

Assessing gender differences in financial literacy in Canada

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Abstract

In most countries, women average a lower level of financial literacy than men. In an era of longer lives, maintaining financial resilience throughout adulthood is more pressing than ever. At the same time, financial services and products are becoming increasingly complex and diverse. Of course, both men and women must be financially literate to make financial decisions; however, changes in the social welfare system have been shifting more responsibility onto individuals. Under the changes, women have become particularly vulnerable to the financial marketplace as women have a higher life expectancy than men, and women's careers are more likely to be interrupted than men. The primary purpose of this paper is to provide a systematic review of the gender differences in financial literacy in Canada. The author used qualitative and quantitative research methods and drew lessons primarily from the Canadian Financial Capability Survey, the COVID-19 Financial Well-Being Survey, and made comparisons with international findings where applicable. The author then explored the factors behind the gender differences and suggests that the overall gender equality would narrow the gender differences in financial literacy and highlights the need for policies addressing gender inequalities in both social inequality and financial literacy as means to improve women's well-being.

Keywords

Financial Literacy, Gender Differences, Canada, Inequality

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Declaration

The Data¹ used in this Major Research Paper was obtained in the surveys carried out by the Financial Consumer Agency of Canada, and the data analysis and interpretation are entirely the author's work. The findings, interpretations, and conclusions presented in this paper are entirely those of the authors and should not be attributed in any manner to the Financial Consumer Agency of Canada, or the Government of Canada.

¹ The Data here refers to the 2019 Canadian Financial Capability Survey and the Covid-19 Financial Well-Being Survey

1. Introduction

Financial literacy, is defined by the Organisation for Economic Co-operation and Development (OECD) as *a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing* (Atkinson & Messy, 2012, p. 14). Greater financial literacy at each stage of life can improve financial well-being, and thereby contributes also to mental and physical health (Financial Consumer Agency of Canada, 2018b). Many studies show that money is the greatest source of stress in most people's life, and consistently ranks higher than health, work, or family obligations. According to a survey conducted in 2020, 38% of Canadians indicated that money is the number one cause of stress (FP Canada, 2020). A similar study in the US shows that money emerged as the dominant source of stress (44%) among American adults (Northwestern Mutual, 2018).

Financial literacy is important for everyone to effectively participate in economic activities and to make appropriate financial decisions for themselves and their families; however, women often have lower levels of financial literacy than men. The gender gap is remarkable even in developed countries. Studies show that differences between women and men appears in: knowledge of financial concepts; confidence in financial skills; long-term orientation; willingness to take risks; and ability to cope with shocks (OECD, 2016). These areas of differences contribute to long term outcomes along the life cycle, such as saving for retirement, empowerment, well-being etc. Women also have lower access to financial products and services. Globally, only 47% of women have an account at a formal financial institution, compared to 55% of men. Among the 1.7 billion adults who lack an account globally, women account for 56% of all unbanked adults globally (Demirguc-Kunt et al., 2018). Learning-by-doing generates

an internal feedback loop whereby individuals update their knowledge, skills, motivation, and confidence as they gain more financial experiences. Thus, women's lack of experiences with financial products and services and lower financial literacy can both lead to and arise from differences in opportunities to gain knowledge and exposure to financial matters (Hung et al., 2012). Governments need to address the gender differences by adapting to countries' specific content.

In Canada, knowledge gaps exist in financial literacy in relation to gender. This research lays a foundation for further examination of this issue. Specifically, this paper reviews what is known about this subject in Canada and adds new insights from the latest surveys. The paper contributes answers to the following questions: Do gender differences in financial literacy exist in Canada? Do women in Canada have lower level of financial knowledge and confidence as suggested by international evidence? How do women behave when managing their personal finance? If the differences exist, what are the causes of these differences, and how could different stakeholders address these differences?

This paper aims to provide a systematically review of the financial literacy gender differences in Canada. To answer the above questions, the paper starts with a literature review on the definition of financial literacy in the **Chapter 2** and outlines why financial literacy is becoming more important today. **Chapter 3** portrays a comprehensive picture of uses both qualitative and quantitative research methods to analyze the gender differences in financial literacy based on the three surrounding factors identified by the OECD and make comparison with international results where applicable. Then, the **Chapter 4** explores the causes of gender difference in financial literacy in Canada. **Chapter 5** makes recommendations based on the

findings from the earlier chapters on how to narrow the gender differences identified. Finally, the author concludes this research and indicates areas for further research.

2. Financial Literacy

Given the complexity of the emerging subject of financial literacy, this chapter starts with a literature review of different financial literacy definitions and presents the empirical research on its importance. The searching strategy for this literature review has multiple steps. First, the initial literature keyword searches have been conducted in the economics literature using google scholar, JSTOR, Omni library, and OECD library. Only high-quality academic studies directly related to financial literacy are selected. The most prominent journals, authors, and articles are selected using bibliometric analysis with BibExcel² and reviewed.

2.1 Financial Literacy: Definition and Concepts

In 1787, John Adams brought attention to the term of financial literacy. In John's letter written to Thomas Jefferson, he illustrated the importance of financial resilience throughout life in glowing terms (UNSGSA, 2016); however, financial literacy did not gain visibility until the late 1990s. Financial literacy was initially defined as financial capability (Kempson et al., 2006), and the decision-making ability regarding money management. More specifically, it was defined as "the ability to make informed judgments and take effective decisions regarding the use and management of money" (Noctor et al., 1992, p. 4). According to these early studies, a financially capable person understands credit, budgeting, debt, and all other financial dimensions. Starting from 2009, research on financial literacy has seen a sudden spurt, due to the global financial

² BibExcel is designed to assist in analysis of bibliographic data, or any data of a textual nature formatted in a similar manner.

crisis that began in 2008, characterized by soaring losses, household debt and liquidity crunch (Goyal & Kumar, 2020). Academics, industrial researchers, policymakers, and other stakeholders show a growing interest to explore financial literacy. Since then, more financial literacy definitions have emerged. Huston conceptualized financial literacy as the knowledge of personal finance as well as the application of that knowledge (Huston, 2010). Lusardi and Mitchell defined it as “the knowledge of basic financial concepts and ability to do simple calculation” (Lusardi & Mitchell, 2011b). There was some disagreement amongst these definitions, as mere knowledge of basic concepts of finance is futile unless it is reflected in financial behaviour (Atkinson & Messy, 2012). The working definition published by OECD/PISA³ is “knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life” (PISA, 2012, p. 13). This definition was later expanded to financial behaviour, such as behaviours of expenditure planning (Atkinson & Messy, 2012), incurring avoidable credit and checking fees (Fernandes et al., 2014), higher credit score which in turn enables consumers to access better financial products (Mende & van Doorn, 2015), and the willingness to take investment risks (Dohmen et al., 2011)(Almenberg & Dreber, 2015).

Multiple studies explored on the factors influencing financial literacy. These factors include: education level (H. Chen & Volpe, 1998) (Lusardi & Mitchell, 2011b) (Greimel-Fuhrmann et al., 2015), financial attitude (Hogarth & Hilgert, 2002) (OECD, 2013b), financial

³ PISA – Programme for International Student Assessment. PISA measures 15-year-olds’ ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

knowledge (Lusardi & Mitchell, 2011b) (Robb et al., 2012), household income (Atkinson & Messy, 2012) and investments (Santini et al., 2019).

There is no universally accepted conceptual definitions for financial literacy. This paper adopted the financial literacy definition by OECD/INFE as: “a combination of awareness, knowledge, skills, attitudes and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being” (Atkinson & Messy, 2012). Since this definition has been used for survey on financial literacy across several countries, use of the OECD/INFE definition provides the possibility of benchmarking the results in Canadian context against the results for other countries.

