades. Proprietary products of the bank were associated with the highest profits, as were larger trade sizes. Examining the recommendations of the financial advisors showed that the advice steered clients into these higher profit transactions (Hoechle *et al.*, 2018). Advised clients exhibited worse investment performance than unadvised clients and it was suggested by the authors that this could be due to the financial advisors acting in the bank's best interests over the clients' best interests.

Other research has suggested that compensation incentives from investment product manufacturers compromises the value of advice received by the household (Inderst and Ottaviani, 2012b). Mutual fund manufacturers that sell their funds directly to clients (without the use of a financial advisor as an intermediary) invest heavily in portfolio management as they believe performance differentiates their products to these consumers. Mutual fund manufacturers that rely on financial advisors as intermediaries tend to invest less in portfolio management and possibly spend this money on broker incentives instead. These selling incentives may ultimately drive more business to the fund families than the fund performances (Guercio, Tkac and Reuter, 2010; Inderst and Ottaviani, 2012a). This is backed up by Geurcio and Reuter (2014) who observed that funds sold directly to end investors outperform funds sold through financial advisors.

## 2.15 Costs

Much of the literature reviewed to this point has linked underperformance of funds to cost hurdles in excess of performance relative to counterfactual portfolios based on normative theories of investment management. While many retail investors pay for investment management on a linear scale, with fees increasing as assets under management increase regardless of whether the growth in assets is through contributions or performance, investment fund manager pay is more closely linked to firm performance from a revenue

perspective, and not portfolio performance (Ibert *et al.*, 2018). Therefore, incentives of both investment fund managers as well as financial advice intermediaries may be misaligned to individuals.

The remainder of this section will focus on the cost structures of financial intermediaries to the household. The information that follows is sourced from both an expert panel and my personal experience working in the industry.

## 2.15.1 Compensation Models of financial advisors

There are three general categories of services that financial consumers engage the financial services for: 1) Financial product transactions, 2) Financial planning, and 3) Execution services. Because retail-facing financial services salespeople and advisors do not operate under a standardized framework it is possible for some practitioners to provide services under only one of these categories, or up to all three. Further, the method that financial consumers compensate financial services practitioners can vary as well. A brief overview of these types of compensation considerations and models follows.

### 2.15.1.1 Commissions

A commission is generally regarded as compensation that originates from a specific product or specific transaction. For example, a realtor may enter into a contract with a home-seller to list and sell a home with a 5% commission based on the final sale price of the home. If the home sold for $500,000 then a $25,000 commission (5% of $500,000) would be generated that would not have otherwise been generated had that specific transaction not taken place. Similarly, the purchase or sale of stock on a public stock exchange may involve a trading commission. The schedule of stock trading commissions varies across providers, but again the commission is not generated unless the specific transaction is executed.

Commissions can be explicit or hidden. The above examples portray explicit commission: the dollar value of the commission is either reported explicitly on paperwork or the dollar value of the commission is processed in a manner that it is reported on a financial statement at or shortly after the transaction occurs.

Hidden commissions can occur in many mutual funds and life insurance products. They can also be incorporated into trade prices in the example of individual bond trades. As opposed to a stock trade where the purchase of 1,000 units of stock at a share price of $10 might require the investor to provide $10,000 plus an explicit commission (for example $100) for a total outlay of $10,100, a bond transaction might be structured as follows. A bond with a

market price of $10,000 is solicited to the client with a purchase price of $10,100. The intermediary may only require $10,000 to purchase the bond but the excess $100 is given to the firm. (From there, the firm may split the commission between the firm and intermediary to compensate them for their function.)

Mutual fund cost structures are varied. Using the Canadian mutual fund industry as an example, there can be many different versions of a fund offered for sale in the marketplace. These different versions facilitate various remuneration models for sellers of funds (Banerjee, 2008). A synopsis follows in Table 2.2, with the reference material provided in Appendix B.

**Table 2.2 Major Canadian Mutual Fund Sales Options**

| | Major Canadian Mutual Fund Sales Options |
|---|---|
| **Sales Option** | **Example Description** |
| Front-End Load | Advisor may charge up-front commission typically between 0-5% of amount invested. Front-end commission is deducted from investment principal directly. Fund may pay an ongoing commission to advisor of 1.00% of amount invested per annum. Less for fixed income funds. |
| Back-End Load | More commonly known as DSC funds, and also as Deferred Sales Charge funds and Declining Sales Charge funds. |
| | Allows for up-front commission without immediate drop in principal visible. Fund manufacturer finances the up-front commission from future service fees that will be generated. |
| | Investor subject to a redemption fee for the first seven years (plus or minus a year depending on the fund company). The redemption fee normally starts at around 5.0% in the first year and then gradually declines to 0% after seven years, hence these funds sometimes being referred to as 'back end' or 'declining sales charge' funds. |
| | Reduced annual trailing commission to advisor versus front-end or no-load funds. |
| No-Load | No front-end commission or back-end redemption penalties. Ongoing trailing commission of roughly 1.00% (equities) per annum based on the average value of the investment. |
| Low-Load or Level-Load | Similar to back-end loaded funds but with reduced up-front commission, reduced redemption penalty window (generally three years versus seven years) and increase in annual trailing commission after redemption penalty window expires. |

| | |
|---|---|
| F-Class | The 'F' stands for 'Fee-based accounts' funds. Fund company does not pay advisor, but rather clients charged a transparent fee visible on statements (called the Client Advisory Fee). Typically, the Client Advisory Fee for F-class funds is set to 1.00%, so similar to a no-load fund in terms of cost and flexibility (i.e. no charges to buy and sell). |

**Source:** (Banerjee, 2008)

### 2.15.1.2    Fees

**Fee models**

There are generally two distinct types of fees: asset-based fees and fee-for-service fees (Banerjee, 2013). A synopsis is provided in Table 2.3 with the original source material provided as a reference in Appendix C.

**Table 2.3 Fee Definitions**

| Comparison of "Fee" Options | |
|---|---|
| **Fee Option** | **Description** |
| Asset-based fees | The asset-based fee model sets a fee as a percentage of the value of a client portfolio to charge annually. Product costs are mostly separated. Individual stock and bond transactions are covered by the advisory fee, but ETFs retain their product cost (they can't be stripped out). Mutual funds used are "F-Class," with compensation stripped out. A commission-model version of a fund may have a 2.5% MER, but clones in a class designed for asset-based accounts may have an MER of 1.5%. No payment from the product manufacturers go to the adviser or firm, reducing some potential conflicts of interest. |
| Fee-for-service fees | Rare but growing model. Fees are charged either by the hour or by the project on a flat-rate basis. Hourly fees may run between $100 and $275 an hour. Fee-for-service is also offered by a newer category of financial advisors known as money coaches. Money coaches tend to focus more on financial behaviour, and work on a more intensive basis for a contracted period of time. They can also develop financial plans, but do not sell securities.<br><br>Execution is separate and often not even an option. |

Source: (Banerjee, 2013)

**Fee-Based**

In Canada, "fee-based" has become synonymous with charging a "fee based on a percentage of assets". Globally, where there are jurisdictions that have defined the term, it can be more often defined as an advisory practice where not all compensation is in the form of fees but instead can be fees and commissions[2], but with the majority being in the form of fees. This may be a source of additional confusion for both consumers and industry.

**Commission-Based**

Similar to the above definitions of fee-based, commission-based may have different meanings to different people. According to jurisdictions which have defined the term, a commission-based advisor receives 50% or more of their revenue from commissions. They may charge fees as well.

**Fee-only**

The term "Fee-only" is also not clearly defined in all jurisdictions around the world. In fact, there has been much confusion about the term when used by financial services practitioners in Canada (Banerjee, 2013). Bae and Sandager (1997) found that most survey respondents indicated a preference to pay for financial planning advice on an hourly rate or flat fee.

See Appendix D for more information on cost model naming confusion.

### 2.15.1.3     Other compensation models

According to Agency Theory, a principal can expect costs to occur when hiring an agent to provide advice or act on the principal's behalf (Jensen and Meckling, 1976; Eisenhardt, 1989). With respect to financial advice, individuals and households are the principals and financial advisors are the agents. Agency costs can be higher when larger information asymmetries exist. Due to the generally low levels of financial literacy of individuals (Stolper and Walter, 2017a), informational asymmetries are high in the financial advice relationship on average. Due to the compensation structures that dominate the financial advice industry, agency costs are therefore expected to be high (Finke, 2012). Finke notes however, that

---

[2] https://www.napfa.org/financial-planning/what-is-fee-only-advising

when the interests of the two parties are aligned, the value of financial advice to the individual (principal) can be positive.

A report commissioned by the Ontario Securities Commission in Canada (Weinstein, 2015) indicated that the research literature suggests it is clear that "commission-based compensation creates problems that must be addressed." The report noted that investment funds that pay commissions underperform, advisors push investors into riskier funds which tend to pay higher commissions, and that investors have trouble assessing compensation options. This leads to higher incidence of sub-optimal choices for households.

## 2.16 The role of financial literacy

Financial literacy was defined as "the ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security" by the Jump$tart Coalition for Personal Financial Literacy (Hastings, Madrian and Skimmyhorn, 2013). Financial literacy levels would be expected to have an effect on the desire to seek financial advice as well as on the optimality of financial decisions in general, with low financial literacy levels impairing the ability of households to optimally navigate the landscape of financial services.

The implications of low levels of financial literacy have been compounded by the general trend away from defined benefit pension plans (DBPPs) towards more defined contribution pension plans (DCPPs) and heavier reliance on voluntary, private pensions. This trend may be detrimental to more vulnerable segments of the population. Some research indicates that reduced availability of publicly guaranteed pensions will negatively impact those with lower levels of financial literacy (Kalmi and Ruuskanen, 2019). This study looked at the results of the first financial literacy test in Finland and examined the relationship to retirement planning. While the general level of financial literacy levels were high in Finland, likely due to the higher overall education attainment levels in the country versus the rest of the world, men exhibited no statistically significant link between financial literacy and retirement planning, while women did. Further, there was no association between a basic financial literacy test with retirement planning in general, but against a deeper test of financial literacy, a positive relationship was shown between literacy and retirement planning.

### 2.16.1    Financial literacy levels

Financial literacy levels tend to be low and heterogeneous in a review of financial literacy research (Stolper and Walter, 2017a). The authors suggest that the most economically vulnerable groups tend to have the lowest levels of financial literacy. This has implications for determining the value of advice, as it would be expected that those with the most need of

financial assistance would be most desirous of the services of financial advice providers but may not qualify nor be selected by the industry for financial advice because the lower expectation of profit in servicing groups with little or no financial assets.

Financial knowledge may be a prominent factor in wealth inequality (Lusardi, Michaud, and Mitchell, 2017). Over a lifetime, the ability to allocate financial resources effectively is linked to financial capabilities of the household. The authors estimate that between 30 to 40 percent of wealth inequality can be attributed to financial knowledge levels. In the absence of financial knowledge, financial advice would be expected to be more desirable, all other things being equal.

The financial literacy levels of c-suite executives were examined from a sample of LinkedIn members (chief executive officers, chief financial officers, and chief operating officers) and it was found that this group exhibited lower than expected financial literacy levels (Anderson, Baker, and Robinson, 2017). Researchers supplemented standard financial literacy questions with questions to measure the perceived level of financial literacy of respondents. Less than two-thirds of the c-suite sample correctly completed the standardized financial literacy test, but interestingly the self-reported assessment of financial literacy was correlated with retirement planning and emergency fund savings while actual literacy was not.

### 2.16.2 Financial literacy and the use of financial advice

Where a lack of information or financial decision-making skills in individuals exist it would follow that these individuals would be more likely to find value in financial advice. However, using data from the 2009 FINRA Financial Capability Survey in the United States, it was shown that financial advice is complementary to financial capability levels (Collins, 2012). Financial capability is measured by variables such as income, education, and investable assets. In other words, individuals who already have a sound financial situation were more likely to use financial advice. Financial advice has the ability to aid those needing assistance with financial decision making, thus serving as a substitute for a lack of financial knowledge. However, advice in practice seems to be reserved for those who already exhibit higher incomes and higher levels of education which are both correlated with higher financial literacy levels and as such, financial advice may be complementary in this regard. The author concludes that those most in need of advice may often be the most neglected by the advice industry.

Investors with lower levels of financial literacy were shown to be less likely to seek professional financial advice, but when they did consult with financial advisors were more likely to delegate portfolio choices or avoid stock market investments altogether (Calcagno

and Monticone, 2015). Conversely, this same research found that financial advisors provide greater levels of information to investors with higher levels of financial literacy and in turn, these investors seem to be more likely to seek financial advice because they have this expectation of a higher level of financial discourse.

Investors with a higher level of financial literacy are able to review their financial advisor's behaviour, while investors with a higher level of perceived financial literacy were more likely to attempt to control their advisor's behaviour (Calcagno, Giofré and Urzì-Brancati, 2017). From this study, it was suggested that about three-quarters of households do not exert any level of control on their advisors. This may support the notion that the informational asymmetry between individuals and industry may allow for negative consequences for the individual.

### 2.16.3 Financial literacy and financial disputes

Since an information asymmetry exists between industry participants and financial consumers, it might be expected that the ability to resolve complaints is predominantly shouldered by the industry, and not the consumer, in an industry which is generally self-regulating in most developed-nation jurisdictions. The level of financial literacy may have an impact on the likelihood and resolution of disputes between individuals and the financial services (Shen *et al.*, 2016). Higher financial literacy in Taiwan was shown to be inversely correlated with the likelihood of disputes, and positively correlated with the level of positive attitudes towards the resolution of financial disputes. A higher level of financial literacy allowed for more productive discussions about financial disputes when they arose. These findings suggest that those who are more financially literate likely need less financial advice, but as Collins (2012) suggests are the most likely to engage in financial advice. Collins also noted that those in most need of advice were often the most neglected by the industry, so this suggests a failure in the market for financial advice.

### 2.16.4 Financial literacy and stock market participation

Using data from the Netherlands, it was found that most respondents possessed basic financial knowledge. Individuals were generally able to understand the concepts of compound interest, the loss of purchasing power due to inflation, and the time value of money in general (van Rooij, Lusardi and Alessie, 2011). More advanced concepts, such as the difference between basic asset classes of investments, were more poorly understood. This research found that lower financial literacy levels were related to lower stock market participation rates. This would suggest that financial literacy would have an impact on

retirement readiness since lower stock market participation rates and higher allocations to lower returning asset classes could lead to lower retirement savings potential.

A study of Swedish investors found a gender gap in stock market participation, with women participating less than men (Almenberg and Dreber, 2015) but this gender participation gap reduced when controlling for financial literacy levels.

With respect to derivatives market participation, a more sophisticated investment opportunity set, higher levels of financial literacy were again correlated with higher participation rates (Hsiao and Tsai, 2018). It was not determined if derivatives market participation helped or hurt financial outcomes of these households, however. Derivatives markets can exhibit both higher potential returns and higher potential risk, and the risks can be severe. Merely having a higher financial literacy level does not indicate that these investors would avoid the significantly higher risks.

### 2.16.5 Financial literacy and investment performance

If financial literacy is low, it might be expected that an individual would seek financial advice. This would suggest that financial advice could be a substitute for financial literacy. Karabulut (2013) found that less financially sophisticated household were indeed more likely to seek out financial advice. However, when analysing the impact of the advice on investment related metrics, returns were lower both on a raw level as well as a risk-adjusted level even before fees were considered. So while individuals may seek financial advice as a substitute for financial literacy, this work suggests financial advice on investment decisions is not a substitute for financial literacy as the quality of decisions decreased with respect to investments.

Portfolio-centric financial advice discriminated between sources (financial advice provided from professionals versus through private networks) was analysed in Dutch households (von Gaudecker, 2015). Private network financial advice sources include family, friends, and co-workers. In all cases, financial advice was measured with respect to portfolio management but not with respect to other areas of personal financial decisions or outcomes (such as credit behaviour, cash flow management, insurance, etc.) The analysis revealed an interaction effect between financial advice and financial literacy on portfolio diversification. Financial literacy had no impact on the outcomes of advised investors (receiving advice from either a financial advisor or a private network). Investors without access to either advice channels but with high levels of financial literacy showed similar performance to both types of advised investor. However, as financial literacy decreased for the unadvised group, investor performance also decreased. The paper concluded that most households with either a high

degree of financial literacy or who rely on financial advice exhibit reasonable investment outcomes, however those who do not seek advice but exhibit lower financial literacy levels would stand to benefit from financial advice as their portfolio returns were shown to be 0.5 percent lower than the other groups. This suggests that financial advice is a substitute for financial literacy when financial literacy is low.

## 2.16.6    Actual versus perceived financial literacy

While actual financial literacy can be directly measured with standardized questions, perceived financial literacy ascertained by self-assessment may be as important in overall optimal financial decision making (Allgood and Walstad, 2016).

Standard investment versus sophisticated investment participation rates were examined and shown to vary differently across genders when considering both actual versus perceived levels of financial literacy (Bannier and Neubert, 2016). There was a correlation between standard investment participation rates with both actual and perceived financial literacy levels for men, but only with actual financial literacy rates for women. With respect to sophisticated investment participation, rates were more strongly associated with perceived financial literacy, and in this case the association was higher for women than for men. It should be noted that a methodological concern with this study is that they placed real estate funds in the "standard" investment category (along with stocks and mutual funds) and money market funds in the "sophisticated" investment category (alongside hedge funds). This does not reflect industry practices and may invalidate the findings.

## 2.16.7    Financial literacy and financial planning

Comparatively little literature exists linking financial literacy levels with financial planning behaviours in the context of comprehensive financial planning behaviours. Agarwal et al. (2015) published the paper "*Financial literacy and financial planning: Evidence from India*" which examined investment, insurance, liability, and goal-setting behaviours but financial planning services were delivered by an on-line financial planning portal. They found that higher levels of financial literacy were associated with more financial planning. Allgood and Walstad (2016) examined financial behaviours within the general areas of credit management, investment management, insurance, and financial advice. Overall, 22 different financial behaviours were examined. Their main takeaway suggests perceived financial literacy was associated in a difference in behaviours. But while Anderson, Baker, and Robinson (2017) found that perceived literacy was important and actual literacy was not,

Agarwal et al. finds that a combined measure encompassing perceived and actual financial literacy was important.

## 2.16.8 Peer effects on financial decision making

Many individuals with lower levels of financial capability may not have access to all channels of advice. Full-service brokers and investment advisors may have asset thresholds for dealing with households which may be too high for the average household. Fee-for-service advisors and money coaches may charge hundreds of dollars per hour which may not be affordable for many households. All households may turn to peer networks, but households with lower financial capability may lean more heavily on this form of advice. Ambuehl, Douglas Bernheim, et al. (2018) examined the effects of peer advice on financial decisions and found that peer advice generally increased the efficacy of decisions. Perhaps surprisingly, the effect was greatest when respondent and peer were equally uninformed. Subjecting one individual in a pair to an educational intervention provided no additional benefit. The act of communication with peers alone yielded an increase in efficacy. This has particular relevance as community-based financial advice is now more accessible through social media platforms such as Instagram and TikTok.

## 2.17 Gender effects

There have been a number of gender effects documented with respect to financial decisions of the household. Some selected findings are presented in this section.

**Stock market participation rates**

Stock market participation rates varied by gender in a study of Swedish investors with men showing higher participation rates than women (Almenberg and Dreber, 2015). When controlling for financial literacy levels, the participation gap reduces but the gap in the level of risk in portfolios does not.

**Gender and financial literacy**

Looking at retirement planning in Finland, higher financial literacy levels had an impact on planning for women but not men (Kalmi and Ruuskanen, 2019).

**Incidence of advice**

Looking at clients of a German financial institution, advised clients were more likely to be female than male (Bluethgen *et al.*, 2011). This was associated with an increase in fees, but the advised clients held better diversified portfolios.

**Advice-seeking behaviour**

Women were found to be more likely to seek advice than men (Clark, Fiaschetti and Gerrans, 2019) in a study looking at the determinants of advice-seeking behaviours of members of defined contribution pension plans.

**Gender effects on financial wealth**

Actual financial literacy (financial literacy) and perceived financial literacy (financial confidence) were also shown to have an impact on wealth that were moderated by gender and education effects (Bannier and Schwarz, 2018). Higher education levels were associated with a higher financial literacy effect on wealth for women but not for men. Wealth levels for men increased more with perceived financial literacy, but the same association was not demonstrated with women.

## 2.18 Trust

Monti et al. (2014) find that retail investors who use financial advisors have high levels of trust in the relationship. The trust in the relationship has more bearing than information about recommended portfolio and investment options when it comes to making decisions about portfolios.

Gennaioli, Shleifer, and Vishny (2015) find that trust in money managers (investment fund managers) translates into lowered levels of perceived risk for portfolios and allows for the charging of fees. And while money managers compete on fees charged to encourage asset gathering, investors are willing to pay a premium for trust. This adds to earlier arguments that investors bear costs for non-tangible portfolio benefits. In other words, they may be willing to sacrifice optimal portfolio performance in exchange for peace of mind. Alternate explanations provided also propose that the use of intermediaries allows for higher investment participation for many investors who might not otherwise invest or take on more than lower levels of risk in their portfolios.

A lack of trust in financial intermediaries may not be the only reason why individuals might avoid advice. In a survey of Dutch adults over 50, almost a third of respondents indicated moderate to severe anxiety about meeting with a financial professional (van Dalen *et al.*,

2017). The effect was more prevalent in individuals with low education as well as low income.

Westermann et al. (2020) found that financial literacy, financial anxiety, and a lack of trust all prevent seeking financial advice.

The emerging class of robo-advisors (online portfolio management services) may provide a conduit for investors who lack trust in financial advisors. Brenner and Meyll (2020) suggested that the fear of victimization by human financial advisors particularly drove investors to substitute human investment advice with robo-advisory services. Zhang, Pentina, and Fan, (2021) found that individuals perceived human financial advisors with high levels of expertise as more trustworthy and more likely to provide value than robo-advisors, however financial advisors with low levels of expertise were perceived as similar to robo-advisors. Since high expertise advisors tend to be located in channels of advice restricted to higher net worth households, this suggests that value of financial advisors outside of those channels are perceived as having less value. Lower net worth households may not have access to better quality advice in general.

## 2.19 Behavioural considerations

The Life Cycle Hypothesis of Saving put forward by Franco Modigliani and Richard Brumberg (1954) forms a large part of the framework for contemporary financial planning with respect to retirement income planning. While the original theory precluded leaving wealth to the next generation, in reality there is a substantial desire for households to do just that. The Life Cycle Hypothesis of Savings has had ample time for other researchers to build from. An example would be the Behavioral Life-Cycle Hypothesis (Shefrin and Thaler, 1988) which, among other ideas, considers some components of wealth as non-fungible, and as its name would imply, introduces behavioural considerations about the perspective of income on a temporal basis. In other words, the temptation to spend current income is greater than the temptation to spend future income. This would have implications on the savings ratio of households, a core consideration of financial planners.

Behavioural considerations are an important and exploding field of academic study with respect to investing and other financial decisions. Irrational choices by investors and practitioners have been widely documented (Barberis and Thaler, 2003; Baker and Ricciardi, 2014). With respect to investment choices, an example of irrationality would be the peculiar proliferation of index-tracking funds with identical mandates. There is a large variation in fund expenses and a smaller variation in tracking error. With identical mandates, the rational choice would be selection of the index-tracking fund with the lowest overall expenses (and

therefore highest performance). But this isn't the case, and there are a few main explanations: this could indeed be an example of irrational behaviour; investors may be lacking in financial literacy; or distributors have an incentive to sell "inferior products" to uninformed investors (Elton, Gruber and Busse, 2004).

There are interventions which may be introduced to help investors address these and other behavioural biases. As an example, the Save More Tomorrow (SMarT) program was shown to increase the savings rates of members of defined contribution pension plans from 3.5 percent to 13.6 percent (Thaler and Benartzi, 2004). Employees with access to a defined contribution pension plan were provided the option to pre-commit to saving portions of future raises to the pension plan. Instead of asking individuals to save more today, which would be associated with a reduction in take-home pay, by allowing them to pre-commit a portion of future raises they would avoid the feeling of a reduction in spending since they would be able to save more (tomorrow) while still experiencing an increase in take-home pay at that same future time. Thus, avoiding the effects of loss aversion may be a contributing factor to these results.

Hyperbolic discounting, the tendency to prefer smaller, immediate rewards over larger rewards in the future (Laibson, 1997), was shown to be associated with reduced savings behaviour and reduced stock market participation (Love and Phelan, 2015).

Part of the value of a financial intermediary could be modifications of behaviours of individuals. This may not show up in portfolio-centric analyses of financial advisor value.

## 2.20 Causality

Understanding whether financial advice has a positive, neutral, or negative impact on financial decision making requires an analysis of selection. Are better-off households more likely to seek advice or are financial advisors more likely to seek out households that are more well-off? Additionally, are the determinants of financial prosperity more endogenous or exogenous? In other words, do the characteristics that guide good financial decision making exist with or without advice intervention?

Consumers with lower levels of financial literacy were shown to receive lower quality financial advice (Bucher-Koenen and Koenen, 2015). The effect was greater for women and individuals who did not possess education above the secondary school level. This suggests that people who seek financial advice and may need it most, are more likely to receive lower quality financial advice.

While some studies cited in this thesis show a correlation with financial health and the use of a financial advisor, most of these studies call for more research into causality: "Are financial advisors responsible for improved financial well-being, or are those who are more financially well-off more likely to seek advice?" (Burke and Hung, 2015). It was suggested that reverse causality through endogeneity was responsible for higher savings rate, not financial advisors.

While the use of a financial advisor was associated with a higher level of financial confidence and other important financial planning activities, it was not related to savings behaviours (Marsden, Zick and Mayer, 2011). Savings behaviour is a key factor in wealth creation and if the rate of savings is an endogenous factor, this would have clear implications in the determination of value of financial advice.

Looking at a sample of Swiss investors, it was found that financial advisors can hurt the trading performance of investors (Hoechle *et al.*, 2017). The study analysed trades of investors and separated trades into two categories: advised or independent. Advisors hurt trading performance relative to non-advised trades, and the effect was larger for advised trades where the advisor had initiated contact with the client. The paper strongly suggests that the value of financial advisors may be negative to individuals in aggregate.

Rules-based financial advice (investment advice and life insurance advice) was provided to 6,000 clients of a German financial advisory firm and it was found that clients with lower levels of financial literacy were more likely to follow advice, but overall almost 65 percent of households chose to ignore this advice (Stolper, 2018). Further, of those who took the advice, the degree to which they adhered fully to the advice was also low. This analysis helped explore the idea of whether or not financially sophisticated individuals avoided advice due to perceived agency effects of advice givers. By using a rules-based version of advice, the advice could be considered free of agency conflict, but households were still reluctant to act on that advice. The negative relationship of financial knowledge and the propensity to follow advice did not exist for the wealthiest households. The authors hypothesize this may be due to these households having multiple advice sources no matter their financial literacy levels. Thus, they may see the standardized advice as merely another source of information and may place higher value on other options of advice at their disposal. The author conjects that the willingness to follow advice may be related to an individual's level of trust in the financial advisor and suggests further study of this relationship.

Research into interaction effects of self-control and savings behaviour revealed that individuals with lower levels of self-control may benefit from personal financial advice to a greater degree versus individuals exhibiting higher levels of self-efficacy (Liu *et al.*, 2019a).

Taken together, it seems clear that further exploration into the endogenous factors of the individual with respect to the value of financial advice is warranted.

## 2.20.1   A closer look into the value of financial advice studies in Canada

In the paper titled "The Gamma Factors and the Value of Financial Advice" (Montmarquette and Viennot-briot, 2019), the authors speak directly to the issue of causality and also suggest that the value of financial advice is positive. Revisiting their previous work based on a survey of 3,610 Canadian respondents in 2010, a follow up survey taken in 2014 with some overlapping respondents was analysed.

**Original study synopsis**

The initial study asked three questions: 1) What were the determinants of having a financial advisor?, 2) What was the economic impact of using a financial advisor on the value of investment assets of the household?, and 3) How does financial advice work?

*Determinants of having a financial advisor*

They identified three factors that were positively correlated with the likelihood of having a financial advisor: age, savings capacity of the household, and income. They also found that people with higher levels of financial literacy were more likely to have a financial advisor, as were households who had completed post-secondary education. They found that couples with no children were more likely to have a financial advisor.

They make the assumption that advisors influence levels of wealth and not vice versa (page 389, paragraph 5). In other words, they do not believe wealth attracts advisors to households. Given the dominant compensation structures in the industry, this seems like an assumption worth exploring further to ensure it is valid. The authors readily acknowledge the difficulty in dealing with causality when relying on the use of surveys.

*Economic impacts of having a financial advisor on wealth levels*

The results from their initial survey indicated that households that used a financial advisor for more than 15 years had 173% more financial assets than non-advised households. The analysis may suffer from survivor bias whereby advised households who may have had poor experiences with financial advice and then terminated their relationship with their financial advisors before taking the survey would have been counted in the unadvised category (even if they had used financial advisors for decades). This would need to be corrected for in future analyses.

*How does financial advice work?*

The authors explain that higher savings rates and a greater proportion of savings being invested in non-cash investments explains the difference in wealth between advised and non-advised households. However, they posit that these behaviours were "acquired through advice", but do people who want to save more feel they need an intermediary to execute their wishes? Or do intermediaries convince people to save more?

*The updated survey and analyses*

A new household survey was deployed in 2014. To address causality, the authors added a question about what prompted the households to seek out financial advice: 1) Referred from private network?, 2) Did they just feel the need for financial advice?, 3) Were they solicited by a financial advisor, and 4) Other.

85% of households using a financial advisor reported that they solicited an advisor and not the other way around. The authors suggest this backs up their assumption that advisors are causally responsible for the increased wealth exhibited by advised households over non-advised households. It is not clear that this is enough to draw any firm conclusions about causality of improved wealth due to financial advice. It is possible that people with more money are more likely to seek financial advice, or that other endogenous factors could explain a higher wealth potential with people in this category merely seeking an intermediary for execution as opposed to advice.

Contrary to the 2010 survey, financial literacy did not have a statistically significant effect on the likelihood of having a financial advisor (it was positively correlated in the 2010 survey). However, the data showed that having a life insurance policy in place was correlated with having an advisor. The authors note the following: "It can be argued that for an individual to hold a personal life insurance policy implies a certain level of financial literacy." It should be noted however, that they indicate the variable "respondent has a life insurance policy" without providing more detail. This does not seem to delineate whether respondents were asked if they have a privately purchased life insurance policy or a life insurance benefit provided through an employer. Without further information on the source of the life insurance policy, it might be difficult to make this connection.

The data showed that the increase in assets of advised versus non-advised households was greater than in the initial survey. Households using an advisor for more than 15 years were shown to have 290% more financial assets than non-advised households (versus a 173% differential in the initial survey). It is unclear if survivor bias introduced by the survey question

wording in the initial survey was addressed. Originally, respondents who indicated they no longer used a financial advisor were considered unadvised whereas in reality they may have used a financial advisor for many years before terminating their relationship with them. An examination of savings rates showed that advised households exhibited higher rates of savings. Advised households also held a higher proportion of their savings in non-cash investments. The higher potential returns of non-cash investments would be expected to increase asset values faster over long periods.

*Survivor bias follow up*

The 2014 survey included 282 respondents who had also participated in the 2010 survey. Additional questions were asked to these respondents to address the issue of survivor bias identified previously. The questions the authors wanted to answer:

1. How does the value of household assets without a financial advisor in 2010 and 2014 compare with the value of household assets without a financial advisor in 2010 but with an advisor in 2014?
2. How does the value of household assets with a financial advisor in 2010 and 2014 compare with the value of household assets with a financial advisor in 2010 but without one in 2014?

In other words, the follow up survey allowed them to tease out households who were previously unadvised but then acquired a financial advisor, and also to tease out households who were previously advised but then switched away from their financial advisor.

Using t-tests to analyse the difference in means between 2010 and 2014 of households who were unadvised versus those that started as unadvised but acquired an advisor showed that the continuously unadvised households had $79,622.48 less financial assets than the households that acquired an advisor during this time.

Similarly, comparing continuously advised households versus households that terminated their relationship with an advisor showed that the continuously advised households had $90,149.47 more financial assets than the households who lost a financial advisor during this time. In both cases these differences were statistically significant. The authors note that the statistics are descriptive and do not speak to causality of the advice of the advisor. The data showed that many households experienced changes in asset levels that were quite large. This could indicate windfall gains like inheritances or large declines due to households converting investment portfolios into start-up capital for small businesses. Relationship formation and breakdown, and the subsequent addition or division, respectively, of assets

may also play a role in the variance. Restricting outliers reduced the sample size by more than 40%.

*Causality*

Questions about causality remain with respect to the value of financial advice on asset levels in this study. Unanswered are questions about endogeneity. It may be that a confluence of determinants that make a household more financially capable are collinear with the propensity to seek or accept advice. In this case, financial advisors would be used for execution as opposed to advice. It may also be the case that financial advisors encourage all households to save more and that this would be of value to households, but again, causality does not seem to be proven in that context in this study.

## 2.21 Selection and endogenous considerations

One of the earliest studies into financial help-seeking behaviour was performed by Grable and Joo (1999). They noted that individuals with higher levels of financial stressors were more likely to seek financial advice, as were younger individuals, and those who did not own a home. However, their data sample was relatively small (n = 184), and they were looking for people who sought advice from any of the following categories of financial advice: financial planners, lawyers, credit/budget counsellors, or peer networks. This suggests limited applicability of the findings to financial advisor-seeking behaviour in general. They acknowledge this limitation in a follow up study (Grable and Joo, 2001) in which they separate help providers into professionals versus non-professionals. The results are quite different. People seeking advice from professionals tended to exhibit higher levels of financial risk tolerance and better financial behaviours overall. Being a homeowner was positively correlated with seeking professional advice (contrasting the 1999 results), as were high levels of financial satisfaction. This suggests that those seeking professional advice were already doing well financially, or demonstrating good financial decision making abilities. Conversely, those with problematic financial behaviours were more likely to seek non-professional advice. It is possible that financial advice is complementary to individuals who exhibit better financial decision making in general.

With respect to selection, there are other variables of interest as well. The van Dalen, Endrik, Henkens, et al. (2017) study of adults over 50 in the Netherlands showed that almost one third of this group exhibited moderate to severe levels of anxiety about meeting with financial services professionals and anxiety levels were inversely correlated to education and income. If lower levels of education and income and correlated with higher anxiety, this may reduce

the likelihood of those needing advice the most from seeking it. Alternatively, those who need help the least are more likely to seek out a financial advisor.

Using research from the medical field which suggests that some people avoid professional consultations due to anxiety about disclosure of ailments, embarrassment, or other sources of worry, it was shown that similar roots for anxiety exist for individuals when contemplating professional financial advice (Gerrans and Hershey, 2017). Two sets of scale items were included on a survey designed to capture possible advisor anxiety:

- Disclosure anxiety: anxiety about revealing how people manage their money

- Evaluation anxiety: anxiety about negative judgement

A factor analysis revealed that both scales collapsed onto one overall scale of financial adviser anxiety. Financial advisor anxiety was negatively correlated with advice seeking behaviour.

Measurement of the financial sophistication of households (the ability to avoid financial mistakes) revealed that wealth and education were correlated with fewer errors (Calvet, Campbell and Sodini, 2009), but the variables examined consisted only of investment metrics: under-diversification, inertia in risk taking, and the disposition effect of direct stock holdings.

Consumers who actively sought financial advice in an experimental setting experience an improvement in portfolio performance (Hung & Yoong 2010). Subjects were divided into three groups before all being given a portfolio allocation task. The first group was the control group and received no advice. The second group received advice. The third group were given the option of receiving advice. Only members of the third group who actively sought advice showed an improvement in behaviour. The group receiving advice without asking showed no difference to the unadvised group. Further, in the third group, those with lower levels of financial literacy were more likely to ask for the advice. It should also be noted that financial advice seeking from uninformed peers has also been shown to improve financial decision making (Ambuehl, Bernheim, *et al.*, 2018). Taken together, this might suggest that the mere act of being concerned with making better financial decisions demonstrates an endogenous factor that seems to influence financial decision making positively.

Income, risk tolerance, and financial literacy were shown to be positively correlated with the demand for financial advice by Alyousif and Kalenkoski (2017). The type of financial advice examined was not solely investment advice. The research looked for demand for debt counselling, mortgage and loan advice, insurance products, and tax planning. The

determinants of demand for advice remained relatively constant across the different types of financial advice, with income having the strongest effect. This also suggests that endogenous factors may play a more important role in rates of use of financial advisors. A recent paper examining the use of financial expertise in Japan also confirms much of the prior literature that consumers with higher levels of financial acumen are more likely to seek advice (Fujiki, 2019).

Another survey of Canadian households revealed that consumers with financial planners were wealthier, had less subjective financial stress, and higher financial self-control than consumers who did not use a financial planner (Letkiewicz *et al.*, 2018). Subjective financial stress in and of itself was not correlated with the seeking of financial planning assistance, but self-efficacy was. People who exhibit a higher belief in their goal attainment ability were more likely to seek advice. This may be complementary to financial advice and may help explain why people using financial planners (or advisors who are not planners) report higher levels of financial capability.

Women were found to be more likely to seek advice than men, and age, household wealth, and experience with investing were also all positively correlated with advice-seeking behaviour by (Clark, Fiaschetti and Gerrans, 2019).

Chang and Szydlowski (2020) further provide evidence that selection effects play a role in ascertaining the value of advice to heterogeneous investors. They develop a model in which they find less informed investors will seek advice and experience lower returns while more informed investors choose to forego advice and experience higher returns than advised households. The reason lower informed investors seek advice and accept lower returns than the advice-foregoing investors is that they would experience even worse returns without the advice, even though the advice is conflicted advice.

## 2.22 Confidence

Individuals with higher levels of confidence about their financial decision making were found to be more likely seek out financial advice by Robb, Babiarz and Woodyard (2012). The authors suggest this may be due to the perception that these individuals believe the costs of financial advice are worth the benefits.

Contrasting this, Kramer (2016) found no correlation between actual financial literacy and advice seeking behaviour. However, in this study people with a high level of confidence in their level of financial literacy were less likely to seek advice. There was also an interaction

effect with level of wealth: the higher the wealth level of a household, the higher the negative correlation between financial literacy confidence and advice seeking.

Specific to retirees, the use of financial advisors was associated with higher levels of financial confidence and financial security by (Salter, Harness and Chatterjee, 2011).

## 2.23 Identified gap in the literature

There is a significant gap in the academic literature on the value of financial advice for households. Zick and Mayer (2013) debate whether the outcome variable of financial advice should be measured in dollars or psychological states (such as confidence levels), or other metrics. As documented in this literature review, previous research on the value of financial advice has been conflicted but generally finds that financial advisors' costs are greater than the benefits received from households using portfolio centric measures of value (Bergstresser, Chalmers and Tufano, 2009; Hackethal, Haliassos and Jappelli, 2012; Foerster et al., 2014, etc.).  Non-portfolio related measures, such as emotional benefits associated with having advice, increased savings rates, and guidance on non-portfolio financial behaviours have conversely been found to be of benefit (Marsden, Zick and Mayer, 2011; Salter, Harness and Chatterjee, 2011; Montmarquette and Viennot-briot, 2012).

Contributing to the gap in the literature is the limited accounting for the heterogeneity of financial advice available to households in the marketplace. The preponderance of research has generally categorized households into basic "advised" or "unadvised" conditions which does not reflect the differentiation that exists in the market for financial advice to households, either across or within channels of advice.

Overall, the current research (thesis) aims to address the gap in the academic literature on the value of financial advice by providing a more comprehensive and differentiated view of the market for financial advice and using a multi-dimensional framework of outcome measures.

# 3 Theoretical framework

## 3.1 Introduction

After having provided a brief context of the main aim of this thesis in Chapter One (to build upon the research into the efficacy of financial advice to households) the literature review in Chapter Two established that contemporary financial advice models are not homogenous and that attempts to quantify the value of financial advice should not only more thoroughly consider the multiple forms of financial advice available, but also further examine the influence of endogenous factors of the recipients of advice. The theoretical framework presented in this chapter (Chapter Three) will begin by stating the overall research aims and objectives. The philosophical assumptions of the research will be provided followed by a discussion of the theories previously used to examine the value of financial advice to households which will then provide context for the research model undertaken in this study, followed by a presentation of the main hypotheses to be tested.

## 3.2 Research aims and objectives

This study extends the research into the value of contemporary financial advice channels to households, specifically in Canada but with potential generalizability to other developed market countries given the general similarities in securities regulation and financial intermediary industries around the developed world. Much of the literature has grouped financial advice into a binary condition (households receive advice or they do not). This thesis will examine the heterogeneity of advice available to households by controlling for the different types of financial advice available to households. Further, it will explore multiple metrics for determining the efficacy of advice beyond the level of Investable Assets by including two non-portfolio centric measures: a measure of the holism of advice received, and a measure of financial confidence.

### 3.2.1 Primary research question

*What is the value of financial advice on households across the different types of financial advice channels available?*

Contemporary industry practices include multiple channels and forms of financial advice. These include human-facilitated financial advice channels, automated investment platforms (more colloquially known as 'robo-advisors'), and self-service investment platforms (known as order execution only [OEO] platforms). Within each of these main types of financial advice

there exists the potential of distinct sub-channels of financial advice. The various sub-channels of financial advice available to households serve as the main independent variable and address the primary research question.

### 3.2.2 Secondary research questions

***How do endogenous factors of households influence the benefit of financial advice received?***

Secondary questions that arise from the literature revolve around the role of endogenous factors of households. If the primary research question can be thought of as a way to differentiate the impact of the various sources of advice, the secondary research question can be thought of as a way to differentiate the various household characteristics that may play a role in determining the value of financial advice received.

### 3.2.3 Scope

The focus of this research is on Canadian financial consumers and the market for financial advice in Canada. The literature on the value of financial advice is at a relatively young stage with various research conducted across different jurisdictions around the world. However, given the general similarity of frameworks for securities market regulation and financial intermediation across developed markets around the world, the previous literature is fairly generalizable to the Canadian market. This thesis builds upon both general frameworks from other countries as well as Canadian specific research.

## 3.3 Philosophical considerations

Before proposing and answering research questions, the philosophical worldview of the researcher should be established (Blaikie & Priest, 2019, p. 89). Blaikie and Priest outline four logics of inquiry, six sets each of ontological and epistemological assumptions, and a wide range of research paradigms. The logics of inquiry are determined by the ontological and epistemological assumption set.

Easterby-Smith et al. (2018) use a tree metaphor to describe the relationship between ontology, epistemology, and methodology (see Figure 3.1). Ontology represents the core of the tree's trunk and is the base from which the researcher looks at the nature of reality. This core influences the possible epistemologies available to the researcher (the nature of how one enquires about the nature of reality).

**Figure 3.1 Tree trunk metaphor adapted from Easterby-Smith, Thorpe, Jackson, and Jaspersen (2018)**



Ontology

Epistemology

Methodology

Methods and techniques
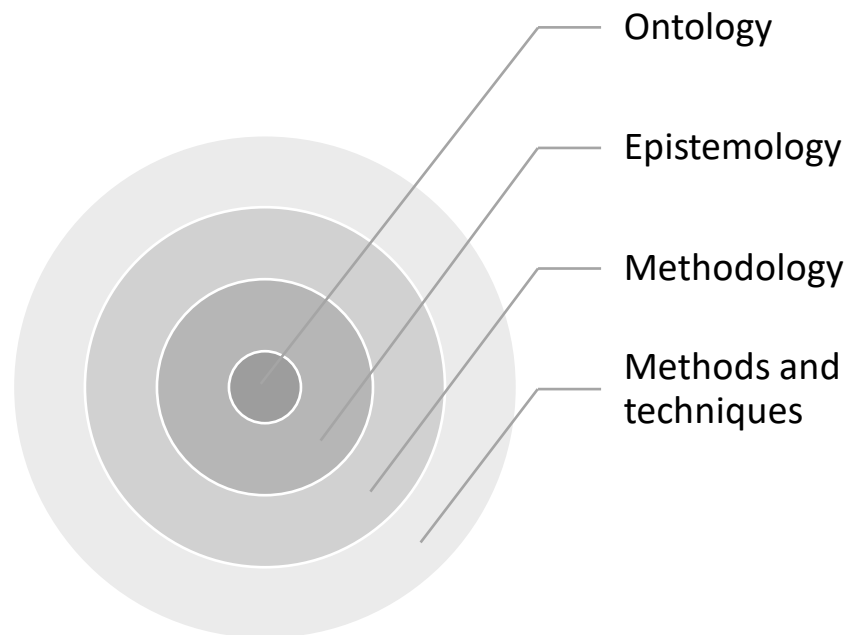
The pairing of ontology and epistemology in these inner rings inform the outer ring: the methodology or research paradigm. This section will first review this research's ontology and epistemology assumptions, which then informs the logic of inquiry, research paradigm, and research method.

### 3.3.1 Ontology

Blaikie and Priest (2019, p. 101) define ontology as the nature of social reality, or in other words the nature of what social phenomena exist. Easterby-Smith et al. (2018) provide an overview of four general ontological positions, reproduced in Table 3.1, which present a spectrum of ontological perspectives.

**Table 3.1 Description of major ontological positions**

|  | **Realism** | **Internal Realism** | **Relativism** | **Nominalism** |
|---|---|---|---|---|
| Truth | *Single truth* | Trust exists, but is obscure | There are many 'truths' | There is no truth |
| Facts | Facts exist and can be revealed | Facts are concrete, but cannot be accessed directly | Facts depend on viewpoint of observer | Facts are all human creations |

*Source:* Reproduced from Easterby-Smith et al. (2018)

However, Blaikie and Priest (2019) provide more granularity with six different ontological perspectives, presented in Table 3.2.

**Table 3.2 Ontological positions according to Blaikie and Priest (2019)**

| | |
|---|---|
| **Shallow Realist** | • Phenomena we study exist independently of us |
| | • There are patterns or sequences in observable phenomena, and the challenge for science is to discover and describe them |
| **Conceptual Realist** | 1. Reality has an existence independent of human minds |
| | 2. It is not the property of any individual or the construction of a social community but is a collective consciousness, or structure of ideas, and is not directly observable |
| **Cautious Realist** | • Reality has an existence independent of human minds |
| | • However, direct access to this reality is not possible |
| **Depth Realist** | • Social reality is viewed either as social episodes that are products of the cognitive resources of social actors, or as social arrangements that are products of material but unobservable structures of relations |
| **Idealist** | • Social reality is made up of shared interpretations that social actors produce and reproduce as they go about their everyday lives |

| | |
|---|---|
| Subtle Realist | • A knowable reality exists independently of social scientists |
| | • Cultural assumptions prevent direct access to this world |

• Idealist ontologies differ in the extent to which the existence of an independent external world is acknowledged and, if so, whether or not it constrains or facilitates individual and social activity

Source: Reproduced from Blaikie and Priest (2019)

A cautious realist ontology was selected due to the nature of defining financial household success. A large body of academic literature has been investment- and portfolio-centric with respect to evaluating the value of financial advice. Further, contemporary industry practices have evolved away from portfolio-centricity in their service offerings. Therefore, the definition of what constitutes optimal outcomes, which would serve as a framework for measuring the value of financial advice, has weak consensus for the contemporary marketplace for financial advice. This aligns with a cautious realist approach because the reality of financial efficacy is not directly 'set in stone' (Blaikie and Priest, 2019). The main ontological-epistemological pairing of cautious realism and falsificationism is characterized as critical rationalism, a sub-category of positivism as defined by Easterby-Smith et al. (2018).

## 3.3.2 Epistemology

Epistemology is defined as how the knowledge of social reality is determined and there are six types of assumptions as described in Table 3.3, adapted from Blaikie & Priest (2019).

**Table 3.3 Six epistemological assumptions**

| | |
|---|---|
| **Empiricism** | 3. Knowledge is both derived and verified by our human senses of perception and trained researchers are able to create reliable knowledge that can be considered true or certain when it reflects the external world |
| **Rationalism** | 4. Knowledge is derived by human thought processes that can describe unobservable phenomena through reasoning and inferences using mathematics and logical reasoning |

| | |
|---|---|
| **Falsificationism** | • Knowledge is created by testing and re-testing theories based on falsifiable propositions that allow us to narrow down the possible explanations behind the phenomena that exist |
| **Neo-realism** | • Knowledge of the causes behind observations is based on understanding the mechanisms that produce them |
| **Constructionism** | • Social phenomena are constructs dominated by the language used by participants and criteria for determining truth are malleable according to mechanisms that create social constructs |
| **Conventionalism** | • Scientific theories are developed to describe observed data, and do not necessarily define the actual phenomena that exist, and these theories' merit is determined by judgement as opposed to proofs |

Source: Adapted from Blaikie and Priest (2019)

The epistemological assumption of this researcher is falsificationism. The view of the researcher is that truth cannot be determined, but rather falsities can be rejected. By rejecting enough falsities, we can improve our understanding of the relationships that may describe how our world exists and the interactions within it.

The Cautious Realist-Falsification ontology-epistemology pair is one of the common pairings described by Blaikie and Priest as shown in Table 3.4.

**Table 3.4 Common ontological and epistemological pairings**

| Ontology | Epistemology |
|---|---|
| Shallow realist | Empiricism |
| Conceptual realist | Rationalism |
| Cautious realist | Falsificationism |
| Depth realist | Neo-realism |
| Idealist | Constructionism |

Source: Reproduced from Blaikie and Priest (2019)

### 3.3.3 Research paradigm

#### 3.3.3.1 Positivist - Critical rationalism

The researcher believes pure observation is not possible and since a frame of reference is required for the context of all observations, this dovetails with the cautious realist and falsification assumptions adopted, and falls under the critical rationalism paradigm (Blaikie and Priest, 2019), which falls under the positivist camp (Easterby-Smith *et al.*, 2018). This paradigm relies on observation-driven deductive reasoning to create theories to account for the data observed. This also agrees with a falsification epistemology as theories are not regarded as truth, but rather are constructed based on eliminating alternative explanations to the point of creating increasingly optimal frameworks of understanding that able to be further developed, or rejected.

### 3.3.4 Logics of inquiry

The fundamental aim of a logic of inquiry is to establish a framework from which researchers may establish which type of 'what' and 'why' questions can be answered when addressing their research question (Blaikie & Priest, 2019, p. 89).

The planned study will rely on deductive reasoning. Previous studies have found varying relations between different types of financial advice against different measures of financial outcomes. The general inductive reasoning is that financial advice has an impact on financial outcomes, but by using a deductive approach, we can introduce other hypotheses for testing and attempt to generate more precise explanations for particular associations. Blaikie and Priest (2019) note that multiple logics of inquiry may be used and while this research's main logic of inquiry is deductive, the lack of a strong theory of financial advice or financial planning may require inductive reasoning as well. Inductive reasoning is associated with observations that are measured according to concepts defined by the researcher. Given that the literature has yet to generate consensus on what the outcome measures of contemporary financial advice should be, using a secondary logic of inquiry may be helpful. The primary and secondary logics of inquiry are described in Table 3.5, reproduced from Blaikie and Priest (2019).

**Table 3.5 Logics of inquiry used in this thesis**

|  | **Primary logic of inquiry – Deductive** | **Secondary logic of inquiry - Inductive** |
|---|---|---|
| **Purpose** | To test explanations, to eliminate false ones and corroborate the survivor | To establish descriptions of characteristics and regularities |
| **Ontology** | Cautious or subtle realist | Cautious, depth or subtle realist |
| **Epistemology** | Falsification and conventionalism | Conventionalism |
| **Start** | Identify a regularity that needs to be explained<br><br>Construct a theory and deduce hypotheses | Collect data on characteristics and/or regularities<br><br>Produce descriptions |
| **Finish** | Test hypotheses by matching them with data | Relate these to 'what' research question |

Source: Adapted from Blaikie and Priest (2019)

## 3.3.5 Philosophical summary

The philosophical considerations of this research are summarized in Table 3.6.

**Table 3.6 Summary of philosophical considerations**

|  |  |
|---|---|
| **Ontology** | Cautious realist |
| **Epistemology** | Falsificationism (and conventionalism) |
| **Paradigm** | Positivist: Critical rationalism |
| **Logics of inquiry** | Deductive reasoning (Primary)<br><br>Inductive reasoning (Secondary) |
| **Methodology** | Quantitative |
| **Methods and techniques** | Cross-sectional survey, correlation, and regression |

Source: Original

## 3.4  Research model

The lack of an academic theory of financial advice that could apply to contemporary industry practices has been well documented. Black Jr. et al., (2002) noted that the need for comprehensive financial advice was theoretically well-grounded but that financial advice as an industry had evolved in spite of a lack of theory. There are a few post-secondary education institutions where graduate programs related to financial planning exist today, but they are not ubiquitous. Texas Tech University's website declares it was the first U.S. university to offer a doctoral degree in personal financial planning after a $2 million grant was bestowed upon the school in 2000 by the CFP board in order to develop PhD graduates in financial planning for the purpose of developing PhD programs at other institutions (Kitces, 2016). At the time of publication, Kitces described there being "about a half dozen PhD programs" in the United States. A review of the Texas Tech University course catalogue for the PhD program yielded only one course title referring to theory. PFP 6374's course title is "Household Economic Theory". As described by Bluethgen et al. (2011), the reduction in errors of household decision making could from the backbone for a theory of financial advice.

While early, seminal papers in the field of finance offered the framework for many contemporary practices in personal financial planning, the development of an academically rigorous framework has stalled (Yeske, 2010). McClure (2014) further discussed the lack of formal theories relating to financial planning by noting that The Journal of Financial Planning (a practitioner journal) had few mentions of theory in the over 30 years of publication at the time. In the November 2011 issue of the journal, author Lance Ritchlin put forth that the industry was still requiring even an elementary theory.

Given the lack of consensus on foundational theories of financial advice or financial planning, this thesis builds on the most recent frameworks employed by researchers when looking at various aspects of financial advice efficacy.

As some practitioners move away from investment portfolio-centric advice and towards a more comprehensive management approach of household finances, the ability to measure the value of financial advice, taking into account the heterogeneity of advice offerings, can help inform attempts to measure the value of financial advice (Blanchett, 2019). If financial advisors no longer solely compete on portfolio performance, then the value of their advice can no longer be judged solely against this metric. For example, retirees with financial advisors reported feeling more confident that their financial assets would be sufficient to cover their needs during retirement (Salter, Harness and Chatterjee, 2011). They also reported higher feelings of financial security and a higher degree of confidence that their

retirement portfolios were being managed well. The study noted that retirees with advisors took on slightly higher risk in their portfolios. This would have an impact on asset longevity and hence, retirement funding confidence. It may be the case that households with the traits necessary to take on higher risk are also more likely to seek guidance, but conversely it could also be the case that the advisors were responsible for these differences. This research was correlational in nature and did not address causality, but this also suggests that the value of financial advice may have non-portfolio related measurements, such as emotional benefits or the non-tangible benefits described by (Bergstresser, Chalmers and Tufano, 2009).

Therefore, one main contribution to research of this thesis is to explore multiple outcome measures of financial advice efficacy that are both portfolio-centric and non-portfolio-centric. This will help elucidate the value proposition of different modes of advice that exist in the marketplace for financial advice available to households.

### 3.4.1 Dependent Variables

To address the issue of financial advice heterogeneity, multiple outcome measures will be tested to better reflect the nature of contemporary financial advice. While the academic literature has been dominated by portfolio-centric analysis, households have financial concerns beyond just the level of investable assets acquired. To examine the value of financial advice with both portfolio-centric and non-portfolio-centric perspectives, three dependent variables (outcome measures) are employed or developed for this research:

- Investable Assets
- Holistic Wealth Score (HWS)
- Comprehensive Financial Confidence (CFC)

#### 3.4.1.1 Investable assets (Assets)

One of the main measures employed by researchers in ascertaining the value of working with financial advisors has been the level of investable assets of the household. While this is a portfolio-centric measure, it nonetheless has utility for examining the value of advice received as the industry of financial advice has primarily been based on asset management. Also, given that much of the existing literature focuses on this outcome measure, it allows for a degree of comparability of the research undertaken here to the existing literature.

### 3.4.1.2 Holistic Wealth Score (HWS)

To further inform the heterogeneity of financial advice channels that exist in the marketplace, a proposed Holistic Wealth Score (HWS) was developed in consultation with an expert panel to measure the breadth of financial advice provided. Panellists indicated that the breadth of financial advice is not uniform across the different channels of advice in the market. Some channels provide holistic household financial advice on multiple facets of financial decision making while other channels may focus on singular facets alone, such as investment and portfolio management. This Holistic Wealth Score is a simple measure of the breadth of advice: it measures the number of different facets of household finances a particular channel of financial advice provided to the household. The minimum score is zero, the maximum score is ten. This can help inform the heterogeneity of advice channels, but it is not a measure of advice quality. These facets include the ten following areas:

1. Investments
2. Life insurance
3. Disability insurance
4. Emergency funds
5. Debt management
6. Cash flow management
7. Retirement forecasting
8. Tax management
9. Estate planning
10. Education savings

This measure is non-portfolio-centric.

### 3.4.1.3 Comprehensive Financial Confidence (CFC)

Building from the suggestions of Bergstresser et al. (2009) and in which they posit that investors accept lower returns when working with financial advisors because there must be intangible benefits (such as emotional benefits) which consumers receive, coupled with the findings of Salter et al. (2011) that investors with financial advisors report higher levels of confidence in their retirement spending coverage, higher financial security, and higher confidence in the management of their portfolios, a Comprehensive Financial Confidence scale was created. The same expert panel convened for development of the Holistic Wealth Score provided input on the main areas of household finances that should be included in this scale. This self-reported scale is comprised of nine scale items, measuring the confidence in the following areas:

1. Debts
2. Retirement coverage
3. Investment selection
4. Tax planning
5. Life insurance coverage
6. Disability insurance coverage
7. Emergency fund
8. Estate planning
9. Education savings

This measure is also non-portfolio-centric.

## 3.4.2 Primary Independent Variable

The primary independent variable will be the primary channel of advice that the household has engaged with. The list of 18 options reported in Table 3.7 below builds from the ten listed in (Montmarquette and Viennot-briot, 2012) and is considered exhaustive by the expert panel convened during the pilot survey development. Note that in the Montmarquette & Viennot-briot (2012) study, these 10 options were collapsed into three groups: advised, unadvised, and unadvised traders. The 18 channels of advice used in this thesis are listed in Table 3.7. Note that channels can offer investment execution services, financial advice, or both. Channel descriptions are provided following the table.

**Table 3.7 Channels of Financial Advice**

| | Channel | Description |
|---|---|---|
| 1 | Bank teller | Reference category |
| | | No advice, no investment execution |
| 2 | Branch-level financial advisor | Execution, advice available |
| 3 | Full-service financial advisor at bank | Execution, advice available |
| 4 | Independent financial advisor** | Execution, advice available |
| 5 | Employer Rep | Execution, advice available |
| 6 | Insurance agent** | Execution, advice available |
| 7 | Robo-advisor** | Execution, directed* advice available |

| 8 | Online bank** | Execution, directed* advice available |
| 9 | DIY | Execution only |
| 10 | Accountant | Advice only |
| 11 | Money coach** | Advice only |
| 12 | Social media** | Advice only |
| 13 | Print media** | Advice only |
| 14 | Podcasts** | Advice only |
| 15 | Television** | Advice only |
| 16 | Newsletter** | Advice only |
| 17 | Friends/family | Advice only |
| 18 | Other | Unknown |

*Directed advice: Indicates channel provides a highly prescribed menu of limited options. These channels might be characterized as similar to self-serve advice or "light" advice.

**Modified or additional channel compared to (Montmarquette and Viennot-briot, 2012)

Source: Author and expert panel

### 3.4.2.1 Reference category – No advice, no investment execution

#### 1. Bank Teller

The bank teller channel is associated with day-to-day banking functions such as deposits and withdrawals of monies to various bank accounts, facilitating basic credit transactions such as opening up credit card accounts, and routing of customers to other practitioners in the bank or credit union who may specialize in larger banking transactions like the opening and management of lines of credit, auto and personal loans, and mortgages. Bank tellers tend to be compensated with base salaries plus sales incentive bonuses. Some of these incentives apply to basic banking and credit products and some of these incentives could be for referring customers to different channels within the bank, such as the branch financial advisor or the full-service brokerage arm of the bank. The bank teller channel of advice could be considered the "no advice" channel or reference channel from a methodological standpoint.

### 3.4.2.2 Execution and advice channels

#### 2. Branch-level financial advisor

Financial advisors at a branch-level of a bank or credit union tend to offer standardized investment advice. Segmentation of clients by financial services companies with day-to-day banking operations generally steer households with investment assets at the lower range of the spectrum to this channel if the households want to meet with a human advisor. Segmentation thresholds vary by institution as business decisions. Some may offer this tier of service to households with up to $100,000 in investable assets, others may choose figures above or below this number. These numbers are also often used only as guidelines and there may be other reasons clients are steered to different tiers of advice.

Advisors at the branch-level tend to use turn-key portfolio funds which reduce customization options. They also may be incentivized to promote proprietary funds over and above third-party funds or other investment options. Proprietary funds add additional revenue to the firm and so this presents real agency issues. Mietzner and Molterer (2018) reviewed the financial advice provided by bank-level financial advisors and found that the commission structures were linked with suboptimal investment recommendations.

This channel may or may not provide coordination of overall household financial matters. Many institutions have been shifting more planner-like business lines into the branches. These planning activities may again be standardized forms of advice and may not be as comprehensive or sophisticated as planning activities available in other channels, generally.

Branch-level financial advisors tend to be salary based with larger portions of their overall income tied to sales bonuses. They tend to steer clients into more banking and credit products as part of quota systems in place at this tier (Hackethal, Haliassos and Jappelli, 2012).

#### 3. Full-service financial advisor affiliated with a bank

Again subject to guideline thresholds, clients with investable assets at higher ranges (i.e. $250,000 or more, again with variance between institutions) may be steered towards the full-service brokerage arm of the institution. Generally, they will have access to more customizable portfolio options and investments that may not be available at other channels within the institution (e.g. initial public offerings, individual stock and bond transactions, hedge funds, and other securities). Advisors at full service brokerages tend to have some salary support for a few years which then decreases to zero. They often operate as individual small businesses within large institutions in that they are primarily responsible for finding

clients and generating revenues which are then split with the firm. They tend to either operate on a commissioned-basis or a fee-basis (or a blend of the two options). It is rare to find advisors at full-service brokerages who operate on a fee-for-service basis.

### 4. Independent financial advisor

Independent financial advisors work with investment dealerships that tend to not have banking operations. There is generally no salary support unless as part of a team where the lead advisor or advisors choose to pay a salary out of the team's revenues. Independent financial advisors operating under a mutual fund dealership (an investment dealer regulated by the Mutual Fund Dealers Association of Canada, or MFDA) are generally able to offer access to both portfolio funds and individual funds with high levels of customization possible, but no individual securities access. Independent advisors under an investment dealer regulated by the Investment Industry Regulatory Organization of Canada (IIROC) may offer individual securities and an overall product shelf that is similar to a full-service advisor at a bank owned brokerage. The split of revenue tends to be more favourable to the advisor versus the firm compared to bank-owned full-service brokerages. Independent financial advisors tend to operate with more autonomy on business practices. The service offerings vary widely, similar to full-service financial advisor at banks. They may specialize in investment advice, or may provide more comprehensive financial advice, with or without financial planning.

### 5. Employer-provided representative who works with members of an employer-facilitated retirement savings program

Households with employers that provide benefits to their employees may have access to employer-sponsored retirement savings programs. In some cases this might be a defined benefit pension plan (where benefits in retirement are defined and set according to a published formula). Because a defined benefits pension plan places financial risk on the sponsor of the plan (the employer), there has been a shift away from defined benefits pension plans to defined contribution pension plans and group registered retirement savings plans. Defined contribution pension plans are governed by pension legislation, while group registered retirement savings plans are governed by the income tax act in Canada. Defined contribution pension plans differ from defined benefits plans in that the contributions are defined but the benefit is not. Contributions are invested and the ability to fund retirement is variable, dependent on the performance of the underlying investments. Hence, the risk lies with the pensioner, not the sponsor.

In the case of retirement programs offered through an employer where the employee may choose from a selection of investment options, there may be a representative from the defined contribution or group registered retirement savings plan administrator who serves as an advisor to the members of the plan.

The advisory services of this type of financial advisor may be quite varied. Some will provide guidance on investment selection, while others will make financial planning type services available as well.

### 6. Insurance agent/broker

Insurance salespeople may offer accident and sickness (A&S) insurance products such as life insurance, disability insurance, critical illness insurance, and long-term care insurance. They may also offer property and casualty (P&C) types of insurance such as fire insurance, automobile insurance, home insurance, etc. Some insurance licensed practitioners also offer insurance products which have investment components contained in the policies. These can include universal life insurance policies where part of policy premiums are directed into investments inside the policy. These can also include segregated funds which are investment funds which are embedded in insurance contracts. The fees are higher due to the insurance component that exists in the structure. This insurance component can include capital guarantees over longer periods of time or guaranteed death benefits before capital guarantees may kick in.

Whether by initial intent or due to a regulatory arbitrage, wherein some financial advisors switch their licensing from securities dealers to insurance agencies to take advantage of more lax regulatory oversight, there are many financial advisors providing financial planning services in the insurance agent channel and they provide the investment functions through insurance products. There are also many financial advisors who are dual-licensed. This generally means that they are licensed to sell insurance and licensed separately to sell investments. These advisors may provide the investment functions through either the securities or fund licensing, or through insurance licensing.

## 3.4.2.3 Execution with directed advice channels

### 7. Robo-advisors

The term "robo-advisor" is a relatively new term that describes a channel of advice that requires little to no human interaction to help individuals create and maintain an investment portfolio. Clients are able to open accounts, fund accounts, create and maintain portfolios

through an online advice and execution service (Phoon and Koh, 2018). Most robo-advisors use passively managed index-tracking exchange traded funds and charge an asset management fee on top of the ETF product costs. It has been suggested that the quality of advice is difficult to properly assess as of yet (Faloon and Scherer, 2017). Faloon and Scherer believe that most robo-advisors provide advice that is not individualized enough, and too generic in nature.

Since the launch of robo-advisory services as a channel of advice occurred after the Great Financial Crisis in 2008 (GFC), the ability to guide clients in more turbulent market environments is still relatively untested. During an acute market sell off in February 2018 which saw the Dow Jones Industrial Average decline by more than 1,000 points, two of the largest U.S.-based robo-advisors (Wealthfront and Betterment) experienced interruption in their website services as investors rushed to log into their accounts (Chaparro, 2018). Ironically, by having their websites crash due to high volumes of users wanting to log in, investors may have been better off if their intention was to sell off their investments due to panic. Traditionally, many financial advisors and investment experts suggest avoiding making investment decisions in response to short-term volatility.

### 8. Online bank relationship

Financial consumers have increased use of virtual banks for part of their day-to-day banking needs. Initially, virtual banks offered limited product shelves usually relegated to deposit products like high interest savings accounts. Slowly, there has been a growth in the types of products offered through virtual banks such as chequing accounts, credit facilities (credit cards, lines of credit, mortgages, etc.) and investment options.

As virtual banks have seen growth, traditional bricks and mortar banks have also invested heavily in online banking. With the advantage of having a larger suite of financial products available, they have also seen much growth in online-only facilitated transactions. While virtual banks may offer lower overall fees for the products they offer, the trade-off is that they are not able to offer the same level on in-person customer service, nor the same breadth of services.

## 3.4.2.4 Execution only channels

### 9. Do-It-Yourself (DIY) investor

Do-it-yourself (DIY) investors tend to manage their own investment portfolios through a discount brokerage account. They are able to make unsolicited trades of stocks, bonds, and

other securities as well as investment funds. Perhaps owing to the culture of associating financial advice with investment activities, DIY investors may not necessarily seek advice in non-investment related matters of the household. Discount brokerages may be offered through large financial services entities with many different business lines, such as a Schedule I bank in Canada, or they may operate as stand-alone entities.

### 3.4.2.5 Advice-only channels

#### 10. Accountant

Accountants may fill a number of roles for households. Some households that use accountants for simple tax preparation for income tax returns may not necessarily rely on the accountant for general financial advice. Higher net worth households may engage more sophisticated accountants who provide counsel on more complex tax considerations and additionally they will often file their taxes through the accountant in this case. Some specialized accountants are conversant on investment, legal, and insurance considerations due to the coordination of advice to tax planning and through exposure to many higher net worth households facing more complex planning requirements.

#### 11. Money Coach

Money coaches are a relatively new type of advice channel. They tend not to be licensed by any regulatory body, nor do they have rigid oversight that other channels of advice may be subject to. Practitioners in this channel tend to focus more on financial behaviours versus financial product recommendations. Advice provided by money coaches may require execution through other financial services channels in many cases with respect to life insurance and investment execution, estate planning, and credit. There is a wide variance in the types of services offered, ranging from cash flow management advice to financial planning.

They are sometimes referred to as "advice-only" financial advisors as they are not licensed to provide execution services. Money coaches directly charge clients through fees, normally fee-for-service types of arrangement where charges are set by a flat fee for a project, or hourly in some cases. Some money coaches use a retainer model.

#### 12. Social media

With the proliferation of online information sources and communities, crowd-sourced financial advice is a relatively new channel of advice. There are many amateur investors and otherwise financially literate individuals who share their opinions and experiences online.

Many financial services practitioners and industry insiders may be parts of these online communities and so the quality of advice may vary greatly. These sources of information may include personal finance or investing blogs, online forums like Reddit, personal finance specific forums, YouTube channels, and other social media platforms such as Instagram, Facebook, and TikTok.

### 13. Print media

More traditional forms of print media including professionally- (or self-) published books, business magazines, and newspapers may inform consumers of their choices and financial issues to consider, while others may rely exclusively on this channel for guidance.

### 14. Podcasts

Podcasts have been growing in popularity both for entertainment and educational consumption. Amateur hobbyists and professional financial services practitioners produce and publish podcasts attempting to provide advice or consideration around personal financial issues. The focus tends to be more heavily geared to niche topics like real estate investing, stock market investing, or general business news, but a few podcasts are more wide ranging as well.

### 15. Television

There are dedicated business news television channels that provide information on a continual basis. These television channels tend to offer programming to many different types of viewers. Some viewers may be interested in business headline news as it may pertain to their industry or occupation and not necessarily because it informs their personal financial behaviours. Other viewers may be interested in generating trading ideas. These business news television channels also dedicate some of their programming specifically geared to financial decisions of the household, but these tend to be a minority of the programming.

General television channels may include general business news coverage throughout the programming day as part of any news programming. They may provide daily market reports and general personal financial issue coverage on an irregular basis.