To further analyze the gender differences in financial literacy, this paper developed based on the three surrounding factors identified by OECD: financial knowledge; financial attitudes and confidence; and, financial behavior and skills (OECD, 2005). The three factors not only intertwined with financial literacy, but also amongst themselves (Agarwalla et al., 2015).

- Financial Knowledge

Financial knowledge refers to the awareness and understanding of financial concepts and procedures as well as the use of this understanding to solve financial problems. To know how to behave, it is necessary to be adequately informed about the domain of the intended behavior (Amagir et al., 2018). Understanding basic personal finance concepts such as budgeting, investing, and managing one’s finances are intractably connected with each individual on how to plan money, pay off debt, understand time/money trade-offs, track spending, retirement plan and more. Financial knowledge has a significant association with financial literacy. Increasing levels of financial knowledge can make a difference in risk perceptions for investment avenues (Amagir et al., 2018). However, the

effect of knowledge on changes in behavior is relatively limited (Hilgert et al., 2003).

Two other aspects must be taken into account.

- Financial Attitude and Confidence

Financial attitude is the state of mind, opinion, and judgment of an individual about financial matters, and is an important element of financial literacy. Financial confidence refers to having self-efficacy, and developing the necessary motivation (Amagir et al., 2018). Both attitudes and confidence are important for an individual to have the capability to apply something outside of the context in which it has been learned.

OCDE/INFE also recognized that even when an individual has sufficient knowledge and ability to act in a financially prudent way, their attitudes will influence their decision of whether or not to act (OECD, 2020a, p. 27). If people have a rather negative attitude towards saving for their future, it is argued that they will be less likely to undertake such behaviour; If individuals prefer to prioritize short-term wants then they are unlikely to provide themselves with emergency savings or to make longer-term financial plans (Atkinson & Messy, 2012).

- Financial Behaviours and Skills

Both financial knowledge and financial attitudes can have an impact on financial behaviours and skills. Operational skills are crucial for changing one's behavior, for example, how to deal with budgeting. Individuals' actions and behaviours are important in shaping their financial situation and well-being. Failing to actively save money, putting off bills payment, failing to plan future expenditures or choosing financial products without shopping around are the types of behavior that may have a negative impact on an individual's financial situation and well-being (OECD, 2020a).

2.2 The Importance of Financial Literacy

As mentioned above, interest in financial literacy was heightened by the financial crisis, with the recognition that lack of financial literacy was one of the factors contributing to ill-informed financial decisions and that these decisions could, in turn, have a tremendous negative spill-over (OECD, 2009). Financial literacy is now acknowledged as an important element of economic and financial stability and development.

At an individual level, individuals with higher financial literacy levels are able to better manage their money, participate in the stock market, perform better on their portfolio choice, and they are more likely to choose mutual funds with lower fees (Yoong, 2010). Financially literate individuals are more apt to build their assets, manage their debts wisely, and make better financial decisions, which include opting for less costly mortgages and avoiding high-interest payments and additional fees (Gerardi et al., 2010).

With higher financial literacy levels, individuals are more likely to achieve financial well-being. Financial well-being is the extent to which an individual can comfortably meet all of the current financial commitments and needs while also having the financial resilience to continue doing so in the future (Consumer Financial Protection Bureau, 2015, p. 18). Financial well-being goes beyond personal income, it is about having control over finances, being able to absorb a financial setback, being on track to meet one's financial goals, and potentially having the financial freedom to make choices that allow individuals to enjoy life (Financial Consumer Agency of Canada, 2020a). In most cases, people with high levels of financial well-being are not stressed about money and are able to cope with unexpected expenses, which in turn is associated with less stress and greater mental and physical health (Hess, 2016).

The overall level of financial literacy in a country is pivotal for its economic and financial stability for several reasons. When a large part of the population is not able to stay within their budgets, take care of their necessities or prioritize expenses on basic needs (food, housing, transportation, etc.), it becomes a societal problem eventually. Financially literate individuals also encourage competition and innovation in the financial marketplace by making more informed decisions and demanding higher quality services (PISA, 2012). They are less likely to react to market conditions in unpredictable ways, and more likely to take appropriate steps to manage the risks transferred to them, which potentially reduce the cost of financial regulatory and supervisory requirements, and leads to a more efficient financial services sector (PISA, 2012). Ultimately, a financially literate population helps government reduce government assistance directed towards those who have taken unwise financial decisions – or no decision at all (PISA, 2012).

The rising attention to financial literacy as a key life skill is underpinned by a series of tangible trends, which transferred the responsibility of making financial decisions to individuals:

- Many governments have reduced state-supported pensions, shifting the responsibility of saving for financial security after retirement to workers. Surveys show that a majority of workers are unaware of the risks of not having sufficient knowledge and skill to manage such risks adequately, even if they are aware of them (OECD, 2008).
- Individuals must make an increasing number of financial decisions because of changes in the market and the economy. Longer life expectancy means individuals need to have enough savings to cover longer periods of retirement. Increasing costs for healthcare and education are higher nowadays, which requires sound financial management.

- The growing numbers of financial products and services available to individuals, and the growing complexity of these pose more risks to individuals, especially for persons with lower financial literacy levels. In addition, the multitude of financial services, products and providers emerging with digitalization pose new types of risks, such as those related to fraud and security and confidentiality of data (OECD, 2017).

All these trends highlight the importance of becoming more financially literate.

Ultimately, being financially literate leads to positive outcomes such as wealth accumulation, retirement planning, setting up an emergency fund, making better financial decisions (borrowing and investment), and achieving financial well-being.

3. Gender Differences in Financial Literacy

Gender equality in the case of economic and financial opportunities is becoming increasingly relevant at both national and international level. In June 2021, the G20 Leader's declaration recognized the need of addressing the financial literacy of women and girls as a way to improve their financial empowerment, opportunities, and well-being (OECD-INFE, 2013). To effectively take part in economic activities and to make appropriate financial decisions for themselves and their families, both women and men need to be sufficiently financially literate. In comparison to men, women appear to have specific and additional financial literacy needs, as they are often found to have less financial knowledge and lower access to formal financial products than men (OECD/INFE, 2013). In today's world, women have a higher life expectancy than men in all countries (Ortiz-Ospina & Beltekian, 2018), and in many countries' public policy, namely pensions and healthcare, has shifted the burden of making long-term financial decisions to individuals. Women therefore need to be sufficiently financially literate to manage

the greater financial risks that they face, with the fact that they are living longer yet having shorter working lives and have a lower average income from which to save for old age.

In line with the OECD/INFE's three surrounding factors: financial knowledge, financial attitudes and confidences, and financial skills and behavior, this chapter investigates the gender differences in Canada, and uses international evidence to make comparisons to support the main claim, where applicable. The author selected the Canadian Financial Capability Survey(s) (CFCS) and the COVID-19 Financial Well-Being Survey (COVID-19 FWB) to draw the picture in Canada, and the International Survey of Financial Literacy Competencies (2015 OECD/INFE Survey) as supplementary international evidence. Canada participated in this survey, thus comparisons with other countries' results is available. The chapter structures as follows. First, section 3.1 describes the methodology and data used in this chapter and offers a descriptive analysis of financial literacy through a gender lens. Section 3.2 discusses the gender differences in financial knowledge using both subjective and objective measurements. Section 3.3 explores the roles financial attitudes and confidence play towards financial literacy gender differences in Canada. Last but not the least, section 3.4 focuses on the gender differences in financial behaviours, such as keeping track of money, budgeting, comparison shopping etc.

3.1 Methodology

The author selected the Canadian Financial Capability Survey (CFCS) and the COVID-19 Financial Well-being Survey (COVID-19 FWB) for evidence in Canada, and the International Survey of Financial Literacy Competencies (2015 OECD/INFE Survey) for international evidence, and Canada participated in this survey with other 29 countries. The overview **Table 1** shows the descriptive information of the datasets.