### 16. Newsletter or Trading program subscription

Publishers of investment newsletters sell subscriptions to individuals which can include investment recommendations. The publishers of these newsletters are often exempt from registration requirements as they do not provide advice to specific individuals, but rather sell

access to a generalized set of recommendations for consumers to consider (Canadian Securities Administrators, 2017).

### 17. Private networks

A private network channel of advice includes information gleaned from social circles such as family, friends, or co-workers. There are varying degrees to which people may rely on advice from private networks, such as casual sharing of "hot stock tips", provision of advice based on experience, and more in-depth coaching. Chang (2005) notes that "social networks are by far the most frequently used source of information for making saving and investment decisions…" from almost a dozen possible sources of information available to financial consumers.

### 18. Other

Response category if a respondent cannot identify any of the other 17 channel options.

## 3.4.3 Secondary independent variables

### 3.4.3.1 Financial agency variables

While the use of professional financial advice was correlated with increased financial assets and emergency fund balances, there was an interaction effect observed with self-control (Liu *et al.*, 2019b). Individuals with lower levels of self-control exhibited higher savings rates with the use of financial advice. Montmarquette & Viennot-Briot (2015) suggest this higher rate of savings could be acquired through the use of a financial advisor, but because Blanchett (2019) notes that the choice to work with a financial planning professional demonstrates good financial decision making skills in and of itself, the capacity to save and the willingness to invest might be endogenous factors of households that determine differences in portfolio values, with or without financial advice.

In furtherance of exploring endogenous factors' roles in household financial outcomes, the following factors will be controlled for:

- Preference to delegate decision making to an advisor
- Research conducted on channel of advice selected by household
- Consideration of the individual advisor within selected channel (if applicable)
- Level of self-reported interest in personal finance

### 3.4.3.2 Financial Literacy

Stolper & Walter (2017) note that the effect of financial literacy on financial advice utilization is ambiguous. Financial literacy plays a role in advice seeking, the questioning of the advice received, and could play a role in helping determine which advice channel or advisor is providing high or low quality advice. They also noted that the lowest financial capability groups also had the lowest levels of financial literacy. Given that Bucher-Koenen & Koenen (2015) found that households with lower levels of financial literacy received lower quality advice, this suggests that households most in need of advice not only are less likely to access advice, but also that if they do seek advice, they are more likely to receive lower quality advice.

It has also been documented that households with higher levels of financial literacy received greater levels of information from financial advisors compared to low financial literacy households (Calcagno and Monticone, 2015). The same study reported that lower financially literate households are less likely to seek advice, and given the potential benefit of financial advice is greatest for the lowest financially literate households (Collins, 2012) there may be interaction effects of financial literacy on the financial outcomes of households across the various financial advice channels.

Von Gaudecker (2015) found that financial literacy had no statistical impact on the performance of investment portfolios of advised investors. However, for unadvised investors, lower levels of financial literacy were correlated with lower performance. The findings suggest that financial advice is a substitute for financial literacy when financial literacy is low, but that high financial literacy households (advised or unadvised) achieve satisfactory portfolio returns.

Agarwal et al. (2015) notes that in the context of financial planning behaviour, higher levels of financial literacy were linked with increased comprehensive financial management.

The literature on the effect of financial literacy on advice seeking behaviour is not settled. Karabulut (2013) noted that less sophisticated households were less likely to seek financial advice. Further, with respect to portfolio-centric measures, financial advice was not found to be a substitute for financial literacy and the quality of investment decisions of lower financially literate households using financial advisors was lower than for higher financially literate households. Westermann et al. (2020) reviewed the literature on financial literacy and also noted that low levels of financial literacy were correlated with advice avoidance. Again, this suggests that household in most need of correcting financial mistakes are less likely to seek out remedies in the form of professional advice.

The construct of financial literacy will be examined for any moderating effects on the analysis of value of financial advice.

### 3.4.3.3 Financial capability variables

Collins (2012) indicated that financial advice is complementary to financial capability (as measured by income, education, and other endogenous factors). This suggests that households who benefit most from financial advice are already in a better than average financial position, and that households with lower financial capability, and arguably in need of the most advice, are less likely to obtain appropriate advice. Montmarquette & Viennot-briot (2019), found the use of a financial advisor was positively correlated with age, income, savings capability, and financial literacy. These findings suggest that financial capability factors should be controlled for when examining the impact of advice as households with higher financial capability might be in a position to benefit more from financial advice. They may be more likely to seek advice and they may be more likely to be solicited by financial advisors. The Montmarquette & Viennot-briot (2019) research raises questions about endogeneity, some of which are explored in this thesis.

Beyond capturing current income, Investable Assets, education, occupation, and homeownership status, the following factors will be controlled for:

- Income before engaging with primary channel of advice
- Investable assets before engaging with primary channel of advice

### 3.4.3.4 Trust

Gennaioli, Shleifer, and Vishny (2015) found that trust in investment fund managers translated into lowered levels of perceived risk for portfolios and this allowed for the charging of fees. They found that investors are willing to pay a premium for trust. In other words, investors may be willing to sacrifice optimal portfolio performance in exchange for peace of mind. This suggests that higher levels of trust in the financial services could translate into lower asset levels over time through the bearing of higher fees.

### 3.4.3.5 Financial Decision Responsibility

One question that is relatively unexplored in the literature is the degree to which a household engages a channel of financial advice for the purposes of carrying out the pre-established intentions of the household with respect to financial decisions versus the influence of the financial advice channel on changing the behaviours and decisions of households. Do some households engage financial advice channels primarily for execution purposes? For

example, if someone has a high level of financial literacy and has decided to get life insurance, they will likely need a licensed life insurance agent to quote and deliver a policy. This type of engagement would be more executional versus advisory. On the other hand, some channels of financial advice may induce changes to household behaviour, such as encouraging households to increase their savings rates, diversify investment portfolios, set up wills and powers of attorney, etc. It was noted in the literature review that Marsden et al. (2011) found that the use of a financial advisor was not linked to changes in savings behaviours, suggesting that this was an endogenous factor. Since the rate of savings would have a marked impact on future asset accumulation and value, this would play a key role in influencing the investable assets outcome measure of financial advice efficacy and hence, needs to be controlled for.

A scale of financial decision responsibility is proposed based on the input of an expert panel to capture this factor. The scale items included the following components, which mirror the facets of financial advice used in the Holistic Wealth Score measure:

Responsibility (Household vs Advice channel) for decisions relating to…

1. Debt management
2. Retirement savings rate
3. Investment selection
4. Tax planning
5. Life insurance coverage
6. Disability insurance coverage
7. Emergency fund size
8. Estate planning
9. Education savings

### 3.4.3.6  Financial Planning and social media

Blanchett (2019) found that households made the best financial decisions when working with financial advisors who provided financial planning. The next best decisions were made by households using the internet for advice. The households making the worst financial decisions worked with transactional financial advisors. Since multiple sources of advice are available to households, and because financial planning may be available but not provided by a channel of advice, the following factors will be studied:

- The effects of financial planning working through the primary independent variable
- The effects of social media on the outcome measures

92

## 3.5  Research model summary

The proposed conceptual framework is presented in Figure 3.2 The main independent variable is the primary channel of financial advice. The main dependent variables are investable assets (Assets), holistic wealth score (HWS), and Comprehensive Financial Confidence (CFC).

**Figure 3.2 Proposed conceptual model**
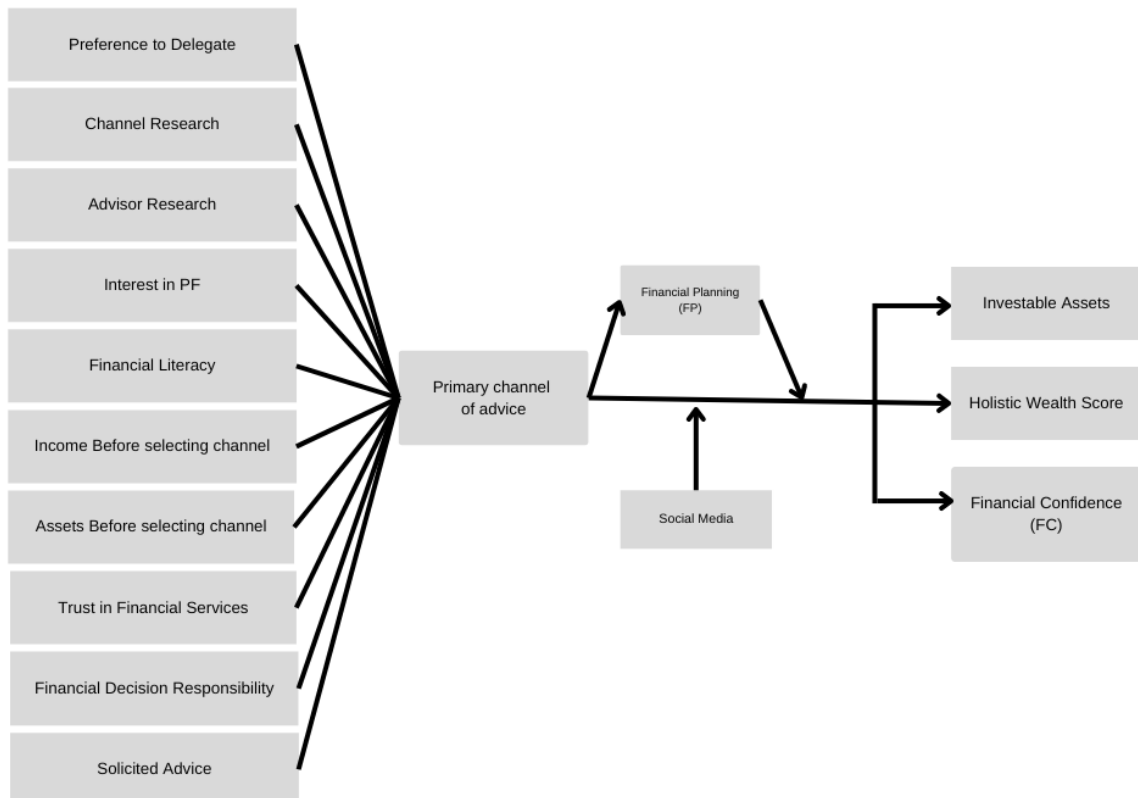


Source: Original

## 3.6  Hypotheses

The hypotheses to be tested in furtherance of the research objectives and aims of this thesis are presented below. Non-directional hypotheses are used for the primary hypotheses as the main independent variable contains 18 levels. It is expected that different channels will have different directions of influence (or non-influence), and these will be described in the results. Where previous research suggests directionality, directionally hypotheses are used.

### 3.6.1 Primary hypotheses

$H_1$: *There is a difference in the Investable Asset levels of households depending on their primary channel of advice.*

$H_2$: *There is a difference in the Holistic Wealth Score (HWS) of households depending on their primary channel of advice.*

$H_3$: *There is a difference in the Comprehensive Financial Confidence (CFC) of households depending on their primary channel of advice.*

Because the provision of financial planning is available but not mandatory for some channels of financial advice, the next set of hypotheses will examine if non-portfolio-centric financial advice leads to a difference in outcomes to households versus portfolio-centric advice.

$H_4$: *Financial planning positively influences households' Investable Asset levels.*

$H_5$: *Financial planning positively influences households' Holistic Wealth Score.*

$H_6$: *Financial planning positively influences households' Comprehensive Financial Confidence.*

### 3.6.2 Endogenous factor hypotheses

The second main research aim is to explore the role of endogenous factors on household financial outcomes as it relates to the value of financial advice.

$H_{7,8,9}$: *Households' preference to delegate financial decision making positively influences the outcome variables (assets/HWS/CFC).*

$H_{10,11,12}$: *Households' time spent researching their choice of channel positively influences the outcome variables (Investable Assets/HWS/CFC).*

$H_{13,14,15}$: *Households' time spent researching the individual advisor within a channel positively influences the outcome variables (Investable Assets/HWS/CFC).*

$H_{16,17,18}$: *Households' levels of interest in personal finance positively influences the outcome variables (Investable Assets//HWS/CFC).*

$H_{19,20,21}$: *Households' levels of financial literacy positively influences the outcome measures (Investable Assets/HWS/CFC).*

$H_{22,23,24}$: *Households' incomes before selecting their primary channel of advice positively influences the outcome variables (Investable Assets/HWS/CFC).*

*$H_{25,26,27}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences the outcome variables (Investable Assets/HWS/CFC).*

*$H_{28,29,30}$: Households' levels of trust in financial services negatively influences the outcome variables (Investable Assets/HWS/CFC).*

*$H_{31,32,33}$: Households' financial decision responsibility positively influences the outcome variables (Investable Assets/HWS/CFC).*

*$H_{34,35,36}$: Households' solicitation of their primary channel of advice positively influences the outcome variables (Investable Assets/HWS/CFC).*

## 3.7 Chapter summary

This chapter has provided the theoretical framework for addressing the research objectives of this thesis. The primary and secondary research questions were identified and the philosophical considerations were defined. The research model development was presented by referencing relevant theoretical underpinnings from the literature review. The research model summary (conceptual model) was then presented along with a list of the main hypotheses for this quantitative study.

With the framework for addressing the research questions established, the next chapter will provide the methodology in detail.

# 4   Methodology

## 4.1  Introduction

The research aim of this thesis is to further the understanding of the value of contemporary financial advice channels to households by exploring the heterogeneity of financial advice channels available in the marketplace and to incorporate the impact of additional endogenous factors of households across various outcome measures of value. In order to address these research objectives, the theoretical framework for this thesis was presented in Chapter Three, which informs the research strategy and methodology presented in this chapter.

This research design presented in this chapter begins with a brief review of the philosophical considerations discussed in the theoretical framework chapter (Chapter Three), followed by a description of the research strategy employed. The methodological limitations and ethical considerations conclude the chapter.

## 4.2  Research design

### Quantitative research design

Positivist philosophy aligns with deductive, quantitative research designs (Hynes and Gephart, 2004) because positivists' general realism worldview believes in an objective world that can be explained with the scientific method, hypothesizing, and falsifying. The literature on the value of financial advice is dominated by positivists, and hence, quantitative research. Similar to previous research, this thesis utilized a cross-sectional survey comprised mostly of Likert scale type questions which can be analysed through multiple regressions and other statistical tests.

### 4.2.1  Research design framework

Easterby-Smith et al. (2018) provide a prescriptive guide for research designs across various epistemological perspectives. The research design framework choices aligned to a positivist epistemology stance is presented in Table 4.1.

**Table 4.1 Research framework**

| | |
|---|---|
| *Background* | This study extends the research into the value of financial advice to households, specifically in Canada. |
| *Rationale* | Outcome measures expanded from a portfolio-centric lens (investable assets) to three outcome measures: investable assets, holistic wealth score (measure of breadth of financial advice), and Comprehensive Financial Confidence (measure of intangible benefit of advice). The primary channel of advice is the main independent variable. Measures of endogenous factors (financial agency and financial literacy) used to explore moderating effects. Financial capability and financial responsibility factors created as additional controls. |
| *Research aims* | To examine the heterogeneity aspect of financial advice options available to households, using both portfolio-centric and non-portfolio centric measures, while also factoring in any endogenous factors that could moderate the effects in order to get a better understanding of the value of financial advice that more accurately reflects the market for contemporary financial advice. |
| *Setting* | Research will be conducted on a sample representatives of the overall Canadian population aged 18 and older. |
| *Data* | Cross-sectional survey |
| | Primary dependent variables: Investable assets (Assets), Holistic Wealth Score (HWS) – a measure of the breadth of financial advice, and Comprehensive Financial Confidence (CFC) – identified as a possible intangible benefit of financial advice in previous literature. |
| | Primary independent variable: Primary channel of financial advice |
| | Secondary independent variables: Scales for capturing Financial literacy and Financial agency (endogenous factors that could be moderating variables. Additional scales created as control measures: Financial capability (to examine findings in the literature about access and selection of advice channels based on levels of wealth, income, education, etc.), and Financial responsibility (a scale to examine the nature of the relationship with financial intermediaries in terms of advice seeking or execution seeking preferences of households) |
| *Sampling* | Online internet survey deployed and accessible by all Canadians with an internet connection. Respondents limited to Canadian residents, 18 years of age or older. |

| | 2,219 surveys collected in total. After data cleaning and selecting for households with investable assets over $10,000, the final sample size was 1,446. |
|---:|:---|
| Access | Informal access as respondents were individual residents of Canada who would opt-in to complete an online Qualtrics-deployed survey of their own volition. |
| Ethics | Research approval was accepted by the primary thesis supervisor and submitted to the Henley Business School at the University of Reading for approval prior to data collection. There were no issues identified regarding the university ethics requirements being met. Informed consent was explained to, and obtained from, all survey respondents prior to completing the surveys. There were no concerns about risk to personal safety of the researcher for this study. |
| Unit of analysis | Individuals in Canada, respondents were 18 or older. |
| Process | A literature review was conducted<br><br>Gaps in the literature were identified<br><br>Research questions were formulated<br><br>First pilot survey deployed<br><br>Pilot study analysed and main survey questions developed/refined with expert panel<br><br>Second pilot survey deployed<br><br>Focus group brought in for final survey testing and refinement<br><br>Final survey deployed and data collected<br><br>Data cleaned and analysed in SPSS 28<br><br>Results formulated |
| Practicalities | Limited practical hurdles in terms of political considerations, access, or ethics. |
| Theory | The research adds to the literature by accounting for the multiple types of financial advice services available to households instead of framing the access to advice question as simply "advised versus unadvised". Further contributions include an exploration of factors that might affect selection and efficacy of financial advice through endogenous factors of the household. |
| Outputs | Results will be disseminated through conference presentations, industry papers and publications, and this thesis. |

Source: Original, using framework table provided by Easterby-Smith et al. (2018)

### 4.2.2  Research strategy

#### 4.2.2.1  Quantitative purpose statement

The purpose of this cross-sectional survey study was to test the role of different channels of financial advice on multiple outcome measures of success of Canadian households, controlling for financial agency, financial literacy, financial capability, and financial decision responsibility of households. The multiple outcome measures were Investable Assets, a measure of breadth of financial management (HWS – holistic wealth score), and Comprehensive Financial Confidence. The objective of the research was to expand the understanding of the determinants of household financial success with respect to the receipt of financial advice.

#### 4.2.2.2  Cross-sectional survey design selection rationale

A cross-sectional survey design was selected, reflecting the extensive use of this methodology from previous studies in the field from which to build upon. A survey design can address questions around descriptive information from inference from a representative sample to a population, explore the relationships between variables of interest, and help in predictions about behaviours or observations (Creswell and Creswell, 2017). Surveys are popular research tools for non-experimental research where there are many variables of interest which can be related in complex ways (Tabachnick, Fidell and Ullman, 2007). Analysis of these relations from survey data often employ multiple regression techniques. Electronic surveys are generally advantageous as they are cost-efficient, allow for consistency in data collection and integrity of collected data, and can be imported easily into modern statistics software. They also allow for a better user-experience for respondents through such features as piping and survey logic to present respondents with only the questions they need to respond to (in the case of previous questions negating the collection of certain follow-up questions) (Easterby-Smith *et al.*, 2018). The economy of a survey would allow the ability to generate a larger sample size in a relatively short period of time and the data could be analysed efficiently.

**Rejection of experimental design**

An experimental design was rejected on ethical grounds. If households were randomly assigned into different categories of financial advice it may have long-lasting negative impacts on the quality of life of those households. Some households might prefer to use a financial advisor because they do not have the financial agency or literacy to confidently

make their own financial choices. Conversely, some households might prefer to manage their own affairs entirely and would bear an extra cost for advice they do not wish to receive that would create a significant drag on performance over time. It would not be hyperbolic to suggest that these random assignments could be worth hundreds of thousands of dollars (positive or negative) to a household over long periods of time.

### 4.2.2.3 Population and sampling

**Population**

The population in this study encompasses Canadian residents, aged 18 years or older. This is the theoretical population that would generally be in a position to use financial services, but more specifically, have the option of using financial advice. While minors will engage with financial services, they generally do so on a transactional basis for day-to-day banking needs. Statistics Canada reported that as of July 1st, 2021, there were an estimated 30,992,718 Canadians aged 18 or older in Canada (Statistics Canada, 2022).

**Sampling design**

The study employed a single-stage, non-probability convenience sampling design. While simple random sampling is considered the ideal sampling design, there are practical limitations that can require design trade-offs (Blaikie and Priest, 2019). With a population of all adults in Canada, it would have been impractical to pre-identify all members of the population to determine a random sampling assignment. As any Canadian aged 18 or older was part of the population, a wide net was cast using multiple calls-to-action. The researcher announced the link to the survey through multiple social media networks (Twitter, LinkedIn, Facebook), and the webpage where the survey was located was broadcast on television to viewers in the highest population province of the country (Ontario). The population was not stratified before publishing the online survey for data collection.  Blaikie & Priest (2019) describe convenience sampling as akin to accidental sampling, such as if a researcher were to set up a kiosk at an intersection and attempt to persuade people to partake in the research as they pass by 'accidentally'. The authors caution that steps need to be taken to address this non-probability design. In the case of this thesis, many control variables have been included in the survey to help mitigate the non-probability sampling.

**Sample size**

Since the study uses a non-probability sampling design, a power analysis based on confidence intervals to determine minimum sample sizes do not apply (Blaikie and Priest,

2019). The regression analysis is a post-hoc check on determining significance and hence, the larger the sample size, the better. A heuristic provided by Easterby-Smith et al. (2018) is that a minimum sample size can be estimated by multiplying the number of independent variables by ten.

The final survey questionnaire included sixteen categorical variables representing the various primary channels of advice. The total survey consisted of 63 questions, although there were multiple scales created from questions exploring singular constructs. In total, there were 43 independent variables. Applying the sample size heuristic, this yields a minimum sample size of 430. A target of 500 survey responses was established. As indicated above, while a power analysis calculation does not apply for non-probability sampling designs, if we relax that assumption to see what minimum sample size would be required according to a power analysis, then with a population size of just under 31 million, sample size calculators provided a requirement of a sample size of 385 being adequate (385 being the highest minimum sample size according to various online calculators). Using one free a-priori sample size calculator for multiple regressions with an anticipated 'medium' effect size ($f^2$ value of 0.15), a desired statistical power level of 0.8, a hypothetically large number of predictor variables (99), and a desired probability level of 0.05, a minimum sample size of 336 was estimated (Soper, 2022).

For the main survey, after cleaning and selecting for individuals with at least $10,000 of investable assets, a total of 1,446 survey responses (out of 2,217 responses received) were analysed, well above the both the heuristic and hypothetical (for a probability sample) minimum requirement, as well as the research design target of 500 selected.

## 4.2.2.4  Pilot studies

A pilot study survey was first developed after the initial literature review had identified the gaps in the literature on the value of financial advice that were to be considered in this thesis. The first main research question surrounding the heterogeneity of financial advice available to Canadians informed the choice of the primary independent variable: the primary channel of financial advice selected by the household. Based on a scan of the market for financial advice in Canada, the following list of channels were identified as respondent options:

1. Branch-level financial advisor
2. Full-service financial advisor at bank
3. Independent financial advisor
4. Bank teller
5. Employer-provided representative for workplace retirement plan

6. Accountant

7. Insurance agent or broker

8. Online bank

9. Robo-advisor

10. DIY (Do It Yourself)

11. Money coach

12. Private networks

13. Blogs / YouTube / Online forums

14. Books / Magazines / Newspapers

15. Television

16. Podcasts

17. Newsletter or trading program subscription

18. Other

Standard demographic questions were included congruent to previous studies regarding age, income, education, and level of investable assets. An initial set of items were created to explore the possible effect of endogenous factors on the results. These items included the following variables:

5. Pension plan membership

6. Degree of research in choosing financial advice channel

7. Preference to delegate financial decision making to an advisor

8. Interest in personal finance

9. Level of communication about financial matters while growing up

10. Level of financial security while growing up

11. Trust for the financial services

An attempt to measure the breadth of financial advice required and received produced questions about self-reported confidence, need for advice, and receipt of advice across ten different financial facets of household decision making. These ten facets included the following:

1. Credit cards

2. Overall debt management and cash flow planning (budgeting)

3. Retirement planning

4. Investment strategies and portfolio management

5. Tax management

6. Life insurance

7.  Disability insurance
8.  Emergency funds
9.  Wills and powers of attorney
10. Education savings

An example of the three measures across each facet is given in Table 4.2.

**Table 4.2 Sample question from pilot survey**

*Q.22 Credit cards*

| | |
|---|---|
| How well managed or confident are you about your household's credit card management? | Five item Likert scale |
| Do you feel you need advice in this area? | Five item Likert scale |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | Five item Likert scale |

Source: Original

**Survey validation and development**

As indicated in the philosophical considerations' summary in Section 4.2, inductive reasoning was helpful in exploring new constructs to match the contemporary marketplace for financial advice in Canada that has not yet been deeply explored in the literature.

After collecting results from the pilot survey, an expert panel was assembled to critique the survey design for improvement. One example of an improvement to the survey was the identification and removal of a 'double-barrelled' question. From Table 4.2, note the wording in the first part of the question:

> *"How well managed **or confident** are you about your household's credit card management?"*

Asking about the self-reported management efficacy "or" confidence of the item in question is potentially asking about two different items in the same question. The recommendation is to either refine the wording, or create a separate item for each question (Converse and Presser, 1986). The question was rephrased for the main survey deployment:

> *"How confident are you that your debts are under control?"*

A second pilot survey was deployed to refine scales for Comprehensive Financial Confidence and financial decision responsibility.

*Validation*

After the second pilot survey results were analysed, a focus group of five individuals was assembled and asked to complete the final proposed survey before deployment for the main data collection. Based on a group discussion to ensure, to the extent possible (de Vaus, 2013), verification of the questions being asked on the survey were being interpreted as intended by the researcher, and making refinements as necessary, the final survey was then deployed.

## 4.2.2.5  Instrumentation

Survey Monkey was used to create and deploy the pilot surveys. Qualtrics XM was used to create and deploy the final survey. The demographic questions were adopted from a standard set available in Qualtrics.

The final survey included individual items as well as scales.

*Comprehensive Financial Confidence scale (CFC)*

Individual scale items were developed (scale development and analysis is provided in more detail in Chapter Five: Results) that included the following:

> *Q24. How confident are you that that your debts are under control?*
>
> *Q26. How confident are you that you are on the right track to save enough for retirement?*
>
> *Q28. How confident are you that you have appropriately selected investments?*
>
> *Q30. How confident are you that you will minimize the tax you will pay over the long term?*
>
> *Q32. How confident are you that you have the right life insurance coverage?*
>
> *Q34. How confident are you that you have the right disability insurance coverage?*
>
> *Q36. How confident are you that your household has an appropriately sized emergency fund?*
>
> *Q38. How confident are you that your estate planning is in order?*
>
> *Q40. How confident are you that you will be able to assist in financing your children's education savings?*

*Financial decision responsibility scale (FR)*

Individual scale items for the financial decision responsibility scale (FR) included the following questions, each scored on a five-item Likert scale:

> *Q23. Who has been primarily responsible for guiding the choices you have made with respect to your current debt situation?*
>
> *Q25. Who has been primarily responsible for guiding the choices you have made with respect to your retirement savings?*
>
> *Q27. Who has been primarily responsible for determining your selected investments (stocks, bonds, mutual funds, etc.)?*
>
> *Q29. Who has been primarily responsible for determining your long-term tax planning?*
>
> *Q31. Who has been primarily responsible for determining your life insurance coverage?*
>
> *Q33. Who has been primarily responsible for determining your disability insurance coverage?*
>
> *Q35. Who has been primarily responsible for guiding your choices that have resulted in your emergency fund being the size that it is?*
>
> *Q37. Who has been primarily responsible for your estate planning being in the state that it is?*
>
> *Q39. Who has been primarily responsible for setting up any plans for your children's education costs?*

*Financial literacy scale*

A set of three financial literacy questions known as "The Big Three", which are widely used as a measure of basic financial literacy, were included (Lusardi and Mitchell, 2017). These three questions were designed to test three distinct aspects of financial knowledge: numeracy, understanding of inflation, and understanding of investment diversification. The three items are presented here:

1. Numeracy: Suppose you had $100 in a savings account and the interest rate was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

Answer options: more than $102; exactly $102; less than $102; do not know; refuse to answer.

2. Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, would you be able to buy:

Answer options: more than, exactly the same as, or less than today with the money in this account; do not know; refuse to answer.

3. Do you think that the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund."

Answer options: true; false; do not know. Source: Lusardi & Mitchell (2017)

*Additional questions related to endogenous factors on outcome variables*

Individual items to examine the role of financial agency included the following questions, each scored on a five-item Likert scale:

*Q45. When you first started with your current PRIMARY channel of advice, HOW STRONGLY did you feel about wanting to manage your personal finances yourself versus wanting to delegate decisions and guidance to someone else (or to a service)?*

*Q46. With respect to your PRIMARY channel of advice you use, how much research did you do before engaging this channel?*

*Q47. How much consideration did you give in selecting the SPECIFIC PERSON you work with at your PRIMARY channel of advice/service?*

*Q48. How interested are YOU (individually) about personal finance?*

*Q49. How interested is YOUR PARTNER about personal finance?*

The main survey questionnaire is provided in Appendix A.

## 4.3  Data collection method

Following from the quantitative research strategy selected, and having chosen a cross-sectional self-administered survey tool, a decision was made to use an electronically administered survey in order to increase the response rate versus a paper-based survey.

*Pilot survey data collection*

An online survey was coded into a well-known, commercially available software service (SurveyMonkey) and distributed through one of the researcher's social networks, Facebook. While the researcher's other social media networks were larger, and would've resulted in a much larger collection of data, the choice to limit the solicitation to Facebook was made in order to generate a sample most representative of the actual population. The makeup of Facebook contacts includes mostly general social contacts, whereas other social media networks include people who have self-selected to the researcher's network generally based on their interest in personal finance. For example, the researcher has over 11,000 twitter followers, but since the researcher's twitter profile is predominantly focused on personal finance and business news content, this network would likely not be representative of the overall population. The same would hold true for the researcher's LinkedIn and YouTube networks.

The initial pilot survey (see Appendix E) was deployed online in February 2016, and responses were collected over a two-week period. 108 survey responses were collected during this time, 27 were incomplete, leaving a total of 81 completed survey responses.

*Main survey data collection*

After the pilot survey analysis, a further literature review, and the convening of an expert panel to discuss refinement of survey questions for final deployment, a final survey was coded into Qualtrics XM (commercially available, online survey deployment tool). The survey was deployed online February 4th, 2019, and was announced on Twitter by the researcher on the same day. That tweet garnered a total of 47,260 impressions. A number of people in various social media networks shared the link to the survey within their own networks, and a spike in responses occurred after the researcher appeared on a provincial television station where the host of the show mentioned the website to visit to take the survey (TVO's The Agenda with Steven Paikin, February 8th, 2019: "The reality of retiring on a low income"). During the first week, 1,251 responses were collected. Responses were collected for the final data set until August 13th, 2020, with a final total of 2,219 responses.

## 4.4  Data analysis methods and techniques

A multiple regression analysis was selected as the appropriate statistical analysis tool for both the pilot survey and the main survey. This analysis method is considered standard for exploring relationships between dependent variables against multiple independent variables (Tabachnick, Fidell and Ullman, 2007). While multiple regression techniques can identify relationships between variables, these relationships may or may not be causal in nature. Causality generally requires an experimental design, but with the use of logic the importance of variables' relationships in furthering the understanding of a research problem is still a worthwhile goal. Both can provide greater explanation of phenomenon in the pursuit of knowledge. Blaikie & Priest (2019) describe two types of explanation: causal explanation and reason explanation. Reason explanation can be thought of as 'understanding'. Furthering the understanding of phenomena has potential contributions not only to theory but to practice. If we deepen the understanding of the determinants of value of financial advice to households, then both practitioners and households could potentially use this understanding to either drive or acquire more value in the market for financial advice.

IBM's Statistical Package for the Social Sciences (SPSS) version 28 was used to analyse the data collected in both the pilot survey and the main survey. In order to assess the accuracy of the data collected, a copy of the electronic survey was produced in paper format and responses were entered on both the paper copy of the survey and on the online electronic survey. The data fields in the online record were then compared with the paper-based survey answers through visual inspection to ensure the data matched. The electronic record for this test response was then deleted so as to not contaminate the data set.

The following steps were followed to prepare the dataset for analysis (Tabachnick, Fidell and Ullman, 2007):

1. Variable names and labels were assigned.
2. Categorical variables were created, and data transcoded, confirmed with random visual inspection.
3. Each variable type was verified (scale, ordinal, nominal/categorical).
4. A standard multiple linear regression was run in order to inspect the residuals and to verify the following assumptions were met:
   a. Independence of observations/residuals
   b. Linear relationship existed between dependent variables and independent variables
   c. Inspection for homoscedasticity

      d.  Checks for collinearity

      e.  Identification/treatment of outliers

      f.  Check for normal distribution of residuals

5. Internal consistency analysis of scales (Cronbach's Alpha)

6. Multiple regression analysed to determine model fit and relationships of variables

Descriptive statistics were generated, and multiple regressions were run according to the conceptual model described in the theoretical framework (see Figure 4.1) to examine relationships between the variables of interest.

**Figure 4.1 Conceptual model**
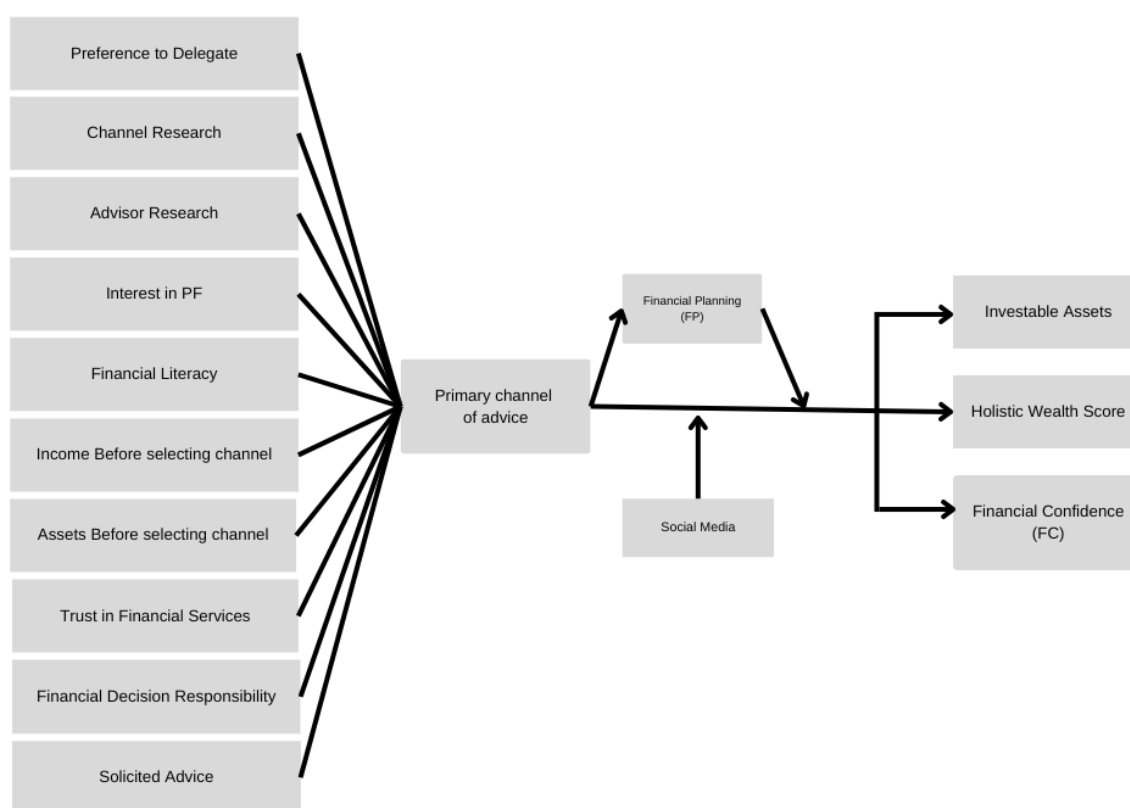


Source: Original

## 4.5  The Methodological Limitations

It may have been ideal to use a probability sample but for practical reasons, a non-probability convenience sample was more likely to attract the highest number of responses given the resource limitation of the researcher. If funding had been available and secured, a stratified, multi-stage sampling method would have been preferred. But Blaikie & Priest (2019) note that probability sampling in and of itself does not guarantee a perfectly representative

sample. Given the trade-offs, and inclusion of various variables of control, the sampling was determined to be appropriate for this research.

There may be selection bias in the sample. While the number of responses received exceeded the initial expectation, awareness of the survey was propagated primarily through social media networks. Social media networks may serve to amplify signals that are more likely to be received by members with similar attributes. These collective attributes may be different from the overall population. In other words, it could be the case that people who are most interested in contributing to research on the value of financial advice are also the most sceptical of financial advice. Control measures were included to record individual's level of interest in personal finance, as well as their partners' interests (if applicable).

While the primary logic of inquiry in the research design was deductive, and given one of the primary research objectives was to examine the heterogeneity of the types of financial advice channels available to households, the lack of an agreed upon framework or theory of financial advice suggests a primarily inductive logic of inquiry has merit. However, given the considerable prevalence for deductive inquiries and methods in the literature, and given that this was the researcher's first major research initiative, a deductive methodology seemed the most appropriate.

Access to client data at various financial institutions might have proven to be more accurate than self-reported questionnaires. The generally low levels of financial literacy exhibited by financial consumers suggest enough households may not be able to provide accurate information to the questions posed in the survey (Lusardi and Mitchell, 2014). However, to obtain enough data from the various financial service providers would require not only establishing data access agreements with over a dozen channels of advice, but multiple providers within those channels of advice. This would be unlikely. Therefore, self-reported survey questionnaires were deemed most appropriate.

## 4.6 Ethical considerations

Ethics approval was applied for on June 26, 2018. The standard ethics approval form was signed off by the primary supervisor and then approved by the Henley Business School / University of Reading before the final survey was deployed. All respondents indicated they were 18 years of age or older. No questions were asked that would have a reasonable expectation of causing any distress or considered inappropriate. The research was not funded externally, and the researcher bore all costs of deploying the survey. Participants were advised that they could withdraw from the study at any time. The survey interview process began with disclosure of ethics approval from the university, a general description of

the research objective, and respondents completed the surveys with informed consent. There was no practical risk to the personal safety of the researcher.

## 4.7  Chapter summary

This methodology chapter has provided the reasoning around the philosophical considerations of the researcher (cautious realist, positivist), the primary logic of inquiry (deductive), the research design (quantitative), the data collection (non-probability, convenience sampled, cross-sectional survey), and the data analysis techniques (multiple linear regression). The methodological limitations and discussion, followed by the ethical considerations concluded this chapter.

# 5 Results

## 5.1 Introduction

This research adds to the literature on the value of financial advice to households in three ways. First, it considers the heterogeneity of financial advice channels available to Canadian households, controlling for the receipt of financial planning versus transactional advice. Second, it examines the role of endogenous factors of households on their financial outcomes. And third, it examines multiple outcome measures for measuring the impact of financial advice. The first metric, current Investable Assets, is portfolio centric. Two additional metrics, a Holistic Wealth Score and Comprehensive Financial Confidence, are non-portfolio centric. These measures more closely align with evolving industry service offerings in the market for financial advice.

All data in this thesis were analysed using IBM SPSS Statistics for Mac, initially using versions 25 and 26 for the pilot survey data analysis and the multi-item scale development, respectively, and version 28 for the main survey data analysis.

This chapter begins with a discussion of the main survey response drop off and analysis of sampling bias. This includes a short section on any impact of the COVID-19 pandemic on survey responses. The next section reviews the scale development process for the Comprehensive Financial Confidence and Financial Decision Responsibility Index scales through two pilot surveys and the final main survey. The main survey results are presented next beginning with univariate descriptive statistics. This section also introduces an application of the Herfindahl-Hirschman Index for describing market concentration in the market for financial advice channels in Canada. The final sections deal with the main multiple regression models for the three outcome measures: Investable Assets, Holistic Wealth Score, and Comprehensive Financial Confidence. The research hypotheses described in the Theoretical Framework chapter (Chapter 3) are tested and ancillary findings are highlighted.

## 5.2 Survey response drop off and sampling bias

### 5.2.1 Survey response drop off

A total of 2,217 survey responses were collected between February 4th, 2019, and August 13th, 2020. 90.2%, 95.7%, and 96.8% of responses were collected within the initial thirty, sixty, and ninety days, respectively. Six responses, representing 0.27% of the overall sample, were received after the World Health Organization declared COVID-19 a pandemic on March 11th, 2020, (Cucinotta and Vanelli, 2020). The final regression models controlled for responses received before and after the pandemic declaration and there were no statistically significant differences between these groups.

A total of 1,686 respondents completed the survey, representing a 76% completion rate. Figure 5.1 shows the response drop off rate by question number[3]. There are two discontinuities in response drop off. The first discontinuity occurs at question 12 which asks about the respondent's highest level of educational attainment. The second discontinuity occurs at question 48 which asks about the respondent's level of interest in personal finance.

**Figure 5.1 Final survey response drop off by question number**
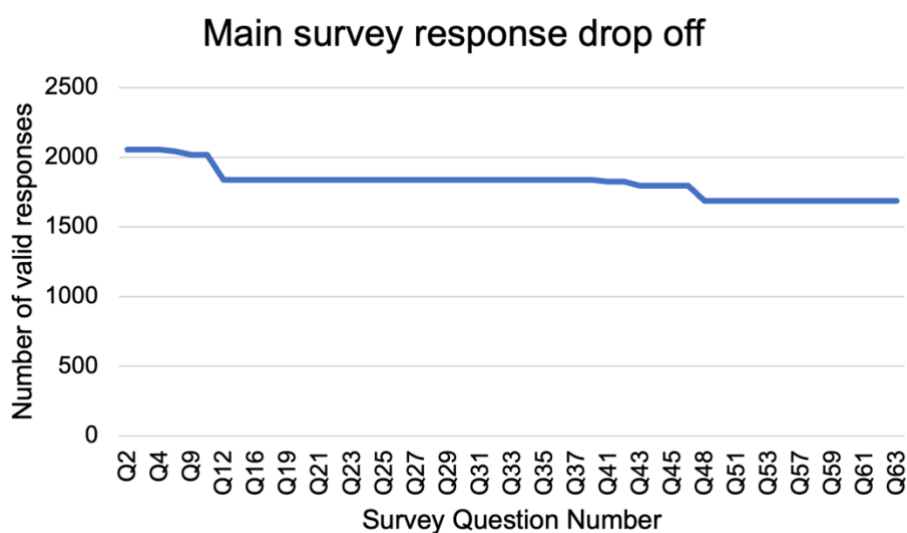


Henning (2021) suggests between 10% to 30% of respondents do not complete questionnaires once started. Some drop off may occur due to a lack of interest in the survey

---

[3] The full list of survey questions are provided in Appendix B.

topic. Others might drop off due to being interrupted from the task of completing the survey. The mean survey completion time for respondents who fully completed the survey was 68.95 minutes ± 16.5 (SE) while the mean survey completion time for incomplete surveys was higher at 104.4 minutes ± 48.0 (SE). Visually inspecting the distribution of completion time for non-completers revealed a large negative skew, likely owing to abandonment of the survey while leaving the internet browser tab for the online survey active, only to be closed potentially days later. The maximum duration recorded for an incomplete survey was 22,637.8 minutes.

A test to compare responses from completed versus incomplete surveys was performed with the results shown in Table 5.1 and Table 5.2.

An independent samples t-test was conducted between respondents who completed the survey in full versus respondents who only completed between 60 percent and 99 percent of the survey. The following variables were selected for inspection:

- Age
- Number of people in household
- Education
- Income
- Own home or rent
- Size of emergency fund in months

**Table 5.1 Group descriptives between respondents and partial respondents**

| | Completed vs non-completed | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| What is your age? | 1.00 | 1686 | 49.2856 | 14.18163 | .34538 |
| | .00 | 136 | 47.8971 | 15.71707 | 1.34773 |
| How many people live in your household? | 1.00 | 1686 | 2.49 | 1.190 | .029 |
| | .00 | 136 | 2.62 | 1.259 | .108 |
| Highest level of education you have achieved? | 1.00 | 1686 | 4.77 | 1.206 | .029 |
| | .00 | 136 | 4.79 | 1.170 | .100 |
| What was your personal annual income last year? | 1.00 | 1686 | 5.22 | 2.412 | .059 |
| | .00 | 136 | 5.04 | 2.502 | .215 |
| Do you rent or own the home where you live? | 1.00 | 1686 | 1.76 | .427 | .010 |
| | .00 | 136 | 1.72 | .450 | .039 |
| Size of emergency fund in months | 1.00 | 1686 | 6.61 | 2.194 | .053 |
| | .00 | 136 | 6.47 | 2.316 | .199 |

Education categorized into six ordinal categories, range = 1 to 6

Personal annual income categorized into 10 ordinal categories, range = 1 to 10

There were 1686 respondents who completed the survey and 136 respondents who completed between 60% and 99% of the survey. Table 5.1 shows the mean ± standard deviation for the selected variables for inspection.

There was homogeneity of variances for all selected variables, as assessed by Levene's test for equality of variances. The results show significance levels greater than 0.05 for all selected variables, which suggests that the variances of the two groups are not different (see Table 5.2).

**Table 5.2 Independent samples test for non-completion response bias**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| Age | Equal variances assumed | 3.104 | .078 | 1.089 | 1820 | .276 | 1.388 | 1.274 |
| | Equal variances not assumed | | | .998 | 153.261 | .320 | 1.388 | 1.391 |
| Number of people in household | Equal variances assumed | .845 | .358 | -1.154 | 1820 | .249 | -.123 | .107 |
| | Equal variances not assumed | | | -1.100 | 155.093 | .273 | -.123 | .112 |
| Education | Equal variances assumed | .297 | .586 | -.152 | 1820 | .879 | -.016 | .107 |
| | Equal variances not assumed | | | -.156 | 159.031 | .876 | -.016 | .105 |
| Income | Equal variances assumed | .019 | .889 | .850 | 1820 | .395 | .183 | .216 |
| | Equal variances not assumed | | | .824 | 155.929 | .411 | .183 | .222 |
| Homeowner (vs renter) | Equal variances assumed | 3.675 | .055 | 1.025 | 1820 | .306 | .039 | .038 |
| | Equal variances not assumed | | | .980 | 155.255 | .329 | .039 | .040 |
| Emergency fund | Equal variances assumed | 2.191 | .139 | .723 | 1820 | .470 | .142 | .196 |
| | Equal variances not assumed | | | .691 | 155.202 | .491 | .142 | .206 |

A visual representation of the comparison of means of annual income by survey completion status is shown in Figure 5.2. The same bar charts for the other variables are omitted for space, but yield the similar result, namely that the means are statistically the same.

**Figure 5.2 Simple bar mean annual income by survey completion status (.00 indicates non-completers, 1.00 indicates completers)**
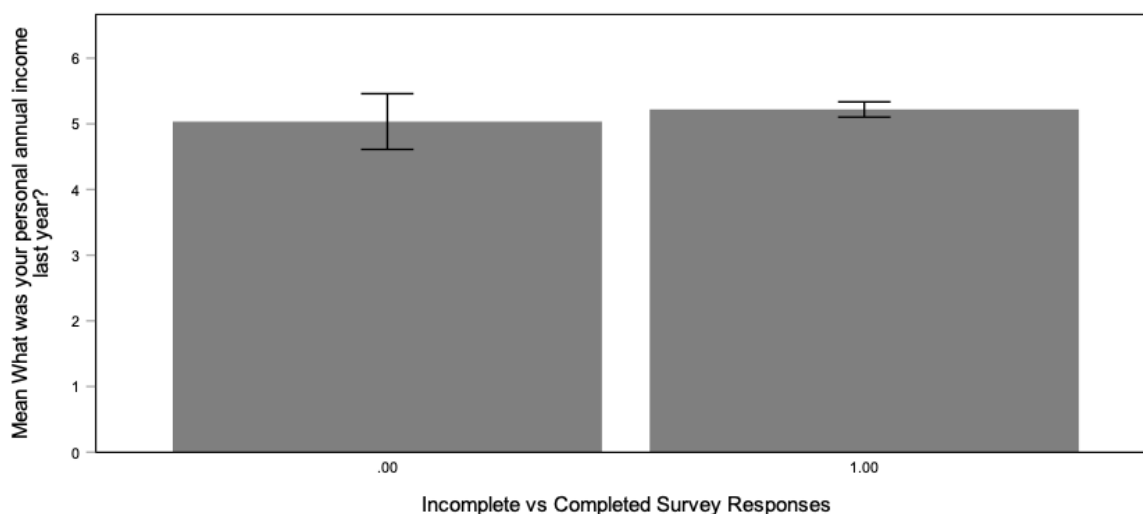


Error Bars: 95% CI

Based on these results, there is little evidence that the survey respondents who abandoned the questionnaire were different as a group than survey completers.

## 5.2.2 COVID-19 Pandemic effects

While less than 0.3% of responses were collected after COVID-19 was declared a pandemic, an independent samples t-test was conducted between respondents who completed the survey before the pandemic was declared and respondent who completed the survey after the pandemic was declared. Cases were selected for current Investable Assets equal to or greater than $10,000, which excluded 242 cases. A current Investable Assets threshold was selected as previous research methodologies have used similar thresholds with the justification that access to financial advice channels is restricted based on investment minimums and that this more accurately reflects the target population for the market for financial advice.

The following variables were selected for inspection:

- Investable Assets (current)
- Age
- Income
- Comprehensive Financial Confidence Index score
- Financial Literacy Score

- Own home or rent
- Financial Decision Responsibility Index
- Interest in personal finance
- Trust in financial services

Of the respondents who indicated current Investable Assets of $10,000 or greater, 1441 completed the survey before the COVID-19 pandemic had been declared and 5 had completed the survey after the COVID-19 pandemic had been declared. Table 5.3 shows the mean ± standard deviation for the selected variables for inspection.

**Table 5.3 Group descriptives between pre-pandemic and pandemic responses, minimum Investable Assets of $10,000**

|  | PandemicResponse | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| InvestableAssetsCurrent | .000 | 1441 | $581,618.01 | 908443.305 | 23931.275 |
|  | 1.000 | 5 | $308,000.00 | 201668.044 | 90188.691 |
| AGE | .000 | 1441 | 49.036 | 13.958 | .367 |
|  | 1.000 | 5 | 55.800 | 11.562 | 5.171 |
| HouseholdIncome | .000 | 1407 | 4.556 | 2.139 | .057 |
|  | 1.000 | 5 | 3.400 | 1.140 | .510 |
| FinancialConfidence | .000 | 1441 | 3.576 | .790 | .021 |
|  | 1.000 | 5 | 3.294 | 1.011 | .452 |
| FinLitScore | .000 | 1441 | 2.886 | .352 | .009 |
|  | 1.000 | 5 | 2.800 | .447 | .200 |
| OwnRealEstate | .000 | 1441 | .793 | .405 | .011 |
|  | 1.000 | 5 | .800 | .447 | .200 |
| ResponsibilityIndex | .000 | 1441 | 4.384 | .749 | .020 |
|  | 1.000 | 5 | 4.803 | .260 | .116 |
| InterestInPersonalFinance | .000 | 1441 | 4.279 | .810 | .021 |
|  | 1.000 | 5 | 4.600 | .548 | .245 |
| TrustInFinancialServices | .000 | 1441 | 2.378 | .939 | .025 |
|  | 1.000 | 5 | 2.400 | .894 | .400 |

FinancialConfidence, ResponsibilityIndex, InterestInPersonalFinance, and TrustInFinancialServices range from 1 to 5, 5 representing highest levels. FinLitScore ranges from 0 to 3.[4]

There was homogeneity of variances for all selected variables, as assessed by Levene's test for equality of variances. The results in Table 5.4 show significance levels greater than 0.05

---

[4] Scales fully described in section 5.3.

for all selected variables, which suggests that the variances of the two groups are not different.

**Table 5.4 Independent samples t-test for responses received before and after COVID-19 declared a pandemic**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | F | Sig. | t | df | Sig. 2-tailed | Mean Difference | Std. Error Difference |
| InvestableAssetsCurrent | Equal variances assumed | 1.678 | .195 | .673 | 1444 | .501 | 273618.012 | 406436.175 |
| | Equal variances not assumed | | | 2.932 | 4.583 | .036 | 273618.012 | 93309.731 |
| AGE | Equal variances assumed | 1.091 | .296 | -1.082 | 1444 | .279 | -6.764 | 6.250 |
| | Equal variances not assumed | | | -1.305 | 4.041 | .261 | -6.764 | 5.184 |
| HouseholdIncome | Equal variances assumed | 2.060 | .151 | 1.207 | 1410 | .228 | 1.155 | .957 |
| | Equal variances not assumed | | | 2.253 | 4.101 | .086 | 1.155 | .513 |
| FinancialConfidence | Equal variances assumed | .038 | .846 | .794 | 1444 | .428 | .281 | .354 |
| | Equal variances not assumed | | | .621 | 4.017 | .568 | .281 | .452 |
| FinLitScore | Equal variances assumed | .804 | .370 | .542 | 1444 | .588 | .085 | .157 |
| | Equal variances not assumed | | | .427 | 4.017 | .691 | .085 | .200 |
| OwnRealEstate | Equal variances assumed | .006 | .940 | -.037 | 1444 | .970 | -.006 | .181 |
| | Equal variances not assumed | | | -.034 | 4.023 | .975 | -.006 | .200 |
| ResponsibilityIndex | Equal variances assumed | 3.510 | .061 | -1.251 | 1444 | .211 | -.418 | .334 |
| | Equal variances not assumed | | | -3.549 | 4.233 | .022 | -.418 | .118 |
| InterestInPersonalFinance | Equal variances assumed | .891 | .345 | -.885 | 1444 | .376 | -.321 | .362 |
| | Equal variances not assumed | | | -1.306 | 4.061 | .261 | -.321 | .245 |

| TrustInFinancialServices | Equal variances assumed | .091 | .763 | -.052 | 1444 | .959 | -.021 | .420 |
|---|---|---|---|---|---|---|---|---|
| | Equal variances not assumed | | | -.054 | 4.031 | .959 | -.021 | .400s |

Based on these results[5], there is little evidence that the few survey respondents who completed the questionnaire before COVID-19 was declared a pandemic were different as a group than those who completed the questionnaire after COVID-19 was declared a pandemic.

### 5.2.3  Sampling bias

Berg (2005) defines non-response bias in survey data as the errors introduced in estimating population characteristics from survey respondents who do not complete the survey questionnaire. It is possible that, as a group, non-respondents are different than respondents who complete the survey. If non-respondents' data had hypothetically been captured and the resultant analysis skewed, then non-response bias would exist (Creswell and Creswell, 2017).

As discussed in the methodology, a non-probability convenience sampling method was employed. A number of control variables were included in the questionnaire to try to reduce the presence of sampling bias in the research. These variables include:

- Age
- Marital status
- Gender
- Employment status
- Occupation
- Number of members in household
- Number of children
- Education

---

[5] A future research focus could re-explore this analysis incorporating data from 2021 and 2022 when any impacts of COVID-19 on wealth management behaviours of individuals may be more developed. After the data collection period for this thesis, it was noted by industry that shifts in investor behaviour occurred. For example, the rate of account openings for discount brokerages increased markedly. It was also a noted phenomenon that online communities such as 'Wall Street Bets' on Reddit played a role in the functioning of public equities and on investor behaviour. During this time, there were also marked increases in the adoption of cryptocurrency purchasing and trading behaviour, which are newer phenomena.

- Province of residence

- Income

- Home ownership status

- Pension plan membership

- Interest level in personal finance

- Investable assets

Additionally, the hypothetical sample size estimated for a probability sampling strategy was calculated using the formula:

$$N > 50 + 8m$$

Where:

N is the minimum required sample size,

*m* is the number of independent variables.

(Tabachnick, Fidell and Ullman, 2007)

Using a conservative number of 63 independent variables (equal to the total number of survey questions, and greater than the actual number of independent variables used in the analysis), a minimum sample size of 554 was calculated. The 1,446 completed and valid surveys, selected for respondents with at least $10,000 in Investable Assets were almost three times this conservative estimate of the minimum sample size required.

## 5.3 Multi-item scale development

To explore the independent variable of financial responsibility (FR) and one of the dependent variables of Comprehensive Financial Confidence (CFC), scales were developed through an iterative process described by (de Vaus, 2013):

1. Construct a rough scale
2. Select the best items
3. Create the final scale variable

## 5.3.1 Comprehensive Financial Confidence

### 5.3.1.1 Initial pilot survey

**An initial set of questions were developed for pilot testing to explore Comprehensive Financial Confidence across multiple facets of household financial matters as shown in**

Table 5.5. The initial framework for these questions come from Salter et al. (2011). They measured confidence in two facets of household finance (retirement and investment management) using the following questions:

"How confident are you that you saved enough money to live comfortably throughout your retirement years?"

"How confident are you that your assets and investments are being managed in the best possible way?"

Salter et al. (2011)

For both questions, four response options were available:

- Very confident
- Somewhat confident
- Not too confident
- Not at all confident

This framework was expanded to 10 facets of household financial consideration for this thesis, and the response options increased to a five-point Likert scale versus the four options used above. The five options were:

- Extremely confident
- Very confident
- Somewhat confident
- Not so confident
- Not at all confident

**Table 5.5 Initial pilot survey questions for Comprehensive Financial Confidence scale development**

| Facet of household finance | Initial pilot question |
|---|---|
| **Credit cards** | How well managed or confident are you about your household's credit card management? |
| **Debt and cash flow** | How well managed or confident are you about your household's overall debt and cashflow planning? |
| **Retirement planning** | How well managed or confident are you about your household's retirement planning? |
| **Investment selection** | How well managed or confident are you about your household's investment strategies? |
| **Long-term tax planning** | How well managed or confident are you about your household's long-term tax planning? |
| **Life insurance** | How well managed or confident are you about your household's life insurance? |
| **Disability insurance** | How well managed or confident are you about your household's disability insurance? |
| **Emergency funding** | How well managed or confident are you about your household's emergency funding? |
| **Estate planning** | How well managed or confident are you about your household's wills and powers of attorney? |
| **Education savings** | How well managed or confident are you about your household's education savings for children? |

The first pilot survey was deployed from March 20th, 2016, to March 24th, 2016. 108 survey responses were collected. A test for scale reliability was conducted. Cronbach's alpha for the 10-item scale was 0.750 (see Table 5.6), above the recommended value of 0.7 to be considered reliable as a scale (DeVellis and Thorpe, 2021).

**Table 5.6 Reliability statistics for Comprehensive Financial Confidence scale, first pilot survey**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .750 | .798 | 10 |

However, the corrected item-total correlation table contained one value below 0.3 for the item related to education savings confidence, highlighted in Table 5.7.

**Table 5.7 Item-total statistics, Comprehensive Financial Confidence scale, first pilot survey**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Squared Multiple Correlation |
|---|---|---|---|---|
| FC_Creditcards | 28.3294 | 50.795 | .535 | .542 |
| FC_Debt | 28.5647 | 48.773 | .650 | .696 |
| FC_Retirement | 29.1059 | 48.762 | .625 | .584 |
| FC_Investments | 29.1647 | 48.139 | .625 | .503 |
| FC_TaxPlanning | 29.5176 | 50.110 | .494 | .321 |
| FC_LifeIns | 28.8824 | 51.081 | .438 | .333 |
| FC_DisabilityIns | 29.6588 | 48.823 | .492 | .457 |
| FC_EmergencyFunding | 28.9294 | 48.519 | .531 | .410 |
| FC_EstatePlanning | 29.7176 | 50.991 | .319 | .222 |
| FC_EducationSavings | 30.6824 | 59.767 | -.101 | .043 |

Upon inspection of the survey and data set, it was determined that this question was asked to all respondents regardless of whether they had children for whose education to save for. As a result, the data were corrupted by introducing a question bias. Removing this item from the reliability analysis increased the Cronbach's alpha to 0.832 (see Table 5.8) and amendments were made to the survey for the second pilot deployment.

**Table 5.8 Item-total statistics, Comprehensive Financial Confidence scale, first pilot survey**

| | Cronbach's Alpha if Item Deleted |
|---|---|
| FC_Creditcards | .716 |
| FC_Debt | .701 |
| FC_Retirement | .703 |
| FC_Investments | .701 |
| FC_TaxPlanning | .719 |
| FC_LifeIns | .727 |
| FC_DisabilityIns | .718 |

| | |
|---|---|
| FC_EmergencyFunding | .712 |
| FC_EstatePlanning | .745 |
| FC_EducationSavings | .832 |

As discussed in the methodology chapter (Chapter Four), an expert panel was convened, and they identified questions with a the double-barrelled nature as being problematic (see section 4.2.4.4). The panel also suggested that the credit card confidence question could be eliminated as there may be overlap with the debt question which might be asking about the same facet of household finance.

## 5.3.1.2  Second pilot survey

The items for the Comprehensive Financial Confidence scale were updated to remove double-barrelling, the item pertaining to credit card confidence was eliminated, and the education savings item allowed for non-response if the respondent did not have children or did not plan to help with their children's' education savings (see Table 5.9).

**Table 5.9 Second pilot survey Comprehensive Financial Confidence scale items**

| *Facet of household finance* | *Second pilot question* |
|---|---|
| *Debt* | How confident are you that any debt you have is under control? |
| *Retirement planning* | How confident are you that you are on the right track to save enough for retirement? |
| *Investment selection* | How confident are you that you have appropriately selected investments? |
| *Long-term tax planning* | How confident are you that you will minimize the taxes you will pay over the long term? |
| *Life insurance* | How confident are you that you have the right life insurance coverage? |
| *Disability insurance* | How confident are you that you have the right disability insurance coverage? |
| *Emergency funding* | How confident are you that you have an appropriately sized emergency fund? |
| *Estate planning* | How confident are you that your estate plan is in order? |
| *Education savings* | How confident are you in any education assistance you are planning for any children (if applicable)? |

The revised survey was deployed on September 12th, 2018, for one day. 105 survey responses were collected. Cronbach's alpha for the nine-item scale was 0.867, indicating internal consistency (Pallant, 2013).

## 5.3.2 Financial Decision Responsibility scale

During a revisit of the literature between the initial pilot survey and the second pilot survey, it was identified that the endogenous factor of financial decision-making responsibility should be examined. Following the development of the Comprehensive Financial Confidence scale, a similar five-point Likert scale was constructed for testing on the second pilot survey deployment.

The questions again asked about the multiple facets of household financial matters, this time with respect to whether the respondent or a financial advice channel was responsible for financial decisions. The final list of scale questions is presented in Table 5.10. They all take the form of "Who has been primarily responsible for guiding the choices you make with respect to managing X", where X is a different facet of household finance.

The respondent answer options were:

- I/we am mostly responsible
- I/we am moderately responsible
- Balanced between myself/us and a financial service provider
- A financial service provider has been moderately responsible
- A financial service provider has been mostly responsible

**Table 5.10 Financial Decision Responsibility scale questions**

| Facet of household finance | Additional second pilot questions to address Financial Decision Responsibility |
|---|---|
| **Debt** | Who has been primarily responsible for guiding the choices you make with respect to managing debt? |
| **Retirement planning** | Who has been primarily responsible for determining the amount of money you have contributed to your retirement savings? |
| **Investment selection** | Who has been primarily responsible for determining your selected investments? |
| **Long-term tax planning** | Who has been primarily responsible for determining your long-term tax planning? |
| **Life insurance** | Who has been primarily responsible for determining your life insurance coverage? |
| **Disability insurance** | Who has been primarily responsible for determining your disability insurance coverage? |
| **Emergency funding** | Who has been primarily responsible for setting up your emergency fund? |
| **Estate planning** | Who has been primarily responsible for setting up and maintaining your estate plan? |
| **Education savings** | Who has been primarily responsible setting up any education savings plans? |

Cronbach's alpha for this financial responsibility scale of nine items was 0.900, demonstrating a very high level of internal consistency.

### 5.3.3  Main survey scale reliability

As a result of the learnings from the first and second pilots above, the survey was adjusted to include two scales, each consisting of nine items and scored with a five-point Likert scale. One scale measured the comprehensive financial confidence of a household with respect to nine different facets of household decisions. The other scale was a measure of the overall decision responsibility for financial behaviours across the same nine facets of household financial decisions. The latter scale is intended to address a more qualitative aspect of the relationship between households and channels of advice that might inform the degree of endogenous factor influence on outcomes: do households use channels to transact on their already predetermined decisions? Or do households rely on channels of advice to guide the financial decisions of households. This is a new contribution to the literature as this measure of financial decision-making responsibility looks at multiple facets of household financial decisions.

The data collected in the two pilot surveys were not included in the final data sample collected during the main survey deployment. Cronbach's alpha for the nine-item Comprehensive Financial Confidence scale in the final data sample was 0.845. Cronbach's alpha for the nine-item scale of financial decision responsibility in the final data sample was 0.795.

## 5.4 Main survey results

### 5.4.1 Descriptive analysis

#### 5.4.1.1 Demographics

The final sample was cleaned for analysis and included 1,794 respondents. The general descriptive statistics are presented in Table 5.11.

**Table 5.11 General descriptive statistics for final survey sample**

| Variable | n | Percentage |
|---|---|---|
| **Age** | | |
| 18-24 | 23 | 1.3% |
| 25-34 | 321 | 17.9% |
| 35-44 | 404 | 22.5% |
| 45-54 | 347 | 19.3% |
| 55-64 | 411 | 22.9% |
| 65+ | 288 | 16.1% |
| | | |
| **Income** | | |
| $0-$9,999 | 21 | 1.2% |
| $10,000-$24,999 | 89 | 5.0% |
| $25,000-$49,999 | 223 | 12.4% |
| $50,000-$74,999 | 337 | 18.8% |
| $75,000-$99,999 | 364 | 20.3% |
| $100,000-$124,999 | 280 | 15.6% |
| $125,000-$149,999 | 152 | 8.5% |
| $150,000-$174,999 | 69 | 3.8% |
| $175,000-$199,999 | 38 | 2.1% |
| $200,000 or higher | 157 | 8.8% |
| Prefer not to say* | 64 | 3.6% |
| | | |
| **Real estate ownership** | | |
| Own | 1360 | 75.8% |
| Rent | 434 | 24.2% |

| | | |
|---|---|---|
| **Retirement status** | | |
| Not Retired | 1384 | 77.1% |
| Retired | 410 | 22.9% |
| **Gender** | | |
| Male | 1057 | 58.9% |
| Female | 725 | 40.4% |
| Other/Prefer not to say | 12 | 0.7% |
| **Marital status** | | |
| Married or equivalent | 1319 | 73.5% |
| Single | 475 | 26.5% |
| **Sexual orientation (couples, n=1319)** | | |
| Heterosexual couples | 1135 | 86.1% |
| Same sex couples | 184 | 13.9% |
| **Education** | | |
| Less than high school | 8 | 0.4% |
| High school diploma | 151 | 8.4% |
| College diploma | 281 | 15.7% |
| Undergraduate degree | 779 | 43.4% |
| Master's degree | 448 | 25.0% |
| Doctoral degree | 127 | 7.1% |
| **Occupation** | | |
| Professional services | 697 | 38.9% |
| General services | 451 | 25.1% |
| Goods producing | 47 | 2.6% |
| Not employed | 99 | 5.5% |
| Retired | 410 | 22.9% |
| Financial advisor | 90 | 5.0% |
| **Main banking relationship** | | |
| Bank | 1640 | 91.4% |
| Credit Union | 133 | 7.4% |
| Other | 21 | 1.2% |
| **Province** | | |
| British Columbia | 188 | 10.5% |

| | | |
|---|---:|---:|
| Alberta | 174 | 9.7% |
| Saskatchewan | 37 | 2.1% |
| Manitoba | 37 | 2.1% |
| Ontario | 1259 | 70.2% |
| Quebec | 36 | 2.0% |
| New Brunswick | 13 | 0.7% |
| Nova Scotia | 30 | 1.7% |
| Prince Edward Island | 1 | 0.1% |
| Newfoundland | 16 | 0.9% |
| Yukon | 1 | 0.1% |
| Northwest Territories | 2 | 0.1% |
| Nunavut | 0 | 0.0% |

*Respondents who selected "Prefer not to say" for the income question were omitted from analysis.

## 5.4.2  Primary channel of advice distribution

The histogram of respondents in each possible primary channel option is shown in Figure 5.3. The DIY channel accounts for 34% of the distribution. Traditional channels of advice (independent financial advisors, bank branch financial advisors, and full-service financial advisors at banks) also account for a large part of the distribution. Respondents indicating social media as their primary channel of advice ranked third.

**Figure 5.3 Histogram of primary channel of advice in overall sample**
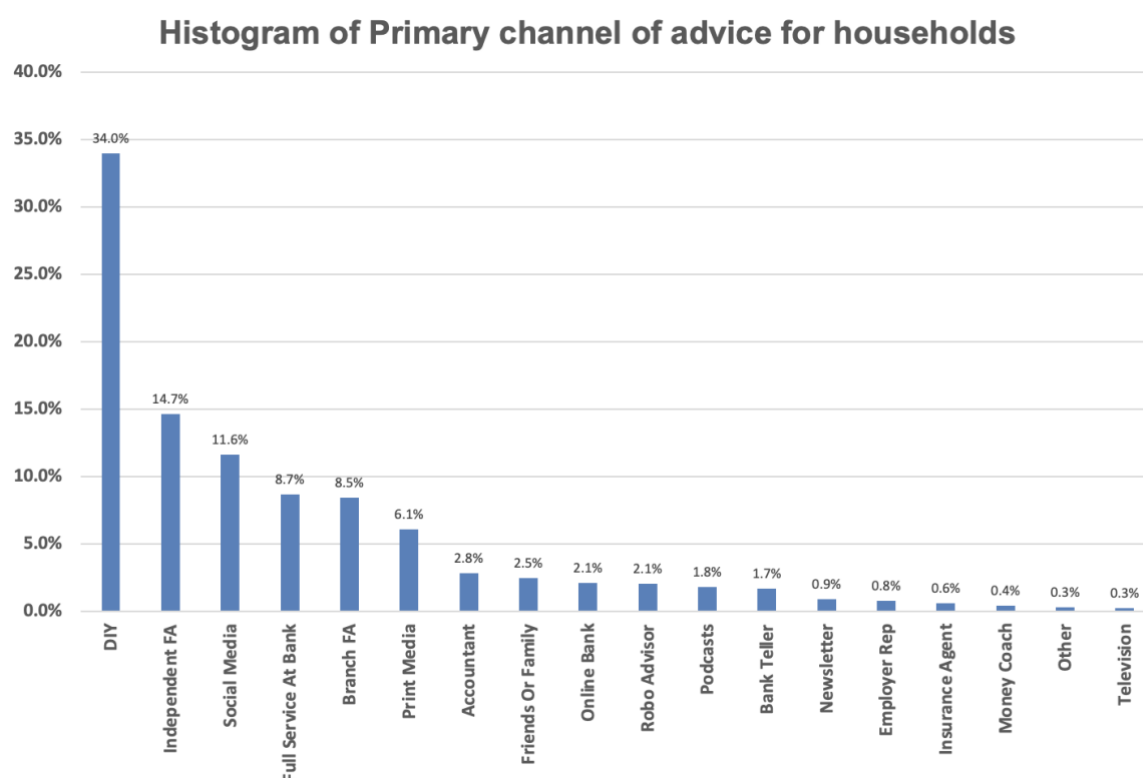


The data for financial advisors are shown in Figure 5.4. As shown in Table 5.11 there were 90 respondents who identified as financial advisors. While the most popular primary channel (DIY) is the same for financial advisors and the overall sample, financial advisors cite the DIY channel at a higher rate (41%) than non-financial advisors (34%). The top two primary channels (DIY and Independent financial advisors) account for 72% of the distribution, with the remaining channels all with either single digit percentage representation or no representation at all. Being in the profession of providing financial advice likely accounts for more financial advisors being confident to select the DIY channel as primary, but the high proportion of financial advisors also citing an independent financial advisor as their primary channel of advice could have two possible explanations. First, financial advisors might have higher conviction in the value of financial advice. But second, financial advisors who are

indicating a financial advisor as their primary channel of advice might actually be referring to themselves, in which case they may actually fall into the DIY category. However, this does not affect the results of the overall analysis as the condition of being a financial advisor is controlled for.

**Figure 5.4 Histogram of primary channel of advice for financial advisors**



Histogram of Primary channel of advice for financial advisors
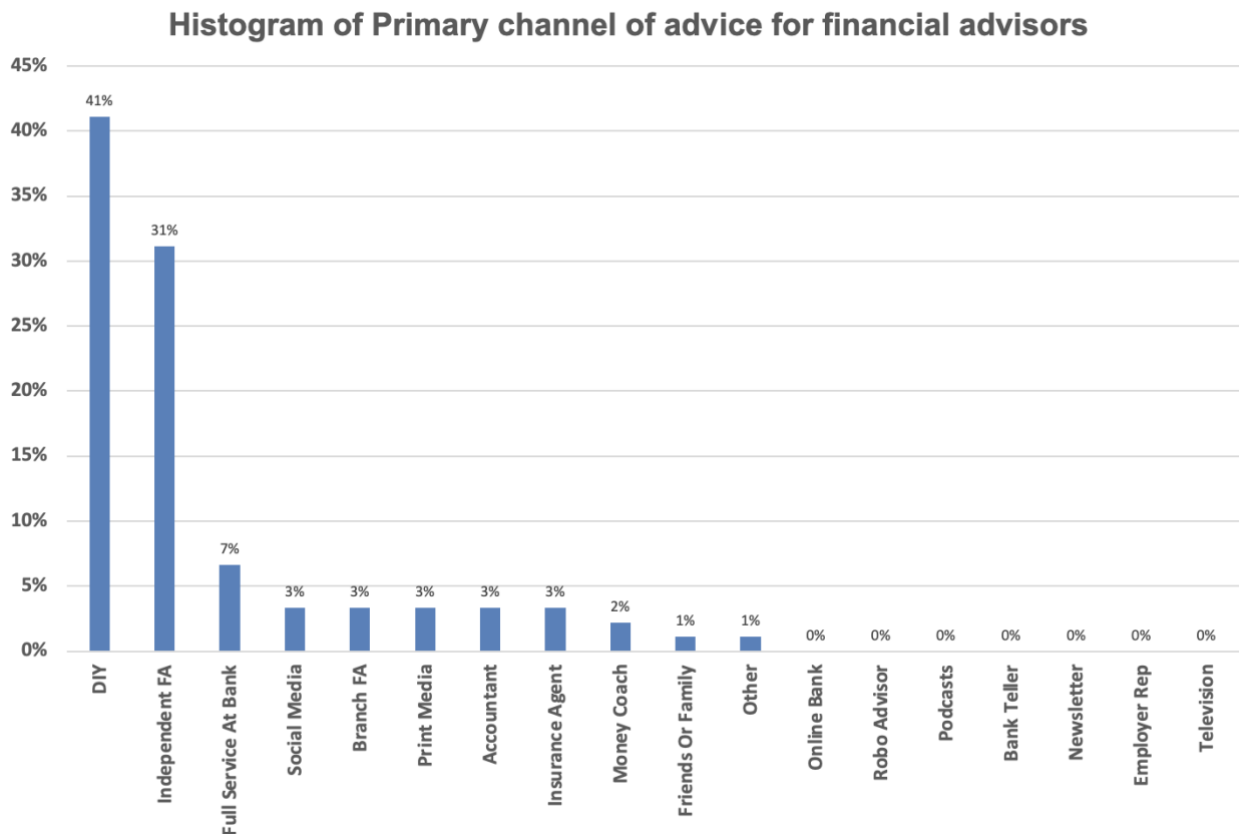
## 5.5  Mean Investable Assets by primary channel of advice

The mean investment assets by primary channel of advice are presented in Figure 5.5. The bank teller channel will be used as the reference category for channels of advice in our regression analysis below. This channel usually does not provide direct advice on investment assets or household financial decisions beyond basic day-to-day banking needs and instead refers clients to different areas of the bank for advice when requested or an opportunity to solicit is identified. If someone identifies a bank branch teller as their primary channel of advice this could be considered similar to receiving no advice.

**Figure 5.5 Mean current Investable Assets by primary channel of advice**

Mean current investible assets by primary channel of advice
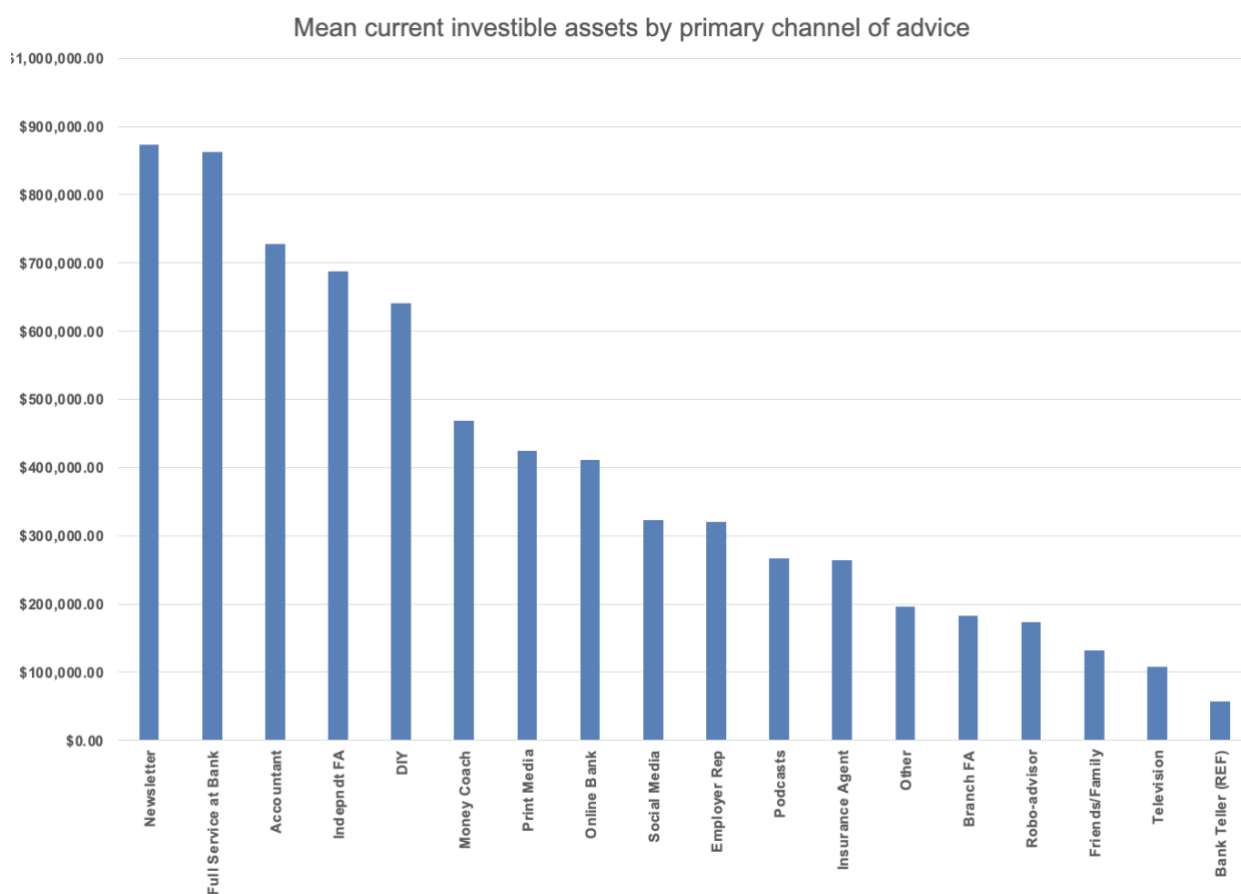


It is common to see investment asset minimums for more established advisors in the categories of independent financial advisor and full-service advisors at banks. These minimums vary between and within firms and these channels are not accessible by all households. Independent financial advisors may generally have lower average asset minimums as a group than full-service advisors at banks.

The same data for financial advisors is presented in Figure 5.6. Note that for the friends or family primary channel where the mean is listed at $2,000,000, n=1. Again, generally, the level of investable assets for the full-service and independent financial advisors as primary channels are high, likely owing to the investable asset level minimums required to engage these channels of advice. However, while non-financial advisor households tend to have higher investable asset levels when using a full-service financial advisor versus an independent financial advisor, this is reversed for financial advisors as clients where the mean investable assets are higher with independent financial advisors.

The general diversity in use of primary channels of advice is lower for financial advisors than the overall sample, with financial advisors tending to either manage themselves, or use more

traditional, human-based primary channels of advice to a higher degree than the overall sample. This may align with findings from Linnainmaa, Melzer and Previtero (2021) in which they concluded that financial advisors do not direct clients into underperforming portfolio strategies due to conflicts of interest, but instead due to misguided beliefs about the performance of active investment management. They may be more likely, as a group, to use traditional sources of financial advice because they believe it is a more optimal solution versus other channels of advice.

**Figure 5.6 Mean current Investable Assets by primary channel of advice for financial advisors**



Mean current investible assets by primary channel of advice for financial advisors
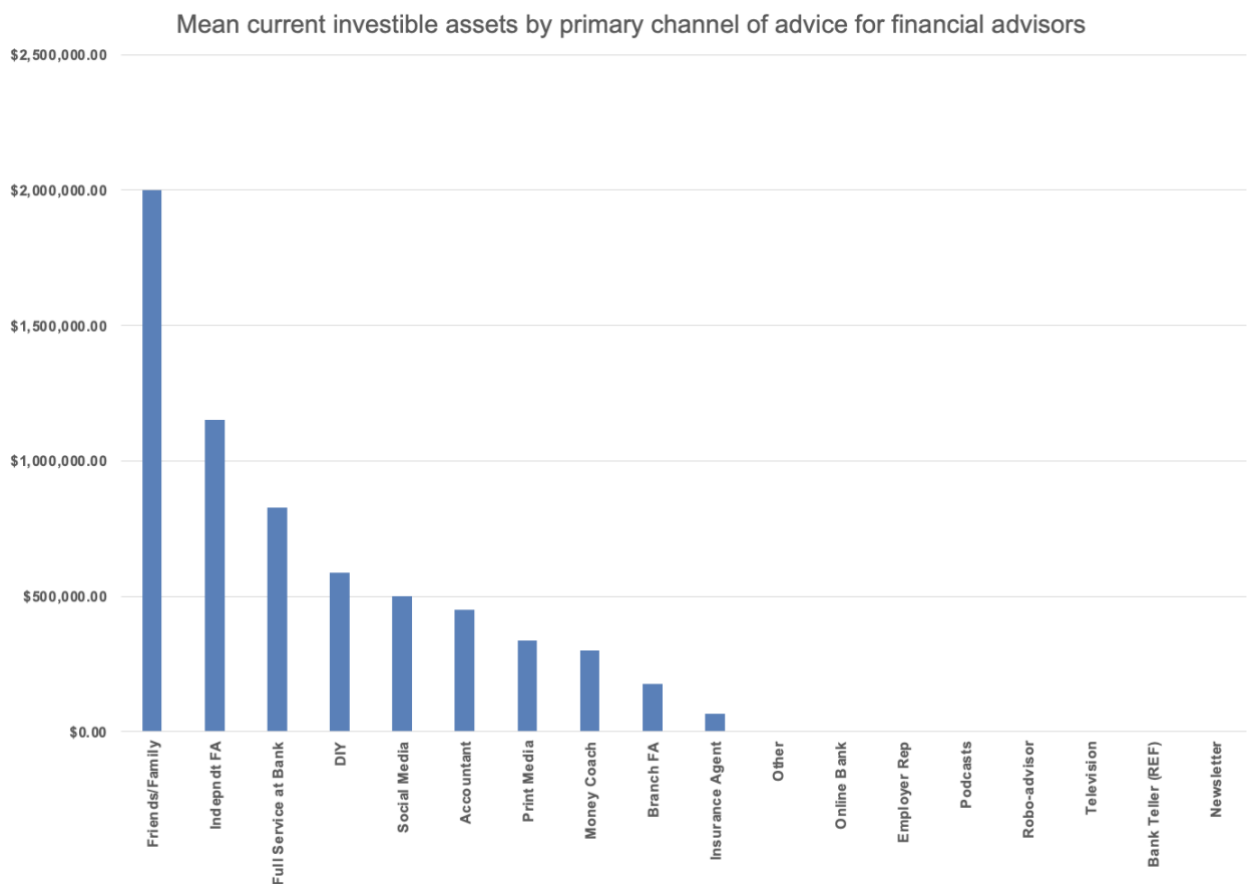
## 5.5.1 Sum of Investable Assets by primary channel of advice

The total sum of investment assets by primary channel of advice is presented in Figure 5.7. Of the total Investable Assets reported in the final survey sample ($839,811,153.98), three channels accounted for 73.8% of all assets: DIY, independent financial advisors, and full-service advisors at banks.

**Figure 5.7 Sum of current Investable Assets by primary channel of advice**



Sum of current investible assets by primary channel of advice
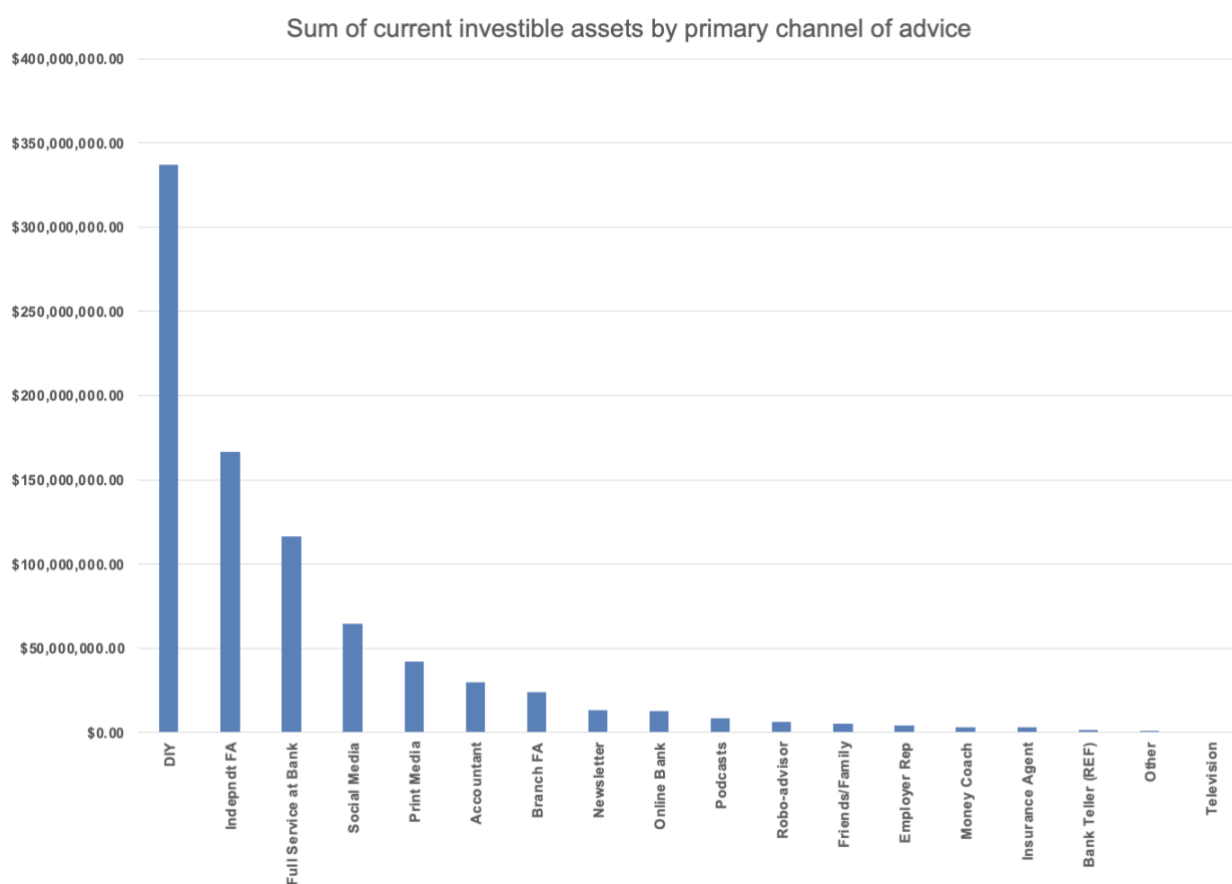
The same data for financial advisors is presented in Figure 5.8. There is a marked difference in these distributions. The majority of investable assets held by financial advisors is held with the independent financial advisor as primary channel option. The top three primary channels by cumulative investable assets accounts for substantially all of the distribution. Because a financial advisor who chooses a DIY option could effectively be considered the same as a traditional, human-based financial advice condition, the same comments from above apply in that the findings from Linnainmaa, Melzer and Previtero (2021) could help explain these differences through the beliefs of financial advisors about the merits of financial advice versus the overall population.

**Figure 5.8 Sum of current Investable Assets by primary channel for financial advisors**



Sum of current investible assets by primary channel of advice for financial advisors
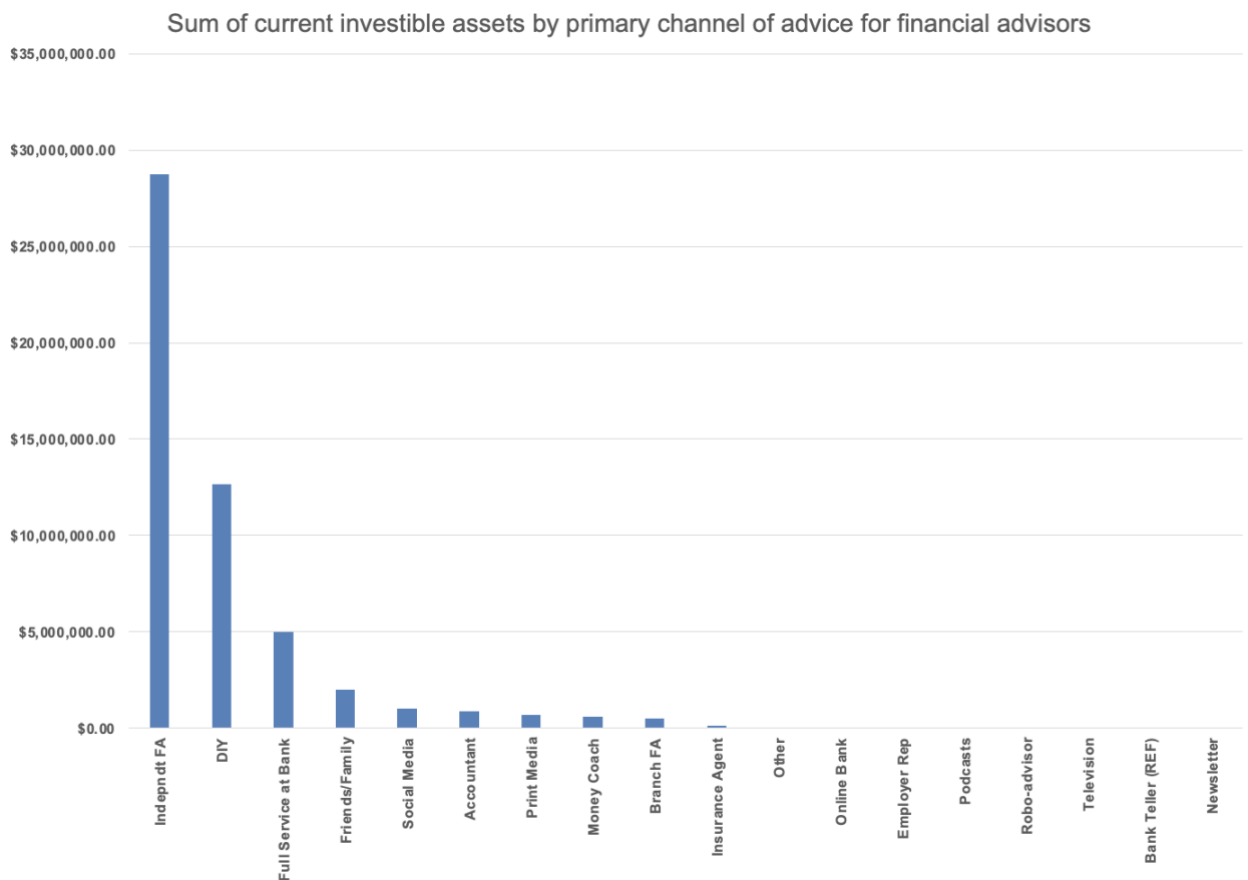
### 5.5.1.1 Herfindahl-Hirschman Index of primary channel market concentration

The Herfindahl-Hirschman Index (often shortened to either Herfindahl Index or HHI) is used in the corporate finance literature to measure market concentration. The formula for calculating an HH-index score is:

$$HHI = \sum_{i=1}^{n}(MS_i)^2$$

Where:

MS = market share (in this case of Investable Assets by primary channel)

The United States Department of Justice adopted guidelines for testing horizontal mergers for firms within an industry against violation of anti-trust laws using, amongst other tests, the Herfindahl Index. According to (Rhoades, 1993), in 1992 the Department of Justice's guidelines indicated that for the banking sector, an HH-index score over 0.18 (if a proposed merger were to go forward) could lead to a market concentration high enough that firms

would have the market power to adjust prices above "the competitive level for a significant period of time".

The United States Department of Justice most recent guidelines for describing market concentration using the HH-index are:

- < 0.15 = Unconcentrated market
- 0.15 – 0.25 = Moderately concentrated market
- > 0.25 = Highly concentrated market

(United States Department of Justice, 2010)

The HH-index for investable asset market concentration by primary channel of advice was calculated as 0.23 which is on the higher end of the guideline for a 'moderately concentrated' market and above the 0.18 threshold used in the 1992 banking sector guidelines used by the US Department of Justice. This evidence therefore indicates that the market for investment advice channels in Canada could be characterized as moderately concentrated within these channels, but of course across many firms. This level of concentration warrants a deeper examination. Given the concentration of assets in relatively few channels of advice, could there be any failures in the market for financial advice in Canada? An analysis that might inform this question is the degree to which households might pay for multiple sources of advice, or where gaps in advice for certain channels might exist.

## 5.5.2 Difference in current Investable Assets by financial plan creation

A Welch t-test was run to determine if there were differences in the natural log of current Investable Assets between respondents who received a financial plan versus those who did not. 486 respondents received financial plans versus 960 respondents who did not receive financial plans. Knowing the differences between these two groups informs the discussion on the value of financial advice. As discussed in the literature review, the contemporary financial services industry has seen shifts away from portfolio-centric models of advice and towards more holistic financial advice. As such, outcome measures that are similarly non-portfolio-centric can help describe the efficacy of these newer models.

The assumption of homogeneity of variances was violated, as assessed by Levene's test for equality of variances ($p = .033$). The mean current Investable Assets was higher for respondents with financial plans ($704,632 ± $959,119) than respondents who did not receive financial plans ($517,917 ± $873,380), a statistically significant difference of $186,716 (95% CI, $84,974 to $288,458), $t(897.658) = 3.602$, $p = <.001$. The mean current Investable Assets by financial status by primary channel of advice are shown in Figure 5.9.

**Figure 5.9 Mean investment assets by primary channel of advice by financial plan status**

Mean investment assets by Primary Channel of Advice x Financial Plan Created

■ No Financial Plan   ■ Financial Plan
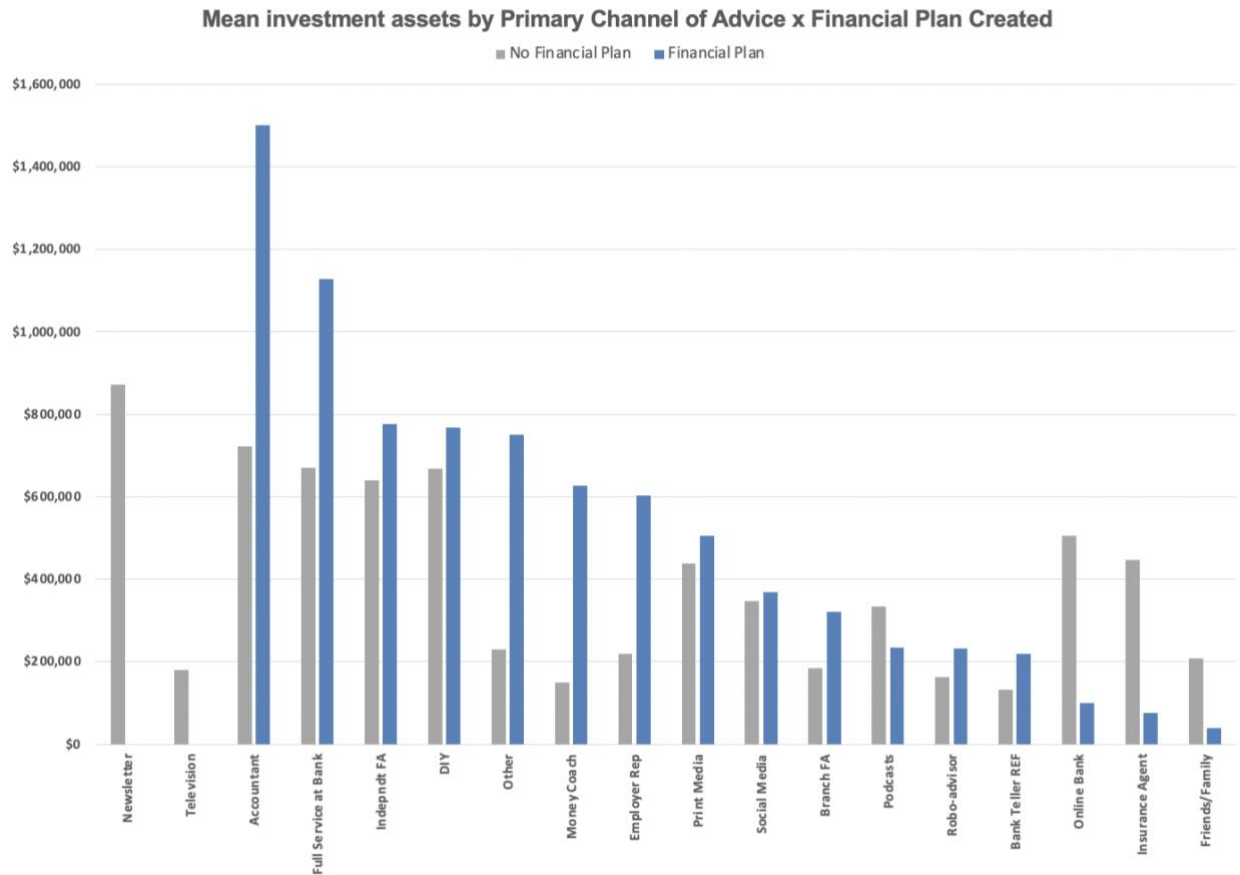


Generally, respondents with financial plans show higher assets than respondents without financial plans. The exceptions are the podcast, online bank, insurance agent, and friends/family channels. These results are not impacted by the outliers in the data as the analysis was conducted after cleaning of the data which included tests to identify and omit outlier cases. Two-way between-groups analyses of variance were conducted to explore the impact of having a financial plan created and selecting the podcast, online bank, insurance agent, or friends/family channels as primary channels on current Investable Assets.

The interaction effect between having a financial plan created and podcasts as a primary channel of advice was not statistically significant, $F_{(1, 1442)} = 0.406$, $p = 0.524$.

The interaction effect between having a financial plan created and online bank as a primary channel of advice was not statistically significant, $F_{(1, 1442)} = 0.412$, $p = 0.521$.

The interaction effect between having a financial plan created and insurance agent as a primary channel of advice was not statistically significant, $F(1, 1442) = 0.764$, $p = 0.382$.

The interaction effect between having a financial plan created and friends/family as a primary channel of advice was not statistically significant, $F(1, 1442) = 0.275$, $p = 0.600$.

The newsletter and television primary channels did not have any respondents with financial plans. Overall, therefore, the results of this interaction analysis indicate that financial planning has a positive impact on the level of investable assets for individuals.

## 5.6  Mean Holistic Wealth Score by primary channel of advice

The mean Holistic Wealth Score (HWS) by primary channel of advice is presented Figure 5.10. HWS has a possible scoring range from zero to ten. Respondents identifying money coaches as their primary channel of advice had the highest mean holistic wealth scores. The data show that non-executional sources of advice generally rank higher than traditional financial advisor channels. This generalization weakens for financial advisor respondents, as seen in Figure 5.11. (An asterisk denotes a primary channel where investment execution is available in Figure 5.10, Figure 5.11, and Figure 5.12.)

**Figure 5.10 Mean Holistic Wealth Score (HWS) by primary channel of advice**



Mean holistic wealth score (HWS) by primary channel of advice
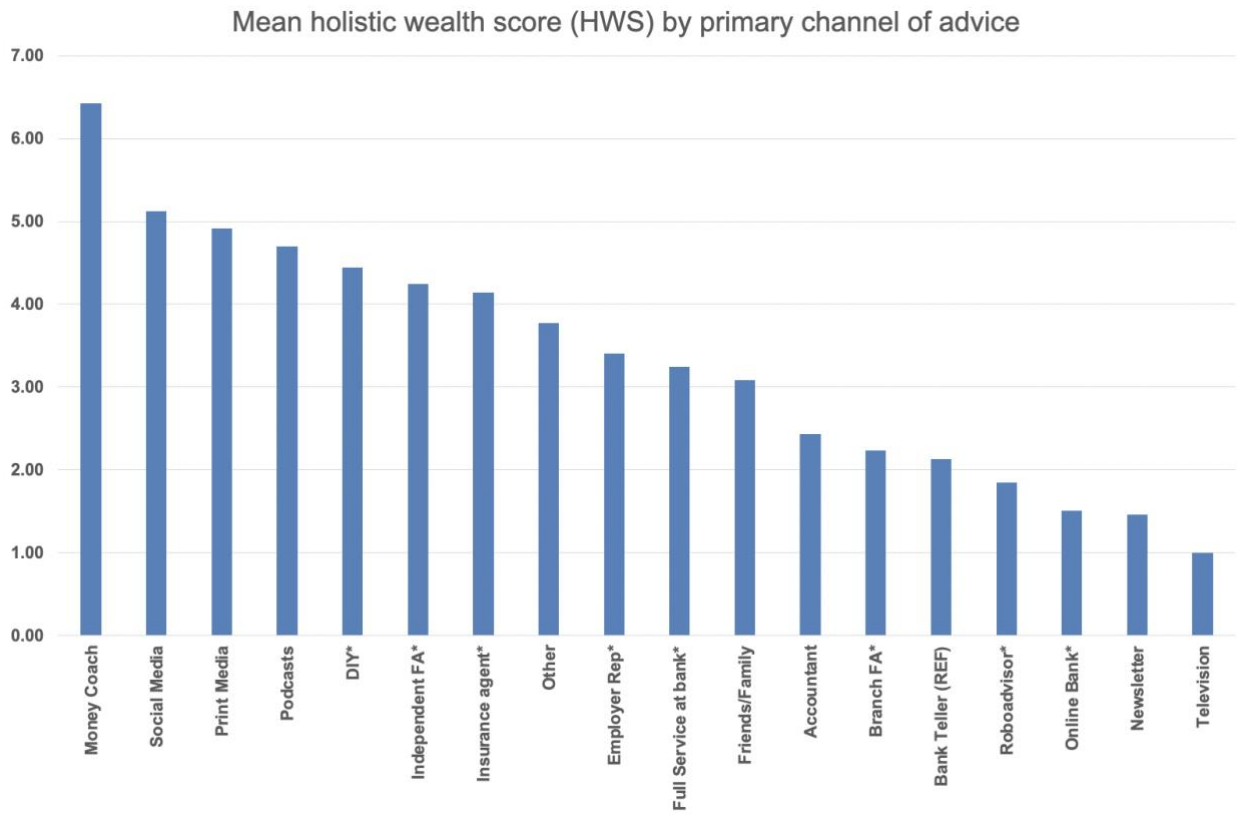
The same data for financial advisors is provided in Figure 5.11

**Figure 5.11 Mean Holistic Wealth Score by primary channel of advice for financial advisors**



Mean holistic wealth score (HWS) by primary channel of advice for financial advisors
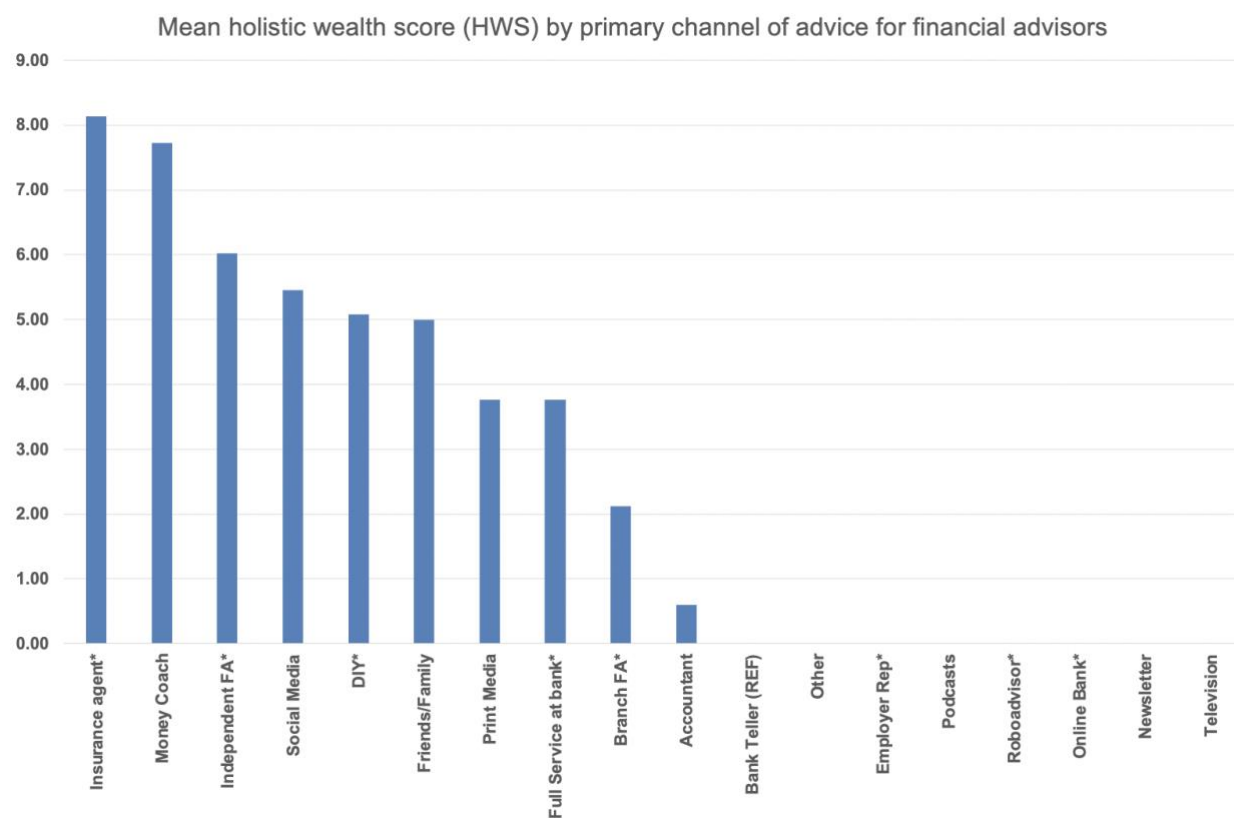
## 5.6.1 Difference in Holistic Wealth Score by primary channel by financial plan status

A Welch t-test was run to determine if there were differences in the Holistic Wealth Score between respondents who received a financial plan versus those that did not. (HWS can range from 0 to 10, and represents a facet of household finance on which the primary channel provided advice or service.) Respondents with financial plans created had a higher mean HWS (5.83 ± 2.68) than respondents without financial plans created (3.08 ± 2.37), a statistically significant difference of 2.76 (95% CI, 2.47 to 3.04), $t(875.538) = 19.153$, $p = <0.001$.

**Figure 5.12 Mean Holistic Wealth Score (HWS) by primary channel of advice by financial plan creation**



Mean holistic wealth score (HWS) by primary channel of advice by financial plan creation
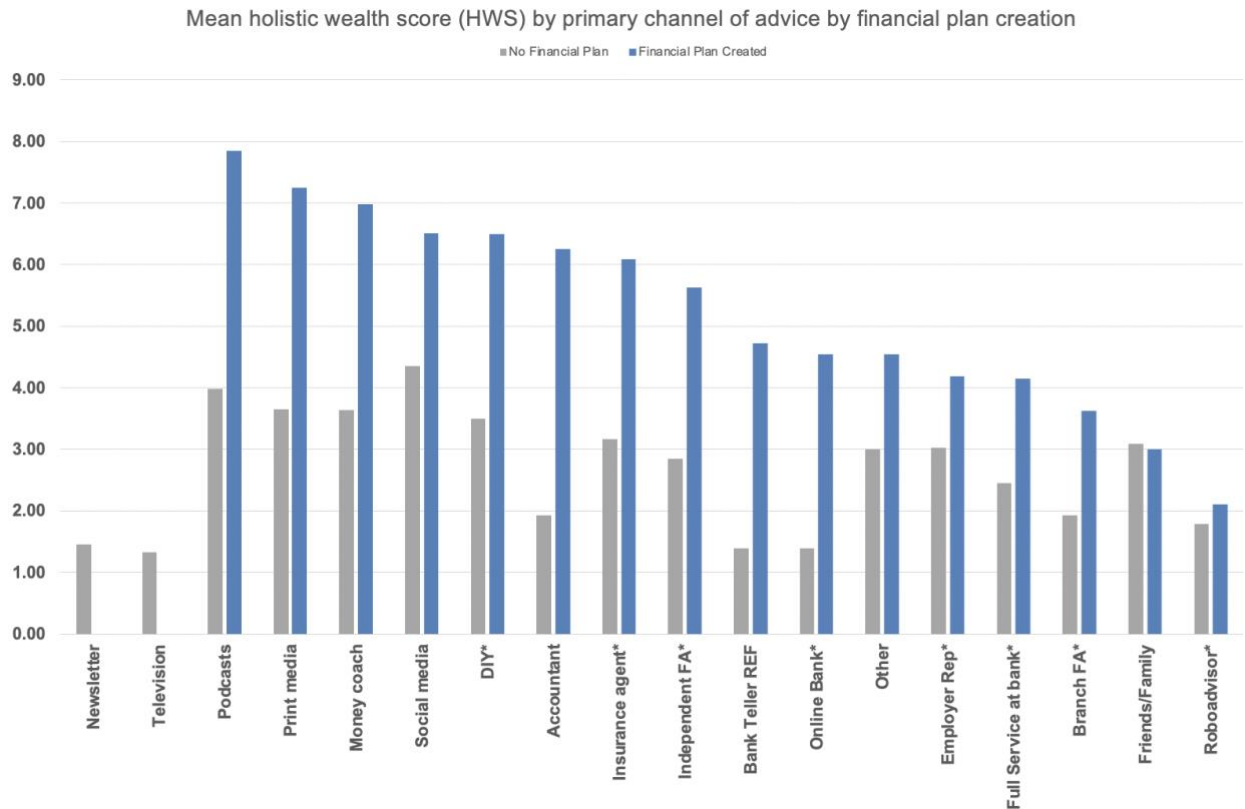
Respondents in every primary channel of advice with financial plans created had higher mean Holistic Wealth Scores with the exception of the friends/family channel (see Figure 5.12 above). Visual inspection shows similar HWS means for this channel by financial plan creation status. There were 27 respondents who selected friends/family as their primary channel of advice. Two reported receiving financial plans from this channel. The interaction effect on HWS between having a financial plan created and friends/family as a primary channel of advice was not statistically significant, $F (1, 1442) = 2.442$, $p = 0.118$. No respondents in the newsletter or television channels reported receiving financial plans.

## 5.7 Mean Comprehensive Financial Confidence by primary channel of advice

The mean Comprehensive Financial Confidence (CFC) by primary channel of advice is presented in Figure 5.13 for all households and in Figure 5.14 for financial advisors. Of note is the high score for the DIY channel. Households who select a DIY platform generally have higher confidence or agency with respect to investment management and this could be related to overall financial confidence. Professional financial advisory channels (accountant,

independent financial advisors, full-service financial advisors at banks, and insurance agents) generally rank highly as well on this measure. The difference in distribution for CFC versus HWS across primary channels of advice suggests that non-traditional sources of financial advice may have a higher breadth of advice, but that households' overall confidence is more weighted to the portfolio of services offered by traditional channels of financial advice. However, the degree to which traditional channels of advice under-emphasize non-commissionable (or non-compensated) facets of household finance might be sub-optimal for household financial outcomes.

**Figure 5.13 Mean Comprehensive Financial Confidence by primary channel of advice**



Mean Comprehensive Financial Confidence (CFC) by primary channel of advice
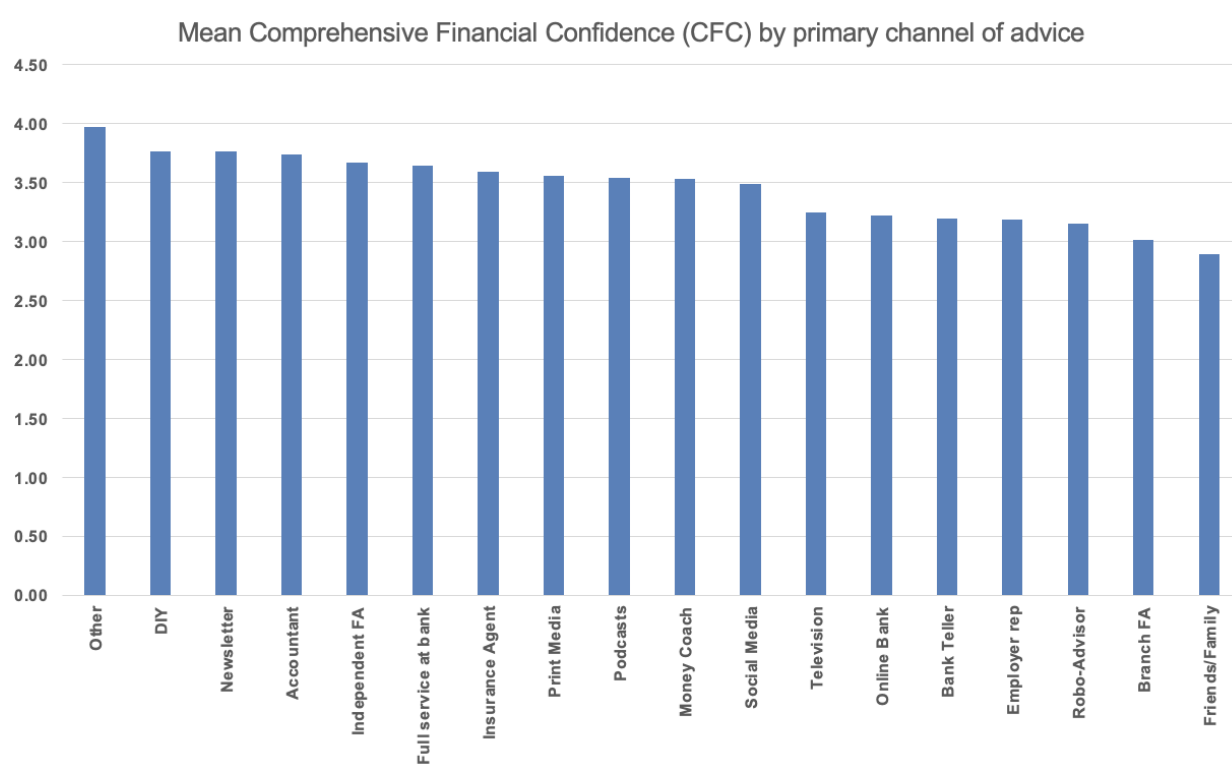
**Figure 5.14 Mean Comprehensive Financial Confidence by primary channel of advice for financial advisors**



Mean Comprehensive Financial Confidence (CFC) by primary channel of advice for financial advisors
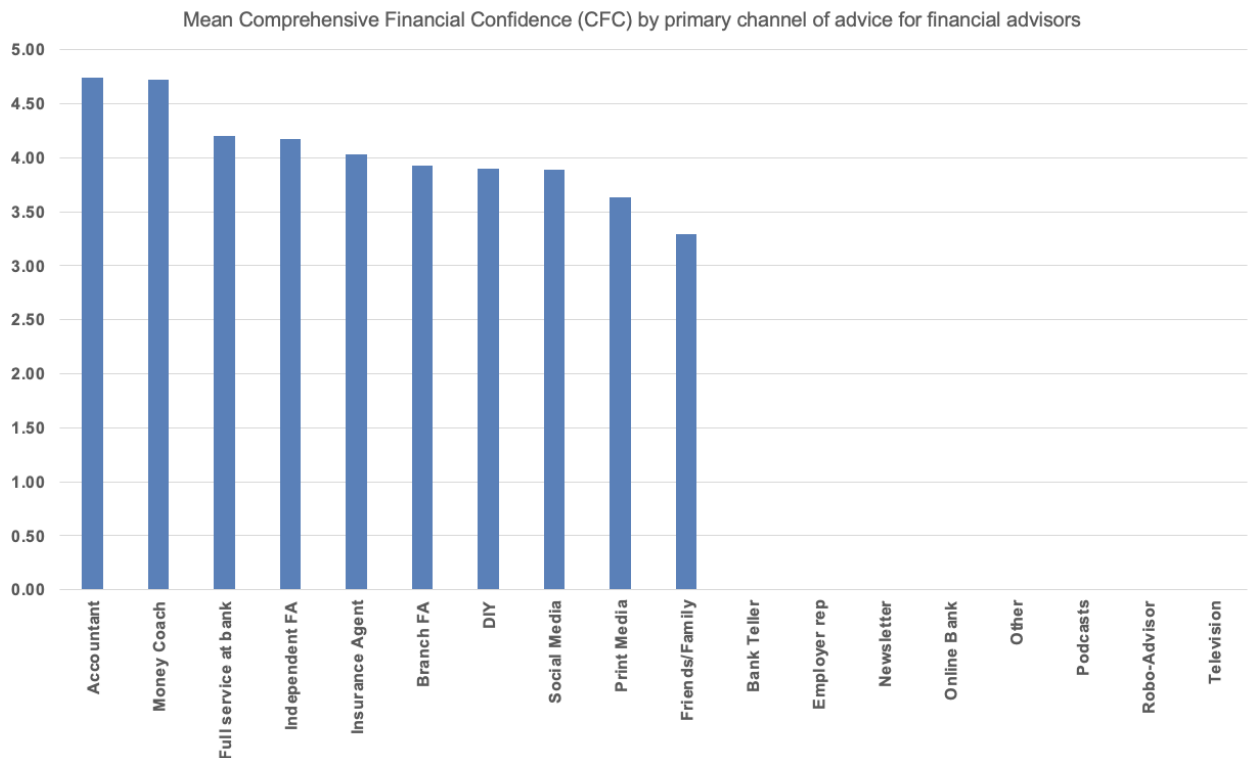
It is interesting to note the difference in CFC ranking by primary channel of advice for financial advisors with respect to the DIY channel. While for all households DIY is near the top of the ranking, for financial advisors it ranks markedly lower.

## 5.7.1 Difference in Comprehensive Financial Confidence by primary channel by financial plan status

A Welch t-test was run to determine if there were differences in the Comprehensive Financial Confidence between respondents who received a financial plan versus those that did not (data presented in Figure 5.15). Respondents with financial plans created had a higher mean Comprehensive Financial Confidence ($3.83 \pm 0.72$) than respondents without financial plans created ($3.45 \pm 0.80$), a statistically significant difference of 0.38 (95% CI, 0.30 to 0.46), $t(1,070.408) = 9.124$, $p = <0.001$.

**Figure 5.15 Mean Comprehensive Financial Confidence (CFC) by primary channel by financial plan status**



Mean Comprehensive Financial Confidence (CFC) by primary channel of advice
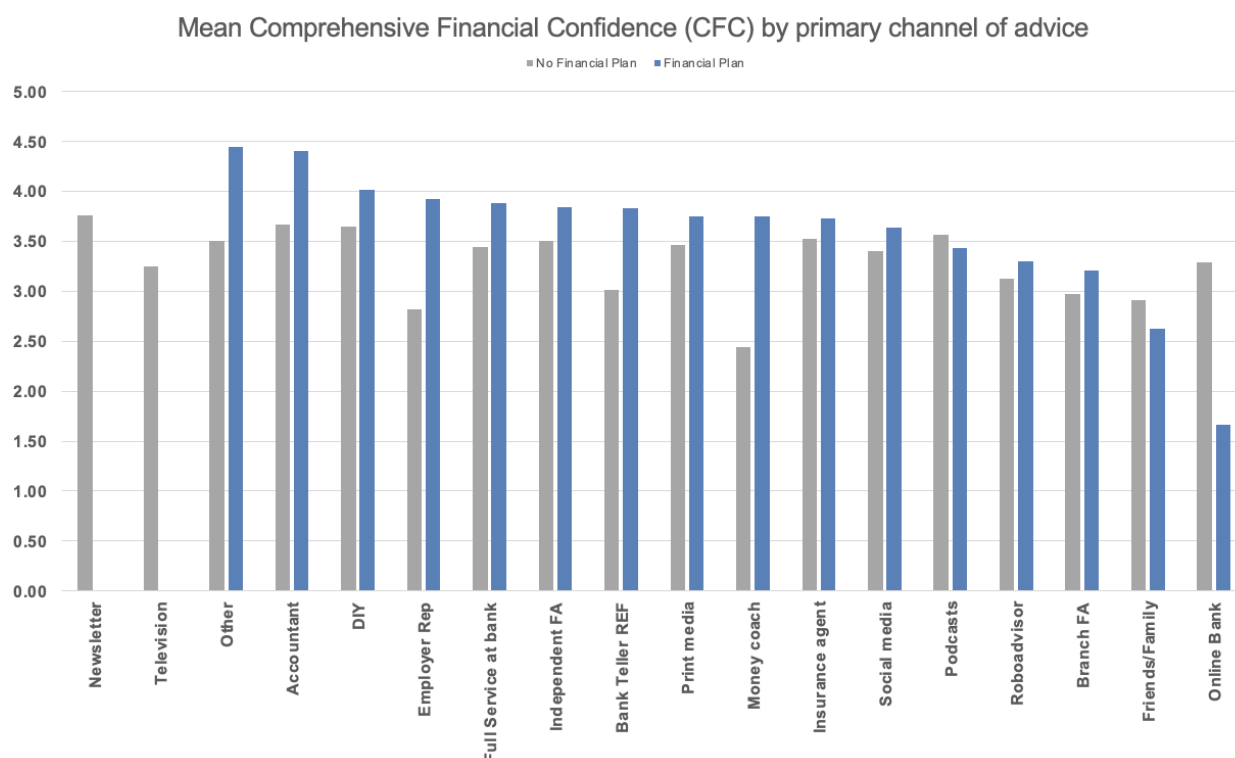
No respondents in the newsletter or television channels reported receiving financial plans. The majority of respondents in the other primary channels of advice exhibited higher Comprehensive Financial Confidence when a financial plan was created versus no financial plan created. The exceptions are for the podcast, friends/family, and online bank channels. The results for these exception channels were not statistically significant according to two-way ANOVA statistical tests.

## 5.8  Main multiple regression analyses

Prior to interpreting the results of a multiple regression analysis, several assumptions about the data set need to be met (Field, 2013). Information on the eight assumptions required for running a multiple regression are reported in Table 5.12.

**Table 5.12 Multiple regression assumptions**

| Assumption | Investable Assets (LnAssets) | HWS | CFC |
|---|---|---|---|
| *There is one dependent variable per regression model that is measured at a continuous level.* | Yes | | |
| *There are two or more independent variables that are measured at the continuous or nominal level.* | Yes | | |
| *There should be a linear relationship between the dependent variable and each independent variable, as well as the dependent and independent variables taken together.* | Yes. 1) Inspection of studentized residuals against unstandardized predicted values, 2) partial regression plots examined for linear relationship between independent variable and all continuous dependent variables for all three models. | | |
| *Residuals show homoscedasticity* | Yes, inspection of the studentized residuals against unstandardized predicted values scatterplot indicated homoscedasticity: similar variance of residuals along the values of predicted values for all three models. | | |
| *Data must not be collinear* | After an initial inspection, 13 variables were removed from the model due to collinearity (Variable Inflation Factor statistics over 10 or correlations greater than 0.7). See notes below for rationale for removal. After removal, the model was again checked against all assumptions. | | |
| *There should be no significant outliers* | 12 cases where studentized deleted residuals that were ± 3 standard deviations from mean labelled as outliers and filtered out for analyses. 8 cases of leveraged values over 0.5 that were filtered from analyses. No cases with Cook's value over 1. | 3 cases where studentized deleted residuals that were ± 3 standard deviations from mean labelled as outliers and filtered out for analyses. 4 cases of leveraged values over 0.5 that were filtered from analyses. No cases with Cook's value over 1. | 8 cases where studentized deleted residuals that were ± 3 standard deviations from mean labelled as outliers and filtered out for analyses. 4 cases of leveraged values over 0.5 that were filtered from analyses. No cases with Cook's value over 1. |
| *Normal distribution of residuals* | Inspection of the histogram of main dependent variable distribution and P-P plot indicated normality of data – See appendix A. | Inspection of the histogram of main dependent variable distribution and P-P plot indicated normality of data – See appendix A. | Inspection of the histogram of main dependent variable distribution and P-P plot indicated normality of data – See appendix A. |

## 5.8.1  Rationale for removal of collinear variables

Table 5.13 provides the identification of variables removed from the regression model due to collinearity along with a brief explanation of the rationale for removal. The initial and final correlation tables for all entered variables in the model are extensive and are provided in Appendix I for reference.

**Table 5.13 Information on variables removed from initial regression model**

|   | *Variables* | *Rationale* |
|---|---|---|
| 1 | Male x Male Same Sex Couple | The collinearity was due to a parent categorical variable "Same Sex Couple" retained in the model. The proportion of same sex couples in the data set were primarily male x male same sex couples. |
| 2 | Female x Female Same Sex Couple | |
| 3 | Dependent number of children | These were highly collinear with the variable "Total number of people in the household". Unnecessary overlap. |
| 4 | Total number of children | |
| 5 | Employment_Employed | These were all captured redundantly under the Occupation categorical variables. Unnecessary overlap. |
| 6 | Employment_Not_Employed | |
| 7 | Employment_Retired | |
| 8 | Financial Planning | Already covered by "Received Financial Plan". Unnecessary overlap |
| 9 | Number of Channels Used | This is a summation of the number of all channels used, the number in this variable is derived from other variables on the same side of the regression equation. |
| 10 | Primary Decision Maker Self | Unnecessary overlap with other variables that capture information about existence of partner, partner income, partner level of interest in personal finance, etc. Deemed not necessary for model due to collinearity. |
| 11 | Primary Decision Maker Partner | |
| 12 | Primary Decision Maker Joint | |

| 13 | Amount of research about specific advisor within primary channel of advice selected | Unnecessary overlap with the amount of research before choosing primary channel |

## 5.9 Regression results for Investable Assets

A multiple regression was run to predict the natural log of current Investable Assets from the following variables:

Age, Gender, Marital status, Income (current), Income (prior), Starting investment assets, Household size, Employment status, Occupation, Education, Province/Territory of residence, Main banking relationship, Primary Channel of Advice, Preference to delegate, Relationship solicitation, Length of use of primary channel of advice, Occupation, Use of any channels of advice, Financial literacy score, Childhood communication about finances, Pension plan membership, Financial plan creation, Real estate ownership, Channel research, Trust in financial services, Childhood financial security, Interest in personal finance, Childhood use of financial advisor in household, Retirement status, Financial Decision Responsibility index, Same sex couple status.

The regression results are provided in Table 5.14 below. Note that the coefficient estimates and their significance levels are quite stable across the five models presented in this table. The discussion in Section 5.9.1 highlights the few situations when this is not the case.

The final multiple regression model statistically significantly predicted the natural log of current Investable Assets, $F(82, 1293) = 24.225$, $p < .001$. $R^2$ for the overall model was 60.6% with an adjusted $R^2$ of 58.1%, a large size effect according to (Cohen, 1988). The variables that added statistically significantly to the prediction, at the 90%, 95%, and 99% levels along with regression coefficients and standard errors can be found in Table 5.14. This table shows five regression models.

The initial model regresses the natural log of current Investable Assets against the primary channels of advice selected by respondents and the length of use of these channels. The second model adds standard demographic details such as age, income, education, occupation, marital status, gender, and household size. The third model then adds residence information, homeownership status, main banking relationship status, and if respondents used any secondary channels of advice. The fourth model adds controls for pension plan membership, financial decision responsibility, interest in personal finance, questions about their financial experiences in childhood, trust in financial services, financial literacy, and whether they received a financial plan from their primary channel of advice. The fifth and final

model adds in additional controls for the influence of endogenous factors on outcomes: preference to delegate financial decisions, channel research performed before engaging their primary channel, if they solicited or were solicited by their primary channel of advice, and their level of income and Investable Assets before engaging with their primary channel of advice.

**Table 5.14 Regression model for natural log of current Investable Assets, Assets > $10,000**

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Constant | 10.595 | 8.782 | 8.843 | 7.346 | 6.752 |
|  | (0.428) | (0.644) | (0.647) | 0.721 | (0.752) |
| PC_BranchTeller | REF | REF | REF | REF | REF |
| PC_BranchFA | 0.256 | 0.287 | 0.427 | 0.467 | 0.328 |
|  | (0.433) | (0.353) | (0.358) | (0.349) | (0.327) |
| PC_FullServiceAtBank | 1.869*** | 1.398*** | 1.202*** | 1.208*** | 1.065*** |
|  | (0.431) | (0.353) | (0.373) | (0.365) | (0.343) |
| PC_IndependentFA | 1.418*** | 1.174*** | 0.91** | 0.879** | 0.669** |
|  | (0.425) | (0.347) | (0.363) | (0.355) | (0.333) |
| PC_Roboadvisor | 0.784* | 0.878** | 0.917** | 0.893** | 0.554 |
|  | (0.471) | (0.385) | (0.395) | (0.386) | (0.362) |
| PC_InsuranceAgent | 0.216 | -0.038 | 0.018 | 0.131 | -0.168 |
|  | (0.589) | (0.481) | (0.486) | (0.475) | (0.446) |
| PC_EmployerRep | 0.658 | 0.492 | 0.477 | 0.394 | 0.418 |
|  | (0.551) | (0.450) | (0.458) | (0.448) | (0.429) |
| PC_OnlineBank | 0.379 | 0.480 | 0.381 | 0.458 | 0.305 |
|  | (0.484) | (0.396) | (0.397) | (0.387) | (0.362) |
| PC_DIY | 1.255*** | 1.198*** | 1.037*** | 0.971*** | 0.747** |

| | | | | | |
|---|---|---|---|---|---|
| | (0.420) | (0.344) | (0.351) | (0.342) | (0.321) |
| PC_Newsletter | 1.995*** | 1.557*** | 1.452*** | 1.339*** | 1.046** |
| | (0.528) | (0.431) | (0.452) | (0.442) | (0.414) |
| PC_Accountant | 1.193** | 0.805** | 0.480 | 0.530 | 0.347 |
| | (0.466) | (0.381) | (0.387) | (0.378) | (0.355) |
| PC_MoneyCoach | 1.637** | 1.195** | 0.715 | 0.520 | 0.340 |
| | (0.660) | (0.539) | (0.568) | (0.555) | (0.520) |
| PC_SocialMedia | 0.810* | 1.143*** | 0.878** | 0.780** | 0.575* |
| | (0.429) | (0.352) | (0.358) | (0.349) | (0.327) |
| PC_Podcasts | 1.117** | 1.001** | 0.791* | 0.805** | 0.495 |
| | (0.484) | (0.398) | (0.404) | (0.394) | (0.369) |
| PC_PrintMedia | 1.048** | 1.062*** | 0.819** | 0.769** | 0.573* |
| | (0.437) | (0.358) | (0.362) | (0.354) | (0.331) |
| PC_Television | 0.505 | -0.168 | 0.092 | -0.152 | - |
| | (1.318) | (1.070) | (1.067) | (1.042) | - |
| PC_FriendsFamily | -0.190 | 0.537 | 0.527 | 0.484 | 0.176 |
| | (0.481) | (0.394) | (0.401) | (0.392) | (0.370) |
| | | | | | |
| UsePrimaryChannelLess2Years | REF | REF | REF | REF | REF |
| | | | | | |
| UsePrimaryChannel2to5years | 0.413*** | 0.298*** | 0.295*** | 0.309*** | 0.339*** |
| | (0.122) | (0.100) | (0.099) | (0.097) | (0.091) |
| UsePrimaryChannel6to10years | 0.778*** | 0.421*** | 0.410*** | 0.41*** | 0.551*** |
| | (0.127) | (0.105) | (0.104) | (0.102) | (0.096) |
| UsePrimaryChannel11to15years | 0.810*** | 0.310*** | 0.282** | 0.287** | 0.511*** |
| | (0.144) | (0.121) | (0.120) | (0.117) | (0.112) |
| UsePrimaryChannelMoreThan15years | 1.153*** | 0.310*** | 0.491*** | 0.473*** | 0.875*** |

| | | | | |
|---|---|---|---|---|
| | (0.124) | (0.121) | (0.107) | (0.104) | (0.103) |

| | | | | |
|---|---|---|---|---|
| Age | | 0.043*** | 0.042*** | 0.045*** | 0.031*** |
| | | (0.003) | (0.003) | (0.003) | (0.003) |
| Income | | 0.242*** | 0.235*** | 0.230*** | 0.187*** |
| | | (0.015) | (0.015) | (0.015) | (0.015) |
| Education_LessThanHighSchool | | REF | REF | REF | REF |
| Education_Highschool | | -1.126** | -1.119** | -1.062** | -0.297 |
| | | (0.522) | (0.514) | (0.502) | (0.541) |
| Education_College | | -1.046** | -1.044** | -0.977** | -0.241 |
| | | (0.517) | (0.511) | (0.498) | (0.538) |
| Education_Undergrad | | -0.896* | -0.917* | -0.832* | -0.087 |
| | | (0.515) | (0.508) | (0.496) | (0.537) |
| Education_Masters | | -0.973* | -0.995* | -0.902* | -0.169 |
| | | (0.517) | (0.510) | (0.498) | (0.538) |
| Education_Doctorate | | -0.897* | -0.938* | -0.798 | -0.071 |
| | | (0.525) | (0.517) | (0.506) | (0.545) |
| Occupation_NotEmployed | | REF | REF | REF | REF |
| Occupation_FinancialAdvisor | | -0.115 | -0.102 | -0.124 | -0.017 |
| | | (0.188) | (0.186) | (0.185) | (0.175) |
| Occupation_Retired | | 0.092 | 0.090 | 0.134 | 0.149 |
| | | (0.158) | (0.156) | (0.153) | (0.146) |
| Occupation_ProfessionalServices | | -0.118 | -0.123 | -0.019 | -0.013 |
| | | (0.141) | (0.139) | (0.136) | (0.130) |

| | | | | |
|---|---|---|---|---|
| Occupation_GeneralServices | -0.337** | -0.329** | -0.205 | -0.184 |
| | (0.143) | (0.141) | (0.138) | (0.131) |
| Occupation_GoodsProduction | -0.147 | -0.180 | -0.104 | 0.008 |
| | (0.061) | (0.224) | (0.218) | (0.205) |
| Gender_Male | REF | REF | REF | REF |
| Gender_Female | -0.147** | -0.126** | -0.105* | -0.089 |
| | (0.061) | (0.061) | (0.060) | (0.056) |
| Gender_PrefNotSay | 0.312 | 0.278 | 0.318 | 0.190 |
| | (0.512) | (0.505) | (0.492) | (0.459) |
| MaritalStatus_Single | REF | REF | REF | REF |
| MaritalStatus_Married | 0.143* | 0.129 | 0.187** | 0.201*** |
| | (0.079) | (0.079) | 0.078 | (0.074) |
| SameSexCouple | 0.229*** | 0.199** | 0.197** | 0.187** |
| | (0.089) | (0.088) | (0.086) | (0.081) |
| NumPeopleInHousehold | -0.61** | -0.061** | -0.059** | -0.060** |
| | (0.028) | (0.028) | (0.027) | (0.026) |
| Province_Ontario | | REF | REF | REF |
| Province_Alberta | | 0.080 | -0.028 | -0.031 |
| | | (0.093) | (0.090) | (0.085) |
| Province_BC | | 0.183** | 0.133 | 0.128 |
| | | (0.090) | (0.088) | (0.084) |

| | | | |
|---|---|---|---|
| Province_Manitoba | 0.141 | 0.125 | 0.188 |
| | (0.190) | (0.186) | (0.177) |
| Province_NewBrunswick | 0.193 | 0.278 | 0.247 |
| | (0.344) | (0.332) | (0.310) |
| Province_NfldLab | -0.340 | -0.307 | -0.247 |
| | (0.274) | (0.268) | (0.250) |
| Province_NovaScotia | -0.010 | -0.002 | 0.027 |
| | (0.215) | (0.209) | (0.196) |
| Province_Quebec | 0.228 | 0.165 | 0.170 |
| | (0.206) | (0.201) | (0.188) |
| Province_Saskatchewan | .536*** | 0.500*** | 0.467*** |
| | (0.185) | (0.181) | (0.170) |
| OwnRealEstate | 0.143* | 0.137 | 0.070 |
| | (0.075) | (0.074) | (0.070) |
| MainBankingRelationship_Bank | REF | REF | REF |
| MainBankingRelationship_CreditUnion | -0.062 | -0.054 | -0.050 |
| | (0.107) | (0.105) | (0.099) |
| MainBankingRelationship_Other | -0.069 | -0.114 | -0.300 |
| | (0.264) | (0.257) | (0.249) |
| Use_BankTeller | 0.015 | 0.013 | -0.004 |
| | (0.074) | (0.072) | (0.068) |
| Use_BranchFA | -0.206*** | -0.168** | -0.092 |
| | (0.078) | (0.077) | (0.073) |
| Use_FullServiceFAatBank | 0.113 | 0.112 | -0.060 |

| | | | |
|---|---|---|---|
| | (0.128) | (0.126) | (0.119) |
| Use_IndependentFA | 0.184* | 0.190* | 0.177* |
| | (0.105) | (0.105) | (0.099) |
| Use_Roboadvisor | -0.215** | -0.188** | -0.158* |
| | (0.094) | (0.092) | (0.086) |
| Use_InsuranceAgent | -0.063 | -0.078 | -0.126 |
| | (0.085) | (0.084) | (0.079) |
| Use_EmployerRep | -0.124 | -0.101 | -0.167* |
| | (0.102) | (0.099) | (0.094) |
| Use_OnlineBank | 0.031 | -0.002 | -0.001 |
| | (0.063) | (0.062) | (0.058) |
| Use_DIY | 0.009 | -0.040 | -0.048 |
| | (0.077) | (0.076) | (0.071) |
| Use_Newsletter | -0.053 | -0.062 | -0.131 |
| | (0.138) | (0.135) | (0.127) |
| Use_Accountant | 0.290*** | 0.269*** | 0.218*** |
| | (0.069) | (0.068) | (0.064) |
| Use_MoneyCoach | 0.123 | 0.073 | 0.036 |
| | (0.207) | (0.203) | (0.190) |
| Use_SocialMedia | 0.264*** | 0.210*** | 0.189*** |
| | (0.071) | (0.069) | (0.065) |
| Use_Podcasts | 0.086 | 0.044 | 0.039 |
| | (0.071) | (0.070) | (0.066) |
| Use_PrintMedia | 0.095 | 0.075 | 0.038 |
| | (0.065) | (0.064) | (0.060) |
| Use_Television | -0.184** | -0.190** | -0.150* |

|  |  |  |  |
|---|---|---|---|
|  | (0.095) | (0.093) | (0.089) |
| Use_FriendsFamily | -0.148 | -0.124* | -0.085 |
|  | (0.076) | (0.075) | (0.071) |
| Use_Other | .097 | 0.098 | 0.082 |
|  | (0.149) | (0.146) | (0.139) |
| PensionPlanMembership |  | -0.101** | -0.098*** |
|  |  | (0.040) | (0.038) |
| ResponsibilityIndex |  | 0.038 | 0.045 |
|  |  | (0.046) | (0.044) |
| InterestInPersonalFinance |  | 0.167*** | 0.132*** |
|  |  | (0.037) | (0.036) |
| ChildhoodCommunicationAboutMoney |  | 0.065** | 0.054** |
|  |  | (0.026) | (0.024) |
| ChildhoodFinancialSecurity |  | 0.050** | 0.032 |
|  |  | (0.022) | (0.021) |
| ChildhoodUseOfFA_NO |  | REF | REF |
| ChildhoodUseOfFA_YES |  | -0.059 | -0.081 |
|  |  | (0.070) | (0.066) |
| ChildhoodUseOfFA_DontKnow |  | -0.090 | -0.063 |
|  |  | (0.077) | (0.073) |
| TrustInFinancialServices |  | -0.067** | -0.049* |
|  |  | (0.031) | (0.030) |
| FinLitScore |  | 0.110 | 0.115 |
|  |  | (0.077) | (0.073) |

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| FinancialPlanCreated | | | | 0.313*** | 0.272*** |
| | | | | (0.060) | (0.057) |
| PreferenceToDelegateDecisions | | | | | -0.003 |
| | | | | | (0.027) |
| ResearchBeforeChoosingChannel | | | | | 0.053** |
| | | | | | (0.023) |
| Solicitation_AdvisorSolicitedClient | | | | | REF |
| Solicitation_ClientSolicitedAdvisor | | | | | 0.007 |
| | | | | | (0.109) |
| Solicitation_Mutual | | | | | 0.021 |
| | | | | | (0.132) |
| Solicitation_Don'tKnow | | | | | -0.136 |
| | | | | | (0.135) |
| IncomeBeforeChoosingChannel | | | | | 0.074*** |
| | | | | | (0.016) |
| LN_Assets_BeforeChoosingChannel | | | | | 0.066*** |
| | | | | | (0.006) |
| R-Squared | 0.202 | 0.490 | 0.516 | 0.546 | 0.606 |
| R-Squared Adj. | 0.190 | 0.472 | 0.492 | 0.519 | 0.581 |
| Observations | 1425 | 1391 | 1391 | 1391 | 1375 |

Sample = Assets $10,0000 or greater.
Standard errors in parentheses.