Table 1 – Summary Descriptive Information on Datasets Selected

	2014 CFCS	2019 CFCS		COVID-19 FWB	2015 OECD/INFE Survey
		Core	Follow-up		
Data collection period:	May - June 2014	March - May 2019	April - May 2019	August 2020 - August 2021 monthly	2015
Sample size (all genders):	6,297	7,169	3,026	13,603 ²	Total: 51,650; Canada only: 1,002
Findings collected through:	Existing reports from Statistic Canada and Financial Consumer Agency of Canada	Calculations by author in the form of a descriptive Analysis (Cross-tabulations)			Existing reports from OECD/INFE
Countries involved:	Canada only				30 countries, including Canada
Target population:	Aged 18 and older, who lived in Canada				Aged 18-79
Sampling weight:	Applied to represent Canadian population				Applied to represent each country
Sample size for Male:	Not available	3,673	1,596	6,601	Not available
Sample size for Female:	Not available	3,469	1,419	6844	Not available
Subject of the survey:	Collects information surrounding respondents' approaches to day-to-day money management and budgeting; longer term money management and general financial planning; and household income, assets, debts, and wealth. It also measures respondents' knowledge, confidence and attitudes related to personal finances.	Collects information on psychological factors, fraud, debt management and financial well-being.	Collect information during the pandemic about Canadians' day-to-day financial management and financial well-being,		Collects information on financial knowledge, behaviour, attitudes, and financial inclusion.
<p>NOTE:</p> <p>1. The author acknowledges and respects that there are many ways to identify gender outside of the binary of male and female. For this study, the sample size for “prefer to self-describe” and “prefer not to say” are too small to conduct analyses, thus they are excluded from the sample.</p> <p>2. Variability in the data over time may cause findings to fluctuate between these different classifications on a month-to-month basis (Financial Consumer Agency of Canada, 2021). For this reason, all the analysis and statistical significance tests have been calculated based on weighted results across the 12-month period (August 2020 – August 2021) as opposed to a single month.</p>					

Canadian data sources:

The CFCS is cross-sectional survey, designed to measure Canadians' knowledge, abilities and behaviours concerning financial decision-making, money management, budgeting, and general financial planning. In other words, how Canadians understand their financial situation,

the financial services available to them, and their plans for future. Its targets Canadians aged 18 and older. In this chapters, the author uses findings from the years of 2014 and 2019's CFCS and discuss changes over time where possible.

The COVID-19 Financial Well-Being Survey (COVID-19 FWB) is designed by FCAC to collect information during the pandemic about Canadians' day-to-day financial management and financial well-being. Its sample size is approximately 1,000 respondents per month. The survey launched in August 2020 and is continues to be fielded through 2021. It collects information on changes in employment, income, and debt; how Canadians are managing their finances during the Covid-19 crisis; the impact of the pandemic on debt loads and longer-term savings; and risks of being targeted by fraud and financial scams. Variability in the data over time may cause findings to fluctuate between these different classifications on a month-to-month basis (Financial Consumer Agency of Canada, 2021). For this reason, all the analyses and statistical significance tests are calculated based on weighted results across a 12-month period (August 2020 – August 2021) as opposed to a single month. The total sample size of the 12-month period is: $n=13,603$. All findings from the COVID-19 FWB involved data analysis from the author.

The author conducted descriptive microdata analysis and analyzed the data by gender groups on indicators of financial knowledge, financial behaviours, and financial attitudes and confidence using the 2019 CFCS and COVID-19 FWB. These two datasets contain mainly categorical variables, where cross-tabulation analysis is used to analyze the nominal measurement scale data. All analysis used weighted data; the weight variables are embedded by the dataset. Chi-squared tests are used to measure the goodness of fit, which shows the difference between the observed and expected frequencies of the outcomes of a set of categorical variables.

Findings from all 2014 CFCS were collected from existing reports, analyzed, and written by Statistic Canada⁴ and the Financial Consumer Agency of Canada⁵ (FCAC).

International data source:

The findings on global basis are mainly searched through the OECD International Network on Financial Education (OECD/INFE)'s working papers, research reports and publications. OECD/INFE conducted multiple surveys in different years to assess financial literacy levels across different economies, to address the call by G20 leaders. In this chapter, the author selected the International Survey of Financial Literacy Competencies (refers as 2015 OECD/INFE Survey) as supplementary evidence on international basis. OECD/INFE created this survey with a participation of a total of 51,650 adults aged 18 to 79 from 30 countries and economies. This study provided the first opportunity for countries to measure their overall financial literacy of their adult populations, and to make the comparisons with other countries. Canada participated in the survey, the sample size for Canada is $n=1,002$ (OECD, 2016, p. 3). As the 2015 OECD/INFE Survey is the most recent OECD/INFE survey Canada participated in that collects information on adults, this survey provides the only internationally comparable data for Canada. The author complements the analysis of financial literacy in Canada with Canadian data obtained from the literature and an analysis of the 2019 CFCS and COVID-19 FWB Surveys. All the OECD/INFE findings used in this chapter are retrieved directly from the OECD/INFE report⁶.

⁴The Statistic Canada report on the 2014 CFCS findings is available at: <https://www150.statcan.gc.ca/n1/pub/75-006-x/2016001/article/14464-eng.htm>

⁵ The FCAC report on the 2014 CFCS findings is available at: <https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/managing-money-key-findings.pdf>

⁶The OECD/INFE report on the International Survey of Adult Financial Literacy Competencies findings is available at: <https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>

3.2 Gender Differences in Financial Knowledge

There is a universal gender gap on financial knowledge between women and men. The evidence is robust in the sense that it has been found across developed and developing countries, in all regions, and using different survey instruments (OECD, 2013a, p. 16). This section analyzes evidence on financial knowledge differences between women and men in Canada and compares Canadian findings with those found in OECD countries when possible. Financial knowledge level is assessed by two types of question: subjective measurement (self-rated financial knowledge level), and objective measurement (financial knowledge quiz/test).

3.2.1 Gender Differences in Financial Knowledge – Through Subjective Measurement

This section presents evidence from a series of subjective questions showing that women self-rated that they have less financial knowledge than men. To facilitate the analysis, **Table 2** compiles all discussed evidence on the subjective financial knowledge levels in Canada, and where possible, compares Canada's result to the OECD's.

Table 2 - Summary Table of Differences in Financial Knowledge (Subjective Measurement)

	OECD Average		CANADA					
	2015 OECD/INFE Survey		2014 CFCS		2019 CFCS		Covid-19 FWB	
	Men	Women	Men	Women	Men	Women	Men	Women
Considered themselves to be “financially knowledgeable” (“Very knowledgeable” and “Knowledgeable”)		Less likely	43%	31% ¹	45%	33%***	52%	43%***
Know enough about investments to choose the right ones that are suitable for their circumstances		Less likely to know	63%	48%***				
Know how much to save for a comfortable retirement		Less likely to know	47%	34% ²	60%	49%***		

Notes:
 1,2 – Statistic Significance not available in the report

The 2014 CFCS findings were retrieved directly from the report: Gender Differences in the Financial Knowledge of Canadians: <https://www150.statcan.gc.ca/n1/pub/75-006-x/2016001/article/14464-eng.htm> and the report: Managing Money and Planning for the Future: Key Findings from the 2014 Canadian Financial Capability Survey: <https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/managing-money-key-findings.pdf>

The 2015 OECD/INFE Survey findings were retrieved from the report: <https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>

The 2019 CFCS and Covid-19 FWB results are calculated by the author using weighted data.

Chi-Square test confirms the anticipated correlation between variables:
 * significantly different from the reference category (men) (p<0.10);
 **significantly different from the reference category (men) (p<0.05);
 ***significantly different from the reference category (men) (p<0.01).

The sample used when analyzing 'know how much to save for a comfortable retirement' include individuals who are not retired.
 The 2014 CFCS findings exclude 'Prefer not to say' and 'Don't know', thus to have comparable results, analysis from the 2019 and Covid-19 FWB in this table exclude 'Prefer not to say' and 'Don't know.'

In the 2014 CFCS, 2019 CFCS, and COVID-19 FWB Survey, participants self-rated their level of financial knowledge. Women are less likely to rate themselves as “very knowledgeable” and “knowledgeable.” The differences remain persistent from 2014 to 2021, albeit a slight increase in women’s self-reported financial knowledge level. This result is consistent with the 2015 OECD/INFE’s finding, where in all participating countries, women are less likely to consider themselves financially knowledgeable than men. OECD/INFE also found that women are less likely to say that they “know enough about investments to choose the right ones that are suitable for their circumstances,” and less likely to know how much is needed to save for a comfortable retirement. Similar results are found from the 2014 CFCS and 2019 CFCS survey.

In the 2014 CFCS survey, only 48% of women indicate they know enough about investment products to choose the right ones for themselves (Drolet, 2016). 34% of women know how much they need to save for a comfortable retirement in 2014 (Financial Consumer Agency of Canada, 2015). This proportion rises to 49% in 2019, yet the proportion is still lower than men (60%). BMO recently conducted a survey, which included a few subjective questions on Canadians' savings accounts. BMO found that women are also 9% less likely to know how to contribute to a Registered Retirement Savings Plan ⁷(RRSPs), and are 10% less likely to know the difference between RRSPs and Tax-free savings account⁸(TFSA) compared to men (BMO Financial Group, 2021).

Women in Canada and in other countries are less likely to consider themselves financially knowledgeable than men on various financial subjects; however, subjective knowledge questions are not enough to draw a conclusion on gender differences of financial knowledge, as individuals may underestimate or overestimate their knowledge. Thus, the next section will focus on the objective knowledge measurement results.

3.2.2 Gender Differences in Financial Knowledge – Through Objective Measurement

Canada, along with other countries, has prolonged gender differences in objective financial knowledge. Objective financial knowledge is more likely to reflect an individual's financial knowledge level and is a key factor that explains positive financial practices. The 2014 CFCS, 2015 OECD/INFE Survey and 2019 CFCS all adopted an objective financial knowledge test to assess financial knowledge on inflation, interest, purchasing power, compounding, risk,

⁷ A Registered Retirement Savings Plan (RRSP) is a retirement savings and investment vehicle for employees and the self-employed in Canada. Pre-tax money can be placed into an RRSP and grows tax-free until it is withdrawn, at which time it is taxed at the marginal rate (the tax on an additional dollar of income).

⁸ A Tax-free Savings Account (TFSA) is an account in which contributions, interest earned, dividends, and capital gains are not taxed, and can be withdrawn tax-free. A TFSA can hold cash and certain investments including mutual funds, securities and bonds, cash. The account is available to individuals aged 18 and older in Canada.

and stock market, etc.; yet, the survey instruments, the questions used, and the score measurements differ between these surveys and one can thus not make direct comparisons. This section first explores the findings from 2015 OECD/INFE survey and make comparison with other similar countries, then analyzes findings from 2014 CFCS and 2019 CFCS. **Table 3** lists partial objective financial knowledge findings from the three surveys.

Table 3 – Summary Table of Differences in Financial Knowledge (Objective Measurement)

	OECD Average		Canada					
	2015 OECD/INFE Survey		2015 OECD/INFE Survey		2014 CFCS		2019 CFCS	
	Men	Women	Men	Women	Men	Women	Men	Women
Achieved the minimum financial knowledge score	61%	51%	72%	50%				
Average score on a 14 financial knowledge quiz					62%	59%***		
Answered the five key financial literacy questions correctly					22%	15%***		
Answered the three key financial literacy questions correctly [Follow-up Survey] ^{1 2}							75%	53%***

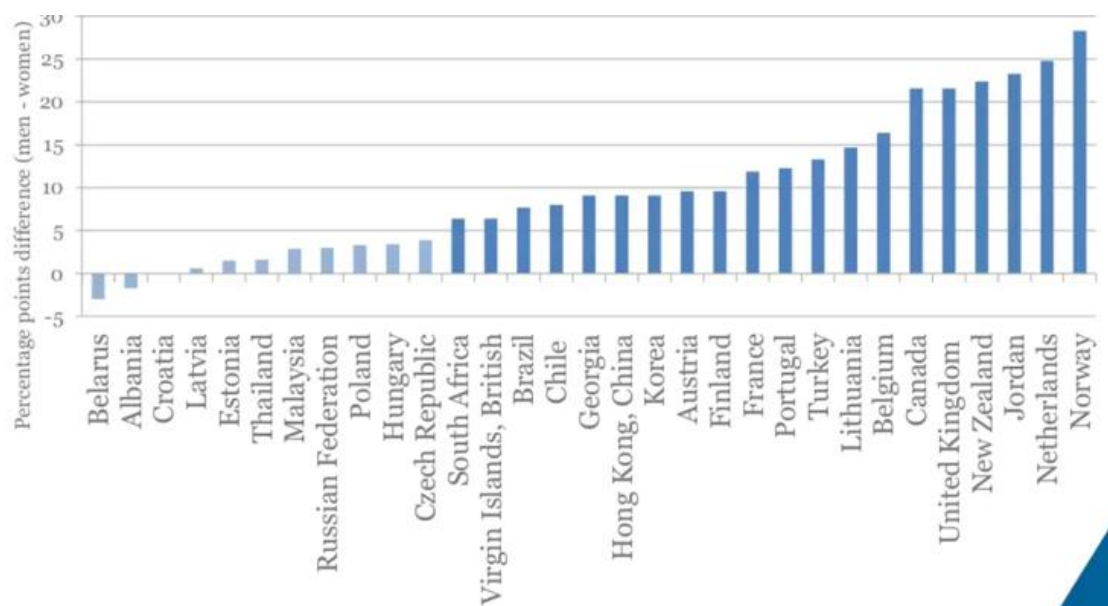
Notes:
The 2014 CFCS findings were retrieved directly from the report: Gender Differences in the Financial Knowledge of Canadians: <https://www150.statcan.gc.ca/n1/pub/75-006-x/2016001/article/14464-eng.htm>
The 2015 OECD/INFE Survey's findings were retrieved directly from the report: <https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>
1. Source: The 2019 CFCS Follow-up Survey, results are computed by the author using weighted data. Chi-Square test confirms the anticipated correlation between variables:
* significantly different from the reference category (men) (p<0.10)
**significantly different from the reference category (men) (p<0.05);
***significantly different from the reference category (men) (p<0.01)
2. The analysis treat "Prefer Not to say" and "Do not know" as incorrect answer, valid sample size n=3,025

The 2015 OECD/INFE survey found gender differences in financial knowledge in Canada and across all respondents indicating that knowledge scores are significantly lower for women than men after controlling for country level differences, age, and education (OECD,

2016, p. 9). The 2015 OECD/INFE survey included eight objective financial knowledge questions (one optional) to assess financial knowledge levels. Seven of them are used in a score of financial knowledge. Test questions include knowledge on basic mental arithmetic in the financial context, inflation and purchasing power, interest rate, the benefit of compounding, risk and return and etc.⁹ Canada's results show that only 50% of women reached at the minimum target score (considered achieved a score of at least five out of seven questions corrected), compared with 72% of men (OECD average: women 51% and men 61%) (OECD, 2016, p. 9)(OECD, 2016, p. 9).