*, **, *** indicate significance at 90%, 95%, and 99% levels, respectively.

The constant in all regression models for Investable Assets (as well as for the regression models for HWS and CFC) refers to the reference categories listed in Table 5.15.

**Table 5.15 Reference categories for main regression models**

| Reference categories |
| --- |
| Primary channel is 'bank teller' |
| Length of use of primary channel is 'less than two years' |
| Education completed is 'less than high school diploma' |
| Occupation is 'not employed' |
| Gender is 'male' |
| Marital status is 'single' |
| Province of residence is 'Ontario' |
| Main banking relationship is 'with a bank' |
| Use of a financial advisor in the household they grew up in was 'no' |
| They were solicited by their primary channel of advice |

## 5.9.1  Discussion of regression results for Investable Assets

There are a number of findings from Table 5.14 of interest. Of note, the adjusted R-squared values increased across each successive model. The Model 1 explained 19% of the variance observed, eventually progressing to 58.1% in Model 5.

**Primary channels of advice**

Compared to the reference categories, bank branch financial advisors as a primary channel are not associated with a significant increase in wealth. However, full-service financial advisors and independent financial advisors as the primary channel of advice for households show robust effects across models, although the size of these effects decreases as control variables are added into the model. These latter two channels are generally associated with

minimum investable asset thresholds than can range from $100,000 to millions of dollars. Therefore, full-service financial advisors at banks and independent financial advisors tend to only work with wealthier households.

The use of robo-advisors as a primary channel of advice was initially shown to have a marginally significant (at the 90% confidence level) positive influence on the level of Investable Assets but, after adding in endogenous controls in the fifth regression model (which included the level of Investable Assets before engaging with a primary channel), the association fell out of significance and was no different than non-advised households in the final model. This suggests that users of robo-advice as their primary channel that have higher levels of Investable Assets have these higher levels due to demographic and endogenous factors such as age, income, amount of time spent researching their primary channel of advice, and their starting level of Investable Assets.

Do-It-Yourself (DIY) investors, who use execution-only platforms as their primary channel of advice, exhibited a positive influence on Investable Assets across all models. Similar to the full-service and independent financial advisor primary channels, the effect size decreased with the additional controls added in successive models.

The effect of selecting a newsletter subscription (or trading program) as the primary channel of advice for households was also robust across model progressions, and also accordingly showed decreased effect size with the addition of successive controls.

Both accountants and money coaches initially showed significant, positive effects in models 1 and 2, but after factoring in the use of other channels of advice beyond the primary channel, the significance for both channels was eliminated. In the final model, both accountants and money coaches as primary channels of advice were not associated with significantly different levels of Investable Assets compared to the no advice condition.

Interestingly, households indicating that social media was their primary channel of advice showed varyingly significant positive effects on Investable Assets. While the significance of the social media channel in the final model specification was marginally significant (confidence level 90%), the significance of the overall effect was robust across models. Since social media as a channel of financial advice does not offer investment execution services, an examination of the distribution of all channels of advice used for households indicating that their primary channel of advice was social media is shown in Figure 5.16 and reveals that 76% of households in this category use a DIY platform.

**Figure 5.16 Proportion of households with Social Media as primary channel of advice who use other channels of advice**

Social Media Primary Channel (n=209): Use of other channels/advice for households
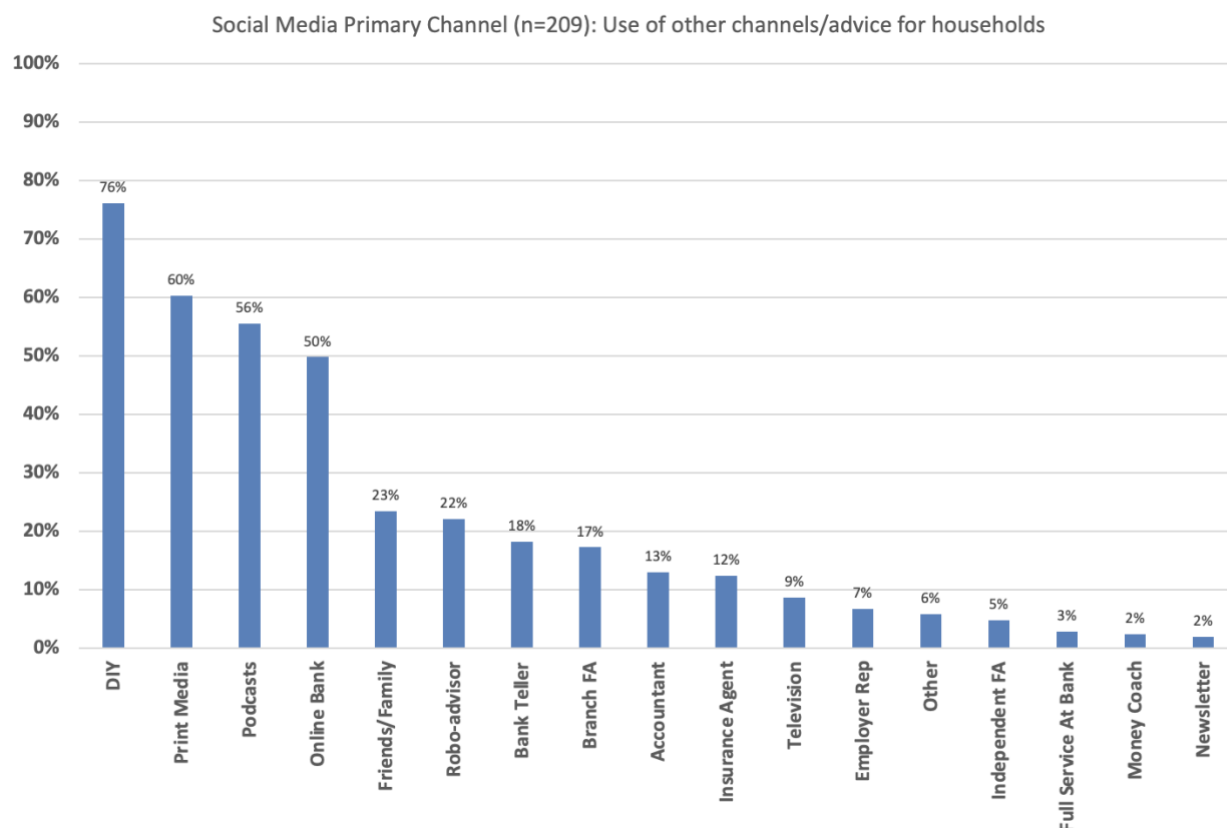


The more traditional financial advisor channels of bank branch financial advisors, independent financial advisors and full-service advisors at banks are used at rates of 17%, 5%, and 3%, respectively.  What is interesting about this finding is that this suggests that some households who use execution-only platforms (which are not allowed to provide securities advice) may be turning to unlicensed or unregulated forms of advice. This suggests a gap in the regulatory framework might exist. This is not entirely surprising as social media sources of advice often discuss the costs of financial advice, and more specifically the investment distribution costs of financial advice, as being expensive or conflicted. Because these households still seek advice (consider that there are households who selected DIY as their primary channel of advice while these households selected social media as their primary channel but DIY as a non-primary channel), this suggests that social media financial advice is filling a gap in the market for advice to at least some households. The quality of this advice is not controlled for.

Households selecting podcasts as their primary channel of advice initially showed significant positive influence on Investable Assets but in the final model (Model 5) which included varying endogenous controls, no difference between the no advice category was found.

Similar to social media, print media as a primary channel of advice to households ended up with a positive influence which was marginally significant (confidence level 90%) and a similar rate of use of non-primary channels. As Figure 5.17 depicts, 73% of households in this category use DIY channels with the more traditional financial advisory channels ranking much lower in general.

**Figure 5.17 Proportion of households with Print Media as primary channel of advice who use other channels of advice**

Print Media Primary Channel (n=109): Use of other channels/advice for households
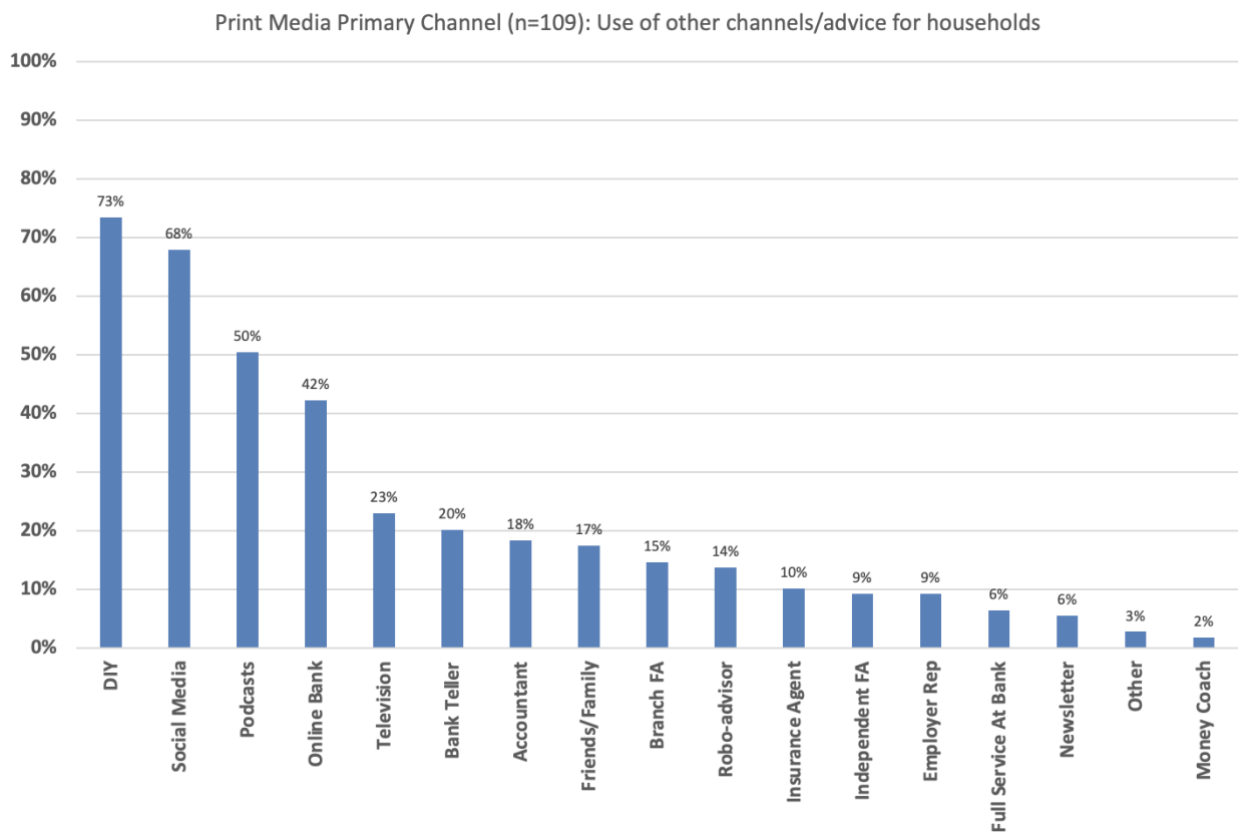


The primary channels of television, friends or family, and "other" showed no difference compared to the no advice condition, controlling for all other factors.

**Demographics**

As has been documented in the literature, and also demonstratd here, age and income are both strong predictors of Investable Assets. Further, the addition of capturing levels of income and assets before engaging with a primary channel of advice yielded more robust predictors into the overall model.

Gender, education, and occupation were not found to be significant predictors of Investable Assets in the final model. However, respondents who were married had 22% higher

Investable Assets on average than singles. Interestingly, same sex couples have 21% higher Investable Assets than the reference specification.

With respect to province or territory of residence, only one location was associated with a significantly positive influence on Investable Assets: Saskatchewan. Upon examination of the descriptive statistics, it was found that the sample of respondents in Saskatchewan were proportionately more likely to be older and retired than other locations, but the mean levels of Investable Assets were still significantly higher when controlling for these factors. These results seem to be driven by demographic factors and no outliers were detected from the sample in Saskatchewan.

Finally, the larger the household, the lower the Investable Assets. This is unsurprising due to either more of the household's income likely going towards lifestyle expenses at the expense of investment contributions compared to households with fewer members (i.e. fewer or no children), or the fact that assets tend to be higher later in life after children have left home, or a combination of both.

Model 5 represents the final regression model for the natural log of current Investable Assets and is presented in Table 5.16.

**Table 5.16 Full regression model for the natural log of current Investable Assets (assets > $10,000, Model 5 from Figure 5.28)**

| Model 5 | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| (Constant) | 6.752 | .752 | | 8.976 | <.001 |
| PrimaryChannel_BranchFA | .328 | .327 | .064 | 1.001 | .317 |
| PrimaryChannel_FullServiceAtBank | 1.065*** | .343 | .217 | 3.106 | .002 |
| PrimaryChannel_IndependentFA | .669** | .333 | .178 | 2.009 | .045 |
| PrimaryChannel_RoboAdvisor | .554 | .362 | .064 | 1.530 | .126 |
| PrimaryChannel_InsuranceAgent | -.168 | .446 | -.010 | -.377 | .706 |
| PrimaryChannel_EmployerRep | .418 | .429 | .027 | .974 | .330 |
| PrimaryChannel_OnlineBank | .305 | .362 | .029 | .841 | .401 |
| PrimaryChannel_DIY | .747** | .321 | .253 | 2.328 | .020 |
| PrimaryChannel_Newsletter | 1.046** | .414 | .078 | 2.527 | .012 |
| PrimaryChannel_Accountant | .347 | .355 | .039 | .977 | .329 |
| PrimaryChannel_MoneyCoach | .340 | .520 | .016 | .653 | .514 |
| PrimaryChannel_SocialMedia | .575* | .327 | .139 | 1.759 | .079 |
| PrimaryChannel_Podcasts | .495 | .369 | .049 | 1.341 | .180 |
| PrimaryChannel_PrintMedia | .573* | .331 | .102 | 1.731 | .084 |

| | | | | | |
|---|---|---|---|---|---|
| PrimaryChannel_FriendsOrFamily | .176 | .370 | .018 | .475 | .635 |
| UsePrimaryChannel_2to5Years | .339*** | .091 | .106 | 3.732 | <.001 |
| UsePrimaryChannel_6to10Years | .551*** | .096 | .165 | 5.729 | <.001 |
| UsePrimaryChannel_11to15Years | .511*** | .112 | .118 | 4.557 | <.001 |
| UsePrimaryChannel_15yearsOrMore | .875*** | .103 | .285 | 8.474 | <.001 |
| AGE | .031*** | .003 | .315 | 9.806 | <.001 |
| HouseholdIncome | .187*** | .015 | .287 | 12.424 | <.001 |
| Education_Highschool | -.297 | .541 | -.054 | -.549 | .583 |
| Education_College | -.241 | .538 | -.062 | -.448 | .654 |
| Education_UndergraduateDegree | -.087 | .537 | -.031 | -.161 | .872 |
| Education_MastersDegree | -.169 | .538 | -.053 | -.314 | .754 |
| Education_DoctoralDegree | -.071 | .545 | -.013 | -.130 | .896 |
| Occupation_FinancialAdvisor | -.017 | .175 | -.003 | -.096 | .923 |
| Occupation_Retired | .149 | .146 | .045 | 1.022 | .307 |
| Occupation_ProfessionalServices | -.013 | .130 | -.005 | -.099 | .921 |
| Occupation_GeneralServices | -.184 | .131 | -.057 | -1.398 | .162 |
| Occupation_GoodsProducing | .008 | .205 | .001 | .037 | .970 |
| Gender_Female | -.089 | .056 | -.031 | -1.586 | .113 |
| Gender_WontSay | .190 | .459 | .007 | .413 | .680 |
| MS_MarriedOrCommonLaw | .201*** | .074 | .061 | 2.727 | .006 |
| SameSexCouple | .187** | .081 | .042 | 2.307 | .021 |
| NumPeopleHousehold | -.060** | .026 | -.051 | -2.356 | .019 |
| Province_Alberta | -.031 | .085 | -.007 | -.366 | .714 |
| Province_BritishColumbia | .128 | .084 | .029 | 1.535 | .125 |
| Province_Manitoba | .188 | .177 | .019 | 1.063 | .288 |
| Province_NewBrunswick | .247 | .310 | .014 | .796 | .426 |
| Province_NfldLab | -.256 | .250 | -.019 | -1.025 | .306 |
| Province_NovaScotia | .027 | .196 | .003 | .139 | .889 |
| Province_QC | .170 | .188 | .016 | .903 | .367 |
| Province_SK | .467*** | .170 | .051 | 2.749 | .006 |
| OwnRealEstate | .070 | .070 | .020 | 1.004 | .316 |
| MainBankingRelationship_CreditUnion | -.050 | .099 | -.010 | -.504 | .614 |
| MainBankingRelationship_Other | -.300 | .249 | -.022 | -1.207 | .228 |
| Use_BankTeller | -.004 | .068 | -.001 | -.058 | .953 |
| Use_BranchFA | -.092 | .073 | -.028 | -1.267 | .206 |
| Use_FullServiceAtBank | -.060 | .119 | -.015 | -.508 | .612 |
| Use_IndependentFA | .177* | .099 | .054 | 1.790 | .074 |
| Use_RoboAdvisor | -.158* | .086 | -.038 | -1.831 | .067 |
| Use_InsuranceAgent | -.126 | .079 | -.031 | -1.592 | .112 |
| Use_EmployerProvidedRep | -.167* | .094 | -.035 | -1.782 | .075 |
| Use_OnlineBank | -.001 | .058 | .000 | -.023 | .981 |
| Use_DIY | -.048 | .071 | -.017 | -.678 | .498 |

| | | | | | |
|---|---|---|---|---|---|
| Use_NewsletterOrTradingSystem | -.131 | .127 | -.022 | -1.038 | .300 |
| Use_Accountant | .218*** | .064 | .066 | 3.380 | <.001 |
| Use_MoneyCoach | .036 | .190 | .004 | .190 | .850 |
| Use_SocialMedia | .189*** | .065 | .068 | 2.900 | .004 |
| Use_Podcasts | .039 | .066 | .013 | .589 | .556 |
| Use_PrintMedia | .038 | .060 | .014 | .638 | .523 |
| Use_Television | -.150* | .089 | -.032 | -1.695 | .090 |
| Use_FriendsOrFamily | -.085 | .071 | -.024 | -1.206 | .228 |
| Use_Other | .082 | .139 | .011 | .587 | .557 |
| PensionPlanMembership | -.098*** | .038 | -.051 | -2.600 | .009 |
| ResponsibilityIndex | .045 | .044 | .024 | 1.019 | .308 |
| InterestInPersonalFinance | .132*** | .036 | .077 | 3.638 | <.001 |
| ChildhoodCommunication | .054** | .024 | .045 | 2.208 | .027 |
| ChildhoodFinancialSecurity | .032 | .021 | .031 | 1.550 | .121 |
| ChildhoodUseOfFA_YES | -.081 | .066 | -.025 | -1.218 | .223 |
| ChildhoodUseOfFA_DontKnow | -.063 | .073 | -.017 | -.864 | .388 |
| TrustInFinancialServices | -.049* | .030 | -.033 | -1.653 | .099 |
| FinLitScore | .115 | .073 | .029 | 1.579 | .114 |
| FinancialPlanCreated | .272*** | .057 | .092 | 4.786 | <.001 |
| PreferenceToDelegate | -.003 | .027 | -.003 | -.119 | .905 |
| ResearchBeforeChoosingChannel | .053** | .023 | .047 | 2.346 | .019 |
| InitiatedRelationship_Investor | .007 | .109 | .002 | .067 | .947 |
| InitiatedRelationship_Mutual | .021 | .132 | .004 | .161 | .872 |
| InitiatedRelationship_DontKnow | -.136 | .135 | -.029 | -1.006 | .315 |
| IncomeBEFORE | .074*** | .016 | .100 | 4.557 | <.001 |
| LN_Assets_Before | .066*** | .006 | .236 | 11.425 | <.001 |

a. Dependent Variable: LN_Assets_Current

b. *, **, *** indicate significance at 90%, 95%, and 99% levels, respectively.

## 5.9.2 Support for research hypotheses for Investable Assets

*$H_1$: There is a difference in the Investable Asset levels of households depending on their primary channel of advice.*

**Supported.** Controlling for variables listed in the regression model, households with the following primary channels of advice have statistically significantly more Investable Assets compared to the reference categories listed in Table 5.15. Standardized coefficients and confidence levels listed in parentheses.

1. DIY (ß = .253, p = .020). The unstandardized coefficient of .747 against the log of Investable Assets indicates a relative increase of Investable Assets of 111%

compared to the reference category. This is taken from the exponential of .747 less 100%. In other words exp(.747) – 1 = (2.11) – 1 = 1.11 or 111%.

2. Full-service financial advisor at a bank (ß = .217, p = .002). The unstandardized coefficient of 1.065 indicates relative increase in Investable Assets of 190% compared to the reference categories.

3. Independent financial advisor (ß = .178, p = .045). The unstandardized coefficient of .669 indicates a relative increase in Investable Assets of 95% compared to the reference categories.

4. Social media (ß = .139, p = .079). The unstandardized coefficient of .669 indicates a relative increase in Investable Assets of 78% compared to the reference categories. This finding was marginally significant (confidence level 90%).

5. Print media (ß = .102, p = .084). The unstandardized coefficient of .669 indicates a relative increase in Investable Assets of 77% compared to the reference categories. Marginally significant.

6. Newsletter subscribers (ß = .078, p = .012). The unstandardized coefficient of .669 indicates a relative increase in Investable Assets of 285% compared to the reference categories.

Controlling for variables listed in the regression model, households with the following primary channels of advice did not have statistically significantly different levels of Investable Assets from the reference category (including the no advice condition):

1. Bank branch financial advisor
2. Robo-advisor
3. Insurance agent
4. Employer provided representative
5. Online bank
6. Accountant
7. Money coach
8. Podcasts
9. Friends/family
10. Television
11. Other

***H₄: Financial planning positively influences households' Investable Asset levels.***

**Supported.** Controlling for variables listed in the regression model, households reporting that a financial plan was created had statistically significantly higher Investable Assets compared to households that did not receive a financial plan (ß = .092, p = <.001).

This was a significant finding at the 99% confidence level. From Figure 5.9 (in the overall descriptives section earlier in this chapter), we see the difference in Investable Assets by primary channel of advice conditional on financial planning was robust. Interaction terms for the creation of a financial plan from primary channels of advice where financial planning would be reasonably expected to be available yielded the results shown in Table 5.17 (this table shows the original dummy for the creation of a financial plan that was in Model 5 plus the additional interaction terms added to the model).

**Table 5.17 Interaction effects of financial planning by primary channel of advice**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| FinancialPlanCreated | .219*** | .071 | .074 | 3.065 | .002 |
| FinPlanXBranchFA | .590** | .244 | .050 | 2.418 | .016 |
| FinPlanXFullServiceAtBank | -.068 | .182 | -.010 | -.373 | .709 |
| FinPlanXIndepFA | .094 | .142 | .019 | .657 | .511 |
| FinPlanXInsuranceAgent | .196 | .664 | .007 | .295 | .768 |
| FinPlanXEmployerRep | .329 | .588 | .013 | .560 | .575 |
| FinPlanXAccountant | 1.082** | .503 | .042 | 2.150 | .032 |
| FinPlanXMoneycoach | -.487 | 1.010 | -.021 | -.482 | .630 |

*, **, *** indicate significance at 90%, 95%, and 99% levels, respectively.

These results indicate that while the receipt of a financial plan remained statistically significant (.219, p=.002) on its own, the receipt of a financial plan in the bank branch financial advisor channel (.590, p=.016) or the accountant channel (1.082, p=.032) was also significant. This suggests that a financial plan in and of itself is associated with greater Investable Assets, regardless of the primary channel of advice for a household. However, for households engaged with a bank branch financial advisor or accountant, the receipt of a financial plan is especially important. This is an interesting finding, particularly at the bank branch financial advisor channel. This channel is associated with a high variance in the quality of financial advisors or advice available, generally due to business models that emphasize sales volumes and quotas. However, there has been a trend to introduce basic financial planning services at the bank branch financial advisor level as a market

differentiator. These results suggest that for households whose primary channel is a bank branch financial advisor, if they receive a financial plan from this channel, this has a statistically significant positive influence on wealth for these households. Compared to independent financial advisors and full-service financial advisors at banks, the same interaction effect was not found (that is, the interaction between financial plan and each of these two primary channels were statistically insignificant). This is not surprising as the quality of financial advice available at these channels is generally higher than what is available at the bank branch level.

The same interaction effect was found for financial planning acting through the accountant primary channel. While accountants are not normally associated with direct financial planning, households who generally consider their primary channel of advice to be their accountant likely have larger, more complex estates that require higher levels of tax advice. For accountants that offer financial advice beyond just tax advice and tax preparation (in the form of financial planning), this is predictive of higher levels of wealth than just using an accountant, or just receiving a financial plan.

### $H_7$: Households' preference to delegate financial decision making positively influences Investable Assets.

**Not supported.** Controlling for variables listed in the regression model, households' preference to delegate financial decision making was not correlated with levels of Investable Assets ($\beta$ = -.003, p = .905). This could be explained by research from Grable and Joo (2001) in which the decision to seek financial advice was indicative of households who generally make better financial decisions, and therefore may be doing well regardless of the decision to delegate decision making to an advice provider.

### $H_{10}$: Households' time spent researching their choice of channel positively influences Investable Assets.

**Supported.** Controlling for variables listed in the regression model, households' time spent researching their choice of primary channel of advice positively influenced the level of Investable Assets ($\beta$ = .047, p = .019). This could be explained by effort on the part of households to understand their financial options with respect to financial advice being correlated with their thoughtfulness about decision making in general which might influence

other aspects of their life such as income trajectory, debt loads, and any decisions about household finance.

### *$H_{13}$: Households' time spent researching the individual advisor within a channel positively influences Investable Assets.*

**Inconclusive.** This variable was discarded from the final regression due to collinearity concerns.

### *$H_{16}$: Households' levels of interest in personal finance positively influences Investable Assets.*

**Supported.** Controlling for variables listed in the regression model, households' levels of interest in personal finance was positively correlated with Investable Assets (ß = .077, p = <.001). Households who are more interested in personal finance may more closely scrutinize their options for advice, as well as the strategies recommended to them by their primary channel of advice.

### *$H_{19}$: Households' levels of financial literacy positively influences Investable Assets.*

**Not supported.** Controlling for variables listed in the regression model, households' level of financial literacy was not statistically significantly correlated with Investable Assets (ß = .029, p = .114). This could be explained by research from Kalmi & Ruuskanen (2019) in which they found no link between the 'big three' financial literary questions (used in this survey) and retirement planning but when using a more sophisticated set of financial literacy testing questions a significant and positive relationship was then found. Future research may want to ideally include both a simple and sophisticated measure of financial literacy. This may help determine if simple measures provide enough utility in the study of value received from various channels of financial advice.

### *$H_{22}$: Households' incomes before selecting their primary channel of advice positively influences Investable Assets.*

**Supported.** Controlling for variables listed in the regression model, households' incomes before selecting a primary channel of advice positively influenced Investable Assets (ß = .100, p = <.001). This effect was significant at the 99% confidence level across all five

regression model specifications. This aligns with research in the literature showing a positive correlation between income and the demand for financial advice (Alyousif and Kalenkoski, 2017). Individuals with higher levels of income may also have access to more channels of advice, some of which may offer better quality of advice or service than other channels.

### $H_{25}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences Investable Assets.

**Supported.** Controlling for variables listed in the regression model, the natural log of Investable Assets before selecting a primary channel of advice positively influences current Investable Assets (ß = .236, p = <.001). This effect was significant at the 99% confidence level across all five regression model specifications. This could be explained by the decision to improve the management of assets becoming increasingly of concern with higher levels of assets attained. This also suggests that the level of investable assets may be a result of other factors of the individual that make them more likely to acquire investable assets regardless of channel of advice. In other words, attainment of higher investable assets may be linked to endogenous factors of the individual. This also could go towards explaining why individuals using a DIY channel have higher levels of assets versus the no advice reference category. It's not necessarily a function of the channel, but rather of the individual.

### $H_{28}$: Households' levels of trust in financial services negatively influences Investable Assets.

**Supported.** Controlling for variables listed in the regression model, households' levels of trust negatively influences Investable Assets (ß = -.033, p = .099). This was marginally significant, but could be explained by the heightened scrutiny a household would exhibit when presented with financial recommendations. If households with low levels of trust in financial services are more sceptical, this may translate into more deliberated reasoning which could lead to rejection of lower quality recommendations.

### $H_{31}$: Households' financial decision responsibility positively influences Investable Assets.

**Not supported.** Controlling for variables listed in the regression model, households' financial decision responsibility was not statistically significantly correlated with Investable Assets (ß =

.024, p = .308). This could suggest that households engage a specific channel of advice specifically because they recognize the need for help in making financial decisions.

**$H_{34}$: Households solicitation of their primary channel of advice positively influences Investable Assets.**

**Not supported.** Controlling for variables listed in the regression model, households that solicited their primary channel of advice did not exhibit a statistically significantly different correlation with Investable Assets compared to households that were solicited by their primary channel of advice ($\beta$ = .047, p = .019). Households with higher levels of assets tend to be more attractive to financial advisors looking for clients. Conversely, households with higher levels of assets may be more likely to reach a point where they feel the need for professional advice is warranted.

### 5.9.2.1  Summary of Investable Assets hypotheses testing

A table summarizing the hypothesis testing for this section is presented in Table 5.18.

**Table 5.18 Hypothesis testing summary for Investable Assets**

| Hypothesis | Result |
|---|---|
| *$H_1$: There is a difference in the Investable Asset levels of households depending on their primary channel of advice.* | Supported |
| *$H_4$: Financial planning positively influences households' Investable Asset levels.* | Supported |
| *$H_7$: Households' preference to delegate financial decision making positively influences Investable Assets.* | Not supported |
| *$H_{10}$: Households' time spent researching their choice of channel positively influences Investable Assets.* | Supported |
| *$H_{13}$: Households' time spent researching the individual advisor within a channel positively influences Investable Assets.* | Inconclusive |
| *$H_{16}$: Households' levels of interest in personal finance positively influences Investable Assets.* | Supported |

| | |
|---|---|
| *H$_{19}$: Households' levels of financial literacy positively influences Investable Assets.* | Not supported |
| *H$_{22}$: Households' incomes before selecting their primary channel of advice positively influences Investable Assets.* | Supported |
| *H$_{25}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences Investable Assets.* | Supported |
| *H$_{28}$: Households' levels of trust in financial services negatively influences Investable Assets.* | Supported |
| *H$_{31}$: Households' financial decision responsibility positively influences Investable Assets.* | Not supported |
| *H$_{34}$: Households solicitation of their primary channel of advice positively influences Investable Assets.* | Not supported |

### 5.9.3 Other findings in the Investable Assets regression model

In addition to the hypothesis testing results, several statistically significant relationships were detected in the regression model. Findings warranting additional discussion are presented here.

1. Non-primary use of an independent financial advisor positively influenced Investable Assets (ß = .054, p=.074). This was marginally significant. This is an interesting finding in that an independent financial advisor is likely a large cost (and possibly the largest for these households), but not the primary source of advice. This could signal scepticism of traditional financial advisors from individuals. Independent financial advisors may have high investment minimums for households so the costs borne by households using but not identifying independent financial advisors as their primary channel of advice are paying significant costs.

2. Non-primary use of a robo-advisor negatively influenced Investable Assets (ß = -.038, p=.067). This was marginally significant. This might be related to the finding above. If an individual is using a robo-advisor in addition to using a human financial advisor, this could also signal scepticism or lack of engagement with their primary channel of advice. If the robo-advisor is secondary to non-execution channels of advice (like

social media), than this would indicate that these individuals would be worse off due to a combination of non-traditional advice and the use of robo-advisors.

3. Non-primary use of an employer-provided representative negatively influenced Investable Assets (ß = -.035, p=.075). This was marginally significant. Because access to this channel of advice is predicated on being employed by a company, this might suggest that those who utilize this channel of advice do so at the cost of accessing better quality advice elsewhere.

4. Non-primary use of an accountant positively influenced Investable Assets (ß = .066, p=<.001). This was very significant (99% confidence level) and likely reflects the use of accountants as ancillary advice providers for higher net worth households or households with more complex tax and estate planning needs (which is correlated with levels of assets) in addition to primary channels of advice.

5. Non-primary use of social media positively influenced Investable Assets (ß = .068, p=.004). Given the relatively recent introduction of social media in which information is communicated bi-directionally and which has the benefit of bringing industry experts closer to the end-users in terms of information flow, it is not surprising to see that users of social media for financial advice see higher levels of Investable Assets. Regardless of which primary channel of advice a household uses, access to information from third-party sources may serve to reduce the information asymmetry that exists in channel-client relationships.

6. Non-primary use of television negatively influenced Investable Assets (ß = -.032, p=.090). This is marginally significant but suggests that business news television stations offer little benefit to households with respect to increasing wealth.

7. Pension plan membership negatively influenced Investable Assets (ß = -.051, p=.009). With higher pension plan contributions, less money is available for personal savings. Unless households are able to obtain and understand net present value calculations of their future pension entitlements, it is unlikely that they report these assets on surveys (or even on personal net worth statements).

8. Childhood communication about finance positively influenced Investable Assets (ß = .045, p=.027). This suggests that socializing children to concepts about personal finance from a young age may help them navigate personal financial decision making later in life.

## 5.10 Regression results for Holistic Wealth Score Model

Paralleling the analysis above for Investable Assets, here, a multiple regression was run to predict the Holistic Wealth Score from the following variables:

Age, Gender, Marital status, Income (current), Income (prior), Starting investment assets, Household size, Employment status, Occupation, Education, Province/Territory of residence, Main banking relationship, Primary Channel of Advice, Preference to delegate, Relationship solicitation, Length of use of primary channel of advice, Occupation, Use of any channels of advice, Financial literacy score, Childhood communication about finances, Pension plan membership, Financial plan creation, Real estate ownership, Channel research, Trust in financial services, Childhood financial security, Interest in personal finance, Childhood use of financial advisor in household, Retirement status, Financial Decision Responsibility index, Same sex couple status.

The model summaries for the five regression models are presented in Table 5.19.

The final multiple regression model statistically significantly predicted the Holistic Wealth Score, $F_{(82, 1293)} = 11.387$, $p < .001$. $R^2$ for the overall model was 41.9% with an adjusted $R^2$ of 38.2%, a medium size effect according to (Cohen, 1988). The variables that added statistically significantly to the prediction, at the 90%, 95%, and 99% levels along with regression coefficients and standard errors can be found in Table 5.20.

Similar to the regression models estimated for Investable Assets (see Table 5.14 above), five iterative models were run with the same protocol for this model on the Holistic Wealth Score. Of note, the adjusted R-squared values increased across each successive model (see Table 5.19). The Model 1 explained 12.7% of the variance observed, eventually progressing to 38.2% in Model 5.

**Table 5.19 Five regression models' summary for Holistic Wealth Score**

*Model Summary*

| Model | R<br>Outlier = .00<br>(Selected) | R Square | Adjusted R Square | Std. Error of the<br>Estimate |
|---|---|---|---|---|
| 1 | .374 | .140 | .127 | 2.60476 |
| 2 | .436 | .190 | .168 | 2.54354 |
| 3 | .475 | .226 | .187 | 2.51383 |
| 4 | .634 | .402 | .368 | 2.21687 |
| 5 | .648 | .419 | .382 | 2.19128 |

The five regression models' results are presented in full in Appendix G. Similar results were observed across models as with Investable Assets, and only the final, Model 5, is presented for discussion here in the text of the thesis (see Table 5.20).

**Table 5.20 Regression model for Holistic Wealth Score for cases where assets > $10,000**

| Model | Unstandardized Coefficients | | Standardized Coefficients | | |
| --- | --- | --- | --- | --- | --- |
| | B | Std. Error | Beta | t | Sig. |
| (Constant) | 4.165 | 1.832 | | 2.273 | .023 |
| PrimaryChannel_BranchFA | .132 | .797 | .013 | .166 | .868 |
| PrimaryChannel_FullServiceAtBank | .580 | .835 | .059 | .694 | .488 |
| PrimaryChannel_IndependentFA | .840 | .811 | .112 | 1.036 | .301 |
| PrimaryChannel_RoboAdvisor | -.818 | .882 | -.047 | -.928 | .354 |
| PrimaryChannel_InsuranceAgent | .603 | 1.087 | .017 | .554 | .580 |
| PrimaryChannel_EmployerRep | -.092 | 1.044 | -.003 | -.088 | .930 |
| PrimaryChannel_OnlineBank | -.528 | .883 | -.025 | -.598 | .550 |
| PrimaryChannel_DIY | 1.345* | .781 | .227 | 1.722 | .085 |
| PrimaryChannel_Newsletter | -.328 | 1.008 | -.012 | -.325 | .745 |
| PrimaryChannel_Accountant | -.169 | .865 | -.010 | -.195 | .845 |
| PrimaryChannel_MoneyCoach | 1.932 | 1.266 | .046 | 1.527 | .127 |
| PrimaryChannel_SocialMedia | 1.991** | .797 | .239 | 2.498 | .013 |
| PrimaryChannel_Podcasts | 1.971** | .899 | .098 | 2.192 | .029 |
| PrimaryChannel_PrintMedia | 1.975** | .806 | .174 | 2.449 | .014 |
| PrimaryChannel_FriendsOrFamily | .555 | .902 | .028 | .616 | .538 |
| UsePrimaryChannel_2to5Years | .335 | .221 | .052 | 1.512 | .131 |
| UsePrimaryChannel_6to10Years | .485** | .234 | .073 | 2.072 | .038 |
| UsePrimaryChannel_11to15Years | .699** | .273 | .081 | 2.558 | .011 |
| UsePrimaryChannel_15yearsOrMore | .968*** | .252 | .157 | 3.849 | <.001 |
| AGE | -.021*** | .008 | -.103 | -2.637 | .008 |
| HouseholdIncome | .066* | .037 | .051 | 1.802 | .072 |
| Education_Highschool | -.944 | 1.319 | -.085 | -.716 | .474 |
| Education_College | -1.021 | 1.311 | -.130 | -.779 | .436 |
| Education_UndergraduateDegree | -.878 | 1.308 | -.157 | -.671 | .502 |
| Education_MastersDegree | -1.034 | 1.311 | -.163 | -.788 | .431 |
| Education_DoctoralDegree | -.651 | 1.328 | -.061 | -.490 | .624 |
| Occupation_FinancialAdvisor | 1.253*** | .427 | .095 | 2.935 | .003 |
| Occupation_Retired | .295 | .355 | .044 | .831 | .406 |
| Occupation_ProfessionalServices | .343 | .316 | .061 | 1.086 | .278 |
| Occupation_GeneralServices | -.022* | .320 | -.003 | -.067 | .946 |

| | | | | | |
|---|---|---|---|---|---|
| Occupation_GoodsProducing | .561 | .500 | .031 | 1.121 | .262 |
| Gender_Female | -.047 | .137 | -.008 | -.343 | .732 |
| Gender_WontSay | -.777 | 1.119 | -.015 | -.694 | .488 |
| MS_MarriedOrCommonLaw | -.120 | .179 | -.018 | -.669 | .504 |
| SameSexCouple | .044 | .197 | .005 | .221 | .825 |
| NumPeopleHousehold | .114* | .062 | .048 | 1.832 | .067 |
| Province_Alberta | .122 | .207 | .014 | .592 | .554 |
| Province_BritishColumbia | -.174 | .203 | -.020 | -.854 | .393 |
| Province_Manitoba | -.643 | .431 | -.033 | -1.492 | .136 |
| Province_NewBrunswick | -.912 | .755 | -.026 | -1.208 | .227 |
| Province_NfldLab | -.336 | .610 | -.012 | -.550 | .582 |
| Province_NovaScotia | .684 | .477 | .031 | 1.434 | .152 |
| Province_QC | .430 | .459 | .021 | .937 | .349 |
| Province_SK | -.794* | .413 | -.043 | -1.922 | .055 |
| OwnRealEstate | .124 | .170 | .018 | .733 | .464 |
| MainBankingRelationship_CreditUnion | -.176 | .241 | -.017 | -.728 | .467 |
| MainBankingRelationship_Other | -.741 | .606 | -.027 | -1.222 | .222 |
| Use_BankTeller | -.180 | .166 | -.025 | -1.084 | .279 |
| Use_BranchFA | -.128 | .177 | -.019 | -.723 | .470 |
| Use_FullServiceAtBank | -.603** | .290 | -.075 | -2.080 | .038 |
| Use_IndependentFA | -.267 | .241 | -.041 | -1.106 | .269 |
| Use_RoboAdvisor | .371* | .210 | .045 | 1.764 | .078 |
| Use_InsuranceAgent | .487** | .193 | .059 | 2.521 | .012 |
| Use_EmployerProvidedRep | .114 | .228 | .012 | .500 | .617 |
| Use_OnlineBank | -.095 | .142 | -.016 | -.669 | .504 |
| Use_DIY | -.088 | .174 | -.015 | -.508 | .611 |
| Use_NewsletterOrTradingSystem | .571* | .308 | .047 | 1.852 | .064 |
| Use_Accountant | .454*** | .157 | .068 | 2.894 | .004 |
| Use_MoneyCoach | .419 | .463 | .022 | .905 | .366 |
| Use_SocialMedia | .001 | .159 | .000 | .006 | .995 |
| Use_Podcasts | .278* | .160 | .046 | 1.729 | .084 |
| Use_PrintMedia | .137 | .146 | .025 | .936 | .350 |
| Use_Television | -.117 | .216 | -.013 | -.542 | .588 |
| Use_FriendsOrFamily | .221 | .172 | .031 | 1.284 | .199 |
| Use_Other | -.058 | .339 | -.004 | -.171 | .864 |
| PensionPlanMembership | .283*** | .092 | .073 | 3.091 | .002 |
| ResponsibilityIndex | -.323*** | .107 | -.087 | -3.013 | .003 |
| InterestInPersonalFinance | -.034 | .089 | -.010 | -.381 | .703 |
| ChildhoodCommunication | -.110* | .060 | -.045 | -1.839 | .066 |

| | | | | | |
|---|---|---|---|---|---|
| ChildhoodFinancialSecurity | -.102** | .050 | -.050 | -2.029 | .043 |
| ChildhoodUseOfFA_YES | .180 | .162 | .028 | 1.110 | .267 |
| ChildhoodUseOfFA_DontKnow | .203 | .177 | .027 | 1.150 | .250 |
| TrustInFinancialServices | .097 | .072 | .033 | 1.347 | .178 |
| FinLitScore | .262 | .177 | .033 | 1.482 | .139 |
| FinancialPlanCreated | 2.377*** | .139 | .402 | 17.141 | <.001 |
| PreferenceToDelegate | -.136** | .065 | -.058 | -2.100 | .036 |
| ResearchBeforeChoosingChannel | .113** | .056 | .050 | 2.038 | .042 |
| InitiatedRelationship_Investor | -.264 | .267 | -.041 | -.990 | .322 |
| InitiatedRelationship_Mutual | -.305 | .320 | -.030 | -.951 | .342 |
| InitiatedRelationship_DontKnow | -.987*** | .329 | -.103 | -2.997 | .003 |
| IncomeBEFORE | -.130*** | .040 | -.088 | -3.292 | .001 |
| LN_Assets_Before | -.015 | .014 | -.026 | -1.026 | .305 |

*, **, *** indicate significance at 90%, 95%, and 99% levels, respectively.

The Holistic Wealth Score (HWS) is a simple ordinal index representing the number of facets of household financial decisions that have been addressed by a channel of advice. The components include:

12. Investments
13. Life insurance
14. Disability insurance
15. Emergency funds
16. Debt management
17. Cash flow management
18. Retirement forecasting
19. Tax management
20. Estate planning
21. Education savings

A higher score is associated with the comprehensiveness of financial advice but does not address quality.

## 5.10.1    Discussion of regression results for Holistic Wealth Score

**Primary channels of advice**

Compared to the Investable Assets regression, a different portfolio of primary channels demonstrated positive and significant effects on the Holistic Wealth Scores of households.

The primary channels of significance did not include traditional financial advisor channels (branch financial advisor, independent financial advisor, full-service financial advisor at a bank). However, the DIY primary channel along with social media, print media, and podcasts all were associated with positive and significant influence on the Holistic Wealth Scores of households. This is a very interesting finding. If we consider that traditional financial advisor channels are dominated by business models linked to either investment management or insurance policy sales, then the business models of traditional financial advisor channels might serve as anchors to the Holistic Wealth Scores of households. The reference category constant is a Holistic Wealth Score of 4.165. The DIY (+1.345, p=.085), social media (+1.991, p=.013), print media (+1.971, p=.029), and podcast (+1.975, p=.014) primary channels are either free from advice (DIY), or the advice is not directly linked to product sales as a primary revenue model. Social media, print media, and podcasts may rely heavily on advertising revenue, but could also rely on affiliate revenue to a lesser extent which may in fact be linked to certain product sales. Given the findings from the regression analysis on Investable Assets, we know that DIY primary channel users also use a large number of ancillary advice channels. This could partly explain why this "no advice, execution only" channel still exhibits higher HWS scores than traditionally advised channels. Additionally, households comfortable enough to execute their own trades may simply be more financially literate, confident, and capable of handling other aspects of their household finances. All other factors being controlled for, non-traditional primary channels of advice are associated with more comprehensive financial advice.

Another difference between these results and the results for Investable Assets is that the tenure effects of having selected a primary channel of advice take longer to show up. The positive and significant effect of longer tenure with a primary channel of advice does not show up until after six years with a primary channel. This intuitively makes sense as dealing with more facets of household finance requires more time.

**Demographics**

While age had a significant but negative association with HWS, the effect size is small (-0.021, p=.008). Estimating the impact on HWS, controlling for all other factors, an increase in age of 20 years would only be associated with a drop in HWS of 0.42. This could reflect the lower need for temporary insurance needs (i.e. term life insurance and disability insurance) as individuals approach retirement age and would otherwise have built up assets to offset any income replacement risk (which tends to be higher earlier in life).

The number of people in a household was positively associated with HWS, although marginally significant. It is when households have children that they may feel the need to pay more attention to long-term planning.

### 5.10.2 Support for research hypotheses for Holistic Wealth Score

***$H_2$: There is a difference in the HWS of households depending on their primary channel of advice.***

**Supported.** Controlling for variables listed in the regression model, households with the following primary channels of advice have a statistically significantly higher HWS compared to the 'no advice' condition (standardized coefficients and confidence level in parentheses)

1. Social media (ß = .239, p = .013)
2. DIY (ß = .227, p = .085) Marginally significant.
3. Print media (ß = .174, p = .014)
4. Podcasts (ß = .098, p = .029)

Controlling for variables listed in the regression model, households with the following primary channels of advice did not have statistically significant differences in Holistic Wealth Scores from the no advice condition:

1. Bank branch financial advisor
2. Full-service advisor at bank
3. Independent financial advisor
4. Robo-advisor
5. Insurance agent
6. Employer provided representative
7. Online bank
8. Newsletter subscriber
9. Accountant
10. Money coach
11. Friends/family
12. Television
13. Other

***$H_5$: Financial planning positively influences households' HWS.***

**Supported.** Controlling for variables listed in the regression model, households reporting that a financial plan was created had statistically significantly higher HWS compared to households that did not receive a financial plan (ß = .402, p = <.001). This is unsurprising as

the nature of financial planning is more comprehensive than siloed or transactional financial advice. Using the unstandardized coefficient, we see that having a financial plan was associated with an increase to HWS by 2.377. This means that an individual who reported receiving a financial plan received advice on an average of 2.4 more facets of household finances than those who did not report receiving a financial plan.

Analysing the interaction effects of receiving a financial plan from channels where financial planning is available and adding these terms to the regression, we get the following additional data (excerpted from the full regression model for space) in Table 5.21.

**Table 5.21 Interaction effects of financial planning on primary channels of advice with financial planning available**

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. |
| FinancialPlanCreated | 2.649*** | .174 | .448 | 15.225 | <.001 |
| FinPlanXBranchFA | -1.312** | .593 | -.055 | -2.212 | .027 |
| FinPlanXFullServiceAtBank | -.956** | .443 | -.068 | -2.157 | .031 |
| FinPlanXIndepFA | -.564 | .347 | -.056 | -1.627 | .104 |
| FinPlanXInsuranceAgent | -1.139 | 1.615 | -.019 | -.705 | .481 |
| FinPlanXEmployerRep | -.447 | 1.430 | -.009 | -.313 | .754 |
| FinPlanXAccountant | 1.273 | 1.225 | .025 | 1.040 | .299 |
| FinPlanXMoneycoach | .756 | 2.458 | .016 | .308 | .758 |

The financial plan dummy retains significance; however an initially curious finding occurs with negative and significant interactions reported for financial plans received from bank branch financial advisors and full-service financial advisors at banks. This would suggest that while receiving a financial plan in general increases HWS by 2.649, receiving a financial plan from a bank branch financial advisor or full-service financial advisor at a bank reduces the increase by approximately half. This suggests that in general, financial plans received from banks may be of lower quality than financial plans received from non-bank financial channels. Nonetheless, bank-delivered financial plans have a positive impact versus individuals who use a bank channel and receive no financial plan.

***H$_8$: Households' preference to delegate financial decision making positively influences HWS.***

**Not supported. Opposite finding.** Controlling for variables listed in the regression model, households' preference to delegate financial decision making negatively influenced HWS (ß = -.058, p = .036). This would suggest that households that engage a primary channel of advice and primarily defer to the channel for providing guidance on household decisions receive advice or service on fewer areas of their household financial considerations than households who are less likely to delegate financial decision making. This could be a result of various channels of financial advice operating under business models that incentivize product sales as opposed to financial planning.

***H$_{11}$: Households' time spent researching their choice of channel positively influences HWS.***

**Supported.** Controlling for variables listed in the regression model, households' time spent researching their choice of primary channel of advice positively influenced HWS (ß = .050, p = .042). This also speaks to endogenous factors of individuals playing a role in their overall financial outcomes. Households who take the decision to engage with a primary channel of advice more seriously exhibit better outcomes. This supports the notion that financial advice may be viewed as a binary decision instead of recognizing the heterogeneity of financial advice across and within channels.

***H$_{14}$: Households' time spent researching the individual advisor within a channel positively influences HWS.***

**Inconclusive.** This variable was discarded from the final regression due to collinearity concerns.

***H$_{17}$: Households' levels of interest in personal finance positively influences HWS.***

**Not supported.** Controlling for variables listed in the regression model, households' levels of interest in personal finance was not correlated with HWS (ß = -.010, p = .703). This finding could be a result of controlling for the use of non-executional primary channels of advice. Individuals who are interested in personal finance may be more likely to consume content from social media, podcasts, and print media. Each of these three channels, when used as a primary channel of advice, was associated with significant increases in HWS.

***$H_{20}$: Households' levels of financial literacy positively influences HWS.***

**Not supported.** Controlling for variables listed in the regression model, households' level of financial literacy was not statistically significantly correlated with HWS ($ß = .033$, $p = .139$). Again, the same rationale may apply here as in the previous finding: respondents who cite social media, podcasts, and print media as their primary channels of advice are associated with higher levels of financial literacy and for each of these primary channels of advice, HWS is significantly higher than for the reference category.

***$H_{23}$: Households' incomes before selecting their primary channel of advice positively influences HWS.***

**Not supported. Opposite finding.** Controlling for variables listed in the regression model, households' incomes before selecting a primary channel of advice negatively influenced HWS ($ß = -.130$, $p = <.001$).

There are a few possible explanations for this finding. 1) Households with higher incomes prior to selecting their primary channel of advice already had received advice or products addressing multiple facets of household decisions as they came across the need for advice on these areas earlier in their income trajectory. 2) Very high income households may be steered towards portfolio managers who specialize in providing portfolio management but not comprehensive financial advice. These portfolio managers, often operating in a discretionary investment management environment, may act like personal fund managers who dedicate a substantial amount or even all of their time towards investment and portfolio management of individual securities for higher net worth households.

***$H_{26}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences HWS.***

**Not supported.** Controlling for variables listed in the regression model, the natural log of Investable Assets before selecting a primary channel of advice does not influence HWS ($ß = -.026$, $p =.305$). The reasons for this finding may mirror the rationale provided for incomes prior to selection of a primary channel being negatively associated with HWS.

***$H_{29}$: Households' levels of trust in financial services negatively influences HWS.***

**Not supported.** Controlling for variables listed in the regression model, households' levels of trust does not influence HWS ($ß = .033$, $p = .178$). This contrasts with the negative association between trust and levels of investable assets. Respondents who are more sceptical of the financial services in general may be more discriminant about investment related advice, but perhaps this does not apply to non-portfolio centric advice. This could be a result of the industry and financial media in general being more portfolio-centric.

***$H_{32}$: Households' financial decision responsibility positively influences HWS.***

**Not supported. Opposite finding.** Controlling for variables listed in the regression model, households' financial decision responsibility negatively influences HWS ($ß = -.087$, $p = .003$). This finding might indicate that households with higher levels of financial decision making responsibility may lack the financial knowledge required to address more facets of household finances beyond basic cash flow, debt, and investment management.

***$H_{35}$: Households' solicitation of their primary channel of advice positively influences HWS.***

**Not supported. Different finding.** Controlling for variables listed in the regression model, households that solicited their primary channel of advice did not exhibit a statistically significantly different correlation with HWS compared to households that were solicited by their primary channel of advice ($ß = -.041$, $p = .322$). However, respondents who indicated that they didn't remember who initiated the relationship showed a negative influence on HWS compared to respondents who were solicited by their primary channel of advice ($ß = -.1031$, $p = .003$).

While significant, the effect size is small. The unstandardized coefficient was -0.264 suggesting that households who don't remember who initiated the relationship between themselves and their primary channel of advice have a lower HWS of just over one-quarter of one facet of household finances. Perhaps households who don't remember details about relationship initiation demonstrate less engagement with their financial decisions overall.

### 5.10.2.1 Summary of HWS hypotheses testing

A table summarizing the hypothesis testing for this section is presented in Table 5.22.

**Table 5.22 Hypothesis testing summary for HWS regression model**

| Hypothesis | Result |
|---|---|
| $H_2$: There is a difference in the HWS of households depending on their primary channel of advice. | Supported |
| $H_5$: Financial planning positively influences households' HWS. | Supported |
| $H_8$: Households' preference to delegate financial decision making positively influences HWS. | Not supported<br>Opposite finding |
| $H_{11}$: Households' time spent researching their choice of channel positively influences HWS. | Supported |
| $H_{14}$: Households' time spent researching the individual advisor within a channel positively influences HWS. | Inconclusive |
| $H_{17}$: Households' levels of interest in personal finance positively influences HWS. | Not supported |
| $H_{20}$: Households' levels of financial literacy positively influences HWS. | Not supported |
| $H_{23}$: Households' incomes before selecting their primary channel of advice positively influences HWS. | Not supported<br>Opposite finding |
| $H_{26}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences HWS. | Not supported |
| $H_{29}$: Households' levels of trust in financial services negatively influences HWS. | Not supported |
| $H_{32}$: Households' financial decision responsibility positively influences HWS. | Not supported<br>Opposite finding |
| $H_{35}$: Households' solicitation of their primary channel of advice positively influences HWS. | Not supported<br>Different finding |

## 5.10.3 Other findings in the Holistic Wealth Score regression model

In addition to the hypothesis testing results, a number of statistically significant relationships were detected in the regression model. Findings warranting additional discussion are presented here.

1. Financial advisor occupation positively influenced HWS (ß = .095, p=.003). This finding is not only highly significant (confidence level 99%), but the unstandardized coefficient also (1.253) indicates financial advisors on average have over a full extra facet of household financial concern addressed. Looking at the proportion of financial advisors who have financial plans versus the proportion of non-financial advisors who have financial plans in Figure 5.18 we see that financial advisors score higher by 20 percentage points. The increased prevalence of financial plans, comprehensive by nature, likely account for part of this difference. Of course, financial advisors likely have a proclivity to dealing with financial matters more than the general public and even in the absence of formalized financial plans, may still view their own financial situations more holistically than the overall population.

**Figure 5.18 Proportion of households with financial plans**



Proportion of households reporting they had financial plans
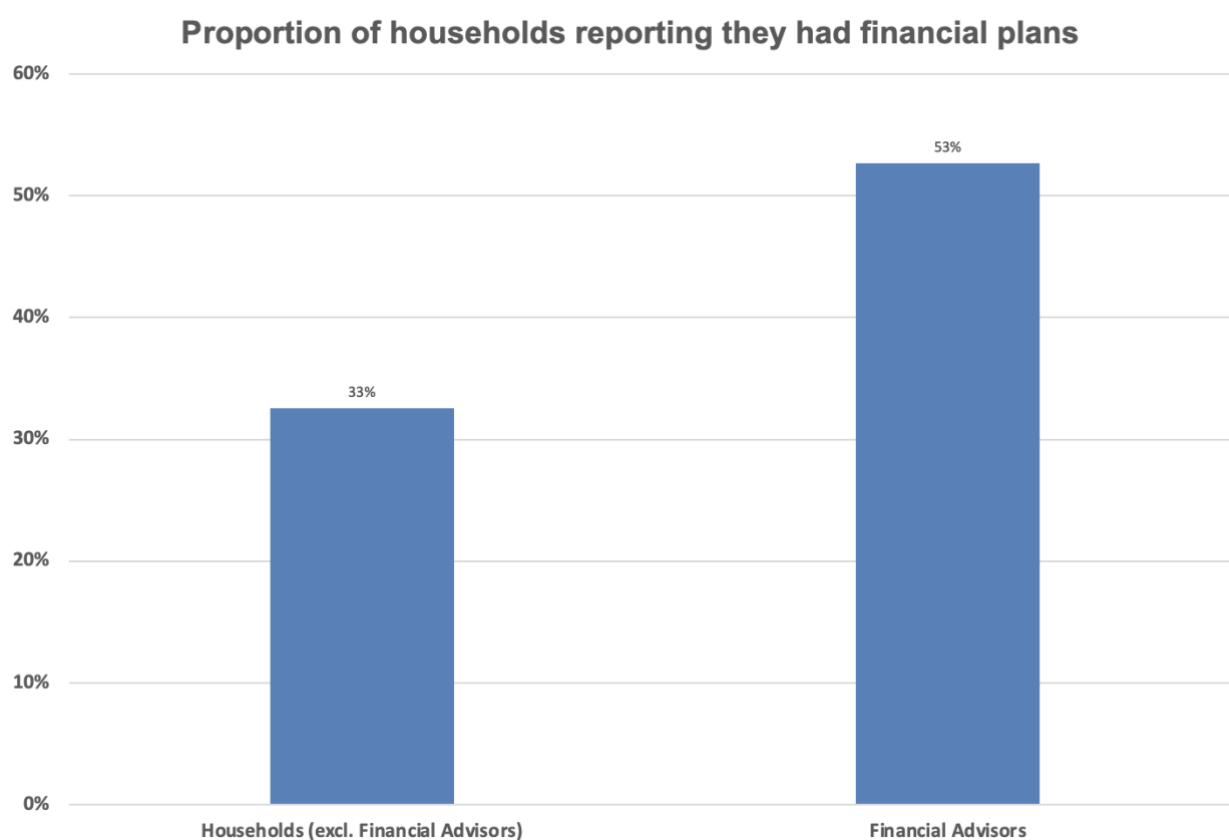
A deeper look into the facets of household finances is provided in Figure 5.19. Most notable is the spread in insurance facets (life insurance and disability insurance). Both of these facets are tied to commissionable products. Financial advisors may have an additional incentive in acquiring these products as the first-year commissions on these products can offset acquisition costs. The sales process to clients of insurance products may also be qualitatively different than for investments in that sales cycles can be longer, acquisition may be more viewed as an expense, and higher levels of scepticism due to perceptions about insurance sales in general. The only facet in which non-financial advisor households report a higher figure is for investments. This could be due to financial advisors using a DIY platform as a non-primary channel of advice.

**Figure 5.19 Facets of household finance addressed by primary channel of advice**



Facets of household finance addressed by primary channel of advice
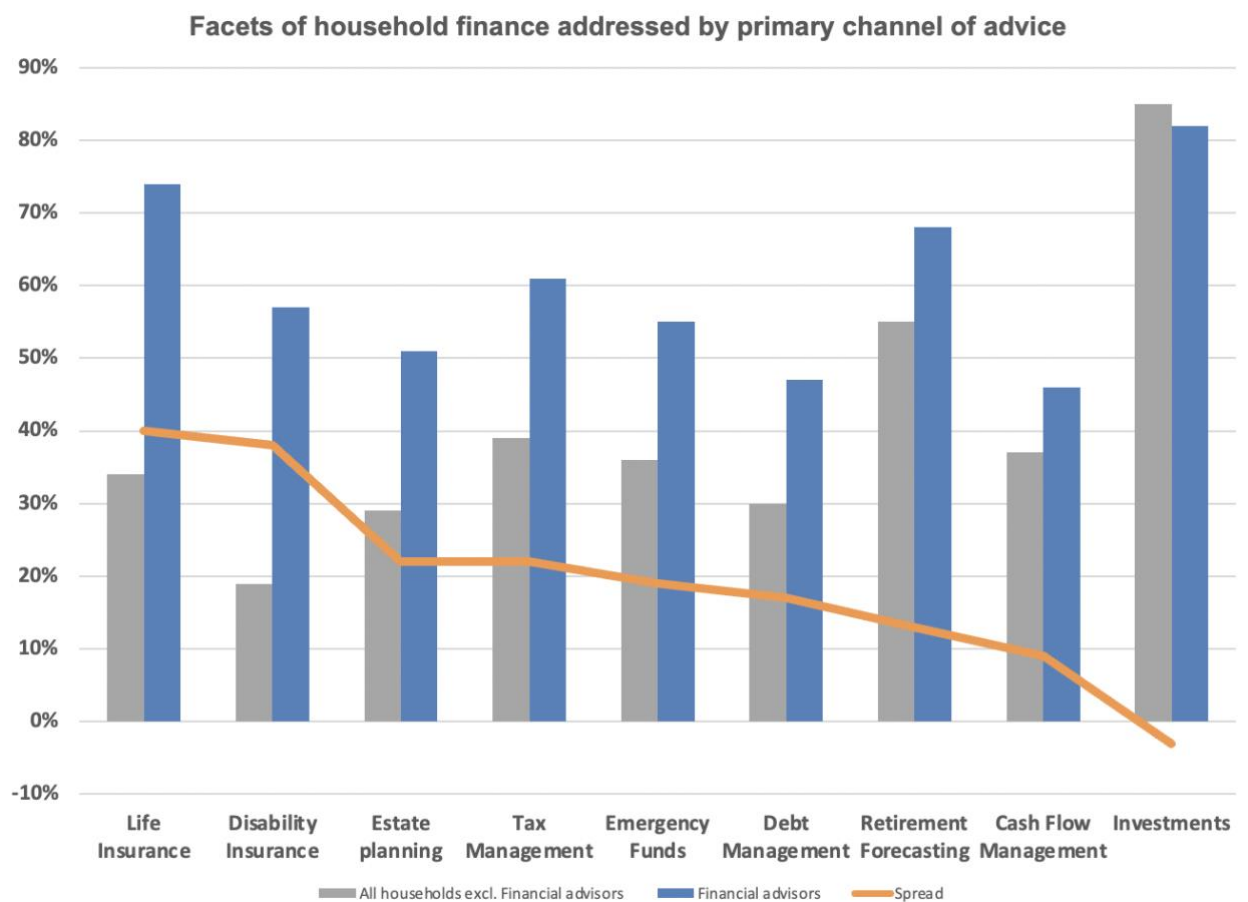
2. The number of people in a household positively influenced HWS (ß = .048, p=.067). Given that more dependents increase the need for insurance and estate planning, this is unsurprising.

3. Non-primary use of a full-service advisor at a bank negatively influenced HWS (ß = -.075, p=.038). Households who pay for full-service financial advice but indicate a different primary channel of advice might indicate a lack of engagement with what is otherwise designed to be a holistic advice offering.

4. Non-primary use of a robo-advisor positively influenced HWS (ß = .045, p=.078). Marginally significant.

5. Non-primary use of an insurance agent positively influenced HWS (ß = .059, p=.012). Since insurance agents sell insurance products and two of the facets covered in the HWS are insurance related, this is unsurprising.

6. Non-primary use of a newsletter subscription positively influenced HWS (ß = .047, p=.064). Marginally significant.

7. Non-primary use of an accountant positively influenced HWS (ß = .068, p=.004).

8. Non-primary use of podcasts positively influenced HWS (ß = .046, p=.084). Marginally significant.

9. Pension plan membership positively influenced HWS (ß = .073, p=.002). Since members of a pension plan tend to work for employers who also provide other employee benefits, these benefits may address multiple facets encompassed within the HWS.

10. Childhood communication about finance negatively influenced HWS (ß = -.045, p=.066). Marginally significant.

11. Childhood financial security negatively influenced HWS (ß = -.050, p=.043). The expert panel convened in designing the HWS indicated that childhood financial security might be inversely correlated with HWS as financial stress in childhood can have a long-lasting impression into adulthood. The aversion to losses are strong normally, but increasingly so if losses are less abstract. In other words, the memory of an actual financial loss could have a stronger psychological impression for a household than the prospect of a future hypothetical loss for a household who has never suffered an actual loss.

## 5.11 Regression results for Comprehensive Financial Confidence

A multiple regression was run to predict Comprehensive Financial Confidence from the following variables:

Age, Gender, Marital status, Income (current), Income (prior), Starting investment assets, Household size, Employment status, Occupation, Education, Province/Territory of residence,

Main banking relationship, Primary Channel of Advice, Preference to delegate, Relationship solicitation, Length of use of primary channel of advice, Occupation, Use of any channels of advice, Financial literacy score, Childhood communication about finances, Pension plan membership, Financial plan creation, Real estate ownership, Channel research, Trust in financial services, Childhood financial security, Interest in personal finance, Childhood use of financial advisor in household, Retirement status, Financial Decision Responsibility index, Same sex couple status.

The regression results are provided in Table 5.23 below. The multiple regression model statistically significantly predicted the Holistic Wealth Score, $F(82, 1293) = 11.001$, $p < .001$. $R^2$ for the overall model was 41.1% with an adjusted $R^2$ of 37.4%, a medium size effect according to (Cohen, 1988). The variables that added statistically significantly to the prediction, at the 90%, 95%, and 99% levels along with regression coefficients and standard errors can be found in Table 5.24.

Similar to the regression model for Investable Assets and HWS, five iterative models were run with the same protocol for this model on Comprehensive Financial Confidence. Of note, the adjusted R-squared values increased across each successive model. The Model 1 explained 10.8% of the variance observed, eventually progressing to 37.4% in Model 5 (see Table 5.23).

**Table 5.23 Five regression models' summary for Holistic Wealth Score**

*Model Summary*

| Model | Outlier = .00 (Selected) | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .348 | .121 | .108 | .74868 |
| 2 | .504 | .254 | .234 | .69418 |
| 3 | .536 | .287 | .251 | .68604 |
| 4 | .612 | .375 | .339 | .64487 |
| 5 | .641 | .411 | .374 | .62757 |

The five regression models' results are presented in full in Appendix H. Similar trends were observed across models as with Investable Assets, and only the final, Model 5, is presented for discussion (see Table 5.24).