Figure 1 illustrates the difference between men and women in the percentage of adults correctly answered at least five financial knowledge questions out of seven. Men demonstrated higher knowledge are more knowledgeable than women about financial concepts in almost all

Figure 1 - Gender Difference in the Percentage of Adults who Correctly Answered at Least five Financial Knowledge Questions Out of Seven



This graph is retrieved from the presentation of OECD's Conference on Business, Finance and Gender in 2017: <https://www.slideshare.net/OECD-DAF/chiara-monticone-gender-differences-in-financial-literacy> on slide No.4.

⁹ The International Survey of Financial Literacy Competencies [2015 OECD/INFE Survey]'s financial knowledge quiz questions are available at: <https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-Financial-Literacy-Competencies.pdf>

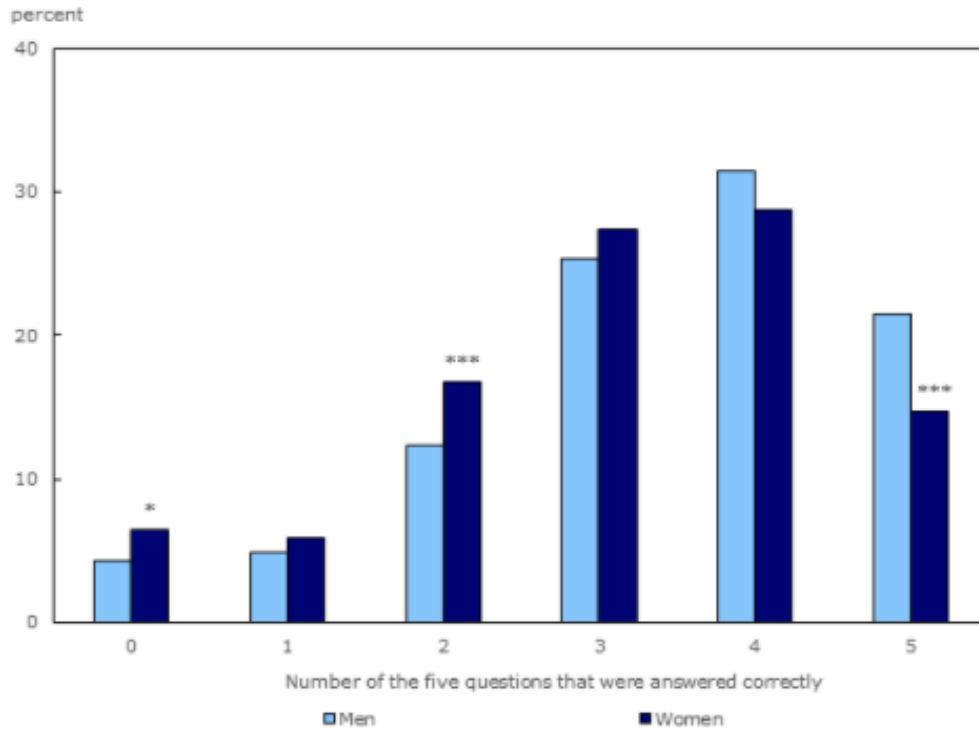
participating countries. The percentage point difference in Canada is approximately 20%, which is a comparable gap to the United Kingdom, New Zealand, and the Netherlands.

Statistics Canada suggests that the gender gap in financial knowledge exists using evidence from the 2014 CFCS. The 2014 CFCS has 14 objective financial knowledge questions, which includes topics related to inflation, interest rates, credit report, stocks, risks, debts and loans¹⁰ (Drolet, 2016). Statistics Canada uses two score measurements to compute respondents' objective financial knowledge levels. First, average quiz scores of the 14 questions were calculated, and found that women scored 59% whereas men scored 62. In the 2009 CFCS, same 14 questions were asked, and men scored 63% and women scored 59% on average. The second measure - five questions correct – combines the correct responses to five specific questions from the quiz into a single indicator to provide significant estimates and minimize measurement error. This model is informed by the spirit of the “three questions correct” model proposed by Lusardi and Mitchell (Lusardi & Mitchell, 2014). Lusardi and Mitchell proposed this “three questions correct” model to inform four principles in the design of the financial knowledge questions: simplicity, relevance, brevity, and capacity to differentiate. Using the four principles, they selected three questions, and each of the three questions reflect on numeracy or the capacity to do a simple calculation related to compounding of interest rates; understanding of inflation; and understanding of stock market (Lusardi & Mitchell, 2014). Statistics Canada adopted the “three questions correct” model and extended the model to “five questions correct.” In more detail, the “five questions correct” can be defined as the proportion of those who correctly answered five questions in the quiz that relate to basic financial concepts. **Figure 2** shows the result calculated from the “five questions correct” model. Only 15% of women correctly answered five key

¹⁰ The 2014 Canadian Financial Capability Survey (2014 CFCS) financial knowledge quiz and correct answers are available at: <https://www150.statcan.gc.ca/n1/pub/75-006-x/2016001/article/14464/quiz-eng.htm>

financial literacy questions related to interest, inflation, and risk diversification compared to 22% of men (Drolet, 2016).

Figure 2 -Gender Differences on the Number of Correctly Answered to Five Key Financial Questions



This graph is retrieved from the Statistics Canada report: <https://www150.statcan.gc.ca/n1/pub/75-006-x/2016001/article/14464-eng.htm>.

* Significantly different from the reference category (men) (P<0.10)

***significantly different from the reference category (men) (P<0.01)

Data Source: Statistics Canada, Canadian Financial Capability Survey, 2014

The most recent survey in Canada shows that the objective financial knowledge gap still exists and has not narrowed since. The 2019 CFCS Follow-Up Survey asked the three key financial literacy questions¹¹ proposed by Lusardi and Mitchell and introduced in the above paragraph. Based on the “three questions correct” model (Lusardi & Mitchell, 2014), the gender

¹¹ The three key questions proposed by Lusardi and Mitchell are:

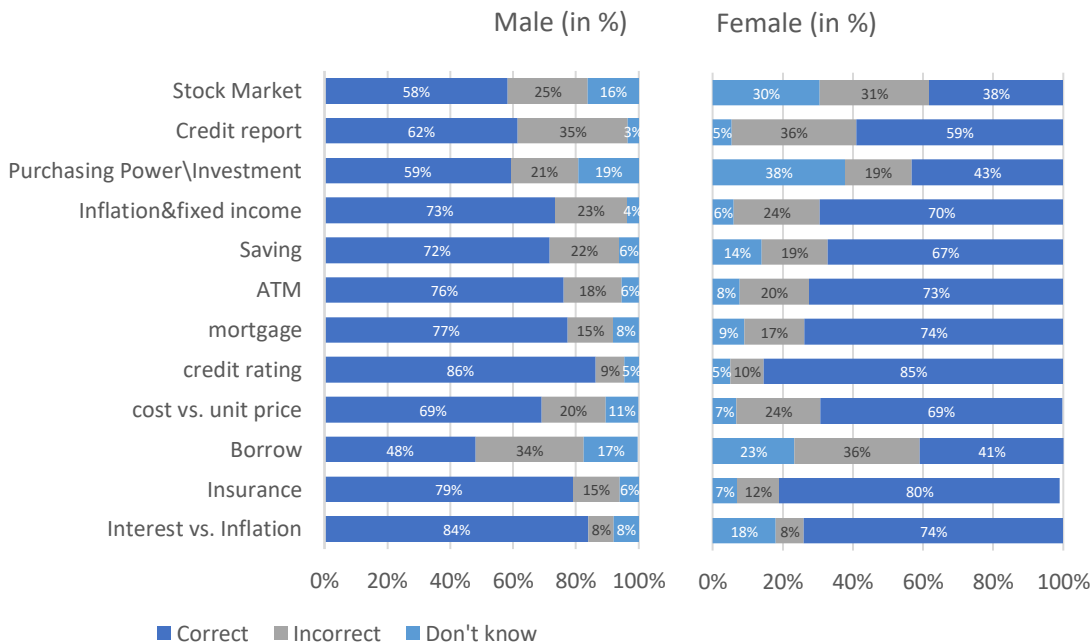
(1). Suppose you had \$100 in a savings account and the interest rate was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow: [**more than \$102**; exactly \$102; less than \$102; do not know; prefer not to say.] (2). Imagine that the 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: [more than, exactly the same as, or **less than today** with the money in this account; do not know; prefer not to say.] (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.” [true; **false**; do not know; prefer not to say.]

gap is 22 percentage points as only 53% of women answered all 3 questions correctly whereas 75% of men did. Women are more likely to choose ‘Do not know’ across all three questions.