**Table 5.24 Regression model for Comprehensive Financial Confidence for cases where assets > $10,000**

| | Unstandardized Coefficients | | Standardized Coefficients | | |
| Model | B | Std. Error | Beta | t | Sig. |
| --- | --- | --- | --- | --- | --- |
| (Constant) | .447 | .525 | | .851 | .395 |
| PrimaryChannel_BranchFA | .014 | .228 | .005 | .059 | .953 |
| PrimaryChannel_FullServiceAtBank | .172 | .239 | .061 | .720 | .472 |
| PrimaryChannel_IndependentFA | .254 | .232 | .119 | 1.094 | .274 |
| PrimaryChannel_RoboAdvisor | .235 | .253 | .047 | .932 | .352 |
| PrimaryChannel_InsuranceAgent | .198 | .311 | .020 | .635 | .525 |
| PrimaryChannel_EmployerRep | .116 | .299 | .013 | .387 | .699 |
| PrimaryChannel_OnlineBank | -.059 | .253 | -.010 | -.235 | .814 |
| PrimaryChannel_DIY | .322 | .224 | .191 | 1.441 | .150 |
| PrimaryChannel_Newsletter | .426 | .289 | .056 | 1.477 | .140 |
| PrimaryChannel_Accountant | .416* | .248 | .083 | 1.681 | .093 |
| PrimaryChannel_MoneyCoach | .109 | .362 | .009 | .300 | .764 |
| PrimaryChannel_SocialMedia | .275 | .228 | .116 | 1.207 | .228 |
| PrimaryChannel_Podcasts | .384 | .258 | .067 | 1.491 | .136 |
| PrimaryChannel_PrintMedia | .235 | .231 | .073 | 1.016 | .310 |
| PrimaryChannel_FriendsOrFamily | -.124 | .258 | -.022 | -.480 | .632 |
| UsePrimaryChannel_2to5Years | .222*** | .063 | .122 | 3.499 | <.001 |
| UsePrimaryChannel_6to10Years | .251*** | .067 | .132 | 3.747 | <.001 |
| UsePrimaryChannel_11to15Years | .273*** | .078 | .111 | 3.491 | <.001 |
| UsePrimaryChannel_15yearsOrMore | .305*** | .072 | .174 | 4.237 | <.001 |
| AGE | .003 | .002 | .052 | 1.324 | .186 |
| HouseholdIncome | .058*** | .011 | .155 | 5.491 | <.001 |
| Education_Highschool | .239 | .378 | .076 | .632 | .528 |
| Education_College | .275 | .376 | .123 | .733 | .464 |
| Education_UndergraduateDegree | .395 | .375 | .248 | 1.054 | .292 |
| Education_MastersDegree | .335 | .376 | .185 | .892 | .373 |
| Education_DoctoralDegree | .403 | .380 | .132 | 1.059 | .290 |
| Occupation_FinancialAdvisor | .128 | .122 | .034 | 1.048 | .295 |

| | | | | | |
|---|---|---|---|---|---|
| Occupation_Retired | .288*** | .102 | .151 | 2.833 | .005 |
| Occupation_ProfessionalServices | -.080 | .091 | -.050 | -.884 | .377 |
| Occupation_GeneralServices | -.116 | .092 | -.063 | -1.266 | .206 |
| Occupation_GoodsProducing | .198 | .143 | .038 | 1.381 | .167 |
| Gender_Female | -.036 | .039 | -.022 | -.912 | .362 |
| Gender_WontSay | .286 | .321 | .019 | .893 | .372 |
| MS_MarriedOrCommonLaw | .091* | .051 | .048 | 1.765 | .078 |
| SameSexCouple | .024 | .057 | .009 | .421 | .674 |
| NumPeopleHousehold | -.042** | .018 | -.062 | -2.339 | .019 |
| Province_Alberta | .055 | .059 | .021 | .923 | .356 |
| Province_BritishColumbia | .051 | .058 | .020 | .881 | .379 |
| Province_Manitoba | .054 | .123 | .010 | .435 | .663 |
| Province_NewBrunswick | -.221 | .216 | -.023 | -1.023 | .306 |
| Province_NfldLab | .153 | .175 | .019 | .876 | .381 |
| Province_NovaScotia | .035 | .137 | .006 | .254 | .799 |
| Province_QC | .158 | .131 | .027 | 1.206 | .228 |
| Province_SK | .061 | .118 | .012 | .512 | .609 |
| OwnRealEstate | .130*** | .049 | .067 | 2.678 | .007 |
| MainBankingRelationship_CreditUnion | -.026 | .069 | -.009 | -.369 | .712 |
| MainBankingRelationship_Other | -.288* | .174 | -.036 | -1.659 | .097 |
| Use_BankTeller | -.086 | .047 | -.042 | -1.817 | .069 |
| Use_BranchFA | -.071 | .051 | -.038 | -1.398 | .163 |
| Use_FullServiceAtBank | .051 | .083 | .022 | .615 | .539 |
| Use_IndependentFA | .060 | .069 | .032 | .875 | .382 |
| Use_RoboAdvisor | -.127** | .060 | -.054 | -2.114 | .035 |
| Use_InsuranceAgent | -.022 | .055 | -.009 | -.398 | .691 |
| Use_EmployerProvidedRep | -.126* | .065 | -.046 | -1.928 | .054 |
| Use_OnlineBank | .063 | .041 | .037 | 1.564 | .118 |
| Use_DIY | .007 | .050 | .004 | .133 | .894 |
| Use_NewsletterOrTradingSystem | -.088 | .088 | -.025 | -.996 | .320 |
| Use_Accountant | .045 | .045 | .024 | .993 | .321 |
| Use_MoneyCoach | -.026 | .132 | -.005 | -.196 | .845 |
| Use_SocialMedia | -.010 | .046 | -.006 | -.224 | .823 |
| Use_Podcasts | -.009 | .046 | -.005 | -.188 | .851 |
| Use_PrintMedia | -.011 | .042 | -.007 | -.269 | .788 |
| Use_Television | -.060 | .062 | -.023 | -.977 | .329 |
| Use_FriendsOrFamily | -.038 | .049 | -.018 | -.769 | .442 |
| Use_Other | -.118 | .097 | -.027 | -1.211 | .226 |
| PensionPlanMembership | .069*** | .026 | .063 | 2.630 | .009 |

| | | | | | |
|---|---|---|---|---|---|
| ResponsibilityIndex | .046 | .031 | .043 | 1.490 | .136 |
| InterestInPersonalFinance | .115*** | .025 | .117 | 4.523 | <.001 |
| ChildhoodCommunication | .062*** | .017 | .089 | 3.613 | <.001 |
| ChildhoodFinancialSecurity | .009 | .014 | .015 | .618 | .537 |
| ChildhoodUseOfFA_YES | -.010 | .046 | -.005 | -.206 | .837 |
| ChildhoodUseOfFA_DontKnow | -.077 | .051 | -.036 | -1.523 | .128 |
| TrustInFinancialServices | .094*** | .021 | .111 | 4.510 | <.001 |
| FinLitScore | .079 | .051 | .035 | 1.554 | .120 |
| FinancialPlanCreated | .230*** | .040 | .137 | 5.786 | <.001 |
| PreferenceToDelegate | -.055*** | .019 | -.084 | -2.986 | .003 |
| ResearchBeforeChoosingChannel | .088*** | .016 | .136 | 5.527 | <.001 |
| InitiatedRelationship_Investor | .111 | .076 | .060 | 1.460 | .145 |
| InitiatedRelationship_Mutual | .097 | .092 | .034 | 1.055 | .292 |
| InitiatedRelationship_DontKnow | -.116 | .094 | -.043 | -1.226 | .220 |
| IncomeBEFORE | .010 | .011 | .023 | .855 | .393 |
| LN_Assets_Before | .013*** | .004 | .082 | 3.242 | .001 |

*, **, *** indicate significance at 90%, 95%, and 99% levels, respectively.

The Comprehensive Financial Confidence scale is a self-reported measure comprised of nine scale items, measuring the confidence in the following areas:

22. Debts
23. Retirement coverage
24. Investment selection
25. Tax planning
26. Life insurance coverage
27. Disability insurance coverage
28. Emergency fund
29. Estate planning
30. Education savings

A higher score is associated with confidence about one's overall financial situation. CFC can range from a score of one to five, based on a weighted average of confidence measured using a Likert scale of one to five for each of the nine facets.

### 5.11.1 Discussion of Comprehensive Financial Confidence regression results

**Primary channels of advice**

No primary channels of advice were associated with a difference in CFC at a confidence level of 95%. The only primary channel of advice with a positive influence on CFC at the 90% confidence level was 'accountant'.

Duration of relationship had a robust positive relationship with CFC over all terms, mirroring the results for Investable Assets and Holistic Wealth Score.

**Demographics**

Income was unsurprisingly positively correlated with CFC (.058, p=<.001) as higher levels of income allow for more financial flexibility and opportunity, all other things being equal. Retirement was strongly associated with greater CFC (.288, p<.005). This finding agrees with Salter, Harness and Chatterjee (2011) who found that financial advisor use was positively associated with financial confidence and financial security. This could be explained by a reduced uncertainty with respect to outliving one's savings that comes with older age coupled with the decision to retire generally being heavily reliant on a forecast of whether one can retire or not, barring any health considerations.

The number of people in a household was negatively associated with CFC (-.042, p=.019). Because the number of people in a household follows an inverted-U shape over a lifetime as people tend to have children during a working career and then see those children leave home as the come of age, this result is not surprising. During the time when there are more dependents, financial strain or worries are generally higher which would affect feelings of confidence about various facets of household finances.

### 5.11.2 Support for research hypotheses for Comprehensive Financial Confidence

*H₃: There is a difference in the Comprehensive Financial Confidence of households depending on their primary channel of advice.*

**Not supported.** Controlling for variables listed in the regression model, only the accounting primary channel of advice had a higher Comprehensive Financial Confidence compared to the 'no advice' condition (confidence level in parentheses) but note that this finding was

marginally significant and the effect size marginal as well (confidence level 90%), ß = .083, p = .093

### H₆: Financial planning positively influences households' Comprehensive Financial Confidence.

**Supported.** Controlling for variables listed in the regression model, households reporting that a financial plan was created had statistically significantly higher Comprehensive Financial Confidence compared to households that did not receive a financial plan (ß = .137, p = <.001). For all dummy variables, the receipt of a financial plan had the second largest effect size (*b* = .230, p=<.001), next only to the retirement condition (*b* = 0.288, p=.005).

### H₉: Households' preference to delegate financial decision making positively influences Comprehensive Financial Confidence.

**Not supported. Opposite finding.** Controlling for variables listed in the regression model, households' preference to delegate financial decision making negatively influenced Comprehensive Financial Confidence (ß = -.084, p = .003). This might suggest that when it comes to feelings about confidence about a household's overall financial situation, households that are more likely to delegate decision making feel less knowledgeable about household finance and less able to judge the merits of advice given the growing awareness of agency conflicts in financial services.

### H₁₂: Households' time spent researching their choice of channel positively influences Comprehensive Financial Confidence.

**Supported.** Controlling for variables listed in the regression model, households' time spent researching their choice of primary channel of advice positively influenced Comprehensive Financial Confidence (ß = .136, p = <.001). This could suggest that households who take the decision of choosing which primary channel of advice to engage more seriously feel less uncertainty about their choice or otherwise also feel less uncertainty about advice followed as they might similarly spend more time deliberating the advice being presented.

### H₁₅: Households' time spent researching the individual advisor within a channel positively influences Comprehensive Financial Confidence.

**Inconclusive.** This variable was discarded from the final regression due to collinearity concerns.

### *$H_{18}$: Households' levels of interest in personal finance positively influences Comprehensive Financial Confidence.*

**Supported.** Controlling for variables listed in the regression model, households' levels of interest in personal finance was positively correlated with Comprehensive Financial Confidence (ß =.117, p = <.001). This contrasts with the finding for HWS in which the level of interest in personal finance was not associated with a difference in score (but for respondents who identified social media, print media, or podcasts as their primary channel a strong and significant effect size was found). However, in the case of CFC no primary channel effect was found (except for a marginally significant finding for accountants).

### *$H_{21}$: Households' level of financial literacy positively influences Comprehensive Financial Confidence.*

**Not supported.** Controlling for variables listed in the regression model, households' level of financial literacy was not statistically significantly correlated with Comprehensive Financial Confidence (ß = .035, p = .120). The lack of a relationship between these two variables could be a result of higher financial literacy being related to a better understanding of any shortcomings within more facets of household finance. In other words, the ability to understand deficiencies may not be associated with an ability to correct those deficiencies.

### *$H_{24}$: Households' incomes before selecting their primary channel of advice positively influences Comprehensive Financial Confidence.*

**Not supported.** Controlling for variables listed in the regression model, households' incomes before selecting a primary channel of advice was not correlated with Comprehensive Financial Confidence (ß = .023, p = .393). This may be explained by the control of initial Investable Assets having a very statistically significant effect. Households with high income and high levels of assets likely may be more confident than households with high income but no assets.

***H$_{27}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences Comprehensive Financial Confidence.***

**Supported.** Controlling for variables listed in the regression model, the natural log of Investable Assets before selecting a primary channel of advice positively influences Comprehensive Financial Confidence (ß = .082, p =.001). As discussed for the previous finding, a household's level of confidence is likely more influenced by actual assets than income. Assets represent realized income that contribute to the financial capability of a household whereas high income represents the potential to create assets that may not have been realized as of yet.

***H$_{30}$: Households' levels of trust in financial services negatively influences Comprehensive Financial Confidence.***

**Not supported. Opposite finding.** Controlling for variables listed in the regression model, households' levels of trust positively influences Comprehensive Financial Confidence (ß = .111, p = <.001). This contrasts with trust being negatively associated with Investable Assets. While lower trust might increase scepticism of financial advice which could lead to better financial strategies being implemented initially (due to heightened scrutiny) this may affect the process of financial advice. CFC may be more aligned with outcomes of financial advice.

***H$_{33}$: Households' financial decision responsibility positively influences Comprehensive Financial Confidence.***

**Not supported.** Controlling for variables listed in the regression model, households' financial decision responsibility did not influence Comprehensive Financial Confidence (ß = .043, p = .136). This suggests that both households that delegate decision making to a primary channel of advice and households that use a primary channel of advice to carry out predetermined decisions about financial matters exhibit the same level of overall financial confidence. It is possible that a household knowing the manner in which they would like to engage with their primary channel of choice is the more important factor.

***H$_{36}$: Households' solicitation of their primary channel of advice positively influences Comprehensive Financial Confidence.***

**Not supported.** Controlling for variables listed in the regression model, households that solicited their primary channel of advice did not exhibit a statistically significantly different correlation with Comprehensive Financial Confidence compared to households that were solicited by their primary channel of advice (ß = .060, p = .145). The finding that households that spend more time researching their channel options are associated with higher levels of CFC may explain why no relationship was shown between CFC and whether or not a household was solicited or if a household solicited their channel of advice. It seems plausible that no matter who solicited whom, the deliberation of the choice to engage with a primary channel was more important.

### 5.11.2.1 Summary of Comprehensive Financial Confidence hypotheses testing

A table summarizing the hypothesis testing for this section is presented in Table 5.25.

**Table 5.25 Hypothesis testing summary for Comprehensive Financial Confidence regression model**

| Hypothesis | Result |
|---|---|
| $H_3$: There is a difference in the Comprehensive Financial Confidence of households depending on their primary channel of advice. | Not supported |
| $H_6$: Financial planning positively influences households' Comprehensive Financial Confidence. | Supported |
| $H_9$: Households' preference to delegate financial decision making positively influences Comprehensive Financial Confidence. | Not supported Opposite finding |
| $H_{12}$: Households' time spent researching their choice of channel positively influences Comprehensive Financial Confidence. | Supported |
| $H_{15}$: Households' time spent researching the individual advisor within a channel positively influences Comprehensive Financial Confidence. | Inconclusive |

| | |
|---|---|
| *H$_{18}$: Households' levels of interest in personal finance positively influences Comprehensive Financial Confidence.* | Supported |
| *H$_{21}$: Households' levels of financial literacy positively influences Comprehensive Financial Confidence.* | Not supported |
| *H$_{24}$: Households' incomes before selecting their primary channel of advice positively influences Comprehensive Financial Confidence.* | Not supported |
| *H$_{27}$: Households' level of Investable Assets before selecting their primary channel of advice positively influences Comprehensive Financial Confidence.* | Supported |
| *H$_{30}$: Households' levels of trust in financial services negatively influences Comprehensive Financial Confidence.* | Not supported Opposite finding |
| *H$_{33}$: Households' financial decision responsibility positively influences Comprehensive Financial Confidence.* | Not supported |
| *H$_{36}$: Households' solicitation of their primary channel of advice positively influences Comprehensive Financial Confidence.* | Not supported |

## 5.11.3 Other findings in the Comprehensive Financial Confidence regression model

In addition to the initial discussion and hypothesis testing results, a number of other statistically significant relationships were detected in the regression model. Findings warranting additional discussion are presented here.

1. Owning real estate positively influenced Comprehensive Financial Confidence (ß = .067, p=.007).
2. A main banking relationship not with a bank or credit union negatively influenced Comprehensive Financial Confidence (ß = -.036, p=.097).
3. Non-primary use of a robo-advisor negatively influenced Comprehensive Financial Confidence (ß = -.054, p=.035). Looking at the 166 respondents who reported using a robo-advisor as a non-primary channel of advice, 32.53% reported receiving financial plans which was almost identical to the proportion of all non-financial advisors

(32.58%). 30.7% used DIY as their primary channel of advice, followed by 27.7% indicating social media. However, 11.5% indicated using an independent financial advisor. What is interesting about this finding is that someone engaging with an independent financial advisor and additionally using a robo-advisor might signify a lack of confidence in the financial advisor or a perception of poor value from that channel or particular relationship which might be associated with lower confidence in a household's CFC.

4. Non-primary use of an employer-provided representative negatively influenced Comprehensive Financial Confidence (ß = -.046, p=.054). Marginally significant.

5. Pension plan membership positively influenced Comprehensive Financial Confidence (ß = .063, p=.009). This is not surprising as members of a pension plan may also have other employee benefits that would be associated with higher CFC.

6. Childhood communication about finance positively influenced Comprehensive Financial Confidence (ß = .089, p=<.001). This is notable as the variable had an effect across all three models. This highlights the importance of socializing children to information about financial decision making.

## 5.12 Overall findings

The consolidated significant relationships are provided in Table 5.26. The unstandardized coefficients are provided for each variable, across all three outcome measures. A colour coding has been applied to the table to aid the reader.

Colour coding legend for Table 5.26

| |
|---|
| Positive relationship, 99% confidence level |
| Positive relationship, 95% confidence level |
| Positive relationship, 90% confidence level |
| Negative relationship, 90% confidence level |
| Negative relationship, 95% confidence level |
| Negative relationship, 99% confidence level |

**Table 5.26 Consolidated unstandardized coefficients across all three outcome variables**

| | LnAssets | HWS | CFC |
|---|---|---|---|
| (Constant) | 6.752 | 4.165 | .447 |
| PrimaryChannel_BranchFA | .328 | .132 | .014 |
| PrimaryChannel_FullServiceAtBank | 1.065*** | .580 | .172 |
| PrimaryChannel_IndependentFA | .669** | .840 | .254 |
| PrimaryChannel_RoboAdvisor | .554 | -.818 | .235 |
| PrimaryChannel_InsuranceAgent | -.168 | .603 | .198 |
| PrimaryChannel_EmployerRep | .418 | -.092 | .116 |
| PrimaryChannel_OnlineBank | .305 | -.528 | -.059 |
| PrimaryChannel_DIY | .747** | 1.345* | .322 |
| PrimaryChannel_Newsletter | 1.046** | -.328 | .426 |
| PrimaryChannel_Accountant | .347 | -.169 | .416* |
| PrimaryChannel_MoneyCoach | .340 | 1.932 | .109 |
| PrimaryChannel_SocialMedia | .575* | 1.991** | .275 |
| PrimaryChannel_Podcasts | .495 | 1.971** | .384 |
| PrimaryChannel_PrintMedia | .573* | 1.975** | .235 |
| PrimaryChannel_FriendsOrFamily | .176 | .555 | -.124 |
| UsePrimaryChannel_2to5Years | .339*** | .335 | .222*** |
| UsePrimaryChannel_6to10Years | .551*** | .485** | .251*** |
| UsePrimaryChannel_11to15Years | .511*** | .699** | .273*** |

| | | | |
|---|---|---|---|
| UsePrimaryChannel_15yearsOrMore | .875*** | .968*** | .305*** |
| AGE | .031*** | -.021*** | .003 |
| HouseholdIncome | .187*** | .066* | .058*** |
| Education_Highschool | -.297 | -.944 | .239 |
| Education_College | -.241 | -1.021 | .275 |
| Education_UndergraduateDegree | -.087 | -.878 | .395 |
| Education_MastersDegree | -.169 | -1.034 | .335 |
| Education_DoctoralDegree | -.071 | -.651 | .403 |
| Occupation_FinancialAdvisor | -.017 | 1.253*** | .128 |
| Occupation_Retired | .149 | .295 | .288*** |
| Occupation_ProfessionalServices | -.013 | .343 | -.080 |
| Occupation_GeneralServices | -.184 | -.022* | -.116 |
| Occupation_GoodsProducing | .008 | .561 | .198 |
| Gender_Female | -.089 | -.047 | -.036 |
| Gender_WontSay | .190 | -.777 | .286 |
| MS_MarriedOrCommonLaw | .201*** | -.120 | .091* |
| SameSexCouple | .187** | .044 | .024 |
| NumPeopleHousehold | -.060** | .114* | -.042** |
| Province_Alberta | -.031 | .122 | .055 |
| Province_BritishColumbia | .128 | -.174 | .051 |
| Province_Manitoba | .188 | -.643 | .054 |
| Province_NewBrunswick | .247 | -.912 | -.221 |
| Province_NfldLab | -.256 | -.336 | .153 |
| Province_NovaScotia | .027 | .684 | .035 |
| Province_QC | .170 | .430 | .158 |
| Province_SK | .467*** | -.794* | .061 |
| OwnRealEstate | .070 | .124 | .130*** |
| MainBankingRelationship_CreditUnion | -.050 | -.176 | -.026 |
| MainBankingRelationship_Other | -.300 | -.741 | -.288* |
| Use_BankTeller | -.004 | -.180 | -.086 |
| Use_BranchFA | -.092 | -.128 | -.071 |
| Use_FullServiceAtBank | -.060 | -.603** | .051 |
| Use_IndependentFA | .177* | -.267 | .060 |
| Use_RoboAdvisor | -.158* | .371* | -.127** |
| Use_InsuranceAgent | -.126 | .487** | -.022 |
| Use_EmployerProvidedRep | -.167* | .114 | -.126* |
| Use_OnlineBank | -.001 | -.095 | .063 |
| Use_DIY | -.048 | -.088 | .007 |
| Use_NewsletterOrTradingSystem | -.131 | .571* | -.088 |
| Use_Accountant | .218*** | .454*** | .045 |
| Use_MoneyCoach | .036 | .419 | -.026 |
| Use_SocialMedia | .189*** | .001 | -.010 |

| | | | |
|---|---|---|---|
| Use_Podcasts | .039 | .278* | -.009 |
| Use_PrintMedia | .038 | .137 | -.011 |
| Use_Television | -.150* | -.117 | -.060 |
| Use_FriendsOrFamily | -.085 | .221 | -.038 |
| Use_Other | .082 | -.058 | -.118 |
| PensionPlanMembership | -.098*** | .283*** | .069*** |
| ResponsibilityIndex | .045 | -.323*** | .046 |
| InterestInPersonalFinance | .132*** | -.034 | .115*** |
| ChildhoodCommunication | .054** | -.110* | .062*** |
| ChildhoodFinancialSecurity | .032 | -.102** | .009 |
| ChildhoodUseOfFA_YES | -.081 | .180 | -.010 |
| ChildhoodUseOfFA_DontKnow | -.063 | .203 | -.077 |
| TrustInFinancialServices | -.049* | .097 | .094*** |
| FinLitScore | .115 | .262 | .079 |
| FinancialPlanCreated | .272*** | 2.377*** | .230*** |
| PreferenceToDelegate | -.003 | -.136** | -.055*** |
| ResearchBeforeChoosingChannel | .053** | .113** | .088*** |
| InitiatedRelationship_Investor | .007 | -.264 | .111 |
| InitiatedRelationship_Mutual | .021 | -.305 | .097 |
| InitiatedRelationship_DontKnow | -.136 | -.987*** | -.116 |
| IncomeBEFORE | .074*** | -.130*** | .010 |
| LN_Assets_Before | .066*** | -.015 | .013*** |

\*, \*\*, \*\*\* indicate significance at 90%, 95%, and 99% levels, respectively.

**Heterogeneity of financial advice channels**

Looking at the impact of primary channels of advice across all outcome measures, a few themes emerge. With respect to Investable Assets, the idea that only a human financial advisor can have a statistically significant positive impact relative to a no advice condition is not evident in the data. While full-service financial advisors at banks and independent financial advisors were positively associated with Investable Assets, so too were self-service channels (DIY and newsletter subscriptions). Additionally, households indicating that their primary channels of advice were either social media or print media showed marginally significant positive relationships with Investable Assets. For each of the newsletter, social media, and print media primary channels, it was shown that they are predominantly DIY investors.

Looking at HWS, a measure of the breadth of financial advice provided to households, more evidence is provided that non-traditional channels of advice play an important role for

households with respect to financial outcomes. If we examine the business models of traditional financial advisor channels, we find that they are often tied to either investment management or insurance policy sales. These business models might serve as anchors for the Holistic Wealth Scores of households. The reference category (the 'no advice' category) in this study has a Holistic Wealth Score of 4.165. The primary channels of DIY (+1.345, p=.085), social media (+1.991, p=.013), print media (+1.971, p=.029), and podcasts (+1.975, p=.014) are either free from advice (DIY) or the advice they provide is not primarily motivated by product sales. (While social media, print media, and podcasts may rely heavily on advertising revenue as part of their business models, they may also generate some revenue from affiliate sales, which may be linked to product sales.) We saw earlier that that households who use the DIY primary channel also use many other advice channels. This could partially explain why this "no advice, execution only" channel still has higher HWS scores than traditionally advised channels. After controlling for other factors, we find that non-traditional primary channels of advice are associated with more comprehensive financial advice. This is a potentially troubling finding for the industry.

No primary channels of advice, controlling for all other factors, had a significant relationship with Comprehensive Financial Confidence at the 95% confidence level.

**Use of multiple financial channels or sources of advice**

For each of the 18 possible primary channel options, respondents may use multiple other channels. Table 5.27 shows the mean number of total channels used (in descending order) for respondents in each primary channel of advice.

**Table 5.27 Mean number of channels used by primary channel of advice**

| Primary Channel | Mean number of channels used (Including the primary channel) |
|---|---|
| Money Coach | 4.88 |
| Print Media | 4.86 |
| Social Media | 4.80 |
| Podcasts | 4.76 |
| Newsletter | 4.50 |
| Robo Advisor | 4.22 |
| Employer Rep | 4.14 |
| Accountant | 3.98 |
| DIY | 3.87 |

| | |
|---|---|
| Friends Or Family | 3.78 |
| Independent FA | 3.38 |
| Full Service At Bank | 3.37 |
| Online Bank | 3.32 |
| Branch FA | 3.01 |
| Television | 2.80 |
| Insurance Agent | 2.73 |
| Bank Teller | 2.13 |
| Other | 1.50 |

*Social Media*

The use of social media (not necessarily as a primary channel of advice) was associated with an increase in Investable Assets of 20.8% controlling for all other factors ($b$ = 0.189, p=<.001). (Because the regressor for the Investable Assets model is stated in natural logs, taking the exponential of the unstandardized coefficient yields the effect size in relative terms.)

*Accountants*

The use of accountants (not necessarily as a primary channel of advice) was associated with an increase in Investable Assets of 24.4% ($b$ = 0.218, p=<.001) against the no advice condition, controlling for all other factors. This is not a surprising result as larger, more complex estates are more likely to turn to specialist tax advice in addition to other channels of advice.

**Financial Planning**

The receipt of a financial plan was robust across models. In all three final models, households with financial plans created by their primary channel of advice had positive relationships with each outcome measure, all at the 99% confidence level. Controlling for all other factors, households with financial plans had 31.3% higher Investable Assets, an additional two facets of household finances addressed, and an increase in Comprehensive Financial Confidence of 51.5% (0.677 vs 0.447) compared to the no advice category.

An examination of interaction effects of financial planning working through the primary independent variable was conducted. Receiving a financial plan was still found to be significantly associated with greater Investable Assets, regardless of the primary channel of advice for a household (.291, p=.002). However, this relationship was especially significant

for households that received a financial plan from a bank branch financial advisor (.590, p=.016) or accountant (1.082, p=.032). These findings are particularly interesting in the case of bank branch financial advisors, as this channel is known to have a wide range of quality in terms of financial advisors and advice, often due to business models that prioritize sales volumes and product quotas. Despite this, the introduction of basic financial planning services at the bank branch level has been growing as a way to differentiate from competitors. These results suggest that if households whose primary channel of advice is a bank branch financial advisor and who receive financial plans from this channel, this has a statistically significant positive impact on their wealth. The same interaction effect was not found for independent financial advisors or full-service financial advisors at banks, likely due to the generally higher quality of financial advice available through these channels. The interaction effect was also found for financial planning provided through the accountant primary channel, suggesting that for households that consider their accountant to be their primary source of financial advice and who receive financial planning services beyond just tax advice and preparation, this leads to higher levels of wealth than just using an accountant or just receiving a financial plan.

**The role of endogenous and demographic factors of households on results**

The results show through the iterative model process that the addition of controls for endogenous factors of households reduced effect sizes of the various primary channels of advice. Age and income were robust through all iterations of regression across all outcome variables. However, adding in the income and Investable Asset levels prior to engagement with primary channels of financial advice also yielded statistically significant relationships as shown at the bottom of Table 5.26. Interestingly, household income prior to engaging with a primary channel of advice showed a negative relationship with the breadth of advice (HWS). This finding could be explained by a few factors. First, it is possible that households with higher incomes before choosing their primary channel of advice may already have received advice or products addressing multiple facets of household decisions, as they may have encountered the need for such advice at an earlier date. Second, higher income households may be more likely to be directed towards portfolio managers who specialize in portfolio management but not comprehensive financial advice. These portfolio managers, who often work in a discretionary investment management setting, may act like personal fund managers, focusing almost entirely on investment and portfolio management of individual securities for high net worth households. Further research is required to investigate this finding.

*Research of primary channels of advice before selection*

The results were robust: there were positive and significant relationships across all three outcome variables against the amount of research undertaken before choosing a primary channel of advice. The amount of time or effort spent evaluating the decision about which primary channel of financial advice to engage may be related to other endogenous factors that play a large role in long term financial outcomes.

*Childhood communication*

The reported level of communication about finances in childhood was positively associated with Investable Assets and Comprehensive Financial Confidence.  There are several reasons why communication about financial topics in childhood might be related to better financial outcomes in adulthood. Children who receive financial education and learn about financial topics from a young age may be more likely to develop good financial habits. Additionally, children who have open communication as children about financial matters may be more likely to feel comfortable talking about money and seeking out financial advice when needed. This highlights the importance of socializing children to concepts about personal finance from a young age may help them navigate personal financial decision making later in life.

*Interest in personal finance*

A respondent's interest in personal finance was positively and significantly associated with Investable Assets and Comprehensive Financial Confidence (99% confidence level), but not with the breadth of advice received (HWS). Interestingly, households who are more interested in personal finance may be more likely to consume financial information through social media, print media, and podcasts. Each of these three channels were associated with significantly higher Holistic Wealth Scores.

*Pension plan membership*

Pension plan membership had significant relationships across all three outcome variables at the 99% confidence level. The relationship was negative with Investable Assets but positive for HWS and CFC. This could be explained by substitution effects of pension contributions over personal investment contributions coupled with a correlation between pension plan membership and other employee benefits that impact HWS and CFC.

*Financial literacy*

After controlling for other variables in the regression model, household financial literacy was not found to be statistically significantly correlated with Investable Assets (ß = .029, p = .114). This may be due to the findings of Kalmi & Ruuskanen (2019), who discovered that while there was no connection between financial literacy and retirement planning when using the "big three" financial literacy questions in their survey, a significant and positive relationship was found when using a more advanced set of financial literacy testing questions.

## 5.13 Chapter summary

This chapter presented the results of the statistical analyses performed for this thesis along with a discussion of those results.

Univariate overviews of the main independent variable (primary channel of advice for Canadian households) against the three outcome measures of interest (Investable Assets, Holistic Wealth Score, and Comprehensive Financial Confidence) were followed by multivariate analyses which included extensive regression model iterations to test the 36 research hypotheses proposed in the Theoretical Framework (Chapter 3).

The impact of heterogeneous channels of financial advice on household financial outcomes in Canada was examined. Looking at three different outcome measures: Investable Assets, Holistic Wealth Score (a measure of the breadth of financial advice received), and Comprehensive Financial Confidence (a measure of self-reported confidence in a household's financial situation), the study also controlled for endogenous factors and the receipt of financial planning.

The results suggest that not all traditional channels of financial advice have an impact on household financial outcomes. Further, self-service and non-traditional channels can have a positive impact on Investable Assets. Interestingly, non-traditional primary channels of advice can be associated with more comprehensive financial advice. None of the primary channels of advice had a significant impact on a self-reported measure of holistic Comprehensive Financial Confidence. A very robust finding is that the receipt of a financial plan was associated with an increase in all measures of household financial outcomes.

The next chapter (Chapter 6) summarizes the overall contributions of the research, limitations, and suggestions for future research.

# 6  Discussion and conclusions

## 6.1  Introduction

The primary research question of this study was to examine the value of financial advice for households in Canada. In order to address this question, three specific objectives were proposed: 1) differentiation of the market for financial advice to households into 18 channels, 2) utilization of a multi-dimensional framework of household outcomes from advice considering both portfolio-based and non-portfolio-based measures of value, and 3) consideration of the influence of financial planning and endogenous factors on household financial outcomes.

## 6.2  Overall findings

Previous research on the value of financial advisors has often taken a generalized approach, treating financial advice as undifferentiated and measuring outcomes based on portfolio centric measures. However, this study takes a more discriminant approach.

The market for financial advice can be broken down into 18 channels of advice across five broad categories. These categories are:

1. Execution with advice channels
2. Execution with directed advice channels
3. Execution without advice channels
4. Advice without execution channels
5. No advice, no execution channels

Traditional financial advice channels have offered advice alongside investment execution, but emerging channels of financial advice, such as robo-advisors, fall into the category of 'execution with directed advice'. These channels are geared towards higher volume, lower touch models of financial advice. There is effectively only one channel in the 'execution without advice' group: discount brokerages which operate under an OEO regulatory framework (order execution only). The 'advice without execution' channels consist of both legacy and emerging channels in the marketplace: this includes money coaches and other fee-for-service financial advisors who operate without securities licenses, as well as social media, print media, podcasts, and other sources of financial advice information that do not provide execution services. These 'advice without execution' channels can be used by households as primary sources of advice and used in tandem with channels that have

investment execution functions, or as secondary sources of advice in complement to channels with investment execution functions.

On top of this framework, intra-channel heterogeneity was addressed by controlling for the receipt of financial planning, and endogenous factors of households were controlled for using known and hypothesized constructs.

By considering three separate outcome measures for households against a differentiated framework for the market for financial advice, the main findings of this research are as follows:

1. Traditional financial advisors are associated with higher levels of Investable Assets only for wealthier households who identify these channels (full-service financial advisors at banks and independent financial advisors) as their primary channel of advice.
2. Households selecting DIY channels as their primary channel also showed positive associations on levels of wealth.
3. Traditional financial advisors dealing with mass market households (bank branch financial advisors) as their primary channel of advice are not associated with better outcomes across portfolio centric or non-portfolio centric measures of value.
   a. This changes if bank branch financial advisors providing advice to mass market households deliver financial plans. Financial planning has a positive interaction affect through mass market financial advisors.
4. Financial planning adds value across portfolio centric and non-portfolio centric measures of value to all households and across all channels of advice.
5. Social media, podcasts, and print media, when used as primary channels of advice, are all positively associated with a higher breadth of financial advice addressed by households. Social media and print media also have a marginally significant positive relationship with wealth levels.
6. Households who spend more time researching primary channels of advice before engagement exhibit positive relationships across all outcome measures. This is associated with higher Investable Assets, increased breadth of advice on household financial decisions, and higher confidence about their overall financial situations.
7. Childhood communication about personal finance was positively associated with better financial outcomes in adulthood.

## 6.2.1  The value of financial advice

Controlling for numerous variables, it was found that the primary channels of financial advice have varying levels of influence on the three outcome measures in this study (Investable Assets, Holistic Wealth Score, and Comprehensive Financial Confidence). Across the three outcome measures of interest, most primary channels of advice are not associated with statistically significant relationships compared to the no advice, reference category, controlling for demographics and endogenous factors. With 18 primary channel options, less the no advice, reference primary channel option of 'bank teller', there were 17 primary channel advice options identified. With respect to Investable Assets, only four primary channel options out of 17 (23.5%) saw Investable Asset levels that were statistically higher than for the no advice condition. Two of these channels, full-service financial advisors at banks and independent financial advisors, are effectively only accessible by higher net worth households, and were associated with 290% and 195%, respectively, of the levels of Investable Assets when used as primary channels of advice compared to the no advice, reference category. The remaining two primary channels with statistically significantly higher levels of Investable Assets than the no advice, reference category were self-advised channels. Households with a primary channel of advice of DIY and newsletter subscribers saw 211% and 285%, respectively, of the levels of wealth compared to the no advice, reference category. None of the other 14 channels of advice saw statistically higher levels of wealth versus the no advice, reference category at the 95% confidence level.

Across the non-portfolio centric outcome measures, only three primary channel options showed a statistically significant (at the 95% confidence level) relationship to a greater breadth of advice (and none of these channels included traditional financial advisors), and no primary channels of advice were associated with greater overall confidence about a household's financial situation. Households indicating that their primary channels of advice were social media, podcasts, or print media saw an average increase in the breadth of advice received by roughly two facets of household finances compared to the no advice, reference category (social media +1.991, p=.013, print media +1.971, p=.029, and podcast +1.975, p=.014). None of the other 15 channels saw a statistical difference in breadth of advice to the no advice, reference category. While there was no measure of the quality of advice received for any facet of household finances, one possible explanation for these results is that traditional financial advice channel business models are tied to product sales. The number of different products tied to facets of household finances sold through these channels may serve as an anchor on the breadth of advice provided. In other words, there may be little monetary incentive to provide advice on facets of household finance that do not

generate revenue for traditional advice channels. Conversely, non-traditional financial advice channels may rely more heavily on advertising revenue models which incentivize user time spent consuming content. This could be a signal that these channels may be providing financial advice that households demand if they are spending time consuming this information.

No channels were associated with an increase measure of holistic confidence (CFC) versus the no advice, reference category at the 95% confidence level.

## 6.2.2  Financial Planning

The receipt of financial planning is very important and robust across all three outcome measures. The mean current Investable Assets was higher for respondents with financial plans ($704,632 ± $959,119) than respondents who did not receive financial plans ($517,917 ± $873,380), a statistically significant difference of $186,716 (95% CI, $84,974 to $288,458), $t(897.658) = 3.602$, $p = <.001$. The differences in Investable Assets were also robust across the different channels of advice with positive differences in Investable Assets for households with financial plans in 12 channels. There were four channels (podcasts, online bank, insurance agent, and friends/family) with no statistical difference, and two channels (newsletter and television) where no respondents received financial plans.

Respondents with financial plans created had a higher mean HWS (5.83 ± 2.68) than respondents without financial plans created (3.08 ± 2.37), a statistically significant difference of 2.76 (95% CI, 2.47 to 3.04), $t(875.538) = 19.153$, $p = <0.001$. This suggests that households who receive financial plans are receiving advice on three additional facets of household finance than households who don't receive financial plans. The impact of financial planning across primary channels of advice on HWS was even more robust than for the impact on Investable Assets (15 channels with a positive influence versus 12).

Respondents with financial plans created had a higher mean Comprehensive Financial Confidence (3.83 ± 0.72) than respondents without financial plans created (3.45 ± 0.80), a statistically significant difference of 0.38 (95% CI, 0.30 to 0.46), $t(1,070.408) = 9.124$, $p = <0.001$. The impact of financial planning across primary channels of advice on CFC was roughly as robust as for the impact on Investable Assets (13 channels with a positive influence on CFC versus 12 on Investable Assets).

Having a financial plan is robustly associated with better financial outcomes, including 31.3% higher Investable Assets, addressing two additional facets of household finances, and a 51.5% increase in Comprehensive Financial Confidence compared to households without

financial advice. Receiving a financial plan is particularly significant for households whose primary channel of advice is a bank branch financial advisor or accountant. These findings suggest that financial planning through these channels has a positive impact on wealth, especially for households whose primary channel of advice is a bank branch financial advisor. However, this interaction effect was not found for independent financial advisors or full-service financial advisors at banks, likely due to the generally higher quality of financial advice available through these channels.

### 6.2.3 Endogenous factors

**Households' research on channels of advice**

Another contribution of this research to the literature is the impact of households spending more time researching their primary channel options. The results were robust: there were positive and significant relationships across all three outcome variables against the amount of research undertaken before choosing a primary channel of advice. Households in the highest quintile for research conducted before engaging with a primary channel of advice were associated with 30% higher Investable Assets, a 13.7% increase in the number of facets of household finance addressed, and an increase in Comprehensive Financial Confidence of 98%, all compared to the no advice, reference category.

**Childhood communication about money**

Respondents who reported the highest level of communication about money in their childhood households were associated with 31% higher Investable Assets and 69% higher Comprehensive Financial Confidence compared to the no advice, reference category. This finding highlights the importance of introducing children to concepts of personal finance from a young age, as it may help them develop good financial habits and feel more comfortable discussing money and seeking out financial advice later in life.

## 6.3 Contributions of this research

### 6.3.1 Theoretical contributions

This research contributes to the existing literature on the value of financial advice to households in several ways. First, it considers that financial advice channels are not homogenous. Previous studies have generally grouped channels of financial advice into broad categories of "advice" or "no advice," but this research categorizes the channels of financial advice in Canada into 18 specific channels. It also controls for the receipt of

financial planning, which may be available within certain channels but not always delivered to clients. Therefore, heterogeneity of financial advice is considered at the inter-channel level as well as the intra-channel level. Second, the research controls for the impact of various endogenous factors that are relevant to households' financial outcomes. Previous research has suggested that these factors are important determinants of household financial outcomes but the combination of the controlling for endogenous factors against a more discriminant categorization of advice channels was another gap in the literature. Finally, while previous research has largely used portfolio centric measures of the efficacy of financial advice, this study uses three different measures: current Investable Assets, a Holistic Wealth Score, and Comprehensive Financial Confidence. The first measure is focused on Investable Asset levels, while the latter two are non-portfolio centric. The Holistic Wealth Score (HWS) is a measure of the breadth of financial advice received. The measure of Comprehensive Financial Confidence (CFC) speaks to the intangible benefits that previous research has suggested exists for households who acquire financial advice in light of the evidence that tangible benefits from financial advice may be negative (i.e. lower risk-adjusted returns compared to passively managed, index tracking portfolios). These two non-portfolio centric measures also more closely align with emerging industry service offerings in the market for contemporary financial advice as portfolio management becomes more commoditized.

### 6.3.2  Contributions to industry

**Recommendations to regulators and policymakers**

The growth in use of non-traditional sources of financial advice is of concern to industry, households, and regulators. This research has shown that not all households receive their primary source of financial advice from traditional, regulated sources. The use of non-traditional channels may have evolved in ways that the current regulatory frameworks may not have foreseen. Regulators may want to consider if and how these frameworks need to be modified to reflect changing consumer preferences. This could include establishing light regulation of financial advice through emerging, non-traditional sources of financial advice requiring disclosures of conflicts of interest, and creating complaint handling protocols for these channels. By addressing these issues, regulators can help to ensure that households in Canada have access to high-quality financial advice regardless of the channel they choose.

**Recommendations to management**

As more and more households in Canada turn to non-traditional sources of financial advice as their primary channels, coupled with the results in this research showing an increase in the breadth of financial advice provided by these non-traditional channels, it may be worth considering new business models of financial advice. This is particularly relevant in light of the increasing popularity of DIY investing and the commoditization of portfolio management through technology. With the large body of evidence suggesting that the benefits of professional investment advice is generally outweighed by the cost of that advice, a shift from portfolio centric cost models of financial advice to financial planning centric models might allow the industry to deliver higher quality advice to the mass market. The results from this research showing that traditional financial advisors dealing with mass market households do not tend to be associated with higher levels of Investable Assets after controlling for appropriate endogenous factors of households except when delivering financial plans underscores this recommendation.

Additionally, by offering lower-cost execution options, the industry could make it easier for households to access investment opportunities while still receiving comprehensive financial advice. The expert panels convened during the development phase of this research unanimously agreed that financial planning complexity varies tremendously by household. Similar to how the market for portfolio management has developed lower-cost, higher-volume solutions over time, lower-cost, higher-volume holistic financial advice could be a market opportunity. By adapting to these changing preferences and leveraging new technologies, the financial advice industry in Canada could better serve the needs of households and remain competitive in a rapidly evolving market.

## 6.4  Limitations

There are a number of channels of advice that are still relatively new and their share of the market for financial advice, coupled with their ongoing innovations, may be changing quickly enough to limit the generalizability of findings beyond the short-term. For example, despite the increasing use of robo-advisors, there is limited longitudinal data on the performance of robo-advisors or the users of robo-advisors over multiple market cycles. They may also be more likely to shift their service offerings due to client demands – which may or may not be in the clients' best interests. For example, the Canadian robo-advisor Wealthsimple launched as a prototypical robo-advisor service in that it allowed users to take a risk profile questionnaire and self-assign into a pre-constructed portfolio with little maintenance required. It later expanded services to include commission-free trading of individual securities and

provided access to a crypto-currency trading platform, business decisions arguably driven by profit incentives over client best interests given the preponderance of research suggesting that retail investors' trading frequency is negatively associated with investment performance (Barber and Odean, 2000).

One limitation of using a quantitative survey design to study the value of financial advice is that it may not fully capture the subjective and personal experiences of individuals (Creswell and Creswell, 2017). Surveys often rely on self-reported data and the interpretation of questions could be influenced by the financial literacy of the respondent. For example, asking someone to self-report on the satisfaction of their insurance coverage can be biased by the knowledge of what adequate insurance coverage might be for that individual. Hence, responses may not accurately reflect reality. Additionally, quantitative surveys tend to be structured and standardized, which can limit the ability to gather in-depth, nuanced information about a topic. Finally, surveys may not be able to effectively capture complex or multifaceted issues, including the value of financial advice, which may require more in-depth qualitative methods to fully understand, especially given the heterogeneity of advice available both across and within channels. While an advisor at a full-service brokerage may have access to financial planning specialists for their clients' use, they may choose to forego extending that service offering to clients. Conversely, it's possible that a branch level financial advisor working with unsophisticated households could be providing better than average service and financial planning for that demographic as they are new to the industry and passionate about financial planning but have not yet had the time to develop their career. Such an advisor could end up working as an independent financial advisor in the future providing above average service and planning to a different client demographic. But while they were working at the bank branch financial advisor level, perhaps they provided better value than other advisors working in the more reserved channels of financial advice that might be more associated with sophisticated advice or households.

Qualitative methods can help researchers gain a more thorough understanding of the value of financial advice by allowing them to explore and investigate peoples' experiences in greater depth (Blaikie and Priest, 2019). Qualitative research typically involves interviewing or observing individuals in order to obtain detailed, contextual information about their beliefs, attitudes, and behaviours. By engaging directly with people and listening to their stories and perspectives on the topic, researchers are able to uncover a more complete understanding of how they view the value of financial advice.

Overall, both quantitative and qualitative approaches have strengths and weaknesses when it comes to studying the value of financial advice. Quantitative surveys provide an efficient

212

and cost-effective way to gain insight into people's beliefs and behaviours, while qualitative methods offer a more detailed and nuanced understanding of the topic. Depending on the research question at hand, researchers may use either or both methods to gain a comprehensive understanding of this complex issue.

In conclusion, studying the value of financial advice can be challenging due to its subjective nature. However, by using both quantitative surveys and qualitative approaches such as interviews or observations, researchers can gain a better understanding of how people perceive the value of financial advice. The combination of quantitative and qualitative methods would give researchers a more comprehensive picture of the value of financial advice.

## 6.5  Future research

**Analysing the alignment of compensation models for financial advice with household outcomes**

Because current cost models of financial advice to households tend to be aligned with portfolio-centric services, while the benefits to the household are often tied to non-portfolio centric activities, this misalignment between the cost and value of financial advice may be limiting the adoption of financial advice by more households. This is especially important given the finding that wealthier households tend to benefit from traditional financial advisors while average households may not. Therefore, a deeper examination of the costs and benefits of emerging financial advice models, such as the use of fee-for-service financial planners or coaches for planning-centric advice coupled with lower-cost investment execution options, would be valuable in understanding the utility and value of financial advice to households and informing future policy and practice.

**Further examination of the intra-channel heterogeneity of financial advice channels**

Analysis of the heterogeneity within channels of financial advice in order to control for the variation in quality that exists in traditional channels like financial advisors as well as non-traditional channels like social media influencers would have tremendous benefit to the literature on the value of financial advice. While this could involve looking at factors such as the level of education and certifications of the advisors, standardized testing of financial advice outputs could be applied broadly across multiple channels of advice. Differences in the quality of advice provided within channels has only lightly been explored in the literature to date.

**Social media and podcasts as substitutes for financial advice**

Given the growth in use of social media and podcasts and these media's influence on household behaviours, research exploring how financial information from these sources affects household finances could yield many different research questions. This thesis has shown that access to information influences household financial outcomes with respect to Investable Assets, financial confidence, and the breadth of financial decisions important to households. The degree to which social media sources are seen as competition with other channels of financial advice versus the degree to which social media is complementary to different channels of financial advice would be an interesting avenue to explore.

## 6.6  Concluding remarks

This thesis examined the value of financial advice for households in Canada by dividing the market for financial advice into 18 channels and using a multi-dimensional framework to measure household outcomes from advice. The study found that traditional financial advisors are associated with higher levels of wealth for wealthier households, but not for mass market households, unless financial planning is provided. Financial planning was found to add value across all channels and for all households. DIY channels were also associated with positive outcomes. Social media, podcasts, and print media were found to be positively associated with a higher breadth of financial advice addressed by households, and social media and print media had a marginally significant positive relationship with wealth levels. Households who spent more time researching primary channels of advice before engagement had better outcomes across all measures. Endogenous factors play a large role in the financial success of households.

The idea that categorizing households into advised vs non-advised households is too simple of a framework for studying the value of financial advice. The heterogeneity across different channels of advice, the variation in services provided within channels of advice, and the endogenous factors of households all need to be accounted for when determining value. Some households do very well without advice, and some do very well with advice. Conversely, some households do poorly without advice, and some do poorly with advice. Correctly aligning households with the appropriate channel of advice requires a multi-dimensional framework. A key contribution of this thesis is to move the literature in that direction – many of these identified limitations in the extant literature have been addressed in this thesis. A significant weakness of the Wealth Management industry discussed above has been the absence of a solid theory to underlie it. This thesis has, in part, addressed this, by

providing a much broader view of financial advice, and has gone beyond simple portfolio centric measures of outcomes to incorporate much broader outcome measures.

# Appendix A

Normal distribution testing of main dependent variables

**Natural log of current investable assets**

Normality tests on final data set: Completed surveys with current Investable Assets greater than $10,000 (n = 1,376), natural log of main dependent variable "natural log of current assets". Histogram and P-P plot.

**Histogram of LN_Current_Assets**
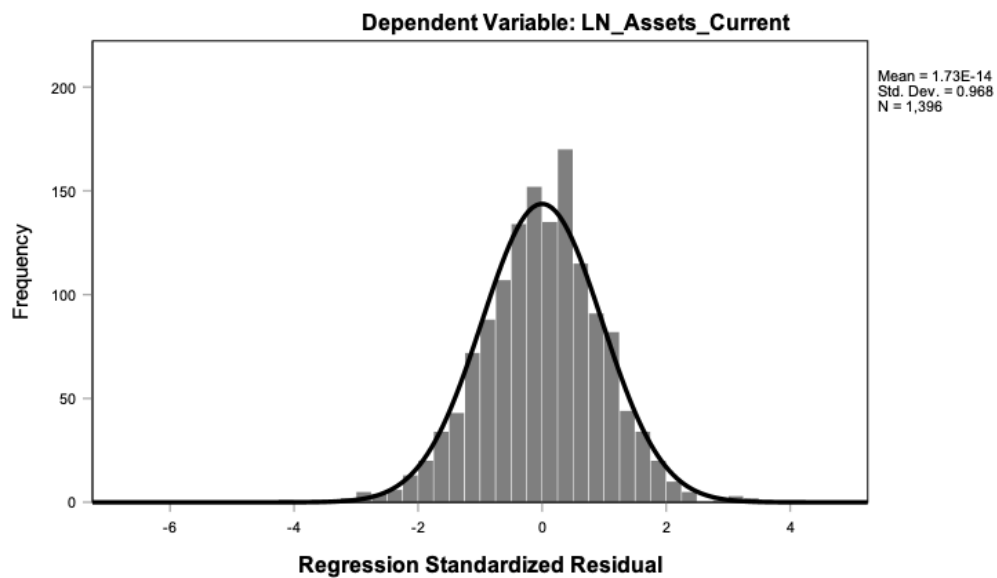
**P-P plot for LN_Assets_Current**

*Normal P-P Plot of Standardized Residual for Selected Cases*
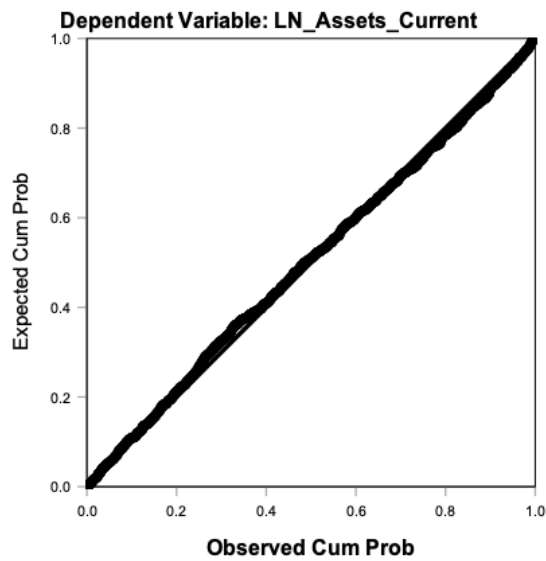


**Holistic Wealth Score (HWS)**

Normality tests on final data set: Completed surveys with current Investable Assets greater than $10,000 (n = 1,376), natural log of main dependent variable Holistic Wealth Score (HWS). Histogram and P-P plot.
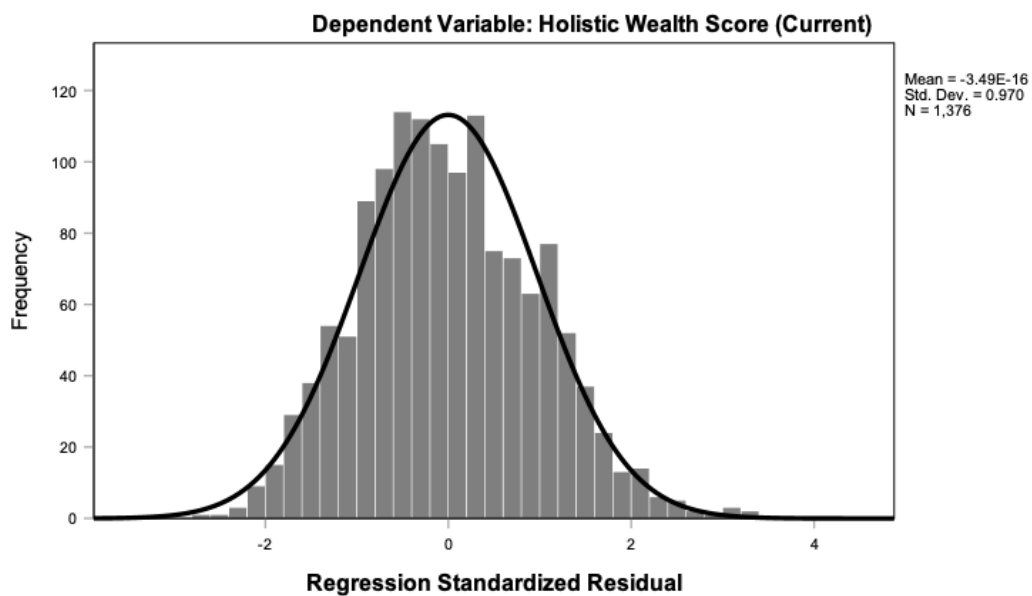
*Histogram of Selected Cases*

**Normal P-P Plot of Standardized Residual for Selected Cases**

**Dependent Variable: Holistic Wealth Score (Current)**
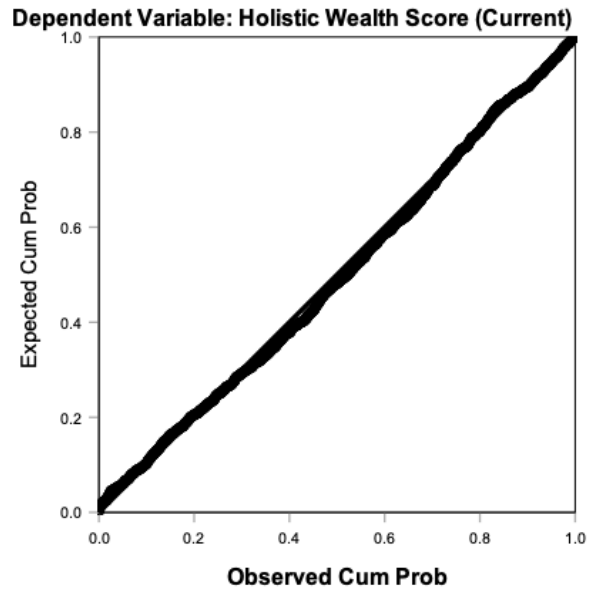


## Comprehensive Financial Confidence (CFC)

Normality tests on final data set: Completed surveys with current Investable Assets greater than $10,000 (n = 1,376), natural log of main dependent variable "natural log of current assets". Histogram and P-P plot.

**Histogram of Selected Cases**

### Dependent Variable: Comprehensive Financial Confidence Index (CFC)



Mean = 4.23E-16
Std. Dev. = 0.970
N = 1,376

**Normal P-P Plot of Standardized Residual for Selected Cases**

### Dependent Variable: Comprehensive Financial Confidence Index (CFC)
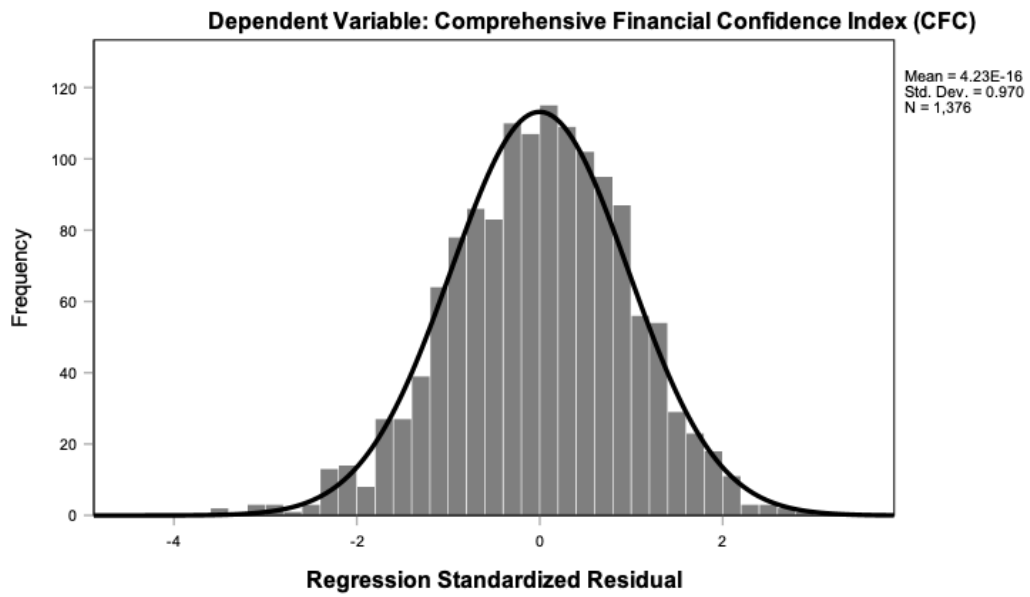
# 2019 DBA Value of Financial Advice Survey

***This survey may take 10-15 minutes to complete. But completing this survey will be of tremendous value to research on the efficacy of financial advice.***

THANK YOU FOR YOUR CONTRIBUTION

The research forms part of my Doctor of Business Administration academic qualification at Henley Business School at the University of Reading. You have been approached because you may form part of the population that may have or will be faced with the choice of selecting financial advice or products.

Responses do not require your name to be provided. The data are confidential and individual respondents will not be identified in the final report. The project has been subject to ethical review in accordance with the procedures specified by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.

By completing and returning the questionnaire it will be understood that you are aged 18 or over and that you give consent for your responses to be used for the purposes of this research project.

Many thanks for your support.

Contact details of Researcher: Preet Banerjee,

You may contact me at any time should you wish to receive updates on the research.

**Using your personal Information**

Henley Business School, the University of Reading, may use the information collected in this survey in a number of ways, for example:

- For conducting research including market research
- For statistical analysis
- For obtaining feedback

We will not disclose any personal information to anyone outside of Henley Business School, the University of Reading, unless required to do so by law. Any information that may be shared will be aggregated and anonymised to protect your identity. Information provided will kept securely and deleted when no longer needed.

For further information on how your information is used, and your rights to access information we hold on you, please contact imps@reading.ac.uk

Q2 What is your age?

_____

Q3 Which of the following best describes your marital status?

◯ Married  (1)

○ Widowed, currently single  (2)

○ Widowed, but with a new partner now  (3)

○ Divorced, currently single  (4)

○ Divorced, but with a new partner now  (5)

○ Separated  (6)

○ In a domestic partnership or civil union  (7)

○ Single, but cohabiting with a significant other  (8)

○ Never married, currently single or dating  (9)

○ Other (Please specify in text box below)  (10)

_____

Q4 What gender do you most identify with?

○ Female  (1)

○ Male  (2)

○ Prefer not to answer  (3)

○ Other (please specify)  (4)

_____

Q5 What gender does your partner most identify with?

○ Female  (1)

○ Male  (2)

○ Prefer not to answer  (3)

○ No partner  (4)

○ Other (please specify)  (5)

Q6 Who is the primary financial decision maker in the household?

○ I am mostly responsible  (1)

○ My partner is mostly responsible  (2)

○ We share equally in financial decision making  (3)

Q7 What is your current employment status? (Check all that apply)

☐ Employed full time (35 hours a week or more)  (1)

☐ Employed part time  (2)

☐ Student  (3)

☐ Business Owner / Self-employed  (4)

☐ Homemaker  (5)

☐ Retired  (6)

☐ Not employed at this time  (7)

☐ Other (please specify)  (8)

_____

Q8 Which of the following best describes your current occupation (or most previous occupation if not currently employed)?

○ I am a financial advisor  (26)

○ Homemaker  (1)

○ Student  (2)

○ Not Currently Employed  (3)

○ Management Occupations  (4)

○ Business and Financial Operations Occupations  (5)

○ Computer and Mathematical Occupations  (6)

○ Architecture and Engineering Occupations  (7)

○ Life, Physical, and Social Science Occupations  (8)

○ Community and Social Service Occupations  (9)

○ Legal Occupations  (10)

○ Education, Training, and Library Occupations  (11)

○ Arts, Design, Entertainment, Sports, and Media Occupations  (12)

○ Healthcare Practitioner and Technical Occupations  (13)

○ Healthcare Support Occupations  (14)

○ Protective Service Occupations  (15)

○ Building and Grounds Cleaning and Maintenance Occupations  (16)

○ Personal Care and Service Occupations  (17)

○ Sales and Related Occupations  (18)

○ Office and Administrative Occupations  (19)

○ Farming, Fishing, and Forestry Occupations  (20)

○ Construction and Extraction Occupations  (21)

○ Installation, Maintenance, and Repairs Occupations  (22)

○ Production Occupations  (23)

○ Transportation and Materials Moving Occupations  (24)

○ Other  (25) _____

---

Q9 How many people live in your household? (Including yourself)

○ 1  (1)

○ 2  (2)

○ 3  (3)

○ 4  (4)

○ 5  (5)

○ 6  (6)

○ More than 6  (7)

---

Q10 How many children do you have? (Include children of a partner, if applicable)

○ 0  (1)

○ 1  (2)

○ 2  (3)

○ 3  (4)

○ 4  (5)

○ 5  (6)

○ 6  (7)

○ More than 6  (8)

------------------------------------------------------------------------

*Display This Question:*

*If How many children do you have? (Include children of a partner, if applicable) != 0*

Q11 How many children are financially dependent on you or your partner?

○ 0  (1)

○ 1  (2)

○ 2  (3)

○ 3  (4)

○ 4  (5)

○ 5  (6)

○ 6  (7)

○ More than 6  (8)

Q12 What is the highest level of education you have achieved?

○ Less than high school degree  (1)

○ High school degree or equivalent  (2)

○ Attended but did not complete program at a post-secondary institution  (3)

○ College diploma  (4)

○ Undergraduate university degree  (5)

○ Master's university degree  (6)

○ Doctoral university degree  (7)

*Display This Question:*
  *If Which of the following best describes your marital status? = Married*
  *Or Which of the following best describes your marital status? = Widowed, but with a new partner now*
  *Or Which of the following best describes your marital status? = Divorced, but with a new partner now*
  *Or Which of the following best describes your marital status? = In a domestic partnership or civil union*
  *Or Which of the following best describes your marital status? = Single, but cohabiting with a significant other*

Q13 What is the highest level of education that YOUR PARTNER has achieved?

○ Less than high school degree  (1)

○ High school degree or equivalent  (2)

○ Attended but did not complete program at a post-secondary institution  (3)

○ College diploma  (4)

○ Undergraduate university degree  (5)

○ Master's university degree  (6)

○ Doctoral university degree  (7)

---

Q14 In what province or territory do you live?

○ Alberta  (1)

○ British Columbia  (2)

○ Manitoba  (3)

○ New Brunswick  (4)

○ Newfoundland and Labrador  (5)

○ Northwest Territories  (6)

○ Nova Scotia  (7)

○ Nunavut  (8)

○ Ontario  (9)

○ Prince Edward Island  (10)

○ Quebec  (11)

○ Saskatchewan  (12)

○ Yukon  (13)

---

Q15 What city do you live in?

_____

---

Q16 What was your personal annual income last year?

○ $0-$9,999  (1)

○ $10,000-$24,999  (2)

○ $25,000-$49,999  (3)

○ $50,000-$74,999  (4)

○ $75,000-$99,999  (5)

○ $100,000-$124,999  (6)

○ $125,000-$149,999  (7)

○ $150,000-$174,999  (8)

○ $175,000-$199,999  (9)

○ $200,000 and above  (10)

○ Prefer not to answer  (11)

Q17 What was your PARTNER'S personal annual income last year?

○ $0-$9,999  (1)

○ $10,000-$24,999  (2)

○ $25,000-$49,999  (3)

○ $50,000-$74,999  (4)

○ $75,000-$99,999  (5)

○ $100,000-$124,999  (6)

○ $125,000-$149,999  (7)

○ $150,000-$174,999  (8)

○ $175,000-$199,999  (9)

○ $200,000 and above  (10)

○ Prefer not to answer  (11)

Q18 Do you rent or own the home where you live?

○ Rent  (1)

○ Own  (2)

○ Other (please specify)  (3)

_____

---

Q19 Are you or your partner CURRENTLY members of pension plans at your current employer(s)?

○ No  (1)

○ One of us is a member of a pension plan at work  (2)

○ Both of us are members of a pension plan at work  (3)

○ Don't know  (4) _____

---

Q20 Prior to any current employment, have you or your partner EVER PREVIOUSLY been members of pension plans at work?

○ No  (1)

○ One of us has previously been a member of a pension plan at work  (2)

○ Both of us have previously been members of a pension plan at work  (3)

○ Don't know  (4) _____

---

Q21 Which of the following apply to you? (Select all that apply)

☐ Saving for a down payment to buy a house  (1)

☐ Saving to help fund children's post-secondary education costs  (2)

☐ Paying off student debt  (3)

☐ Heavily in debt  (4)

☐ Confidently on track to retire  (5)

☐ Recently suffered a large financial loss  (6)

☐ Have an RRSP  (7)

☐ Have a TFSA  (8)

☐ Carrying balances on credit cards from month to month  (9)

☐ Recent graduate(s)  (10)

☐ Starting a family  (11)

☐ Mid-life  (12)

☐ Retiring within 10 years  (13)

☐ Retired  (14)

☐ Disabled, not able to work  (15)

☐ None of the above  (16)

---

Q22 If your employment income (all members of your household) was suddenly terminated, for how many months would your household be able to maintain paying your current obligations? (bills, debt repayments, etc.)

○ 0 months  (1)

○ 1 month  (2)

○ 2 months  (3)

○ 3 months  (4)

○ 4 months  (5)

○ 5 months  (6)

○ 6 months  (7)

○ More than 6 months  (8)

---

 The next section will ask you some general questions about your household's personal finances. For each category of personal finance, you will be asked two questions.

The first question will ask you who has been responsible for guiding the actual choices you have made - did a financial service provider (company or person) direct you, or did you use a financial service provider (company or person) to merely facilitate the transactions you wanted to make?

The second question will ask you to self-assess how you are doing in this particular area.

---

Q23 Who has been primarily responsible for guiding the choices you have made with respect to your current debt situation?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

234

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

---

Q24 How confident are you that your debts are under control?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q25 Who has been primarily responsible for determining the amount of money you have contributed towards your retirement savings?

○ I/we are mostly responsible  (1)

○ I/we are moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

---

Q26 How confident are you that you are on the right track to save enough for retirement?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q27 Who has been primarily responsible for determining your selected investments (stocks, bonds, mutual funds, etc.)?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/ourselves and financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

○ I/we do not have investments  (6)

○ Spouse/Friend/Family  (7)

---

Q28 How confident are you that you have appropriately selected investments (stocks, bonds, mutual funds, etc.)?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

○ I do not have investments  (7)

---

Q29 Who has been primarily responsible for determining your long term tax planning?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/ourselves and financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

---

Q30 How confident are you that you will minimize the taxes that you will pay over the long term?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q31 Who has been primarily responsible for determining your life insurance coverage?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

○ I only have life insurance coverage through an employer  (6)

○ I don't know  (7)

---

Q32 How confident are you that you have the right life insurance coverage?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q33 Who has been primarily responsible for determining your disability insurance coverage?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

○ I only have disability insurance coverage through an employer  (6)

---

Q34 How confident are you that you have the right disability insurance coverage?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q35 Who has been primarily responsible for the guiding your choices that have resulted in your emergency fund being the size that it is?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

---

Q36 How confident are you that your household has an appropriately sized emergency fund?

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

---

Q37 Who has been primarily responsible for your estate planning being in the state that it is?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

○ Do not have an estate plan  (6)

--------------------------------------------------------------------------------

Q38 How confident are you that your estate planning is in order? (Wills, powers of attorney, guardians and beneficiaries selected and up to date, etc.)

○ Extremely confident  (1)

○ Very confident  (2)

○ Somewhat confident  (3)

○ Not so confident  (4)

○ Not at all confident  (5)

○ I don't know  (6)

Q39 Who has been primarily responsible for setting up any plans for your children's education costs?

○ I/we am mostly responsible  (1)

○ I/we am moderately responsible  (2)

○ Balanced between myself/us and a financial service provider  (3)

○ A financial service provider has been moderately responsible  (4)

○ A financial service provider has been mostly responsible  (5)

○ Do not plan to assist in education costs  (7)

Q40 How satisfied are you with the expected level of assistance you will be able to provide in financing your children's education (if applicable)?

○ Extremely satisfied  (1)

○ Very satisfied  (2)

○ Somewhat satisfied  (3)

○ Not so satisfied  (4)

○ Not at all satisfied  (5)

○ Do not plan to assist in education costs  (7)

---

This next section is going to ask you a little bit about how you use the various types of financial services available. It will also ask you some more information about any PRIMARY financial services relationship you might have.

Many households use multiple "channels" of financial services. A channel is just a different place where you get financial advice or services. For example, a bank that you deal with for your daily banking needs is a channel. A life insurance agent or salesperson would be another channel.

---

Q41 For your MAIN banking relationship, do you use a credit union or a bank?