The core survey used a different approach of measuring the objective financial knowledge, and the results suggest that women are less financially knowledgeable than men in almost all financial areas. Each respondent answered seven financial knowledge questions in total: the first three questions are the same ones across all respondents, and the following four questions are distributed based on the respondent’s performance on the first three questions. The Appendix 1 presents detail of grouping.

Figure 3¹² presents the proportion of men and women who answered each question correctly, incorrectly, or chose ‘do not know.’ Women have a lower understanding of the

Figure 3 - Proportion of Men and Women who Answered Each Objective Knowledge Question Correctly, Incorrectly, or Chose ‘Do not know.’



Source: Analyzed and graphed by Author using 2019 CFCS Core Survey

¹² Figure 3 uses the results from the 2019 CFCS core dataset, computed by the author using weighted data. The analysis excludes ‘prefer not to say.’

interest rate vs. inflation rate (74% vs. 84%). When asking “when is it most financially beneficial to borrow to buy something,” 26% of women chose “when something goes on sale,” and 41% of women (compared to 48% of men) chose the correct answer, which is when paying for something on credit allows someone to get a better paid job. Women have less knowledge on saving/savings accounts (67% vs. 72%), less knowledge of purchasing power (43% vs. 59%), and less knowledge of the stock market (38% vs. 58%).

Interestingly, women are significantly more likely to choose the “Don’t know” option in all the quiz questions. On average, the proportion of women who answered “don’t know” is 14% whereas only 5% of men chose the “Don’t know” option. Similar findings were found in Australia that women indicate more often than men that they don’t know the correct answer when asking financial knowledge questions (Greimel-Fuhrmann & Silgoner, 2018). Women more often declare that they do not know the correct answer, which may at least partly explain the lower share of correct answers. The apparent reluctance of women to make a guess may be related to their higher degree of risk aversion, as suggested by several studies (Powell & Ansic, 1997).

The gender gap in financial knowledge exists in Canada and has been persistent over time, as suggested by the above findings. A low level of financial knowledge makes women more vulnerable when making financial decisions, or managing money and debt, and the outcomes are closely associated with lower financial literacy. A few factors remain unknown in the financial knowledge assessment. Overconfidence and low confidence could instigate an inaccurate self-assessed financial knowledge level. Women are significantly more likely to choose ‘Don’t know’ when they selected a multiple-choice response that includes “Don’t know.” What is still unclear is what role “Don’t know” plays, and it might relate to confidence level as

well. In sum, women's low financial knowledge levels do contribute to their lower financial literacy levels to some extent. One should also factor in the differences in financial attitudes and confidences, financial behaviors, and skills. The following two sections discuss these two factors.

3.3 Gender Differences in Financial Attitude and Confidence

Women tend to have a more long-term oriented financial attitude compared to men, yet they have less confidence towards their finance. This section first discusses gender differences in financial attitude using the results from the 2015 OECD/INFE Survey, where Canada's findings are available for comparison with other countries. The author then conducted analysis from the 2019 CFCS, and the COVID-19 FWB Surveys to gather further insights on financial awareness (**Table 4**) and concerns about money (**Table 5**). The remaining part of this section focuses on financial confidence levels, with evidence collected from existing studies and the author's analysis from 2019 CFCS and the COVID-19 FWB Survey (**Table 6**).

Women are significantly more likely than men to have a positive attitude towards the longer term than men. The 2015 OECD/INFE Survey found that women stand out for having longer-term attitudes than their male counterparts based on a financial attitude score. The OECD/INFE computed this financial attitude score based on three statements: 1. *"I tend to live for today and let tomorrow take care of itself"*; 2. *"I find it more satisfying to spend money than to save it for the long term"*; 3. *"Money is there to be spent."* The financial attitudes score is computed as the sum of the values for the three statements and then divided by three, and ranges from one to five (OECD, 2016, p. 48). The minimum target score refers to a score of more than three. The results show 68% of women and 60% of men achieved the minimum score on

financial attitudes in Canada. Both genders achieved a higher score than the average score of the 30 participating countries, and the average score of OECD countries¹³ (OECD, 2016, p. 51).

Compared to other countries, more women in Norway and New Zealand achieved the minimum financial attitude score than women in Canada (New Zealand 75%; Norway 81%).

Although women have a more positive financial attitude towards longer term, domestic and international findings found that women do not enjoy dealing with financial matters. **Table 4** lists the results of the four financial attitudes and awareness questions asked in the 2019 CFCS Core Survey. According to the results, there are no significant gender differences among financial decision regret and the self-rated debt levels. Gender differences exist among the trusting of financial advisors and dealing with financial matters. Women are more inclined to trust professional financial advisors and accept what they recommend, and women are significantly less likely to say that they enjoy dealing with financial matters than men (52% vs. 61%). The attitude is very likely developed in their early ages. This is supported by PISA’s finding: there are limited gender differences in financial literacy performances among girls and boys, however, when it comes to financial attitudes, boys were 12% more likely than girls to agree that they enjoy talking about money matters (Monticone, 2021).

<i>Table 4 - Financial Attitudes and Awareness^{1, 2}</i>	2019 CFCS	
	Men	Women
Often make financial decisions they later regret	16%	15%
Enjoy dealing with financial matters	61%	52%***
Tend to trust professional financial advisors and accept what they recommend	66%	71%***
Have too much debt right now	31%	32%
Notes: Analysis was conducted by the author using the 2019 CFCS core dataset, weighted Data 1. The analysis grouped 'Strongly Agree' and 'Agree' responses. 2. The analysis excludes 'Prefer not to say' and 'Don't know' responses Chi-Square tests confirms the anticipated correlation between variables: * significantly different from the reference category (men) (p<0.10) **significantly different from the reference category (men) (p<0.05) ***significantly different from the reference category (men) (p<0.01)		

¹³ The percentages (across all participating countries) who achieved the minimum target score are: Male 47%, Female 53%. The percentages (across OECD countries) who achieved the minimum target score are: Male 52%, Female 58%

Not only do less women enjoy dealing with finance, but women also have a lower engagement rate in financial learning activities, which reveals their disengaged attitudes in relation to seeking improvement in financial knowledge and skills. In some cases, financial learnings are applicable when beneficiaries realize a gap in their skills, and actively seek guidance. Low interest and engagement remain a critical challenge. **Table 5** shows the results from the 2019 CFCS. Women are less likely to engage in personal financial learning than men. 61% of women did not engage in any form of financial learning in the past five years, compared to 50% of men. More men than women increased their financial knowledge and understanding of financial matters through online studies and/or read a book or printed material than women. Among those women who had engaged in financial learning in the past five years, only 75% of them agreed that their general financial knowledge has been improved, whereas 82% of men agreed so. 44% of women improved their knowledge on retirement preparation, versus 48% of men. More women (38%) were benefitting from the financial learning on the ability to create and maintain budget than men (34%). Financial learning is a key to improving confidence, and is more effective when supported by experiential learning, such as carrying out a financial task with help from an advisor (FinCap-UK, n.d.). A small experiment conducted in the U.S. high schools among students also provided evidence that financial education could improve financial attitudes (Bhattacharya & Gill, 2020). Financial learnings are acknowledged as a critical path to improve both financial attitudes and confidence, and ultimately achieve better financial outcomes. However, women have a lower engagement rate in the learning activities and have gained fewer benefits from it.