○ Credit Union  (1)

○ Bank  (2)

○ Other  (3) _____

---

Q42 What financial advice relationships do you currently use? (Check all that apply)

☐  Bank Tellers at my bank branch or credit union  (1)

☐  Financial Advisor at my bank branch or credit union (they may have an office to work out of in the branch)  (2)

☐ Full Service Financial Advisor with my bank, offices separate from bank branch (e.g. BMO Nesbitt Burns, CIBC Wood Gundy, National Bank Financial, RBC Dominion Securities, ScotiaMcLeod, TD Wealth Private Investment Advice)  (3)

☐ Financial Advisor not with a bank (e.g. Canaccord Genuity, Edward Jones, Raymond James, Richardson GMP, Odlum Brown, Assante, Desjardins, Hollis Wealth, IPC Investment Planning Counsel, Investors Group, Manulife Securities, Peak Financial, Worldsource, Global Maxfin, Portfolio Strategies, Sterling Mutuals, etc.)  (4)

☐ Employer-provided representative who works with your pension or Group RRSP plan at work  (5)

☐ Accountant  (6)

☐ Robo-Advisor (e.g. Nest Wealth, WealthBar, WealthSimple, etc.)  (7)

☐ Online bank relationship (e.g. PC Financial, Tangerine, EQ Bank, etc.)  (8)

☐ DIY (Do-It-Yourself)  (9)

☐ Insurance Agent or Insurance Broker  (10)

☐ Money Coach  (11)

☐ Friends/Family (informal/not affiliated with financial institutions)  (12)

☐ Blogs / Youtube / Online Forums  (13)

☐ Books / Magazines / Newspapers  (14)

☐ Television  (15)

☐ Podcasts  (16)

☐ Pay for a newsletter or trading system/program  (17)

☐ Other  (18) _____

Q43 From all the financial advice relationships you listed in the previous question, which ONE is your PRIMARY source of advice/service?

*Display This Choice:*

*If What financial advice relationships do you currently use? (Check all that apply) = Bank Tellers at my bank branch or credit union*

○ Bank Tellers at my bank branch or credit union  (1)

*Display This Choice:*

*If What financial advice relationships do you currently use? (Check all that apply) = Financial Advisor at my bank branch or credit union (they may have an office to work out of in the branch)*

○ Financial Advisor at my bank branch or credit union (they may have an office to work out of in the branch)  (2)

*Display This Choice:*

*If What financial advice relationships do you currently use? (Check all that apply) = Full Service Financial Advisor with my bank, offices separate from bank branch (e.g. BMO Nesbitt Burns, CIBC Wood Gundy, National Bank Financial, RBC Dominion Securities, ScotiaMcLeod, TD Wealth Private Investment Advice)*

○ Full Service Financial Advisor with my bank, offices separate from bank branch (e.g. BMO Nesbitt Burns, CIBC Wood Gundy, National Bank Financial, RBC Dominion Securities, ScotiaMcLeod, TD Wealth Private Investment Advice)  (3)

*Display This Choice:*

*If What financial advice relationships do you currently use? (Check all that apply) = Financial Advisor not with a bank (e.g. Canaccord Genuity, Edward Jones, Raymond James, Richardson GMP, Odlum Brown, Assante, Desjardins, Hollis Wealth, IPC Investment Planning Counsel, Investors Group, Manulife Securities, Peak Financial, Worldsource, Global Maxfin, Portfolio Strategies, Sterling Mutuals, etc.)*

○ Financial Advisor not with a bank (e.g. Canaccord Genuity, Edward Jones, Raymond James, Richardson GMP, Odlum Brown, Assante, Desjardins, Hollis Wealth, IPC Investment Planning Counsel, Investors Group, Manulife Securities, Peak Financial, Worldsource, Global Maxfin, Portfolio Strategies, Sterling Mutuals, etc.)  (4)

○ Employer-provided representative who works with your pension or Group RRSP plan at work  (5)

○ Accountant  (6)

○ Robo-Advisor (e.g. Nest Wealth, WealthBar, WealthSimple, etc.)  (7)

○ Online bank relationship (e.g. PC Financial, Tangerine, EQ Bank, etc.)  (8)

○ DIY (Do-It-Yourself)  (9)

○ Insurance Agent or Insurance Broker  (10)

○ Money Coach  (11)

○ Friends/Family (informal/not affiliated with financial institutions)  (12)

○ Blogs / Youtube / Online Forums  (13)

○ Books / Magazines / Newspapers  (14)

○ Television  (15)

○ Podcasts  (16)

○ Pay for a newsletter or trading system/program  (17)

○ Other  (18) _____

---

Q44 With respect to your current PRIMARY channel of advice, HOW LONG has this been your primary channel of advice?

○ Less than 2 years  (1)

○ 2 to 5 years  (2)

○ 6 to 10 years  (3)

○ 11 to 15 years  (4)

○ More than 15 years  (5)

---

Q45 When you first started with your current PRIMARY channel of advice, HOW STRONGLY did you feel about wanting to manage your personal finances yourself versus wanting to delegate decisions and guidance to someone else (or to a service)?

○ Very strong preference to handle everything myself  (1)

○ Moderate preference to handle things myself  (2)

○ No strong feeling either way  (3)

○ Moderate preference to delegate to an advisor/service  (4)

○ Very strong preference to delegate everything to an advisor/service  (5)

---

Q46 With respect to your PRIMARY channel of advice you use, how much research did you do before engaging this channel?

○ Spent no time considering this choice  (1)

○ Spent a little time considering this choice  (2)

○ Spent a moderate amount of time considering this choice  (3)

○ Spent a somewhat significant amount of time considering this choice  (4)

○ Spent a very significant amount of time considering this choice  (5)

Q47 How much consideration did you give in selecting the SPECIFIC PERSON you work with at your PRIMARY channel of advice/service?

○ Spent no time considering this choice  (1)

○ Spent a little time considering this choice  (2)

○ Spent a moderate amount of time considering this choice  (3)

○ Spent a somewhat significant amount of time considering this choice  (4)

○ Spent a very significant amount of time considering this choice  (5)

Q48 How interested are YOU (individually) about personal finance?

○ Not at all interested  (1)

○ Not so interested  (2)

○ Somewhat interested  (3)

○ Very interested  (4)

○ Extremely interested  (5)

---

Q49 How interested is YOUR PARTNER about personal finance?

○ Not at all interested  (1)

○ Not so interested  (2)

○ Somewhat interested  (3)

○ Very interested  (4)

○ Extremely interested  (5)

---

Q50 What was the level of communication about personal finance in the household YOU GREW UP IN?

○ None at all  (1)

○ A little  (2)

○ A moderate amount  (3)

○ A lot  (4)

○ A great deal  (5)

○ I don't recall  (6)

---

Q51 How financially secure did the household YOU GREW UP IN feel?

○ Very insecure  (1)

○ Moderately insecure  (2)

○ Neither secure or insecure  (3)

○ Moderately secure  (4)

○ Very secure  (5)

○ I don't know  (6)

---

Q52 Did the household you grew up in use a financial advisor?

○ Yes  (1)

○ No  (2)

○ I don't know  (3)

---

Q53 How satisfied are you with YOUR PRIMARY CHANNEL OF ADVICE?

○ Extremely satisfied  (18)

○ Somewhat satisfied  (19)

○ Neither satisfied nor dissatisfied  (20)

○ Somewhat dissatisfied  (21)

○ Extremely dissatisfied  (22)

---

Q54 How much do you trust the FINANCIAL SERVICES INDUSTRY IN GENERAL?

○ None at all  (1)

○ A little  (2)

○ A moderate amount  (3)

○ A lot  (4)

○ A great deal  (5)

---

Q55 How much money do you (or your household) CURRENTLY have in investments like mutual funds, stocks, bonds, etc.? (An exact figure is not needed - you can round to the nearest $10,000 increment)

_____

---

Q56 Before engaging with your CURRENT PRIMARY channel of advice/service, how much money did you (or your household) have in investments like mutual funds, stocks, bonds, etc.?  (An exact figure is not needed - you can round to the nearest $10,000 increment)

_____

---

Q57 Earlier, you indicated that your current personal annual income was ${Q16/ChoiceGroup/SelectedChoices}. Before engaging with your current PRIMARY channel of advice/service, what WAS your annual income at that time?

○ $0-$9,999  (1)

○ $10,000-$24,999  (2)

○ $25,000-$49,999  (3)

○ $50,000-$74,999  (4)

○ $75,000-$99,999  (5)

○ $100,000-$124,999  (6)

○ $125,000-$149,999  (7)

○ $150,000-$174,999  (8)

○ $175,000-$199,999  (9)

○ $200,000 and above  (10)

○ Prefer not to answer  (11)

---

Q58 Who initiated the relationship between you and your PRIMARY channel of advice?

○ I initiated the first contact with my primary channel of advice  (1)

○ The primary channel of advice solicited my business and initiated the first contact  (2)

○ It was mutual  (3)

○ I don't know/remember  (4)

---

Q59 BEFORE working with your current PRIMARY financial advice channel, which of the following aspects of your finances were already addressed? (Select all that apply.)

- [ ] Investments  (1)

- [ ] Life Insurance  (2)

- [ ] Disability Insurance  (3)

- [ ] Setting up an emergency fund  (4)

- [ ] Debt management  (5)

- [ ] Cash flow / budgeting advice  (6)

- [ ] Retirement forecasting  (7)

- [ ] Tax management  (8)

- [ ] Estate planning  (9)

- [ ] Education savings for children  (10)

- [ ] Large purchase planning  (11)

- [ ] Financial Plan created  (15)

- [ ] Financial Plan reviewed regularly  (16)

- [ ] Don't know  (12)

- [ ] None  (13)

- [ ] Other (please specify)  (14)

_____

Q60 AFTER you started using your PRIMARY channel of advice/service, on which of the following aspects of your finances has THIS CHANNEL provided advice or service? (Select all that apply.)

☐ Investments  (1)

☐ Life Insurance  (2)

☐ Disability Insurance  (3)

☐ Setting up an emergency fund  (4)

☐ Debt management  (5)

☐ Cash flow / budgeting advice  (6)

☐ Retirement forecasting  (7)

☐ Tax management  (8)

☐ Estate planning  (9)

☐ Education savings for children  (10)

☐ Large purchase planning  (11)

☐ Financial Plan created  (14)

☐ Financial Plan reviewed regularly  (15)

☐ Don't know  (12)

☐ Other (please specify)  (13)

_____

You are almost done. This final section will ask you three standardized financial literacy questions.

Q61 Suppose you had $100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?

○ More than $102  (1)

○ Exactly $102  (2)

○ Less than $102  (3)

Q62 Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

○ More than today  (1)

○ Exactly the same  (2)

○ Less than today  (3)

Q63 Do you think the following statement is true or false? "Buying a single company's stock usually provides a safer return than a stock mutual fund."

○ True  (1)

○ False  (2)

# Appendix C

Description of mutual fund and sales options in Canada, from author's personal website (Banerjee, 2008).

---

In Canada, many mutual funds pay what are known as 'trailing commissions' to firms and advisors. It is a cost that can be embedded in the MER (Management Expense Ratio) of a fund through the 'service fee'. While there are a handful of mutual funds that do not charge a service fee (and resulting trailing commissions), most of them do.

For the funds that do have service fees, there may be five different versions of the same fund: Front-End Load, Back-End Load, No-Load, the newer Low Load (sometimes referred to as Level Load as well), and finally the F-Class versions. Let's examine the differences by seeing how a representative sample fund can be sold under each option.

**The Representative Sample Fund**

Our sample fund is a Canadian Equity mutual fund that has a management fee of 1.25% and 'other fees and expenses' of 0.25% (brokerage costs, administration expenses, etc.). Therefore, the mutual fund manufacturer's fee to operate this fund is 1.50%. The manufacturer is the company that picks the investments and runs the portfolio.

The manufacturer also adds a 'service fee'. It is this service fee from which commissions are generated. The typical 'service fee' is 1.00%, with a few exceptions as noted below.

To MER of this representative sample fund would be 2.50% which is made up of the management fee (1.25%) and other operating expenses (0.25%) plus the service fee (1.00%).

**Front-End Load Mutual Funds**

A front-end load version of this mutual fund pays an ongoing trailing commission to the advisor of the typical 1.00%. This means the advisor will receive 1.00% of the average value of the investment in this fund over the course of every year. The reason that it is called a front-end load version is because the advisor additionally can charge a front-end sales charge between 0% and 5% which gets deducted from the investment immediately. In many cases, fund companies will limit this to a maximum of 2% instead of 5%. (Further, many advisors will sell a front-end version of a fund with a front-end fee of 0% – they would do this when there is no specific 'no-load' version of the same fund available and they would like the features associated with that type of version of fund.)

As an example, if $100,000 was invested into a front-end load fund with a front-end load of 2%, the initial investment would generate a commission of $2,000 which goes to the advisor. This leaves $98,000 to be invested and the advisor would further earn a 1% trailing commission per year of the amount in the account.

**DSC Funds or Back-End Load Mutual Funds**

Most commonly known as DSC funds, and also as Deferred Sales Charge funds and Declining Sales Charge funds.

Many funds are sold on a DSC basis – the reason for this is because it allows for the biggest up-front commission of any of the other versions (except for the advisor who would actually charge a 5% front-end load – which is pretty rare). It is important to note that DSC funds pay the advisor an up-front commission of 5% even though this is not subtracted from the initial investment deposit. Rather, the fund manufacturer pays the advisor in advance for the future service fees that will be generated. The ongoing trailing commission to the advisor is reduced from 1.00% to 0.25% in exchange for the lump sum, up-front commission. It is possible in some cases for the trailing commission rate to increase from 0.25% up to 1.00% after the advanced up-front commission has been recouped by the difference in service fee to trailing commission rate (generally after seven years). But this is not always the case.

It is also important to note that if the investor were to redeem units of these funds they may be subject to a redemption fee for the first seven years (plus or minus depending on the fund company). The redemption fee normally starts at 5.0% in the first year and then gradually declines to 0% after seven years, hence these funds sometimes being referred to as 'declining sales charge' funds. After the seven years there would be no redemption fees to redeem units.

This redemption fee is basically the fund company's assurance that the up-front commission to the advisor will be accounted for should the investor sell out before the future service fees can be generated. For example, if an investors redeems units of a fund after year one, they pay a 5% penalty that in turn covers the fund company's initial commission to the advisor.

The service fee charged by the fund remains at 1.00%. The service fee shouldn't be confused with the trailer fee the advisor receives, which for DSC funds is 0.25% as mentioned above. This means there is a 0.75% surplus the fund company is running every year and it is from this ongoing surplus that the up-front commission liability is paid off over the course of a little more than 6 years (hence the 7 year redemption fee schedule).

**No Load Funds**

No load funds have no initial front-end fees, nor do they have any DSC fees. In other words, the investor would only have to worry about paying the ongoing MER for as long as they hold the funds. The advisor will generate a 1.00% commission every year based on the average value of the investment – they receive no up-front commission for no-load funds, just the ongoing trailer fee.

If an investment of $100,000 is made to a no-load fund, the investor would have nothing deducted from their initial investment and the advisor will not earn an up-front commission but they will still earn a 1.00% commission based on the average value of the investment every year.

(In some very rare cases, a no-load fund may have a higher trailer than other versions of the same fund – which means it would have a higher service fee as well.)

**Low Load Funds (Sometimes referred to as Level Load)**

Just think of these as a scaled back version of DSC funds, with a bit of a twist. The up-front commission is lower, averaging 3% versus the DSC's 5%. The redemption fees start at 3% and decline to 0% after three years instead of the fees starting at 5% and declining to 0% after seven years for DSC funds. But here is the twist: while the trailing commission is initially set to 0.25%, it increases to 1.00% as the redemption fee schedule expires. This is partly why it is also known as 'level load'.

If an investment of $100,000 is made into a Low-Load fund (or Level Load fund), the investor is not docked any money up front. The advisor receives $3,000 as an up-front commission and 0.25% of the average value of the account in the first year. He or she will receive 0.50% of the average value of the account in the second year, 0.75% in the third year and then 1.00% every year thereafter.

**F-Class Funds**

The 'F' stands for 'Fee based accounts' funds. These are relatively new types of accounts that charge clients a transparent fee that is easily seen on statements (called the Client Advisory Fee). This was introduced to address complaints of investors not knowing what they were paying their advisors as the compensation was essentially hidden and not well disclosed. For the F-Class version of a fund there is no service fee. So, for our representative sample fund that would mean that the MER of the fund has been reduced from the 2.50% in all the previous cases to 1.50%. But to make an apples-to-apples comparison, we would need to add the Client Advisory Fee to this amount to determine the all-in cost. While a fee-based account provides more transparency, it may not necessarily be cheaper. Typically, the Client Advisory Fee for F-class funds is set to 1.00%, therefore it is exactly the same as a no-load fund in terms of cost and flexibility (i.e. no charges to buy and sell), although a bit more transparent.

If an investment of $100,000 was made into an F-class mutual fund, the initial investment would not be docked any up-front charges, and the advisor would not receive any up front commission. The advisor would receive a percentage (typically 1.00%) of the average value of the account every year. There would be no cost to sell out of the f-class fund.

**The Commissions and Trailers are Split by the Advisor and His/Her Firm**

As a final note, all the commissions noted above may not necessarily go to the advisor but may be split between the advisor and the advisor's firm. Depending on the situation the advisor normally receives between 40% – 80% of the commissions generated, although percentages below and above this range are also possible in certain situations.

# Appendix D

Description of the differences in types of fees charged by advisors, from "Find the perfect financial planner" published in MoneySense magazine, 2013, by author (Banerjee, 2013).

**Asset-Based Fees**

The asset-based fee model is set as a percentage of the value of a client portfolio. If you had a $500,000 portfolio with an annual 1% fee, each year $5,000 is deducted from your account for advice and execution. The charge is transparent, so clients see this figure in writing. They write a cheque or have fees deducted from portfolio cash balances. Product costs are separated. Individual stock and bond transactions are covered by the advisory fee, but ETFs retain their product cost (they can't be stripped out). Mutual funds used are "F-Class," with compensation stripped out. A commission-model version of a fund may have a 2.5% MER, but clones in a class designed for asset-based accounts may have an MER of just 1.5%. This means no payment from the product manufacturers goes to the adviser or firm, reducing potential conflicts of interest and raising transparency. This may or may not lower costs. This advice model has increased tremendously in popularity over the last 10 years.

**Fee-For-Service Fees**

The pure fee-for-service model is relatively rare. Quite simply, fees are charged either by the hour or by the project on a flat-rate basis. Hourly fees may run between $100 and $275 an hour. A flat rate for a financial plan and investment policy statement (IPS) ranges from $1,000 to $5,000. Fee-for-service is also offered by a newer category of financial advisers known as money coaches. Money coaches tend to focus more on financial behaviour, and work on a more intensive basis for a contracted period of time. They can also develop financial plans, but do not sell securities.

The fee-for-service model is the most transparent, most unbundled methodology. You can engage an adviser for investment advice or financial planning advice, or both. Execution is separate and often not even an option. This works wonderfully for investors who can execute on their own via discount brokerages and engage other professionals such as lawyers and insurance agents as necessary. But again, being capable of handling one's own trades with a discount broker does not mean one should necessarily handle one's own trades.

# Appendix E

Explanation of confusion in usage of term "Fee-Only" in Canada (and other jurisdictions around the world). Excerpt from "Find the perfect financial planner" published in MoneySense magazine, 2013, by author (Banerjee, 2013).

**What the heck does "Fee-Only" really mean?**

There's mass confusion on what actually constitutes a fee-only advisory practice in Canada. Outside the industry circles, there are at least three distinct compensation models that get referenced to consumers in financial media: commission-based, fee-based, and fee-only. Fee-based is synonymous with fees charged on a percentage-of-assets basis while "fee-only" has been synonymous with fee-for-service.

Inside the industry, it's a bit different. Commission-based advisers receive most of their income through commissions, but may offer other models. Fee-based advisers receive most of their income from fees levied as a percentage of client assets under management, but may also receive some commissions. But as long as adviser compensation originates directly from the client and never from product or transactions, they can use either a fee-for-service or a percentage-of-assets fee model, or both, and still refer to themselves as "fee-only." This is a very subtle point that most laypeople, and some industry insiders, do not fully appreciate.

John Gibson, president, and founder of EES Financial Services Ltd., is considered a founding father of financial planning in Canada. His company has offered strictly fee-for-service advice since 1968. "We are Canada's oldest 'fee-only' financial planners. Some use the term 'fee-only' as a marketing tool more than as a philosophy. People call themselves all kinds of things in Canada. But put us in the room with anyone and we'll sort out that confusion," he says.

The problem is the widespread confusion over terms may mean few people will actually be in that room. There is a lack of consensus on the definitional difference between "fee-only" and "fee-for-service" within the adviser community.

Don't look to regulators for clarification: the terms "fee-only" or "fee-for-service" are not defined under securities legislation. In fact, fee-for-service financial planning and investment guidance doesn't even require a license if an adviser doesn't execute transactions or provide advice on specific securities with respect to an individual's particular situation. While lack of licensing is not an indictment in and of itself, it warrants extra caution and perhaps heightened self-awareness of an investor's limitations.

Among advisers, opinions are split as to whether advisers who don't exclusively offer fee-for-service should be holding themselves out as "fee-only" advisers, given the clear incongruence with public perception.

"I consider fee-only to refer to fee-for-service, being an hourly or, more often than not, a flat-fee rate," says Jason Heath, managing director of Objective Financial Partners. "The media has embraced and promoted this form of advice and I think that has led to the industry embracing and promoting themselves as fee-only even when they don't fit this definition. It may be more appropriate to refer to advice-only, being completely removed from the sale of assets."

My own belief is some advisory teams, though not all, advertise themselves as fee-only to knowingly take advantage of this confusion about terminology. The perception of consumers, propagated by the media (of which I have not been an exception) has clearly been that "fee-only" in Canada refers strictly to fee-for-service advisers.

In the United States, the National Association of Personal Financial Advisers (NAPFA) is clear. It considers fee-only advisers to be those who offer either the fee-for-service or percentage-of-assets model. Technically speaking, costs incurred from either of these models are classified as fees, not commissions.

In Canada, Cary List, CEO of the Financial Planning Standards Council (FPSC), says that while there is no regulatory definition, the FPSC's expectation is that a fee-only relationship refers to planners whose compensation originates directly and exclusively from their clients. "We don't promote one form of compensation over another; however, if somebody is advertising themselves as 'fee-only,' while they may receive those fees on an hourly basis, a flat rate, or as a percentage of assets, they cannot receive compensation from anyone else. It's about transparency and truth in advertising."

Speaking of which, many advisers offer hourly charges and flat rates prominently, but may then offer to offset those fees if clients decide to execute the investments with them on a percentage of assets basis. If the à la carte plan costs $5,000, you can forego forking over the cash up front simply by having the adviser purchase the underlying investments for the client. Some might consider this practice a dubious form of bait-and-switch. Others would argue it's just smart marketing: most prospective clients lured in by the option of fee-for-service advice are generally well-to-do if they are ready to cut a cheque for many thousands of dollars.

For years, investor advocates, journalists, and bloggers have incorrectly used the term "fee-only" when they really were referring to pure time- or project-based fee-for-service. It's time everyone got on the same page in order to reduce the confusion: "fee-only" refers to advisers who receive fees originating directly from the client, be it through hourly or flat-rate charges, or fees charged on a percentage-of-assets basis. Within the fee-only classification, an adviser may use either or both of a fee-for-service model or a fee-based model.

The delineation of fee-for-service and asset-based fee models is important—not because one is better than the other, but because there has been rampant confusion that has gotten in the way of consumers making informed choices.

(Banerjee, 2013)

# Appendix F

## What is the value of financial advice?

This research project investigates if a new model of measuring the value of financial advice to households would improve on existing measurements.The research forms part of my MSc/DBA academic qualification at Henley Business School at the University of Reading. You have been approached because you may form part of the population that may have, or will be faced with the choice of selecting financial advice or products.

I would be very grateful if you would agree to take part by completing this questionnaire online.
...........................................................................................................

Responses do not require your name to be provided. The data are confidential and individual respondents will not be identified in the final report. The project has been subject to ethical review in accordance with the procedures specified by the University of Reading Research Ethics Committee and has been given a favourable ethical opinion for conduct.

By completing and returning the questionnaire it will be understood that you are aged 18 or over and that you give consent for your responses to be used for the purposes of this research project.

Many thanks for your support.

Contact details of Researcher: Preet Banerjee, preet.banerjee@gmail.com

This section will collect some basic demographic information. Your information will be kept private, and is anonymous. You'll note that your name is not required.

Please only fill out this survey if you are either the primary financial decision maker, or share equally with a partner in making financial decisions for the household.

\* 1. Please enter your birthdate.

|  | MM | DD | YYYY |
|---|---|---|---|
| Date | ☐ / | ☐ / | ☐ |

* 2. What is the gender of the primary financial decision maker?

◯ Female

◯ Male

◯ My partner and I share equally in all financial decision making

◯ Other (please specify)

[                                                                              ]

2

* 3. Which of the following best describes your current occupation?

○ Management Occupations

○ Business and Financial Operations Occupations

○ Computer and Mathematical Occupations

○ Architecture and Engineering Occupations

○ Life, Physical, and Social Science Occupations

○ Community and Social Service Occupations

○ Legal Occupations

○ Education, Training, and Library Occupations

○ Arts, Design, Entertainment, Sports, and Media Occupations

○ Healthcare Practitioners and Technical Occupations

○ Healthcare Support Occupations

○ Protective Service Occupations

○ Food Preparation and Serving Related Occupations

○ Building and Grounds Cleaning and Maintenance Occupations

○ Personal Care and Service Occupations

○ Sales and Related Occupations

○ Office and Administrative Support Occupations

○ Farming, Fishing, and Forestry Occupations

○ Construction and Extraction Occupations

○ Installation, Maintenance, and Repair Occupations

○ Production Occupations

○ Transportation and Materials Moving Occupations

○ Other (please specify)

3

266

* 4. Which of the following best describes your current relationship status?

◯ Married

◯ Widowed

◯ Divorced

◯ Separated

◯ In a domestic partnership or civil union

◯ Single, but cohabiting with a significant other

◯ Single, never married

* 5. How many people currently live in your household?

[ ]

* 6. What is the highest level of school you or your partner have completed or the highest degree you or your partner have received?

◯ Less than high school degree

◯ High school degree or equivalent

◯ Attended but did not complete program at a post-secondary institution

◯ College diploma

◯ Undergraduate university degree

◯ Master's university degree

◯ Doctoral university degree

* 7. Which of the following categories best describes your household's life stage?

◯ Young and beginning career(s)

◯ 5 - 10 years into career(s)

◯ Mid-career

◯ Pre-retirement

◯ Retired

◯ Disabled, not able to work

4

* 8. How much total combined money did all members of your HOUSEHOLD earn last year?

○ $0 to $9,999

○ $10,000 to $24,999

○ $25,000 to $49,999

○ $50,000 to $74,999

○ $75,000 to $99,999

○ $100,000 to $124,999

○ $125,000 to $149,999

○ $150,000 to $174,999

○ $175,000 to $199,999

○ $200,000 and up

○ Prefer not to answer

* 9. In what city do you live?

* 10. In what province do you live?

* 11. Do you rent or own the home where you live?

○ Rent

○ Own

**Pilot Study - Preet Banerjee MSc/DBA 30 (Rotman)**

Channel of Advice

Many households use multiple channels of financial services (i.e. deal with more than one bank, or have a financial advisor as well as a DIY investment account). The questions in this next section asks about the PRIMARY channel of financial services you engage with.

\* 12. What is your primary channel of financial advice and/or products?

  ◯ Bank Teller at my bank branch or credit union

  ◯ Financial Advisor at my bank branch or credit union (they may have an office to work out of in the branch)

  ◯ Full Service Financial Advisor with my bank, offices separate from bank branch (e.g. BMO Nesbitt Burns, CIBC Wood Gundy, National Bank Financial, RBC Dominion Securities, ScotiaMcLeod, TD Wealth Private Investment Advice)

  ◯ Financial Advisor not with a bank (e.g. Canaccord Genuity, Edward Jones, Raymond James, Richardson GMP, Odlum Brown, Assante, Desjardins, Hollis Wealth, IPC Investment Planning Counsel, Investors Group, Manulife Securities, Peak Financial, Worldsource, Global Maxfin, Portfolio Strategies, Sterling Mutuals, etc.)

  ◯ Employer-provided representative who works with your pension or Group RRSP plan at work

  ◯ Accountant

  ◯ Robo-Advisor (e.g. Nest Wealth, WealthBar, WealthSimple, etc.)

  ◯ Online banking only (e.g. PC Financial, Tangerine, etc.)

  ◯ DIY (Do-It-Yourself) with self education from books, blogs, newspapers, magazines, etc.

  ◯ Insurance Agent or Insurance Broker

  ◯ Other

Please indicate the name of the firm/company you use (and any division name they may use). For example, you could say "CIBC bank branch", or "CIBC Imperial Service", or "CIBC Wood Gundy" - as these are all associated with CIBC but represent different channels of advice. You could also use names like "Investors Group", "Edward Jones", "Steadyhand Investments". If you are not sure, just enter in a description to the best of your ability.

6

* 13. How long have you been using your current channel of advice?

- ( ) Less than 1 year

- ( ) 1 - 3 years

- ( ) 3 - 5 years

- ( ) 5 - 10 years

- ( ) 10 - 20 years

- ( ) More than 20 years

* 14. Are you or your partner members of pension plans at work?

NOTE:
"Defined Contribution" means your contributions are known, but upon retirement there are no guarantees that your pension will pay a fixed, regular payment until you die.
"Defined Benefit" means that upon retirement, you will know exactly how much you will get every month for as long as you live.

- ( ) No

- ( ) One of us is a member of a defined contribution plan

- ( ) One of us is a member of a defined benefit contribution plan

- ( ) One of us is a member of a defined contribution plan, and the other is a member of a defined benefit contribution plan

- ( ) Both of us are members of a defined contribution plan

- ( ) Both of us are members of a defined benefits plan

- ( ) Not sure

* 15. If you deal with a financial advisor, do they hold themselves out as financial "PLANNERS", and/or provide comprehensive advice on all areas of your personal finances, and not just investment advice?

- ( ) Yes - my financial advisor provides advice on all areas of my personal finances, not just investment advice.

- ( ) No - my financial advisor primarily only provides advice on investments.

- ( ) I do not have a financial advisor

7

* 16. When choosing the current channel of financial advice (or financial advisor) you use, how much research did you do before engaging this channel (or financial advisor)?

- ( ) Spent no time considering this choice, or looking at alternative options or advisors

- ( ) Spent a little time considering this choice, or looking at alternative options or advisors

- ( ) Spent a moderate amount of time considering this choice, or looking at alternative options or advisors

- ( ) Spent a somewhat significant amount of time considering this choice, or looking at alternative options or advisors

- ( ) Spent a very significant amount of time considering this choice, looking at all alternative options, and interviewing multiple advisors

* 17. When you chose the channel of advice you are currently using, how strongly did you feel about wanting to manage your personal finances yourself, versus wanting to completely delegate to an advisor?

- ( ) Very strong preference to handle everything myself

- ( ) Moderate preference to handle things myself

- ( ) No strong feelings either way

- ( ) Moderate preference to delegate to an advisor

- ( ) Very strong preference to delegate everything to an advisor

* 18. Over the long term, how naturally interested and enthusiastic has the primary financial decision maker been about managing your household's personal finances?

- ( ) Dislike of personal finance

- ( ) Moderately disinterested and not enthusiastic about personal finance

- ( ) Not interested or enthusiastic about personal finance

- ( ) Moderately interested and enthusiastic about personal finance

- ( ) Very interested and enthusiastic about personal finance

* 19. When the primary financial decision maker was growing up, did their family communicate openly and provide guidance on managing personal finances?

- ( ) The family never spoke about personal finances at all

- ( ) The family rarely spoke about money, and it was awkward when it happened

- ( ) The family spoke about money sometimes, did not shy away from it, but did not embrace it either

- ( ) The family discussed money fairly openly and provided some guidance from time to time

- ( ) The family spoke extremely openly about money and provided guidance regularly

8

* 20. When the primary financial decision maker was growing up, was their household (to the best of their knowledge) financially secure, or insecure?

○ The household's finances were very insecure

○ The household's finances were moderately insecure

○ The household's finances were neither particularly insecure or secure

○ The household's finances were moderately secure

○ The household's finances were very secure

* 21. How trustworthy do you feel the financial services industry is in general?

○ Extremely untrustworthy

○ Moderately untrustworthy

○ Neutral

○ Moderately trustworthy

○ Extremely trustworthy

**Pilot Study - Preet Banerjee MSc/DBA 30 (Rotman)**

Household assessment

This next section will ask you for some basic details about your personal financial situation. Please enter your answers in the context of your overall household.

Please answer the following questions on a scale from 1 to 5, where a lower score (1) indicates "little", "poor", "not confident", etc. and a higher score (5) indicates "well", "high", or "confident".

\* 22. Credit Cards

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's credit card management? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

\* 23. Overall Debt Management and Cashflow Planning (Budgeting)

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's overall debt and cashflow planning? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

10

## * 24. Retirement Planning

(Note that this pertains to retirement income forecasting and planning for a successful retirement.)

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's retirement planning? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

## * 25. Investment Strategies and Portfolio Management

(Note that this is separate from Retirement Planning, and pertains to the nature of the management of your investments.)

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's investment strategies and portfolio management? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

11

* 26. Tax Management
(Note: this refers to general long-term tax "planning" in the context of retirement and investment planning, as opposed to the annual filing of your taxes.)

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's general, long-term tax planning? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

* 27. Life Insurance

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's life insurance needs? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

* 28. Disability Insurance

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's disability insurance needs? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

12

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's emergency fund? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

* 30. Wills and Powers of Attorney

|  | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| How well managed or confident are you about your household's wills and powers of attorney? | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ |

* 31. Education Savings for Children

|  | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| How well managed or confident are you about your household's education savings plans for your children? | ○ | ○ | ○ | ○ | ○ | ○ |
| Do you feel you need advice in this area? | ○ | ○ | ○ | ○ | ○ | ○ |
| How much advice are you currently receiving in this area from your primary channel of service/advice? | ○ | ○ | ○ | ○ | ○ | ○ |

13

276

**Pilot Study - Preet Banerjee MSc/DBA 30 (Rotman)**

**Basic Financial Literacy Test**

This last section will ask you three standardized questions to measure financial literacy.

\* 32. Suppose you had $100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?

( ) More than $102

( ) Exactly $102

( ) Less than $102

\* 33. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

( ) More than today

( ) Exactly the same

( ) Less than today

\* 34. Do you think the following statement is true or false?:
"Buying a single company's stock usually provides a safer return than a stock mutual fund."

( ) True

( ) False

**END**

You're all done!

Thank you for your participation. If you have any questions for the researcher, Preet Banerjee, you may contact him via email at preet.banerjee@gmail.com

If you are interested in the answers to the financial literacy questions they are as follows:

QUESTION: Suppose you had $100 in a savings account and the interest rate was 2% per year. After five years, how much do you think you would have in the account if you left the money to grow?
ANSWER: More than $102

QUESTION: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?
ANSWER: Less than today

QUESTION: Please tell me whether this statement is true or false: "Buying a single company's stock usually provides a safer return than a stock mutual fund."
ANSWER: False

15

278

# Appendix G

Hierarchical regression in SPSS showing the five sequential regression models for main outcome variable HWS.

*Model Summary*

| | R | | | |
|---|---|---|---|---|
| | Outlier = .00 | | | Std. Error of the |
| Model | (Selected) | R Square | Adjusted R Square | Estimate |
| 1 | .374[a] | .140 | .127 | 2.60476 |
| 2 | .436[b] | .190 | .168 | 2.54354 |
| 3 | .475[c] | .226 | .187 | 2.51383 |
| 4 | .634[d] | .402 | .368 | 2.21687 |
| 5 | .648[e] | .419 | .382 | 2.19128 |

*Coefficients*[a,b]

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 1.597 | .894 | | 1.787 | .074 |
| | PrimaryChannel_BranchFA | .154 | .904 | .015 | .170 | .865 |
| | PrimaryChannel_FullServiceAtBank | 1.131 | .902 | .115 | 1.254 | .210 |
| | PrimaryChannel_IndependentFA | 2.115 | .887 | .281 | 2.386 | .017 |
| | PrimaryChannel_RoboAdvisor | .127 | .983 | .007 | .129 | .897 |
| | PrimaryChannel_InsuranceAgent | 1.893 | 1.229 | .055 | 1.540 | .124 |
| | PrimaryChannel_EmployerRep | 1.010 | 1.173 | .032 | .860 | .390 |
| | PrimaryChannel_OnlineBank | -.588 | 1.014 | -.028 | -.580 | .562 |
| | PrimaryChannel_DIY | 2.295 | .877 | .387 | 2.615 | .009 |
| | PrimaryChannel_Newsletter | -.633 | 1.101 | -.024 | -.575 | .566 |
| | PrimaryChannel_Accountant | .299 | .976 | .017 | .306 | .759 |
| | PrimaryChannel_MoneyCoach | 4.595 | 1.378 | .109 | 3.335 | <.001 |
| | PrimaryChannel_SocialMedia | 3.155 | .896 | .379 | 3.523 | <.001 |
| | PrimaryChannel_Podcasts | 2.874 | 1.010 | .143 | 2.844 | .005 |
| | PrimaryChannel_PrintMedia | 2.801 | .913 | .247 | 3.068 | .002 |
| | PrimaryChannel_FriendsOrFamily | .920 | 1.003 | .046 | .917 | .359 |
| | UsePrimaryChannel_2to5Years | .343 | .255 | .053 | 1.345 | .179 |
| | UsePrimaryChannel_6to10Years | .523 | .265 | .078 | 1.973 | .049 |
| | UsePrimaryChannel_11to15Years | .871 | .304 | .100 | 2.863 | .004 |
| | UsePrimaryChannel_15yearsOrMore | .684 | .261 | .111 | 2.615 | .009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | (Constant) | 4.558 | 1.783 | | 2.556 | .011 |
| | PrimaryChannel_BranchFA | .057 | .887 | .006 | .065 | .949 |
| | PrimaryChannel_FullServiceAtBank | .913 | .888 | .093 | 1.028 | .304 |
| | PrimaryChannel_IndependentFA | 1.682 | .874 | .224 | 1.926 | .054 |
| | PrimaryChannel_RoboAdvisor | -.376 | .969 | -.022 | -.388 | .698 |
| | PrimaryChannel_InsuranceAgent | 1.447 | 1.210 | .042 | 1.196 | .232 |
| | PrimaryChannel_EmployerRep | .707 | 1.153 | .023 | .613 | .540 |
| | PrimaryChannel_OnlineBank | -.869 | .996 | -.042 | -.873 | .383 |
| | PrimaryChannel_DIY | 1.693 | .866 | .285 | 1.955 | .051 |
| | PrimaryChannel_Newsletter | -.439 | 1.080 | -.016 | -.406 | .684 |
| | PrimaryChannel_Accountant | -.179 | .960 | -.010 | -.187 | .852 |
| | PrimaryChannel_MoneyCoach | 3.740 | 1.357 | .088 | 2.755 | .006 |
| | PrimaryChannel_SocialMedia | 2.429 | .885 | .292 | 2.745 | .006 |
| | PrimaryChannel_Podcasts | 2.192 | .999 | .109 | 2.194 | .028 |
| | PrimaryChannel_PrintMedia | 2.379 | .900 | .210 | 2.644 | .008 |
| | PrimaryChannel_FriendsOrFamily | .204 | .992 | .010 | .205 | .837 |
| | UsePrimaryChannel_2to5Years | .301 | .250 | .047 | 1.201 | .230 |
| | UsePrimaryChannel_6to10Years | .532 | .264 | .080 | 2.018 | .044 |
| | UsePrimaryChannel_11to15Years | .972 | .303 | .112 | 3.211 | .001 |
| | UsePrimaryChannel_15yearsOrMore | 1.016 | .270 | .165 | 3.764 | <.001 |
| | AGE | -.042 | .008 | -.208 | -5.443 | <.001 |
| | HouseholdIncome | .064 | .038 | .049 | 1.669 | .095 |
| | Education_Highschool | -1.666 | 1.509 | -.151 | -1.104 | .270 |
| | Education_College | -1.542 | 1.498 | -.196 | -1.030 | .303 |
| | Education_UndergraduateDegree | -1.458 | 1.493 | -.260 | -.977 | .329 |
| | Education_MastersDegree | -1.669 | 1.496 | -.263 | -1.115 | .265 |
| | Education_DoctoralDegree | -1.379 | 1.514 | -.128 | -.911 | .363 |
| | Occupation_FinancialAdvisor | 1.163 | .479 | .089 | 2.428 | .015 |
| | Occupation_Retired | .613 | .403 | .091 | 1.520 | .129 |
| | Occupation_ProfessionalServices | .092 | .360 | .016 | .255 | .799 |
| | Occupation_GeneralServices | -.116 | .364 | -.018 | -.320 | .749 |
| | Occupation_GoodsProducing | .061 | .569 | .003 | .107 | .915 |
| | Gender_Female | .003 | .152 | .000 | .019 | .985 |
| | Gender_WontSay | -.098 | 1.288 | -.002 | -.076 | .939 |
| | MS_MarriedOrCommonLaw | .122 | .197 | .019 | .619 | .536 |
| | SameSexCouple | -.033 | .225 | -.004 | -.148 | .882 |
| | NumPeopleHousehold | .161 | .071 | .068 | 2.268 | .024 |
| 3 | (Constant) | 4.246 | 1.800 | | 2.359 | .018 |
| | PrimaryChannel_BranchFA | .142 | .910 | .014 | .156 | .876 |
| | PrimaryChannel_FullServiceAtBank | 1.070 | .947 | .109 | 1.131 | .258 |
| | PrimaryChannel_IndependentFA | 1.670 | .922 | .222 | 1.811 | .070 |
| | PrimaryChannel_RoboAdvisor | -.865 | 1.005 | -.050 | -.861 | .390 |
| | PrimaryChannel_InsuranceAgent | .937 | 1.233 | .027 | .760 | .448 |

| | | | | | |
|---|---|---|---|---|---|
| PrimaryChannel_EmployerRep | .327 | 1.184 | .010 | .276 | .783 |
| PrimaryChannel_OnlineBank | -1.056 | 1.010 | -.051 | -1.046 | .296 |
| PrimaryChannel_DIY | 1.357 | .890 | .229 | 1.524 | .128 |
| PrimaryChannel_Newsletter | -1.177 | 1.148 | -.044 | -1.025 | .306 |
| PrimaryChannel_Accountant | -.742 | .986 | -.042 | -.753 | .452 |
| PrimaryChannel_MoneyCoach | 2.698 | 1.441 | .064 | 1.872 | .061 |
| PrimaryChannel_SocialMedia | 1.921 | .909 | .231 | 2.113 | .035 |
| PrimaryChannel_Podcasts | 1.471 | 1.026 | .073 | 1.434 | .152 |
| PrimaryChannel_PrintMedia | 1.829 | .920 | .161 | 1.989 | .047 |
| PrimaryChannel_FriendsOrFamily | -.057 | 1.019 | -.003 | -.056 | .956 |
| UsePrimaryChannel_2to5Years | .322 | .252 | .050 | 1.279 | .201 |
| UsePrimaryChannel_6to10Years | .544 | .265 | .081 | 2.053 | .040 |
| UsePrimaryChannel_11to15Years | .970 | .306 | .112 | 3.172 | .002 |
| UsePrimaryChannel_15yearsOrMore | 1.047 | .272 | .170 | 3.846 | <.001 |
| AGE | -.039 | .008 | -.194 | -4.718 | <.001 |
| HouseholdIncome | .040 | .039 | .030 | 1.025 | .306 |
| Education_Highschool | -1.573 | 1.501 | -.142 | -1.048 | .295 |
| Education_College | -1.487 | 1.493 | -.189 | -.996 | .319 |
| Education_UndergraduateDegree | -1.393 | 1.489 | -.249 | -.936 | .350 |
| Education_MastersDegree | -1.611 | 1.491 | -.254 | -1.080 | .280 |
| Education_DoctoralDegree | -1.313 | 1.510 | -.122 | -.870 | .384 |
| Occupation_FinancialAdvisor | 1.293 | .479 | .098 | 2.702 | .007 |
| Occupation_Retired | .591 | .401 | .088 | 1.472 | .141 |
| Occupation_ProfessionalServices | .096 | .359 | .017 | .269 | .788 |
| Occupation_GeneralServices | -.136 | .363 | -.021 | -.374 | .709 |
| Occupation_GoodsProducing | .061 | .571 | .003 | .107 | .915 |
| Gender_Female | .000 | .156 | .000 | -.002 | .999 |
| Gender_WontSay | -.349 | 1.281 | -.007 | -.272 | .785 |
| MS_MarriedOrCommonLaw | .002 | .201 | .000 | .010 | .992 |
| SameSexCouple | .019 | .225 | .002 | .083 | .934 |
| NumPeopleHousehold | .136 | .071 | .058 | 1.913 | .056 |
| Province_Alberta | .214 | .235 | .024 | .909 | .364 |
| Province_BritishColumbia | -.059 | .231 | -.007 | -.257 | .798 |
| Province_Manitoba | -.377 | .490 | -.019 | -.770 | .441 |
| Province_NewBrunswick | -1.338 | .861 | -.039 | -1.554 | .120 |
| Province_NfldLab | -.613 | .695 | -.022 | -.882 | .378 |
| Province_NovaScotia | .476 | .545 | .022 | .873 | .383 |
| Province_QC | .693 | .522 | .033 | 1.327 | .185 |
| Province_SK | -.211 | .469 | -.011 | -.450 | .653 |
| OwnRealEstate | .272 | .191 | .040 | 1.424 | .155 |
| MainBankingRelationship_CreditUnion | -.109 | .275 | -.010 | -.395 | .693 |
| MainBankingRelationship_Other | -.439 | .692 | -.016 | -.634 | .526 |
| Use_BankTeller | -.010 | .189 | -.001 | -.054 | .957 |
| Use_BranchFA | -.193 | .201 | -.029 | -.961 | .337 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Use_FullServiceAtBank | -.496 | .326 | -.061 | -1.521 | .129 |
| | Use_IndependentFA | -.259 | .268 | -.040 | -.966 | .334 |
| | Use_RoboAdvisor | .178 | .239 | .022 | .744 | .457 |
| | Use_InsuranceAgent | .568 | .218 | .068 | 2.603 | .009 |
| | Use_EmployerProvidedRep | .259 | .259 | .027 | .998 | .319 |
| | Use_OnlineBank | .009 | .162 | .001 | .055 | .956 |
| | Use_DIY | -.021 | .196 | -.004 | -.108 | .914 |
| | Use_NewsletterOrTradingSystem | .528 | .350 | .043 | 1.509 | .132 |
| | Use_Accountant | .474 | .176 | .071 | 2.695 | .007 |
| | Use_MoneyCoach | .809 | .526 | .042 | 1.538 | .124 |
| | Use_SocialMedia | .097 | .181 | .017 | .537 | .591 |
| | Use_Podcasts | .428 | .182 | .071 | 2.347 | .019 |
| | Use_PrintMedia | .267 | .167 | .048 | 1.602 | .109 |
| | Use_Television | -.188 | .246 | -.020 | -.767 | .443 |
| | Use_FriendsOrFamily | .118 | .194 | .016 | .606 | .545 |
| | Use_Other | .288 | .386 | .019 | .746 | .456 |
| 4 | (Constant) | 2.689 | 1.789 | | 1.503 | .133 |
| | PrimaryChannel_BranchFA | .072 | .805 | .007 | .089 | .929 |
| | PrimaryChannel_FullServiceAtBank | .446 | .840 | .045 | .531 | .596 |
| | PrimaryChannel_IndependentFA | .769 | .817 | .102 | .942 | .347 |
| | PrimaryChannel_RoboAdvisor | -.796 | .889 | -.046 | -.896 | .370 |
| | PrimaryChannel_InsuranceAgent | .553 | 1.094 | .016 | .506 | .613 |
| | PrimaryChannel_EmployerRep | -.018 | 1.048 | -.001 | -.017 | .987 |
| | PrimaryChannel_OnlineBank | -.514 | .892 | -.025 | -.576 | .565 |
| | PrimaryChannel_DIY | 1.346 | .788 | .227 | 1.708 | .088 |
| | PrimaryChannel_Newsletter | -.315 | 1.018 | -.012 | -.309 | .757 |
| | PrimaryChannel_Accountant | -.139 | .873 | -.008 | -.160 | .873 |
| | PrimaryChannel_MoneyCoach | 1.866 | 1.278 | .044 | 1.460 | .145 |
| | PrimaryChannel_SocialMedia | 1.933 | .805 | .232 | 2.401 | .016 |
| | PrimaryChannel_Podcasts | 1.822 | .908 | .091 | 2.007 | .045 |
| | PrimaryChannel_PrintMedia | 1.882 | .815 | .166 | 2.309 | .021 |
| | PrimaryChannel_FriendsOrFamily | .502 | .903 | .025 | .556 | .579 |
| | UsePrimaryChannel_2to5Years | .362 | .223 | .056 | 1.622 | .105 |
| | UsePrimaryChannel_6to10Years | .508 | .234 | .076 | 2.170 | .030 |
| | UsePrimaryChannel_11to15Years | .837 | .272 | .096 | 3.082 | .002 |
| | UsePrimaryChannel_15yearsOrMore | 1.122 | .241 | .182 | 4.659 | <.001 |
| | AGE | -.026 | .008 | -.131 | -3.490 | <.001 |
| | HouseholdIncome | .013 | .034 | .010 | .390 | .696 |
| | Education_Highschool | -.664 | 1.329 | -.060 | -.500 | .617 |
| | Education_College | -.715 | 1.322 | -.091 | -.541 | .589 |
| | Education_UndergraduateDegree | -.554 | 1.319 | -.099 | -.420 | .674 |
| | Education_MastersDegree | -.713 | 1.322 | -.112 | -.540 | .590 |
| | Education_DoctoralDegree | -.339 | 1.339 | -.032 | -.253 | .800 |
| | Occupation_FinancialAdvisor | 1.299 | .430 | .099 | 3.019 | .003 |

| | | | | | |
|---|---|---|---|---|---|
| Occupation_Retired | .324 | .356 | .048 | .909 | .364 |
| Occupation_ProfessionalServices | .391 | .318 | .069 | 1.230 | .219 |
| Occupation_GeneralServices | .034 | .322 | .005 | .106 | .915 |
| Occupation_GoodsProducing | .619 | .506 | .034 | 1.224 | .221 |
| Gender_Female | -.007 | .139 | -.001 | -.054 | .957 |
| Gender_WontSay | -.696 | 1.132 | -.013 | -.615 | .539 |
| MS_MarriedOrCommonLaw | -.082 | .181 | -.012 | -.452 | .651 |
| SameSexCouple | -.006 | .199 | -.001 | -.032 | .974 |
| NumPeopleHousehold | .100 | .063 | .043 | 1.590 | .112 |
| Province_Alberta | .162 | .209 | .018 | .775 | .439 |
| Province_BritishColumbia | -.191 | .205 | -.022 | -.931 | .352 |
| Province_Manitoba | -.621 | .434 | -.032 | -1.430 | .153 |
| Province_NewBrunswick | -.866 | .763 | -.025 | -1.134 | .257 |
| Province_NfldLab | -.324 | .616 | -.012 | -.525 | .599 |
| Province_NovaScotia | .594 | .482 | .027 | 1.233 | .218 |
| Province_QC | .431 | .463 | .021 | .930 | .353 |
| Province_SK | -.814 | .417 | -.044 | -1.954 | .051 |
| OwnRealEstate | .102 | .170 | .015 | .601 | .548 |
| MainBankingRelationship_CreditUnion | -.125 | .243 | -.012 | -.516 | .606 |
| MainBankingRelationship_Other | -.724 | .612 | -.026 | -1.184 | .237 |
| Use_BankTeller | -.152 | .167 | -.021 | -.910 | .363 |
| Use_BranchFA | -.116 | .178 | -.018 | -.651 | .515 |
| Use_FullServiceAtBank | -.611 | .291 | -.076 | -2.103 | .036 |
| Use_IndependentFA | -.269 | .243 | -.041 | -1.106 | .269 |
| Use_RoboAdvisor | .336 | .212 | .041 | 1.587 | .113 |
| Use_InsuranceAgent | .524 | .195 | .063 | 2.693 | .007 |
| Use_EmployerProvidedRep | .113 | .230 | .012 | .492 | .623 |
| Use_OnlineBank | -.075 | .143 | -.012 | -.521 | .602 |
| Use_DIY | -.034 | .175 | -.006 | -.194 | .846 |
| Use_NewsletterOrTradingSystem | .602 | .310 | .049 | 1.941 | .053 |
| Use_Accountant | .381 | .158 | .057 | 2.418 | .016 |
| Use_MoneyCoach | .495 | .467 | .026 | 1.060 | .290 |
| Use_SocialMedia | -.006 | .161 | -.001 | -.035 | .972 |
| Use_Podcasts | .318 | .162 | .052 | 1.964 | .050 |
| Use_PrintMedia | .128 | .148 | .023 | .870 | .385 |
| Use_Television | -.110 | .218 | -.012 | -.506 | .613 |
| Use_FriendsOrFamily | .210 | .173 | .029 | 1.214 | .225 |
| Use_Other | .012 | .343 | .001 | .036 | .971 |
| PensionPlanMembership | .294 | .092 | .076 | 3.182 | .001 |
| ResponsibilityIndex | -.269 | .106 | -.073 | -2.540 | .011 |
| InterestInPersonalFinance | .048 | .087 | .014 | .547 | .584 |
| ChildhoodCommunication | -.092 | .060 | -.038 | -1.536 | .125 |
| ChildhoodFinancialSecurity | -.093 | .050 | -.045 | -1.839 | .066 |
| ChildhoodUseOfFA_YES | .208 | .163 | .032 | 1.276 | .202 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | ChildhoodUseOfFA_DontKnow | .157 | .178 | .021 | .879 | .379 |
| | TrustInFinancialServices | .094 | .073 | .032 | 1.295 | .196 |
| | FinLitScore | .294 | .178 | .037 | 1.647 | .100 |
| | FinancialPlanCreated | 2.468 | .138 | .417 | 17.822 | <.001 |
| 5 | (Constant) | 4.165 | 1.832 | | 2.273 | .023 |
| | PrimaryChannel_BranchFA | .132 | .797 | .013 | .166 | .868 |
| | PrimaryChannel_FullServiceAtBank | .580 | .835 | .059 | .694 | .488 |
| | PrimaryChannel_IndependentFA | .840 | .811 | .112 | 1.036 | .301 |
| | PrimaryChannel_RoboAdvisor | -.818 | .882 | -.047 | -.928 | .354 |
| | PrimaryChannel_InsuranceAgent | .603 | 1.087 | .017 | .554 | .580 |
| | PrimaryChannel_EmployerRep | -.092 | 1.044 | -.003 | -.088 | .930 |
| | PrimaryChannel_OnlineBank | -.528 | .883 | -.025 | -.598 | .550 |
| | PrimaryChannel_DIY | 1.345 | .781 | .227 | 1.722 | .085 |
| | PrimaryChannel_Newsletter | -.328 | 1.008 | -.012 | -.325 | .745 |
| | PrimaryChannel_Accountant | -.169 | .865 | -.010 | -.195 | .845 |
| | PrimaryChannel_MoneyCoach | 1.932 | 1.266 | .046 | 1.527 | .127 |
| | PrimaryChannel_SocialMedia | 1.991 | .797 | .239 | 2.498 | .013 |
| | PrimaryChannel_Podcasts | 1.971 | .899 | .098 | 2.192 | .029 |
| | PrimaryChannel_PrintMedia | 1.975 | .806 | .174 | 2.449 | .014 |
| | PrimaryChannel_FriendsOrFamily | .555 | .902 | .028 | .616 | .538 |
| | UsePrimaryChannel_2to5Years | .335 | .221 | .052 | 1.512 | .131 |
| | UsePrimaryChannel_6to10Years | .485 | .234 | .073 | 2.072 | .038 |
| | UsePrimaryChannel_11to15Years | .699 | .273 | .081 | 2.558 | .011 |
| | UsePrimaryChannel_15yearsOrMore | .968 | .252 | .157 | 3.849 | <.001 |
| | AGE | -.021 | .008 | -.103 | -2.637 | .008 |
| | HouseholdIncome | .066 | .037 | .051 | 1.802 | .072 |
| | Education_Highschool | -.944 | 1.319 | -.085 | -.716 | .474 |
| | Education_College | -1.021 | 1.311 | -.130 | -.779 | .436 |
| | Education_UndergraduateDegree | -.878 | 1.308 | -.157 | -.671 | .502 |
| | Education_MastersDegree | -1.034 | 1.311 | -.163 | -.788 | .431 |
| | Education_DoctoralDegree | -.651 | 1.328 | -.061 | -.490 | .624 |
| | Occupation_FinancialAdvisor | 1.253 | .427 | .095 | 2.935 | .003 |
| | Occupation_Retired | .295 | .355 | .044 | .831 | .406 |
| | Occupation_ProfessionalServices | .343 | .316 | .061 | 1.086 | .278 |
| | Occupation_GeneralServices | -.022 | .320 | -.003 | -.067 | .946 |
| | Occupation_GoodsProducing | .561 | .500 | .031 | 1.121 | .262 |
| | Gender_Female | -.047 | .137 | -.008 | -.343 | .732 |
| | Gender_WontSay | -.777 | 1.119 | -.015 | -.694 | .488 |
| | MS_MarriedOrCommonLaw | -.120 | .179 | -.018 | -.669 | .504 |
| | SameSexCouple | .044 | .197 | .005 | .221 | .825 |
| | NumPeopleHousehold | .114 | .062 | .048 | 1.832 | .067 |

| | | | | | |
|---|---|---|---|---|---|
| Province_Alberta | .122 | .207 | .014 | .592 | .554 |
| Province_BritishColumbia | -.174 | .203 | -.020 | -.854 | .393 |
| Province_Manitoba | -.643 | .431 | -.033 | -1.492 | .136 |
| Province_NewBrunswick | -.912 | .755 | -.026 | -1.208 | .227 |
| Province_NfldLab | -.336 | .610 | -.012 | -.550 | .582 |
| Province_NovaScotia | .684 | .477 | .031 | 1.434 | .152 |
| Province_QC | .430 | .459 | .021 | .937 | .349 |
| Province_SK | -.794 | .413 | -.043 | -1.922 | .055 |
| OwnRealEstate | .124 | .170 | .018 | .733 | .464 |
| MainBankingRelationship_CreditUnion | -.176 | .241 | -.017 | -.728 | .467 |
| MainBankingRelationship_Other | -.741 | .606 | -.027 | -1.222 | .222 |
| Use_BankTeller | -.180 | .166 | -.025 | -1.084 | .279 |
| Use_BranchFA | -.128 | .177 | -.019 | -.723 | .470 |
| Use_FullServiceAtBank | -.603 | .290 | -.075 | -2.080 | .038 |
| Use_IndependentFA | -.267 | .241 | -.041 | -1.106 | .269 |
| Use_RoboAdvisor | .371 | .210 | .045 | 1.764 | .078 |
| Use_InsuranceAgent | .487 | .193 | .059 | 2.521 | .012 |
| Use_EmployerProvidedRep | .114 | .228 | .012 | .500 | .617 |
| Use_OnlineBank | -.095 | .142 | -.016 | -.669 | .504 |
| Use_DIY | -.088 | .174 | -.015 | -.508 | .611 |
| Use_NewsletterOrTradingSystem | .571 | .308 | .047 | 1.852 | .064 |
| Use_Accountant | .454 | .157 | .068 | 2.894 | .004 |
| Use_MoneyCoach | .419 | .463 | .022 | .905 | .366 |
| Use_SocialMedia | .001 | .159 | .000 | .006 | .995 |
| Use_Podcasts | .278 | .160 | .046 | 1.729 | .084 |
| Use_PrintMedia | .137 | .146 | .025 | .936 | .350 |
| Use_Television | -.117 | .216 | -.013 | -.542 | .588 |
| Use_FriendsOrFamily | .221 | .172 | .031 | 1.284 | .199 |
| Use_Other | -.058 | .339 | -.004 | -.171 | .864 |
| PensionPlanMembership | .283 | .092 | .073 | 3.091 | .002 |
| ResponsibilityIndex | -.323 | .107 | -.087 | -3.013 | .003 |
| InterestInPersonalFinance | -.034 | .089 | -.010 | -.381 | .703 |
| ChildhoodCommunication | -.110 | .060 | -.045 | -1.839 | .066 |
| ChildhoodFinancialSecurity | -.102 | .050 | -.050 | -2.029 | .043 |
| ChildhoodUseOfFA_YES | .180 | .162 | .028 | 1.110 | .267 |
| ChildhoodUseOfFA_DontKnow | .203 | .177 | .027 | 1.150 | .250 |
| TrustInFinancialServices | .097 | .072 | .033 | 1.347 | .178 |
| FinLitScore | .262 | .177 | .033 | 1.482 | .139 |
| FinancialPlanCreated | 2.377 | .139 | .402 | 17.141 | <.001 |
| PreferenceToDelegate | -.136 | .065 | -.058 | -2.100 | .036 |
| ResearchBeforeChoosingChannel | .113 | .056 | .050 | 2.038 | .042 |
| InitiatedRelationship_Investor | -.264 | .267 | -.041 | -.990 | .322 |

| | | | | | |
|---|---|---|---|---|---|
| InitiatedRelationship_Mutual | -.305 | .320 | -.030 | -.951 | .342 |
| InitiatedRelationship_DontKnow | -.987 | .329 | -.103 | -2.997 | .003 |
| IncomeBEFORE | -.130 | .040 | -.088 | -3.292 | .001 |
| LN_Assets_Before | -.015 | .014 | -.026 | -1.026 | .305 |

a. Dependent Variable: HWS

b. Selecting only cases for which Outlier = .00

# Appendix H

Model summary and full regression tables for the five iterative regression models for Comprehensive Financial Confidence.

*Model Summary*

| Model | Outlier = .00 (Selected) | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .348[a] | .121 | .108 | .74868 |
| 2 | .504[b] | .254 | .234 | .69418 |
| 3 | .536[c] | .287 | .251 | .68604 |
| 4 | .612[d] | .375 | .339 | .64487 |
| 5 | .641[e] | .411 | .374 | .62757 |

*Coefficients*[a,b]

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.849 | .257 | | 11.088 | <.001 |
| | PrimaryChannel_BranchFA | -.169 | .260 | -.058 | -.652 | .515 |
| | PrimaryChannel_FullServiceAtBank | .451 | .259 | .161 | 1.738 | .082 |
| | PrimaryChannel_IndependentFA | .485 | .255 | .227 | 1.905 | .057 |
| | PrimaryChannel_RoboAdvisor | .220 | .282 | .044 | .778 | .437 |
| | PrimaryChannel_InsuranceAgent | .353 | .353 | .036 | 1.000 | .318 |
| | PrimaryChannel_EmployerRep | -.010 | .337 | -.001 | -.030 | .976 |
| | PrimaryChannel_OnlineBank | .022 | .292 | .004 | .077 | .939 |
| | PrimaryChannel_DIY | .563 | .252 | .334 | 2.232 | .026 |
| | PrimaryChannel_Newsletter | .595 | .316 | .078 | 1.880 | .060 |
| | PrimaryChannel_Accountant | .594 | .281 | .118 | 2.116 | .035 |
| | PrimaryChannel_MoneyCoach | .520 | .396 | .043 | 1.313 | .189 |
| | PrimaryChannel_SocialMedia | .375 | .257 | .158 | 1.458 | .145 |
| | PrimaryChannel_Podcasts | .533 | .290 | .093 | 1.835 | .067 |

| | | | | | |
|---|---|---|---|---|---|
| PrimaryChannel_PrintMedia | .379 | .262 | .118 | 1.445 | .149 |
| PrimaryChannel_FriendsOrFamily | -.318 | .288 | -.056 | -1.105 | .269 |
| UsePrimaryChannel_2to5Years | .258 | .073 | .142 | 3.529 | <.001 |
| UsePrimaryChannel_6to10Years | .361 | .076 | .190 | 4.738 | <.001 |
| UsePrimaryChannel_11to15Years | .414 | .087 | .168 | 4.735 | <.001 |
| UsePrimaryChannel_15yearsOrMore | .423 | .075 | .241 | 5.628 | <.001 |
| 2 (Constant) | 2.178 | .487 | | 4.475 | <.001 |
| PrimaryChannel_BranchFA | -.171 | .242 | -.059 | -.707 | .480 |
| PrimaryChannel_FullServiceAtBank | .253 | .242 | .090 | 1.042 | .298 |
| PrimaryChannel_IndependentFA | .345 | .238 | .161 | 1.445 | .149 |
| PrimaryChannel_RoboAdvisor | .203 | .264 | .041 | .766 | .444 |
| PrimaryChannel_InsuranceAgent | .085 | .330 | .009 | .259 | .796 |
| PrimaryChannel_EmployerRep | -.023 | .315 | -.003 | -.074 | .941 |
| PrimaryChannel_OnlineBank | .046 | .272 | .008 | .168 | .866 |
| PrimaryChannel_DIY | .471 | .236 | .279 | 1.992 | .047 |
| PrimaryChannel_Newsletter | .449 | .295 | .059 | 1.524 | .128 |
| PrimaryChannel_Accountant | .402 | .262 | .080 | 1.533 | .126 |
| PrimaryChannel_MoneyCoach | .288 | .370 | .024 | .779 | .436 |
| PrimaryChannel_SocialMedia | .399 | .241 | .169 | 1.653 | .099 |
| PrimaryChannel_Podcasts | .469 | .273 | .082 | 1.718 | .086 |
| PrimaryChannel_PrintMedia | .329 | .246 | .102 | 1.338 | .181 |
| PrimaryChannel_FriendsOrFamily | -.167 | .271 | -.029 | -.617 | .537 |
| UsePrimaryChannel_2to5Years | .222 | .068 | .122 | 3.256 | .001 |
| UsePrimaryChannel_6to10Years | .242 | .072 | .127 | 3.367 | <.001 |
| UsePrimaryChannel_11to15Years | .276 | .083 | .112 | 3.333 | <.001 |
| UsePrimaryChannel_15yearsOrMore | .222 | .074 | .127 | 3.008 | .003 |
| AGE | .005 | .002 | .082 | 2.239 | .025 |
| HouseholdIncome | .080 | .010 | .216 | 7.746 | <.001 |
| Education_Highschool | .106 | .412 | .034 | .256 | .798 |
| Education_College | .177 | .409 | .079 | .434 | .665 |
| Education_UndergraduateDegree | .287 | .407 | .180 | .703 | .482 |
| Education_MastersDegree | .230 | .408 | .127 | .563 | .574 |
| Education_DoctoralDegree | .213 | .413 | .070 | .515 | .606 |
| Occupation_FinancialAdvisor | .326 | .131 | .087 | 2.493 | .013 |
| Occupation_Retired | .385 | .110 | .201 | 3.496 | <.001 |
| Occupation_ProfessionalServices | -.103 | .098 | -.064 | -1.046 | .296 |
| Occupation_GeneralServices | -.151 | .099 | -.082 | -1.519 | .129 |

| | | | | | |
|---|---|---|---|---|---|
| Occupation_GoodsProducing | .120 | .155 | .023 | .771 | .441 |
| Gender_Female | -.055 | .041 | -.033 | -1.327 | .185 |
| Gender_WontSay | .386 | .352 | .026 | 1.098 | .272 |
| MS_MarriedOrCommonLaw | .164 | .054 | .088 | 3.050 | .002 |
| SameSexCouple | .020 | .061 | .008 | .325 | .745 |
| NumPeopleHousehold | -.042 | .019 | -.063 | -2.171 | .030 |
| 3 (Constant) | 2.222 | .491 | | 4.523 | <.001 |
| PrimaryChannel_BranchFA | -.136 | .248 | -.046 | -.547 | .584 |
| PrimaryChannel_FullServiceAtBank | .013 | .258 | .005 | .052 | .959 |
| PrimaryChannel_IndependentFA | .228 | .252 | .107 | .907 | .365 |
| PrimaryChannel_RoboAdvisor | .253 | .274 | .051 | .922 | .357 |
| PrimaryChannel_InsuranceAgent | .070 | .337 | .007 | .207 | .836 |
| PrimaryChannel_EmployerRep | -.028 | .323 | -.003 | -.087 | .931 |
| PrimaryChannel_OnlineBank | -.111 | .276 | -.019 | -.402 | .687 |
| PrimaryChannel_DIY | .323 | .243 | .191 | 1.328 | .185 |
| PrimaryChannel_Newsletter | .392 | .313 | .051 | 1.251 | .211 |
| PrimaryChannel_Accountant | .245 | .269 | .049 | .909 | .363 |
| PrimaryChannel_MoneyCoach | .063 | .393 | .005 | .159 | .874 |
| PrimaryChannel_SocialMedia | .244 | .248 | .103 | .984 | .325 |
| PrimaryChannel_Podcasts | .274 | .280 | .048 | .978 | .328 |
| PrimaryChannel_PrintMedia | .169 | .251 | .052 | .673 | .501 |
| PrimaryChannel_FriendsOrFamily | -.239 | .278 | -.042 | -.860 | .390 |
| UsePrimaryChannel_2to5Years | .203 | .069 | .111 | 2.950 | .003 |
| UsePrimaryChannel_6to10Years | .211 | .072 | .111 | 2.926 | .003 |
| UsePrimaryChannel_11to15Years | .253 | .083 | .103 | 3.037 | .002 |
| UsePrimaryChannel_15yearsOrMore | .211 | .074 | .120 | 2.834 | .005 |
| AGE | .003 | .002 | .044 | 1.125 | .261 |
| HouseholdIncome | .072 | .011 | .195 | 6.837 | <.001 |
| Education_Highschool | .162 | .410 | .052 | .396 | .692 |
| Education_College | .232 | .407 | .104 | .569 | .569 |
| Education_UndergraduateDegree | .340 | .406 | .213 | .836 | .403 |
| Education_MastersDegree | .282 | .407 | .156 | .693 | .489 |
| Education_DoctoralDegree | .295 | .412 | .097 | .716 | .474 |
| Occupation_FinancialAdvisor | .301 | .131 | .081 | 2.304 | .021 |
| Occupation_Retired | .385 | .110 | .201 | 3.511 | <.001 |
| Occupation_ProfessionalServices | -.104 | .098 | -.065 | -1.064 | .288 |
| Occupation_GeneralServices | -.134 | .099 | -.073 | -1.358 | .175 |
| Occupation_GoodsProducing | .090 | .156 | .017 | .579 | .563 |
| Gender_Female | -.058 | .043 | -.035 | -1.364 | .173 |
| Gender_WontSay | .394 | .350 | .027 | 1.125 | .261 |

| | | | | | |
|---|---|---|---|---|---|
| MS_MarriedOrCommonLaw | .101 | .055 | .054 | 1.833 | .067 |
| SameSexCouple | .024 | .061 | .010 | .392 | .695 |
| NumPeopleHousehold | -.047 | .019 | -.069 | -2.395 | .017 |
| Province_Alberta | .114 | .064 | .044 | 1.774 | .076 |
| Province_BritishColumbia | .081 | .063 | .032 | 1.281 | .200 |
| Province_Manitoba | .099 | .134 | .018 | .742 | .458 |
| Province_NewBrunswick | -.195 | .235 | -.020 | -.830 | .407 |
| Province_NfldLab | .141 | .190 | .018 | .745 | .457 |
| Province_NovaScotia | .017 | .149 | .003 | .117 | .907 |
| Province_QC | .216 | .143 | .036 | 1.513 | .131 |
| Province_SK | .118 | .128 | .022 | .919 | .358 |
| OwnRealEstate | .186 | .052 | .095 | 3.571 | <.001 |
| MainBankingRelationship_Credit Union | -.007 | .075 | -.002 | -.089 | .929 |
| MainBankingRelationship_Other | -.164 | .189 | -.021 | -.869 | .385 |
| Use_BankTeller | -.071 | .051 | -.035 | -1.385 | .166 |
| Use_BranchFA | -.111 | .055 | -.059 | -2.023 | .043 |
| Use_FullServiceAtBank | .162 | .089 | .071 | 1.823 | .068 |
| Use_IndependentFA | .047 | .073 | .025 | .647 | .517 |
| Use_RoboAdvisor | -.176 | .065 | -.075 | -2.695 | .007 |
| Use_InsuranceAgent | .020 | .060 | .008 | .330 | .742 |
| Use_EmployerProvidedRep | -.096 | .071 | -.035 | -1.359 | .174 |
| Use_OnlineBank | .097 | .044 | .057 | 2.205 | .028 |
| Use_DIY | .087 | .054 | .052 | 1.617 | .106 |
| Use_NewsletterOrTradingSystem | -.034 | .096 | -.010 | -.352 | .725 |
| Use_Accountant | .025 | .048 | .013 | .518 | .605 |
| Use_MoneyCoach | .030 | .144 | .005 | .211 | .833 |
| Use_SocialMedia | .026 | .049 | .017 | .531 | .595 |
| Use_Podcasts | .030 | .050 | .017 | .604 | .546 |
| Use_PrintMedia | .034 | .045 | .021 | .749 | .454 |
| Use_Television | -.075 | .067 | -.028 | -1.117 | .264 |
| Use_FriendsOrFamily | -.080 | .053 | -.039 | -1.507 | .132 |
| Use_Other | -.024 | .105 | -.006 | -.229 | .819 |
| 4 (Constant) | .234 | .521 | | .450 | .653 |
| PrimaryChannel_BranchFA | .006 | .234 | .002 | .026 | .979 |
| PrimaryChannel_FullServiceAtBank | .121 | .244 | .043 | .493 | .622 |
| PrimaryChannel_IndependentFA | .263 | .238 | .123 | 1.106 | .269 |
| PrimaryChannel_RoboAdvisor | .371 | .259 | .075 | 1.435 | .152 |
| PrimaryChannel_InsuranceAgent | .240 | .318 | .024 | .753 | .452 |
| PrimaryChannel_EmployerRep | .038 | .305 | .004 | .123 | .902 |
| PrimaryChannel_OnlineBank | -.010 | .260 | -.002 | -.038 | .970 |
| PrimaryChannel_DIY | .405 | .229 | .240 | 1.767 | .077 |
| PrimaryChannel_Newsletter | .528 | .296 | .069 | 1.782 | .075 |

| | | | | | |
|---|---|---|---|---|---|
| PrimaryChannel_Accountant | .443 | .254 | .088 | 1.743 | .082 |
| PrimaryChannel_MoneyCoach | .128 | .372 | .011 | .343 | .732 |
| PrimaryChannel_SocialMedia | .323 | .234 | .136 | 1.377 | .169 |
| PrimaryChannel_Podcasts | .409 | .264 | .072 | 1.548 | .122 |
| PrimaryChannel_PrintMedia | .280 | .237 | .087 | 1.182 | .237 |
| PrimaryChannel_FriendsOrFamily | -.083 | .263 | -.015 | -.316 | .752 |
| UsePrimaryChannel_2to5Years | .200 | .065 | .110 | 3.082 | .002 |
| UsePrimaryChannel_6to10Years | .187 | .068 | .098 | 2.740 | .006 |
| UsePrimaryChannel_11to15Years | .203 | .079 | .082 | 2.566 | .010 |
| UsePrimaryChannel_15yearsOrMore | .169 | .070 | .096 | 2.412 | .016 |
| AGE | .006 | .002 | .106 | 2.768 | .006 |
| HouseholdIncome | .063 | .010 | .170 | 6.314 | <.001 |
| Education_Highschool | .251 | .387 | .080 | .648 | .517 |
| Education_College | .291 | .385 | .130 | .755 | .450 |
| Education_UndergraduateDegree | .417 | .384 | .261 | 1.086 | .278 |
| Education_MastersDegree | .365 | .385 | .202 | .948 | .343 |
| Education_DoctoralDegree | .434 | .390 | .142 | 1.114 | .265 |
| Occupation_FinancialAdvisor | .135 | .125 | .036 | 1.082 | .279 |
| Occupation_Retired | .330 | .104 | .173 | 3.185 | .001 |
| Occupation_ProfessionalServices | -.034 | .092 | -.021 | -.372 | .710 |
| Occupation_GeneralServices | -.082 | .094 | -.045 | -.872 | .383 |
| Occupation_GoodsProducing | .200 | .147 | .039 | 1.362 | .173 |
| Gender_Female | -.040 | .040 | -.024 | -.988 | .323 |
| Gender_WontSay | .359 | .329 | .024 | 1.091 | .275 |
| MS_MarriedOrCommonLaw | .107 | .053 | .057 | 2.029 | .043 |
| SameSexCouple | .014 | .058 | .005 | .235 | .814 |
| NumPeopleHousehold | -.046 | .018 | -.069 | -2.506 | .012 |
| Province_Alberta | .075 | .061 | .029 | 1.240 | .215 |
| Province_BritishColumbia | .047 | .060 | .019 | .792 | .428 |
| Province_Manitoba | .012 | .126 | .002 | .093 | .926 |
| Province_NewBrunswick | -.203 | .222 | -.021 | -.916 | .360 |
| Province_NfldLab | .169 | .179 | .021 | .943 | .346 |
| Province_NovaScotia | .005 | .140 | .001 | .039 | .969 |
| Province_QC | .149 | .135 | .025 | 1.102 | .271 |
| Province_SK | .074 | .121 | .014 | .607 | .544 |
| OwnRealEstate | .142 | .049 | .073 | 2.873 | .004 |
| MainBankingRelationship_CreditUnion | .000 | .071 | .000 | .002 | .998 |
| MainBankingRelationship_Other | -.203 | .178 | -.026 | -1.140 | .254 |
| Use_BankTeller | -.081 | .049 | -.039 | -1.661 | .097 |
| Use_BranchFA | -.112 | .052 | -.060 | -2.162 | .031 |
| Use_FullServiceAtBank | .110 | .085 | .048 | 1.300 | .194 |

| | | | | | |
|---|---|---|---|---|---|
| Use_IndependentFA | .059 | .071 | .032 | .833 | .405 |
| Use_RoboAdvisor | -.157 | .062 | -.067 | -2.547 | .011 |
| Use_InsuranceAgent | .008 | .057 | .003 | .135 | .892 |
| Use_EmployerProvidedRep | -.107 | .067 | -.039 | -1.594 | .111 |
| Use_OnlineBank | .067 | .042 | .040 | 1.620 | .105 |
| Use_DIY | .040 | .051 | .024 | .779 | .436 |
| Use_NewsletterOrTradingSystem | -.050 | .090 | -.014 | -.555 | .579 |
| Use_Accountant | .052 | .046 | .027 | 1.126 | .261 |
| Use_MoneyCoach | .026 | .136 | .005 | .191 | .848 |
| Use_SocialMedia | -.005 | .047 | -.003 | -.100 | .920 |
| Use_Podcasts | .006 | .047 | .004 | .135 | .892 |
| Use_PrintMedia | -.002 | .043 | -.001 | -.048 | .962 |
| Use_Television | -.095 | .063 | -.036 | -1.500 | .134 |
| Use_FriendsOrFamily | -.051 | .050 | -.025 | -1.012 | .312 |
| Use_Other | -.086 | .100 | -.020 | -.865 | .387 |
| PensionPlanMembership | .073 | .027 | .066 | 2.723 | .007 |
| ResponsibilityIndex | .069 | .031 | .065 | 2.227 | .026 |
| InterestInPersonalFinance | .161 | .025 | .164 | 6.390 | <.001 |
| ChildhoodCommunication | .068 | .017 | .098 | 3.896 | <.001 |
| ChildhoodFinancialSecurity | .017 | .015 | .029 | 1.172 | .241 |
| ChildhoodUseOfFA_YES | .012 | .047 | .006 | .250 | .802 |
| ChildhoodUseOfFA_DontKnow | -.097 | .052 | -.045 | -1.872 | .061 |
| TrustInFinancialServices | .088 | .021 | .105 | 4.163 | <.001 |
| FinLitScore | .075 | .052 | .033 | 1.436 | .151 |
| FinancialPlanCreated | .272 | .040 | .162 | 6.748 | <.001 |
| 5 (Constant) | .447 | .525 | | .851 | .395 |
| PrimaryChannel_BranchFA | .014 | .228 | .005 | .059 | .953 |
| PrimaryChannel_FullServiceAtBank | .172 | .239 | .061 | .720 | .472 |
| PrimaryChannel_IndependentFA | .254 | .232 | .119 | 1.094 | .274 |
| PrimaryChannel_RoboAdvisor | .235 | .253 | .047 | .932 | .352 |
| PrimaryChannel_InsuranceAgent | .198 | .311 | .020 | .635 | .525 |
| PrimaryChannel_EmployerRep | .116 | .299 | .013 | .387 | .699 |
| PrimaryChannel_OnlineBank | -.059 | .253 | -.010 | -.235 | .814 |
| PrimaryChannel_DIY | .322 | .224 | .191 | 1.441 | .150 |
| PrimaryChannel_Newsletter | .426 | .289 | .056 | 1.477 | .140 |
| PrimaryChannel_Accountant | .416 | .248 | .083 | 1.681 | .093 |
| PrimaryChannel_MoneyCoach | .109 | .362 | .009 | .300 | .764 |
| PrimaryChannel_SocialMedia | .275 | .228 | .116 | 1.207 | .228 |
| PrimaryChannel_Podcasts | .384 | .258 | .067 | 1.491 | .136 |
| PrimaryChannel_PrintMedia | .235 | .231 | .073 | 1.016 | .310 |
| PrimaryChannel_FriendsOrFamily | -.124 | .258 | -.022 | -.480 | .632 |

| | | | | | |
|---|---|---|---|---|---|
| UsePrimaryChannel_2to5Years | .222 | .063 | .122 | 3.499 | <.001 |
| UsePrimaryChannel_6to10Years | .251 | .067 | .132 | 3.747 | <.001 |
| UsePrimaryChannel_11to15Years | .273 | .078 | .111 | 3.491 | <.001 |
| UsePrimaryChannel_15yearsOrMore | .305 | .072 | .174 | 4.237 | <.001 |
| AGE | .003 | .002 | .052 | 1.324 | .186 |
| HouseholdIncome | .058 | .011 | .155 | 5.491 | <.001 |
| Education_Highschool | .239 | .378 | .076 | .632 | .528 |
| Education_College | .275 | .376 | .123 | .733 | .464 |
| Education_UndergraduateDegree | .395 | .375 | .248 | 1.054 | .292 |
| Education_MastersDegree | .335 | .376 | .185 | .892 | .373 |
| Education_DoctoralDegree | .403 | .380 | .132 | 1.059 | .290 |
| Occupation_FinancialAdvisor | .128 | .122 | .034 | 1.048 | .295 |
| Occupation_Retired | .288 | .102 | .151 | 2.833 | .005 |
| Occupation_ProfessionalServices | -.080 | .091 | -.050 | -.884 | .377 |
| Occupation_GeneralServices | -.116 | .092 | -.063 | -1.266 | .206 |
| Occupation_GoodsProducing | .198 | .143 | .038 | 1.381 | .167 |
| Gender_Female | -.036 | .039 | -.022 | -.912 | .362 |
| Gender_WontSay | .286 | .321 | .019 | .893 | .372 |
| MS_MarriedOrCommonLaw | .091 | .051 | .048 | 1.765 | .078 |
| SameSexCouple | .024 | .057 | .009 | .421 | .674 |
| NumPeopleHousehold | -.042 | .018 | -.062 | -2.339 | .019 |
| Province_Alberta | .055 | .059 | .021 | .923 | .356 |
| Province_BritishColumbia | .051 | .058 | .020 | .881 | .379 |
| Province_Manitoba | .054 | .123 | .010 | .435 | .663 |
| Province_NewBrunswick | -.221 | .216 | -.023 | -1.023 | .306 |
| Province_NfldLab | .153 | .175 | .019 | .876 | .381 |
| Province_NovaScotia | .035 | .137 | .006 | .254 | .799 |
| Province_QC | .158 | .131 | .027 | 1.206 | .228 |
| Province_SK | .061 | .118 | .012 | .512 | .609 |
| OwnRealEstate | .130 | .049 | .067 | 2.678 | .007 |
| MainBankingRelationship_CreditUnion | -.026 | .069 | -.009 | -.369 | .712 |
| MainBankingRelationship_Other | -.288 | .174 | -.036 | -1.659 | .097 |
| Use_BankTeller | -.086 | .047 | -.042 | -1.817 | .069 |
| Use_BranchFA | -.071 | .051 | -.038 | -1.398 | .163 |
| Use_FullServiceAtBank | .051 | .083 | .022 | .615 | .539 |
| Use_IndependentFA | .060 | .069 | .032 | .875 | .382 |
| Use_RoboAdvisor | -.127 | .060 | -.054 | -2.114 | .035 |
| Use_InsuranceAgent | -.022 | .055 | -.009 | -.398 | .691 |
| Use_EmployerProvidedRep | -.126 | .065 | -.046 | -1.928 | .054 |

| | | | | | |
|---|---|---|---|---|---|
| Use_OnlineBank | .063 | .041 | .037 | 1.564 | .118 |
| Use_DIY | .007 | .050 | .004 | .133 | .894 |
| Use_NewsletterOrTradingSystem | -.088 | .088 | -.025 | -.996 | .320 |
| Use_Accountant | .045 | .045 | .024 | .993 | .321 |
| Use_MoneyCoach | -.026 | .132 | -.005 | -.196 | .845 |
| Use_SocialMedia | -.010 | .046 | -.006 | -.224 | .823 |
| Use_Podcasts | -.009 | .046 | -.005 | -.188 | .851 |
| Use_PrintMedia | -.011 | .042 | -.007 | -.269 | .788 |
| Use_Television | -.060 | .062 | -.023 | -.977 | .329 |
| Use_FriendsOrFamily | -.038 | .049 | -.018 | -.769 | .442 |
| Use_Other | -.118 | .097 | -.027 | -1.211 | .226 |
| PensionPlanMembership | .069 | .026 | .063 | 2.630 | .009 |
| ResponsibilityIndex | .046 | .031 | .043 | 1.490 | .136 |
| InterestInPersonalFinance | .115 | .025 | .117 | 4.523 | <.001 |
| ChildhoodCommunication | .062 | .017 | .089 | 3.613 | <.001 |
| ChildhoodFinancialSecurity | .009 | .014 | .015 | .618 | .537 |
| ChildhoodUseOfFA_YES | -.010 | .046 | -.005 | -.206 | .837 |
| ChildhoodUseOfFA_DontKnow | -.077 | .051 | -.036 | -1.523 | .128 |
| TrustInFinancialServices | .094 | .021 | .111 | 4.510 | <.001 |
| FinLitScore | .079 | .051 | .035 | 1.554 | .120 |
| FinancialPlanCreated | .230 | .040 | .137 | 5.786 | <.001 |
| PreferenceToDelegate | -.055 | .019 | -.084 | -2.986 | .003 |
| ResearchBeforeChoosingChannel | .088 | .016 | .136 | 5.527 | <.001 |
| InitiatedRelationship_Investor | .111 | .076 | .060 | 1.460 | .145 |
| InitiatedRelationship_Mutual | .097 | .092 | .034 | 1.055 | .292 |
| InitiatedRelationship_DontKnow | -.116 | .094 | -.043 | -1.226 | .220 |
| IncomeBEFORE | .010 | .011 | .023 | .855 | .393 |
| LN_Assets_Before | .013 | .004 | .082 | 3.242 | .001 |

a. Dependent Variable: ComprehensiveFinancialConfidence

b. Selecting only cases for which Outlier = .00

# Appendix I

Initial collinearity check of all variables in regression model. All correlations lower than -0.7 and higher than 0.7 appear in red.

*Correlations*

Correlation matrix (20 variables):

| PrimaryChannel_FriendsOfFamily | PrimaryChannel_Other | UsePrimaryChannel_Less2Years_REF | UsePrimaryChannel_2to5Years | UsePrimaryChannel_6to10Years | UsePrimaryChannel_11to15Years | UsePrimaryChannel_15yearsOrMore | AGE | HouseholdIncome | Education_LessThanHighschool_REF | Education_Highschool | Education_College | Education_UndergraduateDegree | Education_MastersDegree | Education_DoctoralDegree | Occupation_NotEmployed_REF | Occupation_FinancialAdvisor | Occupation_Retired | Occupation_ProfessionalServices | Occupation_GeneralServices |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -0.146 | -0.108 | -0.129 | -0.014 | 0.056 | 0.056 | 0.018 | 0.140 | 0.362 | -0.083 | -0.144 | -0.003 | 0.086 | 0.044 | 0.062 | -0.171 | 0.061 | 0.146 | 0.113 | -0.188 |
| -0.020 | -0.007 | 0.015 | -0.024 | -0.028 | -0.045 | 0.068 | 0.049 | -0.111 | -0.007 | 0.153 | 0.003 | -0.047 | -0.025 | -0.034 | 0.062 | -0.028 | 0.023 | -0.059 | 0.033 |
| -0.049 | -0.017 | 0.027 | -0.021 | 0.036 | -0.003 | -0.030 | 0.125 | -0.142 | 0.024 | 0.063 | 0.038 | -0.036 | -0.018 | -0.027 | 0.073 | -0.043 | 0.042 | -0.090 | 0.035 |
| -0.048 | -0.017 | -0.051 | -0.009 | 0.009 | 0.065 | -0.008 | 0.156 | 0.039 | 0.024 | -0.013 | 0.019 | -0.044 | 0.032 | 0.011 | -0.041 | -0.009 | 0.130 | -0.031 | -0.060 |
| -0.068 | -0.024 | -0.031 | -0.059 | -0.047 | 0.078 | 0.067 | 0.138 | 0.056 | -0.024 | -0.015 | 0.011 | 0.030 | -0.038 | 0.012 | -0.030 | 0.107 | 0.050 | -0.032 | -0.050 |
| -0.025 | -0.009 | 0.251 | 0.020 | -0.071 | -0.055 | -0.100 | -0.101 | 0.018 | -0.009 | 0.016 | -0.020 | -0.058 | 0.049 | 0.042 | -0.018 | -0.034 | -0.071 | 0.050 | 0.025 |
| -0.014 | -0.005 | -0.032 | -0.031 | 0.012 | 0.019 | 0.030 | 0.051 | -0.022 | -0.005 | 0.031 | -0.016 | 0.035 | -0.032 | -0.023 | -0.020 | 0.093 | 0.049 | -0.037 | -0.033 |
| -0.014 | -0.005 | -0.012 | 0.000 | 0.007 | 0.039 | -0.025 | 0.010 | 0.032 | -0.005 | 0.027 | 0.002 | 0.012 | -0.018 | -0.024 | -0.021 | -0.019 | -0.029 | 0.019 | 0.014 |
| -0.023 | -0.008 | -0.040 | -0.005 | 0.040 | 0.009 | -0.009 | 0.006 | -0.042 | -0.008 | 0.026 | 0.016 | -0.038 | 0.015 | -0.002 | 0.007 | -0.031 | -0.005 | -0.018 | 0.044 |
| -0.112 | -0.040 | -0.102 | -0.117 | 0.006 | -0.019 | 0.193 | -0.015 | 0.075 | 0.009 | -0.032 | -0.052 | 0.034 | 0.007 | -0.045 | 0.035 | 0.003 | 0.062 | -0.056 | |
| -0.016 | -0.006 | -0.018 | 0.019 | 0.028 | 0.007 | -0.035 | 0.063 | -0.036 | -0.006 | 0.042 | -0.007 | -0.034 | 0.018 | -0.001 | -0.024 | -0.022 | 0.060 | -0.040 | 0.016 |
| -0.026 | -0.009 | 0.011 | -0.018 | 0.013 | 0.058 | -0.043 | 0.016 | 0.057 | -0.009 | -0.005 | 0.030 | -0.028 | -0.010 | 0.036 | -0.003 | 0.003 | 0.023 | -0.049 | 0.033 |
| -0.011 | -0.004 | 0.090 | -0.017 | 0.011 | -0.024 | -0.044 | 0.003 | 0.037 | -0.004 | -0.020 | 0.024 | -0.020 | 0.005 | 0.019 | 0.026 | 0.078 | -0.038 | -0.035 | 0.026 |
| -0.062 | -0.022 | 0.063 | 0.246 | 0.010 | -0.100 | -0.219 | -0.307 | -0.018 | -0.022 | -0.038 | -0.012 | 0.027 | 0.009 | -0.006 | 0.061 | -0.055 | -0.159 | 0.105 | 0.019 |
| -0.023 | -0.008 | 0.144 | 0.071 | -0.063 | -0.035 | -0.091 | -0.103 | 0.042 | -0.008 | -0.025 | 0.029 | 0.019 | -0.039 | 0.017 | -0.034 | -0.031 | -0.063 | 0.078 | -0.009 |
| -0.042 | -0.015 | -0.043 | 0.024 | 0.039 | 0.026 | -0.045 | -0.011 | -0.012 | -0.015 | -0.058 | 0.005 | 0.064 | -0.015 | -0.039 | -0.004 | -0.044 | 0.000 | -0.024 | 0.065 |
| -0.008 | -0.003 | 0.019 | 0.000 | 0.004 | -0.018 | -0.005 | -0.008 | -0.021 | -0.003 | 0.031 | -0.022 | 0.007 | 0.000 | -0.014 | 0.100 | -0.011 | 0.004 | -0.041 | -0.030 |
| 1.000 | -0.009 | -0.012 | -0.055 | 0.006 | -0.018 | 0.068 | -0.071 | -0.075 | 0.063 | -0.003 | -0.002 | 0.000 | -0.018 | 0.021 | 0.016 | 0.015 | -0.044 | -0.021 | 0.073 |
| -0.009 | 1.000 | -0.022 | -0.006 | -0.030 | -0.020 | 0.063 | 0.051 | -0.052 | -0.003 | 0.066 | 0.007 | -0.027 | -0.007 | -0.016 | -0.014 | 0.042 | 0.026 | -0.023 | -0.008 |
| -0.012 | -0.022 | 1.000 | -0.219 | -0.200 | -0.136 | -0.247 | -0.207 | -0.055 | -0.022 | -0.022 | 0.002 | -0.050 | 0.086 | 0.011 | 0.098 | -0.055 | -0.124 | 0.055 | 0.018 |
| -0.055 | -0.006 | -0.219 | 1.000 | -0.302 | -0.205 | -0.372 | -0.238 | 0.018 | 0.020 | -0.019 | 0.004 | 0.018 | -0.026 | 0.020 | 0.027 | -0.061 | -0.141 | 0.073 | 0.062 |
| 0.006 | -0.030 | -0.200 | -0.302 | 1.000 | -0.187 | -0.341 | -0.030 | 0.037 | 0.025 | -0.026 | 0.011 | -0.002 | 0.003 | 0.005 | -0.043 | 0.037 | -0.011 | 0.013 | 0.014 |
| -0.018 | -0.020 | -0.136 | -0.205 | -0.187 | 1.000 | -0.231 | 0.066 | 0.071 | 0.016 | -0.017 | -0.001 | -0.034 | 0.044 | 0.008 | -0.040 | 0.051 | 0.003 | 0.006 | -0.011 |
| 0.068 | 0.063 | -0.247 | -0.372 | -0.341 | -0.231 | 1.000 | 0.358 | -0.060 | -0.037 | 0.070 | -0.014 | 0.045 | -0.058 | -0.037 | -0.030 | 0.030 | 0.232 | -0.125 | -0.077 |
| -0.071 | 0.051 | -0.207 | -0.238 | -0.030 | 0.066 | 0.358 | 1.000 | -0.162 | 0.007 | 0.188 | 0.127 | -0.088 | -0.082 | -0.077 | -0.109 | -0.078 | 0.647 | -0.301 | -0.154 |
| -0.075 | -0.052 | -0.055 | 0.018 | 0.037 | 0.071 | -0.060 | -0.162 | 1.000 | -0.031 | -0.202 | -0.147 | 0.025 | 0.143 | 0.142 | -0.174 | 0.150 | -0.224 | 0.299 | 0.106 |
| 0.063 | -0.003 | -0.022 | 0.020 | 0.025 | 0.016 | -0.037 | 0.007 | -0.031 | 1.000 | -0.017 | -0.025 | -0.050 | -0.033 | -0.016 | 0.037 | -0.012 | 0.026 | -0.046 | -0.008 |
| -0.003 | 0.066 | -0.022 | -0.019 | -0.026 | -0.017 | 0.070 | 0.188 | -0.202 | -0.017 | 1.000 | -0.130 | -0.263 | -0.174 | -0.082 | 0.053 | -0.009 | 0.124 | -0.161 | 0.020 |
| -0.002 | 0.007 | 0.002 | 0.004 | 0.011 | -0.001 | -0.014 | 0.127 | -0.147 | -0.025 | -0.130 | 1.000 | -0.379 | -0.251 | -0.118 | 0.014 | -0.043 | 0.051 | -0.089 | 0.015 |
| 0.000 | -0.027 | -0.050 | 0.018 | -0.002 | -0.034 | 0.045 | -0.088 | 0.025 | -0.050 | -0.263 | -0.379 | 1.000 | -0.509 | -0.240 | -0.038 | 0.048 | -0.039 | 0.006 | 0.049 |
| -0.018 | -0.007 | 0.066 | -0.026 | 0.003 | 0.044 | -0.058 | -0.082 | 0.143 | -0.033 | -0.174 | -0.251 | -0.509 | 1.000 | -0.159 | -0.001 | 0.002 | -0.050 | 0.090 | -0.043 |
| 0.021 | -0.016 | 0.011 | 0.020 | 0.005 | 0.008 | -0.037 | -0.077 | 0.142 | -0.016 | -0.082 | -0.118 | -0.240 | -0.159 | 1.000 | -0.010 | -0.023 | -0.050 | 0.118 | -0.064 |
| 0.016 | -0.014 | 0.098 | 0.027 | -0.043 | -0.040 | -0.030 | -0.109 | -0.174 | 0.037 | 0.053 | 0.014 | -0.038 | -0.001 | -0.010 | 1.000 | -0.053 | -0.126 | -0.195 | -0.143 |
| -0.015 | 0.042 | -0.055 | -0.061 | 0.037 | 0.051 | 0.030 | -0.078 | 0.150 | -0.012 | -0.009 | -0.043 | 0.048 | 0.002 | -0.023 | -0.053 | 1.000 | -0.115 | -0.177 | -0.130 |
| -0.044 | 0.026 | -0.124 | -0.141 | -0.011 | 0.003 | 0.232 | 0.647 | -0.224 | 0.026 | 0.124 | 0.051 | -0.039 | -0.050 | -0.050 | -0.126 | -0.115 | 1.000 | -0.425 | -0.312 |
| -0.021 | -0.023 | 0.055 | 0.073 | 0.013 | 0.006 | -0.125 | -0.301 | 0.299 | -0.046 | -0.161 | -0.069 | 0.006 | 0.090 | 0.118 | -0.195 | -0.177 | -0.425 | 1.000 | -0.482 |
| 0.073 | -0.008 | 0.018 | 0.062 | 0.014 | -0.011 | -0.077 | -0.154 | -0.106 | -0.008 | 0.020 | 0.015 | 0.049 | -0.043 | -0.064 | -0.143 | -0.130 | -0.312 | -0.482 | 1.000 |
| -0.026 | -0.009 | 0.036 | 0.010 | -0.038 | -0.006 | 0.002 | -0.063 | 0.005 | 0.062 | 0.055 | 0.075 | -0.061 | -0.029 | -0.013 | -0.039 | -0.036 | -0.086 | -0.132 | -0.097 |
| -0.074 | 0.048 | -0.055 | -0.017 | 0.043 | 0.024 | -0.001 | -0.060 | 0.218 | 0.022 | -0.064 | -0.063 | 0.072 | -0.015 | 0.041 | -0.112 | 0.067 | -0.023 | 0.102 | -0.098 |
| 0.076 | 0.048 | 0.054 | 0.016 | -0.042 | -0.025 | 0.001 | 0.058 | -0.212 | -0.022 | 0.062 | 0.056 | -0.072 | 0.021 | -0.039 | 0.109 | -0.065 | 0.018 | -0.098 | 0.095 |
| -0.011 | -0.004 | 0.003 | 0.006 | -0.001 | 0.015 | -0.052 | -0.004 | 0.015 | 0.050 | -0.001 | -0.039 | -0.019 | 0.026 | -0.015 | 0.035 | -0.012 | -0.064 | 0.045 | |
| 0.016 | 0.018 | 0.057 | -0.012 | -0.034 | -0.016 | 0.012 | 0.034 | -0.313 | 0.044 | 0.164 | 0.058 | 0.010 | -0.105 | -0.111 | 0.097 | 0.038 | -0.012 | -0.064 | 0.045 |
| -0.016 | -0.018 | -0.057 | 0.012 | 0.034 | 0.016 | -0.012 | -0.034 | 0.313 | -0.044 | -0.164 | -0.058 | -0.010 | 0.105 | 0.111 | -0.097 | 0.038 | 0.012 | 0.064 | -0.045 |
| 0.026 | -0.020 | -0.009 | 0.034 | -0.025 | 0.019 | -0.017 | -0.040 | 0.110 | -0.020 | -0.072 | -0.014 | 0.013 | -0.008 | 0.090 | -0.007 | 0.007 | -0.045 | 0.027 | 0.009 |
| 0.019 | -0.071 | -0.033 | 0.040 | 0.042 | 0.010 | -0.058 | -0.249 | 0.286 | -0.052 | -0.134 | -0.048 | 0.050 | 0.046 | 0.050 | -0.014 | -0.022 | -0.248 | 0.153 | 0.018 |
| 0.027 | -0.036 | -0.050 | -0.049 | -0.034 | 0.020 | 0.100 | 0.111 | -0.084 | -0.011 | 0.042 | 0.034 | -0.033 | -0.013 | -0.005 | 0.025 | -0.050 | 0.026 | -0.037 | 0.049 |
| -0.014 | -0.019 | 0.019 | 0.068 | 0.020 | -0.005 | -0.092 | -0.116 | 0.126 | 0.056 | 0.000 | -0.023 | 0.006 | 0.010 | -0.008 | -0.015 | 0.029 | -0.063 | 0.032 | -0.016 |
| -0.028 | 0.055 | 0.009 | 0.004 | 0.010 | -0.008 | -0.013 | 0.007 | -0.002 | -0.020 | -0.011 | -0.009 | 0.020 | 0.001 | -0.011 | -0.027 | 0.027 | 0.010 | 0.021 | -0.031 |
| -0.024 | -0.008 | 0.011 | -0.012 | 0.009 | 0.004 | -0.007 | 0.001 | -0.018 | -0.008 | -0.012 | 0.022 | 0.033 | -0.034 | -0.023 | -0.036 | 0.011 | 0.031 | -0.001 | -0.006 |
| -0.014 | -0.005 | 0.014 | -0.031 | 0.030 | -0.006 | -0.004 | -0.007 | 0.003 | -0.005 | -0.025 | -0.016 | 0.050 | -0.032 | 0.007 | 0.014 | -0.019 | 0.012 | 0.010 | -0.015 |
| -0.016 | -0.006 | 0.002 | -0.011 | 0.012 | -0.014 | 0.008 | -0.013 | 0.043 | -0.006 | -0.030 | -0.025 | -0.007 | 0.034 | 0.025 | 0.005 | -0.022 | -0.020 | 0.028 | -0.014 |
| -0.006 | -0.002 | 0.040 | -0.021 | -0.019 | -0.013 | 0.016 | -0.014 | 0.027 | -0.002 | -0.011 | -0.016 | 0.041 | -0.021 | -0.010 | -0.009 | -0.008 | 0.025 | -0.029 | 0.020 |
| 0.073 | -0.008 | -0.021 | -0.008 | 0.002 | -0.001 | 0.022 | -0.026 | -0.017 | -0.008 | -0.040 | -0.031 | -0.017 | 0.071 | 0.002 | 0.011 | -0.005 | 0.014 | -0.017 | -0.012 |
| -0.004 | -0.001 | -0.010 | -0.015 | 0.049 | -0.009 | -0.017 | 0.002 | -0.016 | -0.001 | -0.008 | -0.011 | -0.022 | 0.044 | -0.007 | -0.006 | -0.006 | -0.013 | -0.021 | 0.043 |
| 0.007 | -0.008 | 0.045 | 0.060 | -0.040 | -0.006 | -0.050 | -0.101 | 0.008 | -0.008 | -0.042 | -0.022 | 0.000 | 0.015 | 0.054 | 0.028 | -0.008 | -0.051 | 0.030 | 0.002 |
| -0.025 | 0.068 | 0.047 | 0.003 | 0.036 | -0.013 | -0.061 | 0.010 | -0.005 | -0.009 | 0.018 | 0.018 | -0.002 | -0.028 | 0.010 | 0.002 | 0.008 | 0.036 | -0.028 | -0.031 |
| -0.004 | -0.001 | -0.010 | -0.015 | 0.049 | -0.009 | -0.017 | -0.012 | 0.019 | -0.001 | -0.008 | -0.011 | 0.021 | 0.029 | -0.015 | -0.007 | -0.006 | -0.006 | 0.031 | -0.015 |
| -0.015 | 0.006 | -0.167 | -0.068 | 0.040 | 0.077 | 0.097 | 0.264 | 0.236 | 0.006 | -0.056 | 0.020 | 0.003 | 0.046 | -0.054 | -0.164 | 0.014 | 0.157 | 0.006 | -0.071 |
| -0.008 | -0.063 | -0.005 | -0.012 | 0.003 | 0.017 | 0.001 | -0.045 | 0.072 | -0.022 | -0.040 | -0.048 | 0.028 | 0.018 | 0.031 | 0.004 | -0.039 | -0.042 | 0.037 | 0.019 |
| 0.015 | 0.069 | 0.007 | 0.002 | 0.013 | -0.034 | 0.005 | 0.042 | -0.068 | -0.017 | 0.028 | 0.055 | -0.023 | -0.017 | -0.031 | 0.005 | -0.005 | 0.043 | -0.046 | -0.012 |
| -0.017 | -0.006 | -0.003 | 0.028 | -0.041 | 0.041 | -0.014 | 0.016 | -0.021 | 0.103 | 0.036 | -0.012 | -0.017 | -0.004 | -0.004 | -0.025 | 0.037 | 0.005 | 0.016 | -0.020 |
| -0.003 | 0.002 | 0.042 | -0.014 | 0.019 | -0.018 | -0.022 | -0.067 | -0.047 | -0.027 | 0.044 | -0.047 | 0.016 | -0.026 | 0.039 | 0.061 | -0.033 | -0.029 | -0.017 | 0.022 |
| 0.002 | -0.031 | 0.043 | -0.025 | 0.011 | -0.019 | -0.004 | 0.101 | -0.126 | 0.024 | 0.070 | 0.011 | -0.042 | -0.016 | 0.012 | 0.055 | -0.058 | 0.039 | -0.070 | 0.041 |
| -0.049 | -0.022 | -0.041 | -0.022 | 0.011 | 0.030 | 0.021 | 0.191 | 0.071 | 0.012 | -0.030 | 0.011 | -0.034 | 0.033 | 0.025 | -0.041 | 0.000 | 0.130 | -0.032 | -0.069 |
| -0.038 | -0.021 | 0.173 | 0.069 | -0.033 | -0.084 | -0.117 | -0.249 | 0.077 | -0.021 | -0.048 | 0.007 | 0.031 | 0.001 | -0.017 | -0.012 | -0.034 | -0.129 | 0.077 | 0.048 |
| -0.048 | 0.014 | 0.031 | -0.008 | 0.006 | -0.014 | -0.011 | -0.046 | 0.080 | -0.021 | -0.025 | 0.009 | 0.045 | -0.025 | -0.001 | 0.006 | 0.033 | -0.056 | 0.039 | -0.010 |
| -0.007 | -0.018 | 0.087 | -0.027 | 0.035 | 0.004 | -0.072 | -0.101 | 0.081 | -0.018 | -0.052 | 0.009 | 0.046 | -0.019 | -0.014 | -0.005 | -0.068 | -0.103 | 0.115 | 0.001 |
| 0.000 | -0.038 | 0.047 | 0.057 | 0.043 | -0.046 | -0.095 | -0.186 | -0.028 | -0.013 | -0.036 | -0.021 | 0.087 | -0.034 | -0.038 | 0.001 | -0.058 | -0.073 | 0.045 | 0.043 |
| -0.025 | -0.076 | -0.027 | -0.004 | 0.069 | -0.046 | -0.007 | -0.174 | 0.090 | 0.043 | -0.050 | -0.092 | 0.043 | 0.046 | 0.014 | -0.022 | -0.024 | -0.047 | 0.143 | -0.068 |
| -0.038 | -0.013 | -0.072 | -0.020 | -0.009 | 0.009 | 0.073 | 0.116 | 0.039 | -0.013 | -0.017 | -0.005 | 0.001 | 0.012 | 0.005 | -0.018 | -0.023 | 0.133 | -0.064 | -0.019 |
| -0.006 | -0.003 | -0.019 | -0.034 | 0.002 | 0.049 | 0.010 | 0.059 | 0.129 | -0.003 | -0.006 | -0.023 | -0.014 | 0.020 | 0.033 | -0.024 | 0.034 | 0.018 | -0.007 | -0.010 |
| -0.024 | -0.008 | 0.092 | -0.012 | 0.031 | 0.004 | -0.086 | -0.030 | 0.005 | -0.008 | 0.004 | -0.002 | -0.012 | 0.017 | -0.005 | 0.004 | 0.075 | -0.056 | 0.008 | -0.006 |
| -0.057 | -0.055 | 0.062 | 0.125 | 0.032 | -0.039 | -0.166 | -0.323 | 0.068 | -0.009 | -0.012 | -0.035 | 0.070 | 0.014 | 0.022 | 0.014 | -0.117 | -0.165 | 0.144 | 0.041 |
| -0.030 | -0.037 | 0.100 | 0.109 | 0.018 | -0.085 | -0.148 | -0.285 | 0.075 | 0.014 | -0.073 | -0.053 | 0.054 | -0.013 | 0.087 | -0.015 | -0.223 | -0.159 | 0.114 | 0.043 |
| -0.006 | -0.052 | -0.030 | 0.031 | -0.020 | 0.043 | -0.019 | 0.022 | 0.042 | -0.052 | -0.094 | -0.015 | 0.014 | 0.044 | 0.033 | -0.047 | -0.062 | 0.048 | 0.043 | -0.032 |
| -0.028 | -0.020 | -0.047 | -0.025 | -0.005 | 0.040 | 0.035 | 0.100 | -0.058 | 0.018 | 0.036 | 0.045 | -0.013 | -0.023 | -0.043 | 0.011 | -0.054 | 0.048 | -0.084 | 0.048 |
| 0.323 | -0.028 | 0.045 | 0.059 | 0.015 | -0.057 | -0.063 | -0.177 | -0.054 | 0.031 | -0.025 | -0.027 | 0.004 | 0.024 | 0.011 | 0.029 | -0.090 | -0.077 | 0.001 | 0.112 |
| 0.051 | 0.279 | 0.081 | -0.041 | -0.044 | -0.042 | 0.063 | 0.024 | -0.039 | 0.046 | 0.047 | -0.007 | -0.020 | 0.010 | -0.030 | 0.023 | 0.003 | 0.013 | -0.011 | -0.017 |
| -0.031 | -0.025 | -0.078 | -0.012 | 0.043 | 0.050 | -0.004 | 0.065 | 0.174 | -0.056 | -0.128 | -0.040 | 0.012 | 0.098 | 0.017 | -0.112 | -0.021 | 0.095 | -0.012 | 0.016 |
| 0.012 | 0.036 | 0.004 | 0.017 | 0.013 | -0.082 | 0.025 | -0.086 | -0.086 | 0.018 | 0.043 | 0.017 | 0.014 | -0.019 | -0.071 | 0.038 | 0.048 | -0.049 | -0.001 | 0.016 |
| -0.076 | -0.030 | -0.016 | 0.028 | 0.008 | -0.026 | -0.005 | -0.070 | 0.109 | -0.023 | -0.018 | 0.011 | 0.047 | -0.009 | -0.073 | -0.024 | 0.151 | 0.016 | 0.031 | -0.093 |
| 0.081 | -0.027 | -0.003 | 0.002 | 0.015 | 0.003 | -0.016 | -0.174 | 0.064 | -0.037 | -0.062 | -0.066 | -0.015 | 0.090 | 0.045 | 0.008 | 0.030 | -0.089 | 0.048 | -0.016 |
| 0.024 | -0.045 | -0.014 | 0.009 | 0.018 | -0.005 | -0.012 | -0.075 | 0.102 | 0.005 | -0.073 | -0.077 | 0.052 | 0.035 | 0.028 | -0.031 | 0.029 | -0.082 | 0.040 | 0.023 |
| -0.011 | 0.000 | -0.054 | -0.106 | -0.004 | 0.007 | 0.138 | 0.265 | -0.047 | 0.000 | 0.111 | 0.085 | -0.065 | -0.043 | -0.042 | 0.010 | -0.018 | 0.196 | -0.076 | -0.065 |
| -0.001 | -0.031 | 0.044 | 0.061 | 0.013 | -0.026 | -0.083 | -0.223 | 0.064 | -0.031 | -0.104 | -0.073 | 0.070 | 0.023 | 0.049 | -0.017 | 0.057 | -0.132 | 0.079 | 0.022 |
| 0.015 | 0.035 | 0.021 | 0.070 | -0.010 | 0.021 | -0.087 | -0.095 | -0.010 | 0.035 | -0.028 | -0.028 | 0.007 | 0.029 | -0.001 | 0.006 | -0.040 | -0.068 | 0.011 | 0.059 |
| -0.036 | -0.034 | -0.028 | -0.075 | -0.013 | 0.105 | 0.030 | 0.097 | 0.045 | 0.002 | -0.017 | 0.021 | 0.039 | -0.033 | -0.031 | -0.065 | 0.173 | 0.084 | -0.077 | -0.026 |
| -0.063 | 0.020 | -0.046 | 0.020 | 0.047 | 0.028 | -0.047 | -0.059 | 0.096 | -0.010 | -0.025 | -0.102 | 0.042 | 0.031 | 0.042 | -0.021 | 0.036 | -0.011 | 0.043 | -0.044 |
| -0.092 | -0.014 | 0.009 | -0.013 | 0.019 | 0.041 | -0.039 | -0.025 | 0.075 | 0.010 | -0.047 | -0.006 | 0.043 | -0.008 | -0.016 | 0.021 | 0.093 | 0.050 | -0.017 | -0.074 |
| 0.012 | 0.052 | 0.002 | -0.048 | -0.026 | 0.025 | 0.050 | 0.169 | -0.078 | 0.023 | 0.010 | 0.035 | -0.044 | -0.008 | -0.006 | 0.020 | -0.040 | 0.040 | 0.068 | -0.085 |
| -0.087 | -0.031 | 0.051 | 0.038 | 0.021 | -0.005 | -0.088 | -0.030 | 0.075 | -0.004 | -0.057 | -0.024 | 0.012 | 0.034 | 0.014 | -0.060 | 0.015 | -0.016 | 0.037 | 0.059 |
| 0.064 | -0.014 | -0.047 | -0.012 | -0.026 | 0.049 | 0.035 | 0.080 | -0.005 | -0.014 | -0.046 | 0.019 | 0.000 | -0.001 | 0.028 | 0.012 | -0.016 | 0.021 | -0.047 | 0.018 |
| -0.182 | -0.019 | 0.092 | 0.034 | -0.006 | -0.025 | -0.076 | -0.025 | 0.043 | -0.019 | -0.005 | -0.028 | 0.003 | 0.028 | -0.005 | -0.058 | 0.012 | 0.036 | 0.068 | -0.062 |
| 0.195 | -0.018 | -0.051 | -0.017 | -0.005 | 0.025 | 0.041 | 0.032 | -0.030 | -0.018 | 0.013 | -0.005 | 0.000 | -0.004 | 0.004 | 0.015 | -0.025 | 0.007 | -0.031 | 0.025 |
| 0.027 | 0.056 | -0.046 | -0.022 | 0.034 | -0.026 | 0.042 | -0.056 | -0.029 | 0.056 | 0.030 | 0.029 | -0.005 | -0.035 | -0.017 | 0.059 | 0.018 | -0.014 | -0.031 | 0.051 |
| -0.085 | -0.008 | 0.056 | 0.062 | 0.051 | 0.000 | -0.145 | 0.142 | 0.430 | 0.004 | -0.071 | -0.044 | -0.049 | 0.091 | 0.079 | -0.144 | -0.011 | 0.072 | 0.128 | -0.119 |
| -0.087 | -0.037 | 0.006 | 0.089 | 0.058 | 0.021 | -0.155 | 0.221 | 0.172 | 0.018 | -0.068 | 0.002 | 0.003 | 0.028 | 0.012 | 0.075 | -0.014 | 0.009 | -0.053 | 0.038 |
| 0.001 | -0.016 | -0.004 | 0.002 | -0.011 | 0.024 | -0.005 | -0.019 | 0.143 | -0.016 | -0.049 | -0.041 | 0.030 | -0.012 | 0.078 | -0.014 | 0.009 | -0.053 | 0.001 | -0.010 |
| 0.045 | -0.010 | -0.010 | 0.058 | -0.027 | -0.002 | -0.022 | -0.043 | -0.022 | -0.010 | -0.053 | 0.039 | -0.023 | 0.003 | 0.042 | 0.008 | -0.002 | 0.001 | -0.010 | 0.017 |
| 0.009 | -0.014 | -0.047 | -0.002 | 0.049 | 0.021 | -0.223 | -0.182 | 0.300 | -0.038 | -0.089 | -0.027 | 0.014 | 0.048 | 0.033 | -0.017 | 0.106 | -0.257 | 0.146 | 0.043 |
| -0.025 | -0.006 | -0.107 | -0.087 | 0.012 | 0.021 | 0.134 | 0.364 | 0.108 | 0.002 | 0.038 | 0.068 | -0.023 | 0.043 | -0.020 | -0.054 | 0.014 | 0.215 | -0.073 | -0.090 |
| 0.019 | -0.019 | 0.067 | 0.114 | 0.045 | -0.003 | -0.195 | -0.586 | 0.307 | -0.045 | -0.143 | -0.073 | 0.055 | 0.063 | 0.055 | -0.200 | 0.128 | -0.829 | 0.436 | 0.302 |
| 0.046 | 0.026 | 0.086 | 0.040 | -0.071 | -0.027 | -0.018 | -0.069 | -0.196 | 0.026 | 0.071 | 0.027 | -0.055 | 0.004 | -0.022 | 0.784 | -0.094 | -0.094 | -0.171 | -0.096 |
| -0.044 | 0.026 | -0.124 | -0.140 | -0.014 | 0.004 | 0.233 | 0.646 | -0.223 | 0.026 | 0.124 | 0.052 | -0.038 | -0.053 | -0.050 | -0.126 | -0.114 | 0.998 | -0.424 | -0.312 |
| -0.107 | -0.020 | -0.034 | 0.007 | 0.063 | -0.008 | -0.116 | -0.219 | 0.094 | -0.009 | -0.093 | -0.060 | 0.074 | 0.009 | 0.034 | 0.104 | -0.042 | -0.090 | | |
| -0.007 | -0.005 | 0.088 | 0.050 | 0.030 | -0.035 | -0.118 | -0.219 | 0.094 | 0.003 | 0.006 | -0.032 | 0.035 | -0.018 | 0.013 | 0.045 | 0.024 | -0.006 | -0.048 | 0.036 |
| 0.062 | -0.008 | -0.003 | -0.032 | 0.035 | -0.018 | 0.013 | 0.045 | 0.024 | -0.006 | 0.038 | -0.048 | 0.020 | -0.018 | 0.020 | 0.023 | 0.020 | -0.048 | 0.036 | |
| 0.033 | -0.014 | -0.015 | -0.002 | 0.027 | 0.033 | -0.035 | -0.026 | 0.096 | -0.039 | -0.102 | -0.055 | -0.008 | 0.086 | 0.067 | -0.052 | -0.021 | -0.043 | 0.017 | 0.064 |
| -0.055 | -0.020 | -0.082 | -0.004 | 0.009 | -0.004 | 0.059 | 0.064 | 0.210 | 0.004 | -0.039 | 0.016 | -0.004 | 0.007 | 0.013 | -0.072 | 0.072 | 0.079 | 0.024 | -0.094 |

296

| Occupation_Goods Producing | Gender_Male_REF | Gender_Female | Gender_WontSay | MS_Single_REF | MS_MarriedOrCommonLaw | SameSexCouple | NumPeopleHousehold | Province_Ontario_REF | Province_Alberta | Province_British Columbia | Province_Manitoba | Province_NewBrunswick | Province_NfldLab | Province_NWT | Province_NovaScotia | Province_Nunavut | Province_PEI | Province_QC | Province_SK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -0.039 | 0.168 | -0.156 | -0.090 | -0.227 | 0.227 | 0.075 | 0.078 | -0.084 | 0.021 | 0.084 | 0.010 | -0.009 | 0.008 | 0.003 | -0.028 | | 0.007 | -0.002 | 0.053 |
| -0.021 | -0.060 | 0.040 | 0.147 | 0.116 | -0.116 | -0.043 | -0.035 | 0.073 | -0.025 | -0.043 | -0.019 | -0.011 | -0.013 | -0.005 | -0.017 | | -0.003 | -0.018 | -0.019 |
| 0.025 | -0.130 | 0.133 | -0.020 | 0.098 | -0.098 | -0.026 | -0.056 | 0.079 | -0.063 | -0.050 | 0.020 | 0.002 | 0.090 | -0.011 | -0.022 | | -0.008 | -0.043 | -0.030 |
| -0.005 | 0.004 | -0.001 | -0.020 | 0.036 | -0.036 | -0.002 | -0.089 | 0.032 | -0.016 | -0.011 | 0.004 | 0.003 | -0.030 | 0.055 | 0.014 | | -0.008 | -0.025 | -0.030 |
| 0.010 | -0.042 | 0.046 | -0.029 | -0.043 | 0.043 | 0.015 | 0.019 | 0.013 | -0.012 | 0.020 | -0.038 | -0.036 | -0.005 | -0.015 | 0.026 | | -0.011 | -0.060 | 0.045 |
| 0.029 | -0.034 | 0.036 | -0.010 | -0.014 | 0.014 | 0.017 | -0.043 | -0.045 | 0.047 | 0.031 | -0.023 | 0.038 | -0.015 | -0.006 | -0.021 | | -0.004 | 0.040 | -0.024 |
| -0.014 | 0.005 | -0.020 | 0.109 | 0.002 | -0.002 | -0.029 | -0.010 | 0.007 | -0.003 | 0.041 | -0.007 | -0.008 | -0.003 | -0.011 | | | -0.002 | -0.012 | 0.039 |
| 0.032 | -0.020 | 0.021 | -0.006 | 0.014 | -0.014 | -0.006 | 0.000 | -0.005 | -0.006 | -0.030 | 0.038 | -0.008 | -0.009 | -0.003 | 0.044 | | -0.002 | -0.013 | 0.036 |
| -0.023 | -0.022 | 0.023 | -0.010 | 0.012 | -0.012 | -0.002 | 0.000 | 0.003 | -0.001 | 0.043 | -0.021 | -0.012 | -0.014 | -0.005 | -0.019 | | -0.004 | -0.020 | -0.022 |
| -0.026 | 0.165 | -0.170 | 0.036 | -0.068 | 0.068 | -0.002 | 0.034 | -0.013 | -0.002 | 0.075 | 0.003 | 0.023 | 0.030 | -0.025 | -0.029 | | 0.037 | 0.033 | -0.022 |
| -0.016 | 0.012 | -0.011 | -0.007 | 0.001 | -0.001 | -0.012 | -0.041 | -0.034 | -0.034 | 0.095 | -0.015 | 0.070 | -0.050 | -0.004 | -0.013 | | -0.003 | -0.014 | -0.015 |
| -0.001 | 0.006 | -0.004 | -0.011 | -0.023 | 0.023 | 0.024 | 0.021 | -0.014 | -0.002 | -0.029 | 0.032 | -0.014 | -0.016 | 0.107 | 0.009 | | -0.004 | 0.036 | 0.030 |
| -0.011 | -0.045 | 0.045 | -0.005 | -0.040 | 0.040 | -0.023 | 0.052 | -0.017 | 0.041 | 0.008 | -0.010 | -0.006 | -0.007 | -0.002 | -0.009 | | -0.002 | -0.010 | -0.010 |
| 0.035 | 0.014 | -0.011 | -0.026 | -0.013 | 0.013 | 0.033 | 0.051 | -0.050 | 0.049 | -0.024 | 0.023 | -0.010 | -0.018 | -0.014 | 0.008 | | -0.010 | 0.072 | 0.019 |
| 0.036 | 0.026 | -0.025 | -0.010 | 0.012 | -0.012 | -0.018 | 0.004 | -0.089 | 0.076 | 0.043 | 0.012 | 0.044 | -0.014 | -0.005 | -0.019 | | -0.004 | 0.014 | 0.010 |
| -0.042 | -0.011 | 0.013 | -0.018 | -0.009 | 0.009 | -0.010 | 0.013 | 0.006 | 0.000 | 0.007 | -0.002 | -0.022 | -0.026 | -0.009 | 0.006 | | -0.007 | -0.017 | 0.014 |
| 0.072 | -0.011 | 0.012 | -0.003 | 0.057 | -0.057 | -0.017 | 0.021 | 0.007 | 0.025 | -0.018 | -0.008 | -0.004 | -0.005 | -0.002 | -0.007 | | -0.001 | -0.007 | -0.008 |
| -0.026 | -0.074 | 0.076 | -0.011 | 0.016 | -0.016 | 0.026 | 0.019 | 0.027 | -0.014 | -0.028 | -0.024 | -0.014 | -0.016 | -0.006 | 0.073 | | -0.004 | 0.007 | -0.025 |
| -0.009 | -0.048 | 0.048 | -0.004 | 0.018 | -0.018 | -0.020 | -0.071 | -0.036 | -0.019 | 0.055 | -0.008 | -0.005 | -0.006 | -0.002 | -0.008 | | -0.001 | -0.008 | 0.068 |
| 0.036 | -0.055 | 0.054 | 0.003 | 0.057 | -0.057 | -0.009 | -0.033 | -0.050 | 0.019 | 0.008 | 0.011 | 0.014 | 0.002 | 0.040 | -0.021 | | -0.010 | 0.046 | 0.047 |
| 0.010 | -0.017 | 0.016 | 0.006 | -0.012 | 0.012 | 0.034 | 0.040 | -0.049 | 0.068 | 0.004 | -0.012 | -0.031 | -0.011 | -0.021 | -0.008 | | -0.015 | 0.060 | 0.003 |
| -0.036 | 0.043 | -0.042 | -0.012 | -0.034 | 0.034 | -0.025 | 0.042 | -0.034 | 0.020 | 0.010 | 0.009 | 0.030 | 0.012 | -0.019 | 0.002 | | 0.049 | -0.040 | 0.036 |
| -0.006 | 0.024 | -0.025 | 0.006 | -0.016 | 0.016 | 0.019 | 0.010 | 0.020 | -0.005 | -0.008 | 0.004 | -0.006 | -0.014 | -0.013 | -0.001 | | -0.009 | -0.006 | -0.013 |
| 0.002 | -0.001 | 0.001 | -0.001 | 0.012 | -0.012 | -0.017 | -0.058 | 0.100 | -0.092 | -0.013 | -0.007 | -0.004 | 0.008 | 0.016 | 0.022 | | -0.017 | -0.050 | -0.061 |
| -0.083 | -0.060 | 0.058 | 0.015 | 0.034 | -0.034 | -0.040 | -0.249 | 0.111 | -0.116 | 0.007 | 0.001 | -0.007 | -0.013 | -0.014 | -0.026 | | 0.002 | -0.101 | 0.010 |
| 0.005 | 0.218 | -0.212 | -0.052 | -0.313 | 0.313 | 0.110 | 0.286 | -0.084 | 0.126 | -0.002 | -0.018 | 0.003 | 0.043 | 0.027 | -0.017 | | -0.076 | 0.008 | -0.005 |
| 0.062 | 0.022 | -0.022 | -0.004 | 0.044 | -0.044 | -0.020 | -0.052 | -0.011 | 0.056 | -0.020 | -0.008 | -0.005 | -0.006 | -0.002 | -0.008 | | -0.001 | -0.008 | -0.009 |
| 0.055 | -0.064 | 0.062 | 0.015 | 0.164 | -0.164 | -0.072 | -0.134 | 0.042 | 0.000 | -0.011 | -0.012 | -0.025 | -0.030 | -0.011 | -0.040 | | -0.008 | -0.042 | 0.018 |
| 0.075 | -0.063 | 0.056 | 0.050 | 0.058 | -0.058 | -0.014 | -0.048 | 0.034 | -0.023 | -0.009 | 0.022 | -0.016 | -0.025 | -0.016 | -0.031 | | -0.011 | -0.022 | 0.018 |
| -0.061 | 0.072 | -0.072 | -0.001 | 0.010 | -0.010 | 0.013 | 0.050 | -0.033 | 0.006 | 0.020 | 0.033 | 0.050 | -0.007 | 0.041 | -0.017 | | -0.022 | 0.000 | -0.002 |
| -0.029 | -0.015 | 0.021 | -0.039 | -0.105 | 0.105 | -0.008 | 0.046 | -0.013 | 0.010 | 0.001 | -0.034 | -0.032 | 0.034 | -0.021 | 0.071 | | 0.044 | 0.015 | -0.028 |
| -0.013 | 0.041 | -0.039 | -0.019 | -0.111 | 0.111 | 0.090 | 0.050 | -0.005 | -0.008 | -0.011 | -0.023 | 0.007 | 0.025 | -0.010 | 0.002 | | -0.007 | 0.054 | 0.010 |
| -0.039 | -0.112 | 0.109 | 0.026 | 0.097 | -0.097 | -0.007 | -0.014 | 0.025 | -0.015 | -0.027 | -0.036 | 0.014 | 0.005 | -0.009 | 0.111 | | -0.006 | 0.028 | 0.002 |
| -0.036 | 0.067 | -0.065 | -0.015 | -0.038 | 0.038 | 0.007 | 0.083 | -0.050 | 0.029 | 0.057 | 0.011 | -0.019 | -0.022 | -0.008 | -0.005 | | -0.006 | -0.008 | 0.008 |
| -0.086 | -0.023 | 0.018 | 0.035 | -0.012 | 0.012 | -0.045 | -0.248 | 0.026 | -0.063 | 0.010 | 0.031 | 0.012 | -0.020 | 0.025 | 0.014 | | -0.013 | -0.051 | 0.036 |
| -0.132 | 0.102 | -0.098 | -0.035 | -0.064 | 0.064 | 0.027 | 0.153 | -0.037 | 0.032 | 0.021 | -0.001 | 0.010 | 0.028 | -0.029 | -0.017 | | -0.021 | 0.030 | -0.026 |
| -0.097 | -0.098 | 0.095 | 0.004 | 0.045 | -0.045 | 0.009 | 0.018 | 0.049 | -0.016 | -0.031 | -0.006 | -0.015 | -0.014 | 0.020 | -0.012 | | 0.043 | 0.002 | -0.031 |
| **1.000** | 0.081 | -0.080 | -0.011 | 0.014 | -0.014 | 0.011 | 0.031 | -0.059 | 0.093 | -0.043 | -0.024 | -0.014 | 0.025 | -0.006 | 0.040 | | -0.004 | 0.006 | 0.057 |
| 0.081 | **1.000** | -0.990 | -0.084 | -0.187 | 0.187 | 0.074 | 0.156 | -0.084 | -0.001 | 0.075 | 0.037 | -0.002 | -0.008 | 0.026 | | | -0.032 | 0.046 | 0.015 |
| -0.080 | -0.990 | **1.000** | -0.054 | 0.184 | -0.184 | -0.071 | -0.154 | 0.060 | -0.001 | -0.012 | -0.072 | -0.036 | 0.003 | 0.008 | -0.025 | | 0.032 | -0.045 | -0.014 |
| -0.011 | -0.084 | -0.054 | **1.000** | 0.025 | -0.025 | -0.023 | -0.020 | 0.024 | 0.009 | -0.023 | -0.010 | -0.006 | -0.007 | -0.002 | -0.009 | | -0.002 | -0.010 | -0.010 |
| 0.014 | -0.187 | 0.184 | 0.025 | **1.000** | -1.000 | -0.204 | -0.480 | 0.118 | -0.056 | -0.065 | -0.027 | -0.016 | -0.044 | 0.019 | -0.001 | | -0.015 | -0.009 | -0.042 |
| -0.014 | 0.187 | -0.184 | -0.025 | -1.000 | **1.000** | 0.204 | 0.480 | -0.118 | 0.056 | 0.065 | 0.027 | 0.016 | 0.044 | -0.019 | 0.001 | | 0.015 | 0.009 | 0.042 |
| 0.011 | 0.074 | -0.071 | -0.023 | -0.204 | 0.204 | **1.000** | 0.111 | -0.013 | -0.011 | 0.007 | -0.007 | -0.029 | 0.009 | -0.012 | -0.046 | | -0.009 | 0.013 | 0.019 |
| 0.031 | 0.156 | -0.154 | -0.020 | -0.480 | 0.480 | 0.111 | **1.000** | -0.062 | 0.024 | 0.025 | 0.028 | 0.016 | 0.047 | -0.015 | -0.010 | | 0.011 | 0.016 | 0.013 |
| -0.059 | -0.064 | 0.060 | 0.024 | 0.118 | -0.118 | 0.013 | -0.062 | **1.000** | -0.506 | -0.513 | -0.221 | -0.127 | -0.148 | -0.054 | -0.200 | | -0.038 | -0.211 | -0.228 |
| 0.093 | -0.001 | -0.001 | 0.009 | -0.056 | 0.056 | -0.011 | 0.024 | -0.506 | **1.000** | -0.116 | -0.050 | -0.029 | -0.034 | -0.012 | -0.045 | | -0.009 | -0.048 | -0.052 |
| -0.043 | 0.015 | -0.012 | -0.023 | -0.065 | 0.065 | 0.007 | 0.025 | -0.513 | -0.116 | **1.000** | -0.051 | -0.029 | -0.034 | -0.012 | -0.046 | | -0.009 | -0.048 | -0.052 |
| -0.024 | 0.073 | -0.072 | -0.010 | -0.027 | 0.027 | -0.007 | 0.028 | -0.221 | -0.050 | -0.051 | **1.000** | -0.013 | -0.015 | -0.005 | -0.020 | | -0.004 | -0.021 | -0.023 |
| -0.014 | 0.037 | -0.036 | -0.006 | -0.016 | 0.016 | -0.029 | 0.016 | -0.127 | -0.029 | -0.029 | -0.013 | **1.000** | -0.008 | -0.003 | -0.011 | | -0.002 | -0.012 | -0.013 |
| 0.025 | -0.032 | 0.003 | -0.007 | -0.044 | 0.044 | 0.009 | 0.047 | -0.148 | -0.034 | -0.034 | -0.015 | -0.008 | **1.000** | -0.004 | -0.013 | | -0.003 | -0.014 | -0.015 |
| -0.006 | -0.008 | 0.008 | -0.002 | 0.019 | -0.019 | -0.012 | -0.015 | -0.054 | -0.012 | -0.012 | -0.005 | -0.003 | -0.004 | **1.000** | -0.005 | | -0.001 | -0.005 | -0.006 |
| 0.040 | 0.026 | -0.025 | -0.009 | -0.001 | 0.001 | -0.046 | -0.010 | -0.200 | -0.045 | -0.046 | -0.020 | -0.011 | -0.013 | -0.005 | **1.000** | | -0.003 | -0.019 | -0.020 |
| -0.004 | -0.032 | 0.032 | -0.002 | -0.015 | 0.015 | -0.009 | 0.011 | -0.038 | -0.009 | -0.009 | -0.004 | -0.002 | -0.003 | -0.001 | -0.003 | **1.000** | -0.001 | -0.004 | -0.004 |
| 0.006 | 0.046 | -0.045 | -0.010 | -0.010 | 0.010 | 0.013 | 0.016 | -0.211 | -0.048 | -0.048 | -0.021 | -0.012 | -0.014 | -0.005 | -0.019 | | **1.000** | -0.022 | -0.022 |
| 0.057 | 0.015 | -0.014 | -0.010 | -0.042 | 0.042 | 0.019 | 0.013 | -0.228 | -0.052 | -0.052 | -0.023 | -0.013 | -0.015 | -0.006 | -0.020 | | -0.004 | **1.000** | -0.022 |
| -0.004 | 0.020 | -0.020 | -0.010 | -0.015 | 0.015 | -0.009 | 0.053 | -0.038 | -0.009 | -0.009 | -0.004 | -0.002 | -0.003 | -0.001 | -0.003 | | -0.001 | -0.004 | **1.000** |
| -0.012 | 0.003 | 0.001 | -0.029 | -0.286 | 0.286 | 0.045 | 0.175 | -0.083 | 0.097 | -0.013 | 0.011 | 0.012 | 0.025 | -0.022 | -0.005 | | 0.014 | -0.019 | 0.076 |
| -0.050 | 0.022 | -0.025 | 0.021 | -0.001 | 0.001 | 0.032 | -0.027 | 0.163 | 0.015 | -0.177 | -0.096 | 0.026 | 0.031 | 0.011 | 0.007 | | 0.008 | -0.022 | -0.106 |
| 0.060 | -0.017 | 0.020 | -0.020 | 0.004 | -0.004 | -0.028 | 0.034 | -0.159 | -0.042 | 0.186 | 0.108 | -0.025 | -0.029 | -0.010 | -0.002 | | -0.007 | 0.012 | 0.119 |
| -0.017 | -0.017 | 0.018 | -0.007 | -0.007 | 0.007 | -0.016 | -0.013 | -0.037 | 0.067 | 0.004 | -0.016 | -0.009 | -0.010 | -0.004 | -0.014 | | -0.003 | 0.030 | -0.016 |
| 0.026 | 0.003 | -0.009 | 0.042 | 0.069 | -0.069 | -0.017 | 0.028 | -0.011 | 0.030 | -0.007 | 0.032 | -0.001 | -0.014 | 0.029 | -0.013 | | -0.012 | -0.044 | 0.016 |
| 0.000 | -0.113 | 0.119 | -0.036 | 0.075 | -0.075 | -0.042 | -0.042 | 0.050 | -0.075 | -0.028 | 0.038 | 0.010 | 0.105 | -0.019 | -0.038 | | -0.014 | -0.031 | 0.012 |
| 0.011 | 0.009 | -0.005 | -0.026 | -0.008 | 0.008 | 0.009 | -0.050 | 0.042 | -0.034 | -0.024 | -0.003 | -0.009 | 0.002 | 0.040 | 0.023 | | -0.010 | -0.026 | -0.006 |
| 0.041 | -0.014 | 0.019 | -0.036 | -0.045 | 0.045 | 0.017 | 0.031 | 0.008 | -0.011 | 0.010 | 0.018 | -0.022 | -0.021 | -0.019 | 0.000 | | -0.014 | -0.064 | 0.055 |
| 0.026 | -0.028 | 0.028 | 0.004 | -0.048 | 0.048 | 0.001 | 0.028 | -0.050 | 0.023 | 0.013 | 0.013 | 0.039 | -0.037 | 0.041 | -0.035 | | -0.010 | 0.047 | 0.049 |
| 0.001 | 0.039 | -0.048 | 0.063 | -0.088 | 0.088 | -0.037 | 0.131 | -0.064 | 0.024 | 0.021 | 0.068 | 0.015 | 0.003 | -0.013 | 0.011 | | -0.010 | 0.005 | 0.023 |
| 0.006 | -0.011 | 0.014 | -0.021 | -0.042 | 0.042 | 0.012 | 0.070 | -0.033 | -0.016 | 0.026 | 0.017 | 0.055 | -0.031 | 0.052 | -0.024 | | -0.008 | 0.022 | 0.044 |
| 0.006 | -0.048 | 0.046 | 0.018 | -0.023 | 0.023 | 0.002 | 0.027 | -0.079 | 0.065 | 0.001 | -0.011 | -0.038 | 0.015 | 0.015 | 0.029 | | 0.038 | 0.046 | 0.031 |
| -0.065 | 0.228 | -0.227 | -0.010 | -0.103 | 0.103 | -0.004 | 0.047 | -0.068 | 0.058 | 0.015 | 0.008 | 0.016 | -0.008 | 0.027 | 0.018 | | 0.019 | 0.067 | -0.040 |
| -0.038 | 0.098 | -0.096 | -0.016 | -0.080 | 0.080 | -0.032 | 0.013 | -0.027 | -0.012 | 0.053 | -0.015 | 0.050 | -0.023 | 0.073 | -0.009 | | -0.006 | 0.030 | -0.036 |
| -0.008 | 0.025 | -0.020 | -0.036 | -0.079 | 0.079 | 0.054 | 0.077 | 0.003 | 0.011 | 0.027 | -0.025 | -0.008 | -0.021 | 0.024 | -0.011 | | -0.014 | -0.007 | -0.029 |
| 0.032 | -0.047 | 0.046 | -0.010 | 0.003 | -0.003 | -0.051 | 0.024 | -0.095 | 0.068 | 0.095 | -0.022 | -0.013 | -0.015 | -0.005 | -0.020 | | -0.004 | 0.044 | -0.023 |
| 0.006 | 0.063 | -0.059 | -0.027 | -0.095 | 0.095 | 0.044 | 0.076 | -0.151 | 0.097 | 0.071 | 0.037 | 0.011 | -0.030 | 0.001 | 0.010 | | 0.026 | 0.061 | 0.027 |
| -0.006 | 0.141 | -0.144 | 0.021 | -0.076 | 0.076 | 0.024 | 0.072 | -0.176 | 0.113 | 0.041 | 0.004 | 0.046 | -0.020 | 0.017 | 0.058 | | 0.016 | 0.022 | 0.066 |
| -0.018 | 0.032 | -0.031 | -0.004 | -0.088 | 0.088 | 0.063 | 0.016 | -0.065 | 0.018 | 0.061 | 0.000 | 0.000 | -0.024 | 0.003 | 0.017 | | 0.028 | 0.022 | 0.009 |
| -0.003 | 0.005 | -0.001 | -0.023 | 0.037 | -0.037 | 0.001 | -0.038 | 0.046 | -0.018 | -0.055 | 0.037 | -0.029 | -0.034 | 0.047 | 0.003 | | 0.075 | -0.002 | -0.024 |
| -0.037 | -0.053 | 0.058 | -0.033 | 0.042 | -0.042 | 0.002 | 0.002 | 0.004 | 0.011 | -0.037 | -0.015 | 0.018 | -0.014 | 0.029 | 0.049 | | -0.012 | 0.004 | 0.004 |
| 0.008 | -0.066 | 0.068 | -0.014 | 0.058 | -0.058 | -0.016 | -0.022 | 0.008 | -0.004 | 0.016 | -0.030 | -0.017 | 0.081 | -0.027 | -0.023 | | -0.005 | -0.023 | -0.009 |
| -0.065 | 0.071 | -0.072 | 0.003 | -0.297 | 0.297 | 0.067 | 0.149 | -0.067 | -0.002 | 0.011 | 0.082 | 0.040 | 0.058 | 0.019 | 0.020 | | 0.031 | -0.028 | 0.049 |
| -0.032 | 0.037 | -0.042 | 0.033 | 0.084 | -0.084 | -0.035 | -0.064 | -0.041 | 0.039 | 0.045 | 0.018 | 0.014 | -0.036 | 0.010 | 0.025 | | 0.020 | 0.028 | -0.107 |
| -0.042 | 0.135 | -0.137 | 0.015 | -0.094 | 0.094 | -0.019 | 0.032 | -0.127 | 0.062 | 0.072 | 0.038 | 0.040 | -0.029 | 0.011 | 0.009 | | 0.023 | 0.061 | 0.003 |
| 0.022 | 0.007 | -0.003 | -0.028 | 0.012 | -0.012 | 0.035 | 0.031 | -0.005 | 0.030 | -0.015 | -0.028 | -0.018 | 0.045 | -0.011 | 0.016 | | -0.008 | -0.017 | 0.000 |
| 0.028 | 0.076 | -0.071 | -0.038 | -0.053 | 0.053 | 0.081 | -0.012 | -0.041 | 0.061 | -0.007 | 0.003 | -0.019 | 0.027 | -0.039 | 0.014 | | -0.046 | 0.001 | 0.006 |
| -0.008 | -0.035 | 0.036 | -0.004 | -0.002 | 0.002 | 0.003 | -0.030 | 0.069 | -0.085 | 0.009 | 0.030 | -0.009 | 0.014 | 0.030 | -0.022 | | 0.021 | -0.057 | -0.026 |
| -0.013 | 0.064 | -0.062 | -0.014 | 0.010 | -0.010 | -0.003 | 0.053 | -0.018 | 0.052 | -0.049 | -0.018 | -0.010 | -0.023 | -0.020 | 0.020 | | -0.014 | 0.078 | -0.002 |
| 0.024 | -0.025 | 0.023 | 0.021 | -0.009 | 0.009 | -0.001 | -0.021 | -0.070 | 0.053 | 0.043 | -0.019 | 0.023 | 0.008 | -0.016 | 0.006 | | -0.012 | -0.013 | 0.036 |
| -0.041 | 0.016 | 0.017 | -0.005 | 0.022 | -0.022 | 0.002 | -0.026 | 0.027 | -0.016 | -0.026 | 0.025 | -0.008 | -0.003 | -0.014 | -0.042 | | -0.010 | -0.019 | 0.007 |
| 0.004 | 0.143 | -0.136 | -0.053 | -0.082 | 0.082 | 0.042 | 0.079 | -0.083 | 0.079 | 0.020 | -0.007 | -0.011 | 0.000 | 0.013 | -0.018 | | 0.009 | 0.050 | 0.013 |
| -0.023 | 0.025 | -0.024 | -0.005 | -0.041 | 0.041 | 0.023 | 0.028 | -0.074 | 0.041 | 0.053 | 0.005 | -0.058 | -0.025 | 0.014 | -0.017 | | 0.037 | 0.025 | 0.055 |
| 0.042 | -0.123 | 0.130 | -0.047 | 0.071 | -0.071 | -0.002 | -0.053 | 0.050 | -0.073 | -0.002 | -0.022 | 0.005 | -0.004 | -0.004 | 0.020 | | -0.003 | -0.057 | 0.062 |
| -0.034 | 0.109 | -0.110 | 0.011 | -0.087 | 0.087 | 0.009 | -0.003 | -0.124 | 0.073 | 0.085 | -0.017 | 0.007 | -0.017 | 0.012 | -0.009 | | 0.039 | 0.039 | 0.045 |
| 0.045 | -0.045 | 0.047 | -0.017 | 0.055 | -0.055 | 0.012 | -0.036 | 0.050 | -0.022 | -0.033 | 0.000 | -0.021 | -0.025 | -0.009 | -0.013 | | -0.006 | -0.016 | 0.017 |
| -0.065 | 0.023 | -0.023 | -0.035 | -0.033 | 0.033 | -0.070 | -0.041 | -0.072 | 0.054 | 0.044 | 0.004 | -0.004 | 0.027 | 0.021 | -0.036 | | 0.015 | 0.006 | 0.019 |
| 0.020 | 0.000 | 0.003 | -0.021 | -0.012 | 0.012 | 0.049 | 0.042 | 0.048 | -0.016 | -0.041 | -0.031 | 0.027 | -0.008 | -0.011 | 0.045 | | -0.008 | -0.028 | -0.017 |
| 0.038 | 0.001 | -0.007 | 0.040 | 0.016 | -0.016 | 0.044 | 0.048 | 0.019 | -0.045 | 0.002 | 0.023 | -0.003 | -0.012 | -0.012 | 0.020 | | -0.009 | 0.029 | -0.023 |
| -0.032 | 0.139 | -0.136 | -0.028 | -0.157 | 0.157 | 0.071 | 0.068 | -0.006 | 0.046 | 0.000 | -0.058 | 0.001 | 0.037 | 0.008 | -0.031 | | -0.003 | -0.040 | 0.027 |
| -0.032 | 0.068 | -0.064 | -0.027 | -0.106 | 0.106 | 0.032 | 0.005 | -0.048 | 0.031 | 0.049 | -0.004 | -0.009 | -0.032 | -0.008 | -0.032 | | 0.019 | -0.001 | 0.040 |
| 0.031 | 0.228 | -0.226 | -0.019 | -0.170 | 0.170 | 0.831 | 0.113 | 0.030 | -0.023 | -0.001 | 0.009 | -0.024 | -0.003 | -0.010 | -0.038 | | -0.007 | -0.004 | 0.006 |
| -0.029 | -0.219 | 0.221 | -0.012 | -0.105 | 0.105 | 0.513 | 0.026 | -0.023 | 0.016 | 0.014 | -0.028 | -0.015 | 0.021 | 0.008 | -0.023 | | -0.009 | 0.029 | 0.025 |
| -0.023 | 0.101 | -0.101 | -0.006 | -0.295 | 0.295 | 0.054 | 0.781 | -0.050 | 0.009 | 0.020 | 0.023 | -0.010 | 0.054 | -0.024 | -0.010 | | 0.017 | 0.028 | 0.025 |
| -0.023 | 0.015 | -0.017 | 0.011 | -0.286 | 0.286 | 0.024 | 0.401 | -0.004 | -0.025 | 0.012 | -0.004 | 0.018 | 0.058 | -0.036 | -0.015 | | 0.012 | -0.042 | 0.045 |
| 0.087 | 0.063 | -0.060 | -0.027 | -0.059 | 0.059 | 0.040 | 0.237 | -0.051 | 0.071 | -0.007 | -0.008 | -0.021 | 0.043 | -0.020 | -0.012 | | 0.015 | 0.061 | -0.030 |
| -0.032 | -0.134 | 0.132 | 0.016 | 0.118 | -0.118 | -0.034 | -0.034 | 0.027 | -0.019 | -0.005 | -0.043 | 0.004 | -0.004 | -0.011 | -0.002 | | -0.007 | 0.012 | 0.004 |
| -0.086 | -0.021 | 0.016 | 0.035 | -0.011 | 0.011 | -0.045 | -0.248 | 0.025 | -0.063 | 0.011 | 0.032 | 0.012 | -0.020 | 0.025 | 0.014 | | -0.013 | -0.051 | 0.037 |
| 0.010 | -0.004 | 0.005 | -0.012 | -0.037 | 0.037 | 0.001 | 0.015 | -0.060 | 0.019 | 0.047 | -0.042 | -0.049 | -0.022 | 0.010 | -0.011 | | 0.033 | 0.038 | 0.054 |
| -0.008 | 0.071 | -0.067 | -0.025 | -0.107 | 0.107 | 0.023 | 0.099 | -0.134 | 0.080 | 0.050 | 0.054 | 0.027 | -0.031 | 0.055 | 0.019 | | 0.014 | 0.051 | 0.040 |
| -0.017 | -0.055 | 0.056 | -0.007 | -0.063 | 0.063 | 0.000 | 0.054 | 0.030 | -0.036 | 0.004 | -0.016 | -0.009 | 0.053 | -0.024 | -0.017 | | -0.003 | -0.015 | -0.016 |
| -0.014 | -0.040 | 0.044 | -0.025 | -0.405 | 0.405 | 0.074 | 0.195 | -0.028 | 0.010 | 0.013 | -0.004 | -0.024 | 0.075 | -0.025 | 0.005 | | 0.038 | -0.015 | 0.018 |
| -0.007 | 0.223 | -0.225 | 0.008 | -0.458 | 0.458 | 0.107 | 0.266 | -0.076 | 0.042 | 0.048 | 0.035 | 0.015 | -0.035 | 0.010 | 0.010 | | -0.020 | 0.009 | 0.009 |