Table 5 - Financial Learning and Outcomes

		2019 CFCS	
		Men	Women
Financial Learning	In the past five years, have you increased your personal knowledge and understanding of financial matters in any of the following ways, if any?		
	Financial learning through online study	21%	11%***
	Financial learning through reading a book or printed material	25%	18%***
	Financial learning through an in-person course (not school), courses at school, or training at work	22%	19%
	Financial learning through meeting with a financial planner	2%	3%***
	None financial learning	50%	61%***
Financial Learning Outcome	In what ways would you say this personal study or in-class course was useful in improving your financial knowledge, skills, and confidence? (Among whom received any type of financial Learning)		
	Improved general financial knowledge	82%	75%***
	Preparation for retirement	47%	44%*
	Ability to create and maintain budget	34%	38%*
	Knowledge about how to achieve savings goals	34%	34%
	Understanding of debt	38%	36%
Notes: Analysis was conducted by the author using the 2019 CFCS follow-up dataset, weighted Data Chi-Square tests confirms the anticipated correlation between variables: * significantly different from the reference category (men) (p<0.10) **significantly different from the reference category (men) (p<0.05); ***significantly different from the reference category (men) (p<0.01)			

Indeed, multiple earlier studies found that women have lower financial confidence levels. This is true not only in Canada but in other countries. Financial confidence plays a greater role than financial knowledge when it comes to developing healthy financial behaviours (Financial Consumer Agency of Canada, 2018a), and it is related to positive financial outcomes through increased financial literacy. **Table 6** presents the findings from the 2019 CFCS and COVID-19 FWB Survey related to financial confidence and other related questions to pave the way for the discussion below.

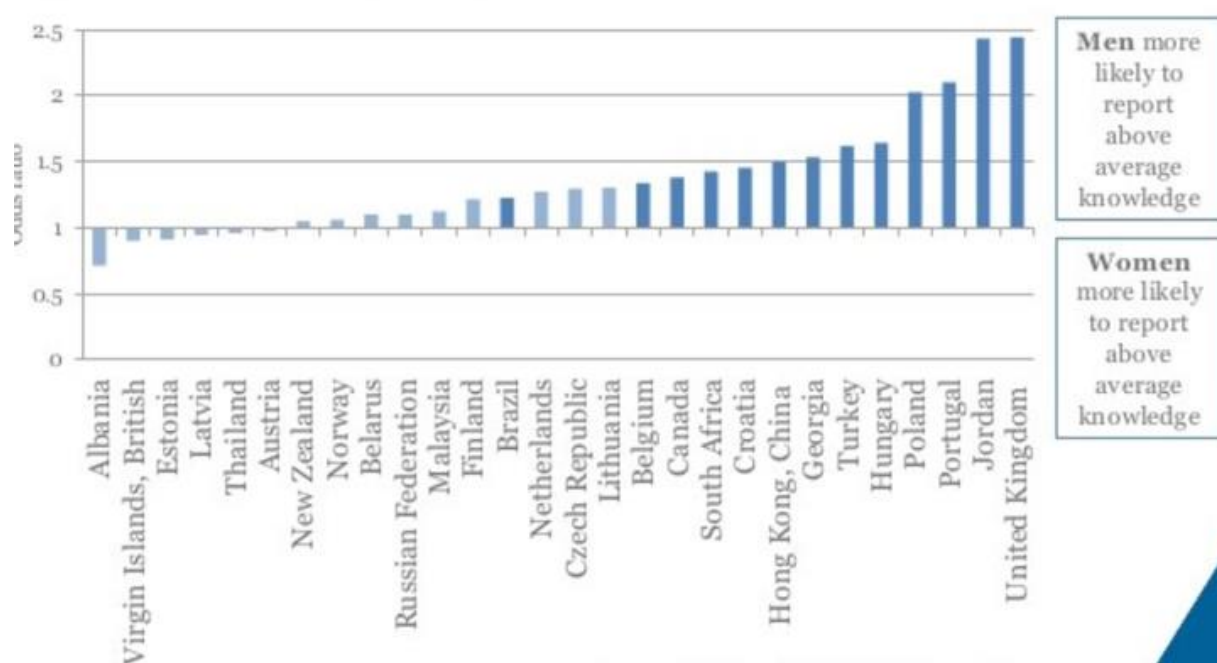
Table 6 - Financial Confidence Related Findings

		2019 CFCS		COVID-19 FWB	
		Men	Women	Men	Women
Confidence Question	How confident are you to come up with 2,000 if an unexpected need arose within the next month ¹	86%	82%***	89%	85%***
	How confident are you that the expected sources of retirement income will give you the standard of living you hope for? ²	62%	56%***		
Household Financial Decision Making	Overall, who is mainly responsible for making financial investment and planning decisions on behalf of the family? ³				
	Mainly you	49%	31%***		
	Mainly your spouse or partner	5%	16%***		
	You share responsibility equally with spouse or partner	46%	54%***		
<p>Notes:</p> <p>Analysis was conducted by the author using the 2019 CFCS Core dataset, the COVID-19 FWB Survey dataset, and are weighted Data</p> <p>Chi-Square tests confirm the anticipated correlation between variables: * significantly different from the reference category (men) (p<0.10) **significantly different from the reference category (men) (p<0.05); ***significantly different from the reference category (men) (p<0.01)</p> <p>1. Results grouped the responses of “Certainly could” and “probably could”, and exclude the responses “don’t know” and “Prefer not to say”</p> <p>2. Results grouped the responses of “Very confident” and “Fairly confident” and exclude the responses “don’t know” and “Prefer not to say.” The results include only those who indicated they are not retired.</p> <p>3. Among “Married” and “Living with partner (Common-law)” only. Sample size $n=1,947$, including “don’t know” and “prefer not to say”</p>					

Analyses using the 2019 CFCS found that women are less confident to come up with \$2,000 if an unexpected need arose within the next month and are less confident on their retirement planning status. BMO also reported women demonstrate a lower level of financial confidence, and found that they are 18% less confident than men in their retirement plans (BMO Financial Group, 2021). A study using the 2014 CFCS found that women are more common to have: 1) low levels of both confidence and knowledge; 2) higher than average levels of knowledge but incidence of low confidence (Palameta et al., 2016, p. 19). Similar findings were uncovered by the OECD in an international level study: women were less confident than men on financial matters but were also less over-confident than men. This result was obtained by first

asking their self-reported financial knowledge level. It then compared this level with their actual financial knowledge score (shown as **Figure 4**) (Monticone, 2021).

Figure 4 – Gender Differences in the Likelihood of Reporting Above Average Financial Knowledge, After Accounting for Actual Financial Knowledge



This graph is retrieved from the presentation of OECD’s Conference on Business, Finance and Gender in 2017: <https://www.slideshare.net/OECD-DAF/chiara-monticone-gender-differences-in-financial-literacy> on slide No.5.

Fewer women said that they are responsible for making household financial decisions or management. In the 2019 CFCS, participants answered the question of who is mainly responsible for making long-term financial investment and planning decisions on behalf of the family¹⁴. This question implies an individual’s self-determination, whether individuals have the intention and willpower to take control of their finances or household financial planning. The result should be representative of the true population at the aggregate level; however, a discrepancy appears between men and women. About 46% of men and 54% of women state that the responsibilities

¹⁴ Among whose marital status is married or common law partners.

are “mainly shared.” The proportion of respondents that reports “mainly me” should match the fraction that reports “mainly my spouse.” But the results indicate men are more likely to report “mainly me” (49%) than women are to report “mainly my partner” (16%). Furthermore, 31% of women reported “mainly me” while only 5% of men reported ‘mainly my partner’.