| Use_Television | Use_FriendsOrFamily | Use_Other | PensionPlanMembership | ResponsibilityIndex | InterestInPersonalFinance | ChildhoodCommunication | ChildhoodFinancialSecurity | ChildhoodUseOfFA_NO_REF | ChildhoodUseOfFA_YES | ChildhoodUseOfFA_DontKnow | TrustInFinancialServices | FinLitScore | FinancialPlanCreated | PreferenceToDelegate | ResearchBeforeChoosingChannel | InitiatedRelationship_Advisor_R | InitiatedRelationship_Investor | InitiatedRelationship_Mutual | InitiatedRelationship_DontKnow |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -0.038 | -0.127 | -0.082 | 0.206 | -0.153 | 0.195 | 0.056 | 0.119 | 0.016 | 0.032 | -0.057 | 0.078 | 0.152 | 0.194 | -0.017 | 0.196 | 0.054 | 0.098 | -0.046 | -0.140 |
| 0.008 | -0.007 | 0.108 | -0.041 | 0.037 | -0.030 | -0.028 | -0.067 | 0.007 | 0.005 | -0.015 | -0.020 | -0.122 | -0.052 | 0.001 | -0.083 | -0.010 | 0.013 | -0.021 | 0.009 |
| 0.028 | -0.008 | -0.050 | 0.002 | -0.025 | -0.174 | -0.014 | -0.089 | 0.041 | -0.049 | 0.002 | 0.048 | -0.062 | -0.109 | 0.146 | -0.200 | 0.093 | -0.030 | 0.004 | -0.033 |
| 0.029 | -0.037 | -0.062 | 0.045 | -0.230 | -0.137 | 0.030 | 0.016 | 0.005 | 0.030 | -0.041 | 0.168 | 0.025 | 0.085 | 0.280 | -0.077 | 0.104 | -0.054 | 0.071 | -0.071 |
| -0.068 | -0.058 | -0.050 | 0.057 | -0.417 | -0.041 | -0.053 | 0.019 | 0.004 | -0.019 | 0.017 | 0.228 | -0.028 | 0.175 | 0.319 | -0.067 | 0.122 | -0.095 | 0.133 | -0.084 |

| IncomeBEFORE | LN_Assets_Before | SameSexCouple_MxM | SameSexCouple_FxF | ChildrenDependentNum | ChildrenTotalNum | EmploymentStatus_Employed | EmploymentStatus_Not_Employed | EmploymentStatus_Retired | FinancialPlanning | NumChannelsUsed | PrimaryDecisionMakerIsPartnerLOC | PrimaryDecisionMakerIsSharedEqually | PrimaryDecisionMaker |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.303 | 0.486 | 0.090 | -0.003 | 0.050 | 0.145 | -0.039 | -0.185 | 0.145 | 0.214 | 0.145 | 0.005 | 0.047 | 0.187 |
| -0.091 | -0.118 | -0.036 | -0.022 | -0.005 | -0.016 | -0.046 | 0.061 | 0.023 | -0.053 | -0.098 | 0.037 | -0.040 | -0.075 |
| -0.054 | -0.091 | -0.023 | -0.011 | -0.031 | 0.030 | -0.082 | 0.061 | 0.043 | -0.086 | -0.142 | 0.081 | 0.033 | -0.129 |
| 0.085 | 0.169 | -0.013 | 0.017 | -0.037 | 0.017 | -0.116 | -0.034 | 0.130 | 0.102 | -0.066 | -0.032 | 0.056 | -0.064 |
| 0.038 | 0.067 | 0.024 | -0.011 | 0.012 | 0.089 | -0.029 | -0.022 | 0.051 | 0.225 | -0.089 | -0.010 | 0.071 | -0.014 |
| 0.049 | 0.040 | 0.021 | -0.002 | -0.030 | -0.070 | 0.071 | -0.013 | -0.071 | -0.066 | 0.027 | -0.016 | 0.024 | -0.030 |
| 0.025 | -0.018 | -0.024 | -0.015 | -0.018 | 0.035 | -0.039 | -0.025 | 0.049 | -0.001 | -0.049 | -0.009 | -0.024 | 0.031 |
| -0.015 | -0.024 | -0.025 | 0.028 | 0.000 | 0.016 | 0.035 | -0.026 | -0.028 | -0.007 | 0.019 | -0.009 | -0.013 | 0.009 |
| -0.035 | -0.039 | 0.014 | -0.025 | 0.048 | 0.010 | -0.003 | 0.012 | -0.005 | -0.099 | -0.040 | -0.015 | -0.035 | 0.009 |
| -0.030 | -0.038 | 0.014 | -0.024 | 0.006 | -0.020 | 0.023 | -0.047 | 0.004 | -0.051 | -0.001 | -0.020 | -0.053 | 0.129 |
| 0.058 | 0.074 | -0.003 | -0.017 | -0.053 | 0.024 | -0.048 | -0.029 | 0.061 | -0.063 | 0.038 | -0.010 | -0.039 | 0.047 |
| 0.013 | 0.013 | 0.016 | 0.019 | 0.043 | 0.064 | 0.012 | -0.017 | 0.024 | -0.075 | 0.034 | 0.022 | 0.030 | -0.015 |
| 0.023 | 0.041 | -0.019 | -0.012 | 0.052 | 0.047 | 0.018 | 0.016 | -0.035 | 0.048 | 0.046 | -0.007 | -0.004 | 0.048 |
| -0.041 | -0.039 | 0.009 | 0.046 | 0.005 | -0.092 | 0.123 | 0.047 | -0.159 | 0.014 | 0.172 | -0.041 | -0.052 | 0.039 |
| 0.055 | 0.035 | -0.004 | -0.025 | 0.000 | -0.049 | 0.061 | -0.024 | -0.062 | -0.060 | 0.068 | -0.015 | 0.005 | -0.030 |
| 0.033 | 0.007 | -0.013 | 0.002 | 0.015 | -0.014 | 0.011 | -0.006 | -0.006 | 0.033 | 0.135 | 0.024 | -0.015 | 0.017 |
| -0.009 | 0.002 | -0.015 | -0.009 | 0.004 | 0.015 | -0.058 | 0.060 | 0.004 | -0.039 | -0.029 | -0.005 | -0.007 | -0.039 |
| -0.065 | -0.087 | 0.001 | 0.045 | 0.009 | -0.025 | 0.019 | 0.046 | -0.044 | -0.107 | -0.007 | 0.062 | 0.033 | -0.055 |
| -0.008 | -0.037 | -0.016 | -0.010 | -0.004 | -0.006 | -0.019 | 0.026 | 0.026 | -0.020 | -0.065 | -0.006 | -0.014 | -0.020 |
| 0.056 | 0.006 | -0.004 | -0.010 | -0.047 | -0.107 | 0.067 | 0.086 | -0.124 | -0.014 | 0.088 | -0.003 | -0.015 | -0.082 |
| 0.062 | 0.089 | 0.002 | 0.058 | -0.002 | -0.087 | 0.114 | 0.040 | -0.140 | -0.034 | 0.050 | -0.032 | -0.002 | -0.004 |
| 0.051 | 0.058 | -0.011 | -0.027 | 0.049 | 0.012 | 0.045 | -0.071 | -0.014 | 0.007 | 0.030 | 0.035 | 0.027 | 0.009 |
| 0.000 | 0.021 | 0.024 | -0.002 | 0.021 | 0.021 | -0.003 | -0.027 | 0.004 | 0.063 | -0.035 | -0.018 | 0.033 | -0.004 |
| -0.145 | -0.155 | -0.005 | -0.022 | -0.023 | 0.134 | -0.195 | -0.018 | 0.233 | -0.008 | -0.116 | 0.013 | -0.035 | 0.059 |
| 0.142 | 0.221 | -0.019 | -0.043 | -0.182 | 0.364 | -0.568 | -0.069 | 0.646 | 0.030 | -0.219 | 0.045 | -0.026 | 0.064 |
| 0.430 | 0.172 | 0.143 | -0.022 | 0.300 | 0.106 | 0.307 | -0.196 | -0.223 | 0.044 | 0.094 | 0.024 | 0.096 | 0.210 |
| 0.004 | 0.018 | -0.016 | -0.010 | -0.038 | 0.002 | -0.045 | 0.026 | 0.026 | 0.003 | -0.009 | -0.006 | -0.039 | 0.004 |
| -0.071 | -0.068 | -0.049 | -0.053 | -0.089 | 0.038 | -0.143 | 0.071 | 0.124 | -0.055 | -0.093 | 0.038 | -0.102 | -0.039 |
| -0.044 | 0.002 | -0.041 | 0.039 | -0.027 | 0.068 | -0.073 | 0.027 | 0.052 | 0.004 | -0.060 | -0.046 | -0.055 | 0.016 |
| -0.049 | 0.003 | 0.030 | -0.023 | 0.014 | -0.023 | 0.055 | -0.055 | -0.038 | 0.051 | 0.074 | 0.020 | -0.008 | -0.004 |
| 0.091 | 0.028 | -0.012 | 0.003 | 0.048 | -0.043 | 0.063 | 0.004 | -0.053 | -0.010 | 0.009 | -0.018 | 0.086 | 0.007 |
| 0.079 | 0.012 | 0.078 | 0.042 | 0.033 | -0.020 | 0.055 | -0.022 | -0.050 | -0.030 | 0.030 | 0.020 | 0.067 | 0.013 |
| -0.144 | -0.077 | -0.014 | 0.008 | -0.017 | -0.054 | -0.200 | 0.784 | -0.126 | -0.007 | -0.007 | 0.029 | -0.052 | -0.072 |
| -0.011 | -0.041 | 0.009 | -0.002 | 0.106 | 0.014 | 0.128 | -0.040 | -0.114 | 0.084 | -0.090 | -0.023 | -0.021 | 0.072 |
| 0.072 | 0.142 | -0.053 | 0.001 | -0.257 | 0.215 | -0.829 | -0.094 | 0.996 | 0.104 | -0.101 | 0.020 | -0.043 | 0.079 |
| 0.128 | 0.038 | 0.038 | -0.010 | 0.148 | -0.073 | 0.436 | -0.171 | -0.424 | -0.042 | 0.103 | -0.048 | 0.017 | 0.024 |
| -0.119 | -0.104 | 0.000 | 0.017 | 0.043 | -0.090 | 0.302 | -0.096 | -0.312 | -0.090 | 0.029 | 0.036 | 0.064 | -0.094 |
| -0.032 | -0.032 | 0.031 | -0.029 | -0.023 | -0.023 | 0.087 | -0.032 | -0.086 | 0.010 | -0.008 | -0.017 | -0.014 | -0.007 |
| 0.139 | 0.088 | 0.228 | -0.219 | 0.101 | 0.015 | 0.083 | -0.134 | -0.021 | -0.004 | 0.071 | -0.058 | -0.040 | 0.223 |
| -0.136 | -0.064 | -0.226 | 0.221 | -0.101 | -0.017 | -0.060 | 0.132 | 0.016 | 0.005 | -0.087 | 0.056 | 0.044 | -0.225 |
| -0.028 | -0.027 | -0.019 | -0.012 | -0.006 | 0.011 | -0.027 | 0.016 | 0.035 | -0.012 | -0.025 | -0.007 | -0.025 | 0.008 |
| -0.157 | -0.106 | -0.170 | 0.105 | -0.295 | -0.286 | -0.059 | 0.118 | -0.011 | -0.037 | -0.107 | -0.063 | -0.405 | -0.458 |
| 0.157 | 0.106 | 0.170 | 0.105 | 0.295 | 0.286 | 0.059 | -0.118 | 0.011 | 0.037 | 0.107 | 0.063 | 0.405 | 0.458 |
| 0.071 | 0.032 | 0.831 | 0.513 | 0.054 | 0.024 | 0.040 | -0.028 | -0.045 | 0.001 | 0.023 | 0.004 | 0.074 | 0.107 |
| 0.068 | 0.005 | 0.113 | 0.026 | 0.781 | 0.401 | 0.237 | -0.034 | -0.248 | 0.015 | 0.099 | 0.054 | 0.195 | 0.286 |
| -0.006 | -0.048 | 0.030 | -0.023 | -0.050 | -0.004 | -0.051 | 0.027 | 0.025 | -0.060 | -0.134 | 0.030 | -0.028 | -0.078 |
| 0.048 | 0.031 | -0.023 | 0.016 | 0.009 | -0.025 | 0.071 | -0.019 | -0.063 | 0.019 | 0.080 | -0.036 | 0.010 | 0.042 |
| 0.000 | 0.049 | -0.001 | 0.014 | 0.020 | 0.012 | -0.007 | -0.005 | 0.011 | 0.047 | 0.050 | 0.004 | 0.013 | 0.048 |
| -0.058 | -0.004 | 0.009 | -0.028 | 0.023 | -0.004 | -0.006 | -0.043 | 0.032 | -0.002 | 0.034 | -0.016 | -0.004 | 0.035 |
| 0.001 | -0.009 | -0.024 | -0.015 | -0.010 | 0.018 | -0.021 | 0.004 | 0.012 | -0.049 | 0.027 | -0.009 | -0.024 | 0.015 |
| 0.017 | -0.032 | -0.003 | 0.021 | 0.054 | 0.058 | 0.043 | -0.004 | -0.020 | -0.022 | -0.031 | 0.053 | 0.075 | -0.035 |
| 0.008 | -0.008 | -0.010 | -0.006 | -0.024 | -0.036 | -0.020 | -0.011 | 0.025 | 0.010 | 0.055 | -0.004 | -0.025 | 0.010 |
| -0.031 | -0.032 | -0.038 | -0.023 | -0.010 | -0.015 | -0.012 | -0.002 | 0.014 | -0.011 | 0.019 | -0.014 | 0.005 | 0.010 |
| -0.001 | 0.019 | -0.007 | -0.004 | -0.017 | 0.012 | 0.015 | -0.007 | -0.013 | 0.033 | 0.014 | -0.003 | 0.038 | -0.020 |
| -0.040 | -0.001 | -0.004 | 0.030 | 0.029 | -0.042 | 0.061 | 0.012 | -0.051 | 0.038 | 0.051 | -0.015 | -0.015 | 0.009 |
| 0.027 | 0.040 | 0.006 | 0.024 | 0.025 | 0.048 | -0.030 | 0.004 | 0.037 | 0.054 | 0.040 | -0.016 | 0.018 | 0.009 |
| 0.013 | 0.022 | -0.007 | -0.004 | 0.080 | 0.031 | 0.015 | -0.007 | -0.013 | 0.033 | 0.001 | -0.003 | -0.017 | 0.033 |
| 0.216 | 0.188 | 0.034 | 0.028 | 0.190 | 0.268 | -0.085 | -0.152 | 0.156 | 0.090 | 0.021 | 0.045 | 0.146 | 0.167 |
| 0.037 | 0.005 | 0.045 | -0.013 | -0.029 | -0.084 | 0.022 | 0.005 | -0.043 | -0.031 | -0.040 | -0.033 | 0.005 | 0.002 |
| -0.037 | -0.018 | -0.045 | 0.021 | 0.039 | 0.087 | -0.025 | 0.006 | 0.044 | 0.014 | 0.032 | 0.039 | 0.008 | -0.015 |
| -0.007 | 0.031 | -0.006 | -0.019 | -0.021 | 0.006 | 0.005 | -0.031 | 0.005 | 0.047 | 0.027 | -0.011 | -0.032 | 0.035 |
| -0.064 | -0.038 | 0.003 | -0.035 | 0.011 | -0.055 | 0.015 | 0.065 | -0.028 | 0.014 | 0.279 | -0.003 | -0.025 | -0.044 |
| -0.081 | -0.060 | -0.041 | -0.012 | -0.021 | 0.066 | -0.058 | 0.058 | 0.040 | -0.086 | 0.088 | 0.077 | 0.046 | -0.104 |
| 0.134 | 0.210 | 0.002 | 0.013 | -0.024 | 0.050 | -0.109 | -0.039 | 0.131 | 0.068 | 0.028 | -0.022 | 0.058 | -0.028 |
| 0.025 | 0.078 | 0.009 | 0.016 | 0.035 | 0.089 | -0.002 | -0.039 | 0.025 | 0.153 | 0.017 | -0.027 | 0.062 | -0.001 |
| -0.013 | 0.008 | -0.031 | 0.051 | 0.003 | -0.094 | 0.125 | -0.013 | -0.129 | -0.021 | 0.292 | -0.021 | 0.010 | -0.012 |
| 0.032 | 0.050 | -0.023 | -0.031 | 0.161 | 0.083 | 0.046 | 0.010 | -0.055 | 0.029 | 0.316 | 0.017 | 0.071 | 0.014 |
| -0.010 | 0.035 | -0.011 | 0.039 | 0.064 | 0.034 | 0.110 | -0.023 | -0.103 | 0.029 | 0.268 | 0.011 | 0.083 | -0.041 |
| -0.075 | -0.003 | -0.024 | 0.040 | 0.023 | -0.087 | 0.062 | -0.005 | -0.072 | 0.036 | 0.399 | -0.017 | -0.025 | 0.026 |
| 0.005 | -0.006 | 0.028 | -0.051 | 0.003 | -0.057 | 0.081 | -0.044 | -0.048 | -0.026 | 0.322 | -0.011 | -0.082 | 0.166 |
| 0.066 | 0.103 | -0.022 | -0.024 | -0.006 | 0.064 | -0.117 | -0.025 | 0.134 | -0.023 | 0.218 | 0.003 | -0.008 | 0.075 |
| 0.142 | 0.094 | 0.052 | 0.017 | 0.072 | 0.103 | 0.007 | -0.026 | 0.019 | 0.033 | 0.276 | -0.011 | 0.054 | 0.034 |
| 0.006 | 0.039 | -0.042 | -0.026 | 0.014 | -0.007 | 0.046 | 0.024 | -0.056 | 0.053 | 0.136 | 0.027 | -0.014 | 0.007 |
| -0.010 | 0.022 | 0.032 | 0.029 | 0.027 | -0.110 | 0.156 | -0.009 | -0.167 | 0.044 | 0.580 | -0.065 | -0.009 | 0.063 |
| 0.020 | 0.027 | 0.014 | -0.024 | 0.068 | -0.054 | 0.166 | -0.052 | -0.158 | 0.047 | 0.548 | -0.040 | 0.012 | 0.043 |
| 0.055 | 0.124 | 0.058 | 0.024 | -0.004 | 0.020 | -0.005 | -0.051 | 0.046 | 0.104 | 0.568 | -0.022 | 0.012 | 0.079 |
| -0.046 | -0.003 | 0.024 | -0.035 | -0.004 | 0.020 | -0.038 | -0.005 | 0.048 | 0.023 | 0.299 | 0.025 | -0.008 | -0.011 |
| -0.081 | -0.088 | -0.024 | 0.041 | 0.001 | -0.076 | 0.053 | 0.038 | -0.076 | -0.063 | 0.340 | 0.012 | 0.032 | -0.100 |
| -0.030 | -0.031 | -0.021 | 0.003 | 0.003 | -0.003 | -0.039 | 0.013 | 0.013 | -0.007 | 0.051 | -0.022 | -0.032 | -0.020 |
| 0.115 | 0.089 | 0.062 | 0.025 | 0.100 | 0.104 | -0.016 | -0.139 | 0.098 | 0.068 | 0.067 | 0.026 | 0.192 | 0.095 |
| -0.101 | -0.130 | -0.013 | -0.043 | -0.079 | -0.120 | 0.019 | 0.024 | -0.051 | -0.206 | -0.011 | 0.007 | -0.155 | 0.087 |
| 0.022 | 0.105 | 0.004 | -0.041 | 0.019 | 0.016 | 0.004 | -0.037 | 0.017 | 0.144 | 0.121 | -0.135 | -0.076 | 0.179 |
| -0.013 | 0.008 | 0.032 | 0.014 | 0.034 | -0.090 | 0.082 | 0.002 | -0.067 | 0.027 | 0.068 | -0.004 | -0.021 | -0.002 |
| 0.062 | 0.093 | 0.088 | 0.010 | 0.007 | -0.023 | 0.094 | -0.034 | -0.082 | 0.035 | 0.031 | -0.037 | 0.002 | 0.039 |
| 0.029 | -0.006 | 0.001 | 0.004 | -0.028 | 0.102 | -0.135 | -0.014 | 0.165 | -0.064 | -0.067 | 0.036 | -0.046 | 0.087 |
| -0.044 | 0.039 | 0.013 | -0.025 | 0.059 | -0.076 | 0.123 | -0.017 | -0.131 | 0.064 | 0.076 | -0.044 | 0.020 | -0.037 |
| 0.012 | -0.036 | -0.016 | 0.023 | -0.030 | -0.048 | 0.038 | 0.037 | -0.068 | 0.012 | 0.002 | 0.002 | 0.037 | -0.073 |
| 0.020 | 0.023 | -0.009 | 0.018 | -0.013 | 0.066 | -0.037 | -0.078 | 0.085 | 0.129 | -0.093 | -0.021 | 0.019 | -0.028 |
| 0.035 | 0.058 | 0.054 | -0.009 | 0.059 | -0.025 | 0.041 | -0.019 | -0.012 | 0.068 | 0.085 | -0.045 | -0.012 | 0.099 |
| 0.034 | 0.113 | 0.019 | 0.012 | 0.048 | 0.038 | -0.049 | 0.005 | 0.051 | 0.886 | 0.102 | -0.019 | -0.026 | 0.072 |
| 0.009 | 0.017 | -0.036 | 0.053 | -0.007 | 0.059 | -0.080 | 0.030 | 0.068 | 0.064 | -0.116 | -0.028 | 0.082 | -0.131 |
| 0.068 | 0.161 | 0.006 | 0.006 | -0.007 | 0.012 | -0.008 | -0.065 | 0.037 | 0.161 | 0.175 | -0.067 | -0.025 | 0.095 |
| 0.008 | 0.066 | 0.001 | 0.020 | -0.017 | 0.031 | -0.015 | 0.008 | 0.021 | 0.101 | -0.061 | 0.000 | 0.029 | -0.068 |
| 0.046 | 0.069 | -0.051 | -0.047 | -0.017 | -0.031 | -0.013 | -0.043 | 0.036 | 0.039 | 0.098 | 0.019 | -0.036 | 0.031 |
| -0.013 | -0.009 | 0.032 | 0.038 | 0.035 | 0.045 | -0.019 | 0.019 | 0.007 | -0.001 | -0.025 | -0.033 | 0.041 | 0.004 |
| -0.060 | -0.141 | 0.041 | 0.016 | 0.005 | -0.022 | 0.048 | 0.037 | -0.074 | -0.133 | -0.068 | 0.005 | -0.010 | 0.005 |
| 1.000 | 0.385 | 0.094 | -0.019 | 0.088 | 0.172 | -0.013 | -0.137 | 0.073 | 0.024 | 0.015 | -0.053 | 0.016 | 0.158 |
| 0.385 | 1.000 | 0.049 | -0.018 | -0.004 | 0.120 | -0.101 | -0.065 | 0.141 | 0.136 | 0.098 | -0.046 | -0.004 | 0.128 |
| 0.094 | 0.049 | 1.000 | -0.050 | 0.076 | 0.020 | 0.048 | -0.027 | -0.053 | -0.014 | 0.013 | 0.017 | 0.025 | 0.125 |
| -0.019 | -0.018 | -0.050 | 1.000 | -0.022 | 0.012 | -0.002 | -0.008 | 0.001 | 0.023 | 0.022 | -0.019 | 0.094 | 0.000 |
| 0.088 | -0.004 | 0.076 | -0.022 | 1.000 | 0.473 | 0.224 | -0.009 | -0.256 | 0.033 | 0.079 | 0.061 | 0.134 | 0.175 |
| 0.172 | 0.120 | 0.020 | 0.012 | 0.473 | 1.000 | -0.171 | -0.039 | 0.214 | 0.038 | -0.023 | 0.111 | 0.139 | 0.167 |
| -0.013 | -0.101 | 0.048 | -0.002 | 0.224 | -0.171 | 1.000 | -0.323 | -0.831 | -0.070 | 0.116 | -0.023 | 0.056 | -0.019 |
| -0.137 | -0.065 | -0.027 | -0.008 | -0.009 | -0.039 | -0.323 | 1.000 | -0.093 | -0.028 | -0.023 | 0.016 | -0.041 | -0.093 |
| 0.073 | 0.141 | -0.053 | 0.001 | -0.256 | 0.214 | -0.831 | -0.093 | 1.000 | 0.105 | -0.100 | 0.020 | -0.042 | 0.077 |
| 0.024 | 0.136 | -0.014 | 0.023 | 0.033 | 0.038 | -0.070 | -0.028 | 0.105 | 1.000 | 0.085 | -0.030 | -0.012 | 0.083 |
| 0.015 | 0.098 | 0.013 | 0.022 | 0.079 | -0.023 | 0.116 | -0.023 | -0.100 | 0.085 | 1.000 | -0.026 | 0.039 | 0.043 |
| -0.053 | -0.046 | 0.017 | -0.019 | 0.061 | 0.111 | -0.023 | 0.016 | 0.020 | -0.030 | -0.026 | 1.000 | -0.072 | -0.081 |
| 0.016 | -0.004 | 0.025 | 0.094 | 0.134 | 0.139 | 0.056 | -0.041 | -0.042 | -0.012 | 0.039 | -0.072 | 1.000 | -0.521 |
| 0.158 | 0.128 | 0.125 | 0.000 | 0.175 | 0.167 | -0.019 | -0.093 | 0.077 | 0.083 | 0.043 | -0.081 | -0.521 | 1.000 |

Collinearity check for final data set after removal of collinear variables described in Section 5.8.1. All correlations lower than -0.7 and higher than 0.7 appear in red.

# References

AEGON (2013) The Changing Face of Retirement, AEGON Canada Fact Sheet.

Agarwal, S. et al. (2009) 'The Age of Reason: Financial Decisions over the Life-Cycle with Implications for Regulation', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.973790.

Agarwal, S. et al. (2015) 'Financial literacy and financial planning: Evidence from India', Journal of Housing Economics, 27, pp. 4–21. Available at: https://doi.org/10.1016/j.jhe.2015.02.003.

Allgood, S. and Walstad, W.B. (2016) 'The effects of perceived and actual financial literacy on financial behaviors', Economic Inquiry, 54(1), pp. 675–697. Available at: https://doi.org/10.1111/ecin.12255.

Allie, J., West, D. and Willows, G. (2016) 'The value of financial advice: An analysis of the investment performance of advised and non-advised individual investors', Investment Analysts Journal, 45, pp. S63–S74. Available at: https://doi.org/10.1080/10293523.2016.1201292.

Almenberg, J. and Dreber, A. (2015) 'Gender, stock market participation and financial literacy', Economics Letters, 137, pp. 140–142. Available at: https://doi.org/10.1016/j.econlet.2015.10.009.

Altfest, L. (2004) 'Personal Financial Planning: Origins, Developments and a plan for Future Direction.', The American Economist, 48(2), pp. 53–60.

Alyousif, M.H. and Kalenkoski, C.M. (2017) 'Who Seeks Financial Advice?', Financial Services Review, 26, pp. 405–432. Available at: https://doi.org/10.2139/ssrn.2943159.

Ambuehl, S., Douglas Bernheim, B., et al. (2018) NBER WORKING PAPER SERIES PEER ADVICE ON FINANCIAL DECISIONS: A CASE OF THE BLIND LEADING THE BLIND? Peer Advice on Financial Decisions: A case of the blind leading the blind? Available at: http://www.nber.org/papers/w25034.

Ambuehl, S., Bernheim, B.D., et al. (2018) Peer Advice on Financial Decisions: A case of the blind leading the blind? Cambridge, MA. Available at: https://doi.org/10.3386/w25034.

Anagol, S., Cole, S. and Sarkar, S. (2017) 'Understanding the Incentives of Commissions Motivated Agents: Theory and Evidence from the Indian Life Insurance Market',

Review of Economics and Statistics, 99(1), pp. 1–15. Available at: https://doi.org/10.1162/rest.

Anderson, A., Baker, F. and Robinson, D.T. (2017) 'Precautionary savings, retirement planning and misperceptions of financial literacy', Journal of Financial Economics, 126(2), pp. 383–398. Available at: https://doi.org/10.1016/j.jfineco.2017.07.008.

Ando, A. and Modigliani, F. (1963) 'The "Life Cycle" Hypothesis of Saving: Aggregate Implications and Tests', American Economic Review, 53(1), pp. 55–84.

Bae, S.C. and Sandager, J.P. (1997) 'What Consumers Look For In Financial Planners', Financial Counseling and Planning, 8(2), pp. 9–16.

Baker, B.H.K. and Ricciardi, V. (2014) 'How Biases Affect Investor Behaviour', The European Financial Review, pp. 7–10.

Banerjee, P. (2008) How mutual fund sales are compensated in Canada, BondsAreForLosers.com. Available at: https://bondsareforlosers.com/how-mutual-fund-sales-are-compensated-in-canada/ (Accessed: 26 August 2019).

Banerjee, P. (2012) 'Financial industry overselling value of financil advice', The Globe and Mail, 15 November. Available at: https://www.theglobeandmail.com/globe-investor/personal-finance/household-finances/financial-industry-overselling-value-of-financial-advice/article5360796/.

Banerjee, P. (2013) 'Fine the perfect financial planner', MoneySense Magazine.

Bannier, C.E. and Neubert, M. (2016) 'Gender differences in financial risk taking: The role of financial literacy and risk tolerance', Economics Letters, 145, pp. 130–135. Available at: https://doi.org/10.1016/j.econlet.2016.05.033.

Bannier, C.E. and Schwarz, M. (2018) 'Gender- and education-related effects of financial literacy and confidence on financial wealth', Journal of Economic Psychology, 67, pp. 66–86. Available at: https://doi.org/10.1016/j.joep.2018.05.005.

Barber, B.M. and Odean, T. (2000) 'Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors', The Journal of Finance, 55(2), pp. 773–806.

Barberis, N. and Thaler, R. (2003) A survey of behavioral finance, Handbook of the Economic of Finance. Available at: https://doi.org/10.2139/ssrn.327880.

Becker, G.S. (1974) 'IS ECONOMIC THEORY WITH IT ? On the Relevance of the of the Family', American Economic Review, 64(2), pp. 317–319.

Becker, G.S. and Ehrlich, I. (1972) 'Market Insurance , Self-insurance , and Isaac Ehrlich', Journal of Political Economy, 80(4), pp. 623–648.

Benartzi, S. and Thaler, R. (2001) 'Naïve Diversification Strategies in Defined Contribution Savings Plans', American Economic Review, 91(1), pp. 79–98.

Berg, N. (2005) 'Non-Response Bias', Encyclopedia of social measurement, 2, pp. 865–873. Available at: http://ssrn.com/abstract=1691967.

Bergstresser, D., Chalmers, J.M.R. and Tufano, P. (2009) 'Assessing the costs and benefits of brokers in the mutual fund industry', Review of Financial Studies, 22(10), pp. 4129–4156. Available at: https://doi.org/10.1093/rfs/hhp022.

Berk, J.B. and Green, R.C. (2004) 'Mutual Fund Flows and Performance in Rational Markets', Journal of Political Economy, 112(6), pp. 1269–1295. Available at: https://doi.org/10.1086/424739.

Bernard, T.S. (2012) 'Beware of Fancy Financial Adviser Titles - The New York Times', The New York Times, 6 July. Available at: http://www.nytimes.com/2012/07/07/your-money/beware-of-fancy-financial-adviser-titles.html?_r=0 (Accessed: 21 August 2015).

Bhattacharya, U. et al. (2012) 'Is unbiased financial advice to retail investors sufficient? Answers from a large field study', Review of Financial Studies, 25(4), pp. 975–1032. Available at: https://doi.org/10.1093/rfs/hhr127.

Bhattacharya, U. et al. (2017) 'Abusing ETFs', Review of Finance, 21(3), pp. 1217–1250. Available at: https://doi.org/10.1093/rof/rfw041.

Black Jr., K., Ciccotello, C.S. and Skipper Jr., H.D. (2002) 'Issues in Comprehensive Personal Financial Planning', Financial Services Review, (11), pp. 1–9. Available at: http://66.147.244.54/~acadenf9/wp-content/uploads/2013/08/V11.pdf.

Blaikie, N. and Priest, J. (2019) Designing social research: The logic of anticipation. John Wiley & Sons.

Blanchett, D.M. (2019) 'Financially sound households use financial planners, not transactional advisers', Journal of Financial Planning, 32(4), pp. 30–40.

Bluethgen, R. et al. (2011) 'Financial Advice and Individual Investors ' Portfolios', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.968197.

Bogle, J.C. (2003) 'Whether Markets are More Efficient or Less Efficient , Costs Matter', CFA Magazine. Available at:

https://www.vanguard.com/bogle_site/sp2004AIMRefficientMrkts.html (Accessed: 10 August 2019).

Brenner, L. and Meyll, T. (2020) 'Robo-advisors: A substitute for human financial advice?', Journal of Behavioral and Experimental Finance, 25. Available at: https://doi.org/10.1016/j.jbef.2020.100275.

Brown, S. et al. (2021) Financial Advice and Household Financial Portfolios. Available at: www.iza.orgElectroniccopyavailableat:https://ssrn.com/abstract=3833233.

Bucher-Koenen, T. and Koenen, J. (2015) 'Do Seemingly Smarter Consumers Get Better Advice?', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.2572961.

Burke, J. and Hung, A.A. (2015) Do Financial Advisers Influence Savings Behavior, Rand Corporation. Available at: https://doi.org/RR-1289-DOL.

Calcagno, R., Giofré, M. and Urzì-Brancati, M.C. (2017) 'To trust is good, but to control is better: How investors discipline financial advisors' activity', Journal of Economic Behavior and Organization, 140, pp. 287–316. Available at: https://doi.org/10.1016/j.jebo.2017.04.010.

Calcagno, R. and Monticone, C. (2015) 'Financial literacy and the demand for financial advice', Journal of Banking and Finance, 50, pp. 363–380. Available at: https://doi.org/10.1016/j.jbankfin.2014.03.013.

Calvet, L.E., Campbell, J.Y. and Sodini, P. (2009) 'Measuring the Financial Spohistication of Households', American Economic Review, 99, pp. 393–398. Available at: https://doi.org/10.1257/aer.99.2.393.

Campbell, J.Y. (2006) 'Household finance', Journal of Finance, 61(4), pp. 1553–1604. Available at: https://doi.org/10.1111/j.1540-6261.2006.00883.x.

Canadian Securities Administrators (2017) Unofficial Consolidation of NI 31-103 and its CP as of December 4,. Canada.

Carhart, M.M. (1997) 'On persistence in mutual fund performance', Journal of Finance, 52(1), pp. 57–82. Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1997.tb03808.x/full.

Chalmers, J. and Reuter, J. (2010) What is the Impact of Financial Advisors on Retirement Portfolio Choices and Outcomes ?, National Bureau of Economic Research.

Chalmers, J. and Reuter, J. (2020) 'Is conflicted investment advice better than no advice?', Journal of Financial Economics, 138(2), pp. 366–387. Available at: https://doi.org/10.1016/J.JFINECO.2020.05.005.

Chang, B. and Szydlowski, M. (2020) 'The Market for Conflicted Advice', Journal of Finance, 75(2), pp. 867–903. Available at: https://doi.org/10.1111/jofi.12848.

Chang, M.L. (2005) 'With a Little Help from My Friends (and My Financial Planner)', Social Forces, 83(4), pp. 1469–1498. Available at: http://sf.oxfordjournals.org/.

Chaparro, F. (2018) Betterment and Wealthfront websites crash during market bloodbath, Business Insider. Available at: https://www.businessinsider.com/betterment-and-wealthfront-crash-during-market-bloodbath-2018-2.

Clark, G.L., Fiaschetti, M. and Gerrans, P. (2019) 'Determinants of seeking advice within defined contribution retirement savings schemes', Accounting and Finance, 59(S1), pp. 563–591. Available at: https://doi.org/10.1111/acfi.12397.

Cohen, J. (1988) Statistical power analysis for the behavioral sciences. L. Erlbaum Associates.

Collins, J.M. (2012) 'Financial advice : A substitute for financial literacy ?', Financial Services Review, 21, pp. 307–322.

Converse, J.M. and Presser, S. (1986) Survey questions: handcrafting the standardized questionnaire. SAGE Publications.

Creswell, J.W. and Creswell, J.D. (2017) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 5th edn. SAGE Publications.

Cucinotta, D. and Vanelli, M. (2020) 'WHO declares COVID-19 a pandemic', Acta Biomedica. Mattioli 1885, pp. 157–160. Available at: https://doi.org/10.23750/abm.v91i1.9397.

Cull, M. (2009) 'the Rise of the Financial Planning Industry', Australasian Accounting Business & Finance Journal, 3(1), pp. 26–37. Available at: http://ezproxy.library.capella.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=47574315&site=ehost-live&scope=site.

Curtis, G. (2020) Advising the Ultra-Wealthy. Springer.

van Dalen, H. et al. (2017) 'Why do older adults avoid seeking financial advice? Adviser anxiety in the Netherlands', Ageing and Society, 37(06), pp. 1268–1290. Available at: https://doi.org/10.1017/S0144686X16000222.

David B. Yeske (2010) 'Finding the Planning in Financial Planning', Journal of Financial Planning [Preprint], (September).

Deaton, A. (2012) 'Franco Modigliani and the Life Cycle Theory of Consumption', in PSL Quarterly Review2. Available at: https://doi.org/10.2139/ssrn.686475.

Department of Finance Canada (2016) Supporting a strong and growing economy: Positioning Canada's financial sector for the future.

DeVellis, R.F. and Thorpe, C. (2021) Scale development: Theory and applications. 5th edn.

Easterby-Smith, M. et al. (2018) Management and business research. 6th edn. Los Angeles: Sage.

Eisenhardt, K.M. (1989) 'Agency Theory: An Assessment and Review: EBSCOhost', 14(i). Available at: http://ezproxy-prd.bodleian.ox.ac.uk:2091/ehost/detail/detail?sid=fff2c612-a90b-4196-b57b-02383b997704%40sessionmgr4005&vid=0&hid=4109&bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3D%3D#AN=4279003&db=bth.

Elton, E.J., Gruber, M.J. and Busse, J. a. (2004) 'Are Investors Rational? Choices among Index Funds', Journal of Finance, 59(1), pp. 261–288. Available at: https://doi.org/10.1111/j.1540-6261.2004.00633.x.

Faloon, M. and Scherer, B. (2017) 'Individualization of Robo-Advice', The Journal of Wealth Management, 20(1), pp. 30–36. Available at: https://doi.org/10.3905/jwm.2017.20.1.030.

Fama, E.F. and French, K.R. (2010) 'Luck versus Skill in the Cross-Section of Mutual Fund Returns', THE JOURNAL OF FINANCE •, LXV(5).

Farrell, C.J. (2006) 'Personal Financial Ratios : An Elegant Road Map to Financial Health and Retirement', Fpa, 0106, pp. 1–10.

Field, A. (2013) 'Discovering Statistics using IBM SPSS Statistics', Discovering Statistics using IBM SPSS Statistics, pp. 297–321. Available at: https://doi.org/10.1016/B978-012691360-6/50012-4.

Financial Professionals Title Protection Act (2019). Available at: https://www.ontario.ca/laws/statute/19f07b (Accessed: 7 September 2022).

Financial Times (2012) 45 Journals used in FT Research Rank. Available at: http://www.ft.com/intl/cms/s/2/3405a512-5cbb-11e1-8f1f-00144feabdc0.html#axzz3jbAcsgg7 (Accessed: 22 August 2015).

Finke, M. (2012) 'Financial Advice: Does it Make a Difference?', SSRN Electronic Journal, May. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2051382.

Finke, M., Huston, S. and Winchester, D. (2011) 'Financial advice: Who pays', Journal of Financial Counseling and Planning, 22(1), pp. 18–26.

Foerster, S. et al. (2014) 'The Costs and Benefits of Financial Advice', in AEA discussing paper in the session of Household Finance.

Foerster, S. et al. (2017) 'Retail Financial Advice: Does One Size Fit All?', Journal of Finance, 72(4), pp. 1441–1482. Available at: https://doi.org/10.1111/jofi.12514.

Fujiki, H. (2019) Who needs guidance from a financial adviser? Evidence from Japan, Working paper.

Garmaise, E. (2010) 'Patterns of Financial Well-Being and Their Implications for Financial Advice', Journal of Financial Service Professionals, (MAY), pp. 68–77.

von Gaudecker, H.-M. (2015) 'How Does Household Portfolio Diversification Vary With Financial Sophistication and Advice?', Journal of Finance, LXX(2). Available at: https://doi.org/10.1111/jofi.12231.

Gennaioli, N., Shleifer, A. and Vishny, R. (2015) 'Money doctors', Journal of Finance, 70(1), pp. 91–114. Available at: https://doi.org/10.1111/jofi.12188.

Gerhardt, R. and Fischer, R. (2007) 'Investment mistakes of individual investors and the impact of financial advice', Working Paper Series. Social Science Research Network [Preprint]. Available at: https://doi.org/10.2139/ssrn.1009196.

Gerhardt, R. and Hackethal, A. (2009) The Influence of Financial Advisors on Household Portfolios: A Study on Private Investors Switching to Financial Advice, SSRN Electronic Journal. Available at: https://doi.org/10.2139/ssrn.1343607.

Gerrans, P. and Hershey, D.A. (2017) 'Financial Adviser Anxiety, Financial Literacy, and Financial Advice Seeking', Journal of Consumer Affairs, 51(1), pp. 54–90. Available at: https://doi.org/10.1111/joca.12120.

Goetz, J. (2008) 'Human Choice and the Emerging Field of Neuroeconomics':, Journal of Personal Finance, (4), pp. 13–36.

Grable, J.E. and Carr, N. (2014) 'Risk Tolerance and Goal-Based Financial Planning.', Journal of Financial Service …, (January), pp. 12–15. Available at: http://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authty pe=crawler&jrnl=15371816&AN=93285126&h=hDps6uZWgWfKcX88IZMrwWv9bRaq

g79pXTsGSPaoxuWjh67MkEzMtA72GXUixw4wO6XgpKkrZgfDNuyH4ZUpEg==&crl=
c.

Grable, J.E. and Joo, S. (1999) 'Financial help-seeking behavior : Theory and implications
Financial Help-Seeking Behavior : Theory And Implications', Journal of Financial
Counselling and Planning, 10(1).

Grable, J.E. and Joo, S.H. (2001) 'A further examination of financial help-seeking behavior',
Journal of Financial Counseling and Planning, 12(1), pp. 55–74.

Greenbaum, S.I. and Haywood, C.F. (1971) 'Secular Change in the Financial Services
Industry', Source: Journal of Money, Credit and Banking, 3(2), pp. 571–589. Available
at: https://about.jstor.org/terms.

Guercio, D. del, Tkac, P.A. and Reuter, J. (2010) Broker incentives and mutual fund market
segmentation, National Bureau of Economic Research. No. w16312.

Hackethal, A., Haliassos, M. and Jappelli, T. (2012) 'Financial advisors: A case of
babysitters?', Journal of Banking and Finance, 36(2), pp. 509–524. Available at:
https://doi.org/10.1016/j.jbankfin.2011.08.008.

Harvey, C.R. and Liu, Y. (2022) 'Luck versus Skill in the Cross Section of Mutual Fund
Returns: Reexamining the Evidence', Journal of Finance, 77(3), pp. 1921–1966.
Available at: https://doi.org/10.1111/jofi.13123.

Hastings, J.S., Madrian, B.C. and Skimmyhorn, W.L. (2013) 'Financial Literacy, Financial
Education, and Economic Outcomes', Annual Review of Economics, 5(1), pp. 347–
373. Available at: https://doi.org/10.1146/annurev-economics-082312-125807.

Henning, J. (2021) Pros and Cons of Including Partial Responses to Surveys,
Researchscape. Available at: https://researchscape.com/blog/partial-responses
(Accessed: 23 November 2022).

Hoechle, D. et al. (2017) 'The impact of financial advice on trade performance and behavioral
biases', Review of Finance, 21(2), pp. 871–910. Available at:
https://doi.org/10.1093/rof/rfw032.

Hoechle, D. et al. (2018) 'Financial advice and bank profits', Review of Financial Studies,
31(11), pp. 4447–4492. Available at: https://doi.org/10.1093/rfs/hhy046.

Hsiao, Y.J. and Tsai, W.C. (2018) 'Financial literacy and participation in the derivatives
markets', Journal of Banking and Finance, 88, pp. 15–29. Available at:
https://doi.org/10.1016/j.jbankfin.2017.11.006.

Hynes, S. and Gephart, R. (2004) 'Qualitative research and the Academy of Management Journal', Academy of management journal. Academy of Management Briarcliff Manor, NY 10510, pp. 454–462.

Ibbotson, R.G. et al. (2008) Lifetime Financial Advice: Human Capital, Asset Allocation and Insurance, Journal of Pension Economics and Finance. Research Foundation of CFA Institute. Available at: https://doi.org/10.1017/S1474747208003612.

Ibert, M. et al. (2018) 'Are mutual fund managers paid for investment skill?', Review of Financial Studies, 31(2), pp. 715–772. Available at: https://doi.org/10.1093/rfs/hhx105.

Inderst, R. and Ottaviani, M. (2012a) 'Competition through commissions and kickbacks', American Economic Review, 102(2), pp. 780–809. Available at: https://doi.org/10.1257/aer.102.2.780.

Inderst, R. and Ottaviani, M. (2012b) 'Financial Advice', Journal of Economic Literature, 50(2), pp. 494–512. Available at: https://doi.org/10.1257/jel.50.2.494.

Jansen, C., Fischer, R. and Hackethal, A. (2008) 'The Influence of Financial Advice on the Asset Allocation of Individual Investors', SSRN Electronic Journal, pp. 1–33. Available at: https://doi.org/10.2139/ssrn.1102092.

Jensen, M. and Meckling, W. (1976) 'Theory of the firm: Managerial behaviour, agency costs and ownership', Strategic Management Journal, 21(4), pp. 1215–1224. Available at: http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=12243301&site=ehost-live.

Kahneman, D. and Tversky, A. (1986) 'Prospect Theory: An Analysis of Decision Under Risk', Econometrica, 47(2), p. 263.

Kalmi, P. and Ruuskanen, O.P. (2019) 'Financial literacy and retirement planning in Finland', Journal of Pension Economics and Finance, 17(3), pp. 335–362. Available at: https://doi.org/10.1017/S1474747217000270.

Karabulut, Y. (2013) Financial Advice: An Improvement for Worse? *. Available at: https://ssrn.com/abstract=1710634.

Kitces, M. (2016) Is It Worth Getting A PhD In Financial Planning?, Kitces.com. Available at: https://www.kitces.com/blog/personal-financial-planning-phd-programs-for-teaching-professor-and-research/ (Accessed: 2 November 2022).

Kosowski, R. et al. (2006) 'Can mutual fund "stars" really pick stocks? New evidence from a bootstrap analysis', Journal of Finance, 61(6), pp. 2551–2595. Available at: https://doi.org/10.1111/j.1540-6261.2006.01015.x.

Kramer, M.M. (2012) 'Financial Advice and Individual Investor Portfolio Performance', Financial Management, 41(2), pp. 395–428. Available at: https://doi.org/10.1111/j.1755-053X.2012.01185.x.

Kramer, M.M. (2016) 'Financial literacy, confidence and financial advice seeking', Journal of Economic Behavior and Organization, 131, pp. 198–217. Available at: https://doi.org/10.1016/j.jebo.2016.08.016.

Laibson, D.I. (1997) 'Golden Eggs and Hyperbolic Discounting Author ( s ): David Laibson Source : The Quarterly Journal of Economics , Vol . 112 , No . 2 , In Memory of Amos Tversky', The Quarterly Journal of Economics, 112(2), pp. 443–477.

Leo, D.I. (2008) 'Life focused financial planning', Journal of Personal Finance, 6(2 & 3), pp. 13–23.

Letkiewicz, J. et al. (2018) 'Behavioral and Wealth Considerations for Seeking Professional Financial Planning Help', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.2666727.

Linnainmaa, J.T., Melzer, B. and Previtero, A. (2018) 'The Misguided Beliefs of Financial Advisors', SSRN Electronic Journal [Preprint], (May). Available at: https://doi.org/10.2139/ssrn.3101426.

Linnainmaa, J.T., Melzer, B.T. and Previtero, A. (2021) 'The misguided beliefs of financial advisors', The Journal of Finance, 76(2), pp. 587–621.

Liu, F. et al. (2019a) 'Professional financial advice, self-control and saving behavior', International Journal of Consumer Studies, 43(1), pp. 23–34. Available at: https://doi.org/10.1111/ijcs.12480.

Liu, F. et al. (2019b) 'Professional financial advice, self-control and saving behavior', International Journal of Consumer Studies, 43(1), pp. 23–34. Available at: https://doi.org/10.1111/ijcs.12480.

Love, D. and Phelan, G. (2015) 'Hyperbolic discounting and life-cycle portfolio choice', Journal of Pension Economics and Finance, 14(4), pp. 492–524. Available at: https://doi.org/10.1017/S1474747215000220.

Lusardi, A., Michaud, P.-C. and Mitchell, O.S. (2017) 'Optimal Financial Knowledge and Wealth Inequality', Journal of Political Economy, 125(2). Available at: https://doi.org/10.1086/690950.

Lusardi, A. and Mitchell, O.S. (2014) 'of Financial Literacy : Theory and Evidence', 52, pp. 5–44. Available at: https://doi.org/http://dx.doi.org/10.1257/jel.52.1.1.

Lusardi, A. and Mitchell, O.S. (2017) 'How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness', Quarterly Journal of Finance, 7(03), p. 1750008.

Mackenzie, G.S. (2010) The Decline of the Traditional Pension: A Comparative Study of Threats to Retirement Security. Cambridge University Press. Available at: https://books.google.ca/books?hl=en&lr=&id=tqyo--QHI-gC&oi=fnd&pg=PR1&ots=v1t5QfwBBk&sig=LoHJ8syWPxceM0yUrCcr_iY6S2E#v=onepage&q&f=false (Accessed: 4 September 2022).

Malmendier, U. and Shanthikumar, D. (2007) 'Are small investors naive about incentives?', Journal of Financial Economics, 85(2), pp. 457–489. Available at: https://doi.org/10.1016/j.jfineco.2007.02.001.

Marsden, M., Zick, C.D. and Mayer, R.N. (2011) 'The Value of Seeking Financial Advice', Journal of Family and Economic Issues, 32(4), pp. 625–643. Available at: https://doi.org/10.1007/s10834-011-9258-z.

McClure, J.W. (2014) Profession and the Practice of Personal Financial Planning.

McKinsey (2012) Are Canadians Ready For Retirement?

Mietzner, M. and Molterer, M. (2018) 'You might not get what you need: The discrepancy between financial advice and commissions in Germany', Economics Letters, 162, pp. 167–170. Available at: https://doi.org/10.1016/J.ECONLET.2017.11.004.

Modigliani, F. and Brumberg, R. (1954) 'Utility Analysis and the consumption function: An interpretation of cross-section data', Post-Keynsian Economics, 1, pp. 338–436.

Monti, M. et al. (2014) 'Retail investors and financial advisors: New evidence on trust and advice taking heuristics', Journal of Business Research, 67(8), pp. 1749–1757. Available at: https://doi.org/10.1016/j.jbusres.2014.02.022.

Montmarquette, C. and Viennot-briot, N. (2012) 'Econometric Models on the Value of Advice of a Financial Advisor Project report'.

Montmarquette, C. and Viennot-Briot, N. (2015) 'The value of financial advice', Annals of Economics and Finance, 16(1), pp. 69–94.

Montmarquette, C. and Viennot-briot, N. (2019) 'The Gamma Factor and the Value of Financial Advice', Annals of Economics and Finance, 20(1), pp. 387–411.

Mullainathan, S., Noeth, M. and Schoar, A. (2012) 'The Market for Financial Advice: An Audit Study'. Available at: http://www.nber.org/papers/w17929.

Munnell, A. H., Webb, A. Golub-Sass, F. (2012) 'the National Retirement Risk Index : an Update', Center for Retirement Research, Boston College, (12), pp. 1–9.

Mystery Shopping For Investment Advice (2015) Ontario Securities Commission, Mutual Fund Dealers Association, Investment Industry Regulatory Organization of Canada. Available at: http://www.osc.gov.on.ca/documents/en/Securities-Category3/20150917-mystery-shopping-for-investment-advice.pdf (Accessed: 1 April 2016).

Office of the Superintendent of Financial Institutions Canada (2021) Registered Pension Plans (RPP) and Other Types of Savings Plans – Coverage in Canada. Available at: www.osfi-bsif.gc.ca,.

O'Hara, C. (2022) 'Critics question approval of Ontario group to certify financial advisers, planners - The Globe and Mail', The Globe and Mail. Available at: https://www.theglobeandmail.com/business/article-critics-question-approval-of-ontario-group-to-certify-financial/ (Accessed: 7 September 2022).

Overton, R. (2007) An Empirical Study of Financial Planning Theory and Practice, Doctoral Thesis2. Available at: http://media.proquest.com.myaccess.library.utoronto.ca/media/pq/classic/doc/139029 6541/fmt/ai/rep/NPDF?hl=&cit:auth=Overton,+Rosilyn+H.&cit:title=An+empirical+stud y+of+financial+planning+theory+and+practice&cit:pub=ProQuest+Dissertations+and+ These (Accessed: 19 November 2014).

Overton, R.H. (2007) An empirical study of financial planning theory and practice. PhD Thesis. Capella University.

Overton, R.H. (2008) 'Theories of the financial planning profession', Journal of Personal Finance, 7(1), pp. 13–42.

Pallant, J. (2013) SPSS survival manual: a step by step guide to data analysis using SPSS. 5th Ed., Step by step guide to data analysis using the SPSS program. 5th Ed. Berkshire: Open University Press.

Phoon, K. and Koh, F. (2018) 'Robo-advisors and wealth management', Journal of Alternative Investments, 20(3), pp. 79–94. Available at: https://doi.org/10.3905/jai.2018.20.3.079.

Poterba, J.M. (2014) 'Retirement security in an aging population', American Economic Review, 104(5), pp. 1–30. Available at: https://doi.org/10.1257/aer.104.5.1.

Redhead, K. (2014) The education of prospective financial advisors: a case for a multidisciplinary curriculum, Applied Research Working Paper Series.

Reiter-Gavish, L., Qadan, M. and Yagil, J. (2021) 'Financial advice: Who Exactly Follows It?', Research in Economics, 75(3), pp. 244–258. Available at: https://doi.org/10.1016/j.rie.2021.06.003.

Rhoades, S.A. (1993) The Herfindahl-Hirschman Index, Rhoades, S.A., 1993. The herfindahl-hirschman index. Fed. Res. Bull., 79, p.188.

Robb, C. a, Babiarz, P. and Woodyard, A. (2012) 'The demand for financial professionals ' advice : The role of financial knowledge , satisfaction , and confidence', Financial Services Review, 21, pp. 291–305.

van Rooij, M., Lusardi, A. and Alessie, R. (2011) 'Financial literacy and stock market participation', Journal of Financial Economics, 101(2), pp. 449–472. Available at: https://doi.org/10.1016/j.jfineco.2011.03.006.

Sah, S., Loewenstein, G. and Cain, D.M. (2012) 'The Burden of Disclosure: Increased Compliance With Distrusted Advice.', Journal of Personality and Social Psychology [Preprint].

Salter, J.R., Harness, N. and Chatterjee, S. (2011) 'The Value of Financial Advisors to Retirees', Journal of Financial Service Professionals, (MAY), pp. 60–69.

S.Becker, G. (1965) 'A theory of allocation of time', The Economic Journal, 75(299 (Sep)), pp. 493–517.

Schuchardt, J. et al. (2007) 'Personal Finance : An Interdisciplinary Profession', Financial Counseling and Planning, 18(1), pp. 61–69. Available at: http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Personal+Finance+:+An+Interdisciplinary+Profession#0.

Shapira, Z. and Venezia, I. (2001) 'Patterns of behavior of professionally managed and independent investors', Journal of Banking and Finance, 25(8), pp. 1573–1587. Available at: https://doi.org/10.1016/S0378-4266(00)00139-4.

Shefrin, H. and Thaler, R.H. (1988) 'The Behavioral Life-Cycle Hypothesis', Economic Inquiry, 26(4), pp. 609–644.

Shen, C.H. et al. (2016) 'The relationship between financial disputes and financial literacy', Pacific Basin Finance Journal, 36, pp. 46–65. Available at: https://doi.org/10.1016/j.pacfin.2015.11.002.

Soper, D. (2022) Free A-priori Sample Size Calculator for Multiple Regression - Free Statistics Calculators, danielsoper.com. Available at: https://www.danielsoper.com/statcalc/calculator.aspx?id=1 (Accessed: 19 November 2022).

Srinivas, V.K. (1999) Individual investors and financial advice: a model of advice-seeking behavior in the financial planning context. Available at: https://doi.org/10.16953/deusbed.74839.

Statistics Canada (2022) Table 17-10-0005-01 Population estimates on July 1st, by age and sex.

Stolper, O. (2018) 'It takes two to Tango: Households' response to financial advice and the role of financial literacy', Journal of Banking and Finance, 92, pp. 295–310. Available at: https://doi.org/10.1016/j.jbankfin.2017.04.014.

Stolper, O.A. and Walter, A. (2017a) 'Financial literacy, financial advice, and financial behavior', Journal of Business Economics, 87(5), pp. 581–643. Available at: https://doi.org/10.1007/s11573-017-0853-9.

Stolper, O.A. and Walter, A. (2017b) 'Financial literacy, financial advice, and financial behavior', Journal of Business Economics, 87(5), pp. 581–643. Available at: https://doi.org/10.1007/s11573-017-0853-9.

Stolper, O.A. and Walter, A. (2018) 'Birds of a Feather: The Impact of Homophily on the Propensity to Follow Financial Advice', SSRN Electronic Journal [Preprint]. Available at: https://doi.org/10.2139/ssrn.2932737.

Stoughton, N.M., Wu, Y. and Zechner, J. (2011) 'Intermediated Investment Management', Journal of Finance, 66(3), pp. 947–980. Available at: https://doi.org/10.1111/j.1540-6261.2011.01656.x.

Tabachnick, B.G., Fidell, L.S. and Ullman, J.B. (2007) Using multivariate statistics. pearson Boston, MA.

Thaler, R.H. and Benartzi, S. (2004) 'Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving', Journal of Political Economy, 112(S1), pp. S164–S187. Available at: https://doi.org/10.1086/380085.

United States Department of Justice (2010) Horizontal Merger Guidelines. Available at: https://www.justice.gov/atr/horizontal-merger-guidelines-08192010#5c (Accessed: 20 December 2022).

US Census Bureau, T. (2015) New Census Bureau Report Analyzes U.S. Population Projections. Available at: https://www.census.gov/newsroom/press-releases/2015/cb15-tps16.html (Accessed: 21 August 2015).

Vanguard (2013) Advisor's alpha, The Vanguard Group.

de Vaus, D. (2013) Developing indicators for concepts. 6th edn, Surveys In Social Research. 6th edn. London: Routledge. Available at: https://doi.org/10.4324/9780203501054-13.

Warschauer, T. (2002) 'The role of universities in the development of the personal financial planning profession', Financial Services Review, 11(3), p. 201.

Weinstein, E. (2015) Brondesbury Mutual Fund Fee Research. Available at: http://www.securities-administrators.ca/uploadedFiles/General/pdfs/Brondesbury Mutual Fund Fee Research Report_engwr.pdf?utm_source=June+2015+Newsletter&utm_campaign=June+2015+Newsletter&utm_medium=email (Accessed: 25 June 2015).

Westermann, S. et al. (2020) 'Financial Advice Seeking: A Review of the Barriers and Benefits', Economic Papers, 39(4), pp. 367–388. Available at: https://doi.org/10.1111/1759-3441.12294.

Wilmarth, A.E. (2002) 'The transformation of the U.S. financial services industry, 1975-2000: Competition, consolidation, and increased risks', University of Illinois Law Review [Preprint].

Wyczalkowski, C. (1995) A MODEL OF FINANCIAL SATISFACTION by CHRISTOPHER WYCZALKOWSKI (Under the Direction of Joseph Goetz). The University of Georgia.

Yeske, D. (2016) 'A concise history of the financial planning profession', Journal of Financial Planning, 29(11), pp. 10–13.

Yeske, D.B. (2010) Finding the Planning in Financial Planning: An Integrative Framework for Strategy-Making by Financial Planners. Doctoral. doctoral thesis, Golden Gate University.

Zhang, L., Pentina, I. and Fan, Y. (2021) 'Who do you choose? Comparing perceptions of human vs robo-advisor in the context of financial services', Journal of Services Marketing, 35(5), pp. 634–646. Available at: https://doi.org/10.1108/JSM-05-2020-0162.