A similar imbalance between genders was found recently in the U.S., where women are 8% less likely to say that they are the one who primarily takes the responsibility for initiating discussions about household finances (BMO Harris Bank, 2021). Psychological factors associated with confidence are critically important when it comes to financial decision-making (Palameta et al., 2016, p. 2). Other study also suggests that with regard to financial planning practice, married individuals who believe in shared responsibilities of household money tend to have lower levels of overconfidence (Warmath et al., 2019). The imbalance of household financial decision-making could be explained by women’s less overconfidence, but also lower confidence to say that they are playing a vital role in their household financial matters. More research is needed to better understand the typical form of dynamic decision-making in households, especially financial decision-making. Women might play a role in the financial decision-making process without realizing, such as the decision trigger point, building momentum until both partners are engaged, and in the final decision-making process. More research is also needed to better understand women’s attitudes towards household financial decision making. Evidence from the UK shows that life events, such as unemployment, family break-ups, and bereavement, negatively impact financial wellbeing, and affect financial confidence (The Money Advice Service, 2017). Perceived ‘risks’ in the financial system – such as the risk of digital fraud or a lack of transparency can undermine people’s confidence in the system, discouraging them from making financial decisions and choosing financial products. A

person's experiences, circumstances, and personality, as well as other psychological factors such as loss aversion and inertia all influence financial confidence.

Besides financial attitudes and confidence findings, financial stress is more prevalent among women. In the 2019 CFCS (Follow-up) and the COVID-19 FWB Survey, participants responded to a five- question scale about their financial situation. The five-question scale was developed by the Consumer Financial Protection Bureau (CFPB¹⁵), and aims to measure financial well-being from the consumer-driven perspective (Consumer Financial Protection Bureau, 2015). The shorter version of the Financial Well-being Scale includes five questions, which reflect participants' attitudes toward personal financial management and their money worries. Based on the result from the COVID-19 FWB Survey, 24% of women believe that will never have what they want because of their financial situation, versus 22% of men; 34% of women feel they are just getting by, versus 32% of men; 35% of women are worried that their money will not last, versus 30% of men; and 28% of women are concerned about running short of money at the end of the month, versus 23% of men. Comparing to the results from the 2019 CFCS, both men and women are experiencing higher levels of money worries and financial stress during the pandemic period; however, **Table 7** shows women are experiencing more financial stress than men both during the pandemic and prior to the pandemic. In addition to the findings from 2019 CFCS and Covid-19 FWB Survey, another recent survey suggests that women feel more concerned and anxious about money and finances (IG Wealth Management, 2021). In this survey, 20% of women agreed that “when I think about my finances, I feel anxious,” compared to 10% of men (IG Wealth Management, 2021). More studies are needed to

¹⁵ The CFPB is an Agency of the United States government that helps consumer finance markets work by making regulations more effective, consistently, and fairly enforcing rules, and empowering consumers to take more control over their economic lives.

understand the source of financial stress, and how it differs from gender to gender. But there is no escaping the fact that the prevalence of financial stress among the female population in Canada is very likely driven by the disparity in income, wealth, and lower earning powers.

Table 7 - Financial Stress

	2019 CFCS		COVID-19 FWB	
	Men	Women	Men	Women
How well do the following statements describe you or your situation? ¹				
Because of my money situation, I feel like I will never have the things I want in life	18%	22% *	22%	24% ***
I am just getting by financially.	28%	32% *	32%	34% **
I am concerned that the money I have or will save will not last.	31%	31%	30%	35% ***
How often do these statements apply to you?				
I have money left over at the end of the month. ²	17%	21%	23%	28% ***
My finances control my life. ³	25%	23%	31%	31%
Notes: Analysis was conducted by the author using the 2019 CFCS follow-up dataset and the Covid-19 FWB Survey dataset and are weighted Data. 1. Results grouped the responses 'Completely' and 'Very well.' 2. Results grouped the responses 'Rarely' and 'Never.' 3. Results grouped the response 'Always' and 'Often.' Chi-Square test confirms the anticipated correlation between variables: * significantly different from the reference category (men) (p<0.10) **significantly different from the reference category (men) (p<0.05) ***significantly different from the reference category (men) (p<0.01)				

This section paints the picture that women have less financial confidence and are experiencing more financial stress than men. They do not enjoy dealing with financial matters as much as their male counterparts do. They are less likely to actively engage in financial learning activities. The shortfall of confidence accounts for women’s lower levels of financial literacy relative to men. The ramifications for gender equality are profound, lower levels of confidence can be detrimental to women, particularly in long-term financial decisions and behaviors. After discussing gender differences in financial knowledge and attitude, the next section brings focus to financial behaviors and skills.

3.4 Gender Differences in Financial Behaviours and Skills

Gender differences extend to financial behaviours and skills. Knowledge and attitudes both have important implications for financial behaviours. When comparing with men, women

sometimes outperform certain financial behaviours, such as keeping track of money and budgeting; however, as summarized in **the Table 8**, women are more likely than men to be vulnerable than men in other aspects of financial behaviour, including using and choosing financial products. Moreover, **Table 9** findings show that more women are struggling with paying down their bill payments and are spending more than their income. These financial behaviour indicators suggest that the financial literacy gender differences closely related to the inequalities in society, and ultimately have impact on women’s retirement planning and well-being (**Table 10**). This section also refers to international studies to support main argument, where Canada has sparse studies on a few specific financial behaviours.

Table 8 - Summary Findings on Financial Behaviours

		2014 CFCS		2019 CFCS		COVID-19 FWB	
		Men	Women	Men	Women	Men	Women
Keep Tracking money	Self-rated very good & good on keeping track of money			71%	72%**		
	Check account balance either daily or weekly	65%	62% ¹	75%	67%***		
	Has a budget	42%	49% ¹	48%	53%***	53%	57%***
	Always or usually stays within the budget	92%	93% ¹				
Tools of tracking money	Online budgeting tool or app to budget			15%	11%***	19%	17%***
	Using Excel Spreadsheet to budget			37%	25%***		
	Write out the budget by hand			26%	37%***	17%	22%***
	Using internet banking or mobile device to check account balance			84%	79%***		
Shop Around Behavior	Compared alternatives when choosing most recent credit card			45%	34%***		
	Compared alternatives when choosing most recent insurance policy			47%	45%		
	Not very good on shopping around for the best financial products			18%	23%***		
Stay informed	Not very good on staying informed on financial issues			14%	23%***		

Notes:
 Analysis was conducted by the author using the 2019 CFCS core and follow-up dataset and are weighted Data.
 To ensure comparable results, analysis from the 2019 CFCS and the Covid-19 FWB Survey exclude all “Don't know” and “Prefer not to say” responses.
 1. The statistical significance levels are not available.
 The 2014 CFCS findings are retrieved directly from the report: <https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/managing-money-key-findings.pdf>
 Chi-Square tests confirm the anticipated correlation between variables:
 * significantly different from the reference category (men) (p<0.10)
 **significantly different from the reference category (men) (p<0.05)
 ***significantly different from the reference category (men) (p<0.01)

72% of women rated themselves as very good or good at keeping track of money, compared to 71% of men. These are consistent with the OECD international findings that women are significantly more likely than men to report that they keep a close watch on their financial affairs (Messy & Chiara, 2013, p. 61). Keeping track of money is a step to knowing where the money goes and eliminating wasteful spending habits. It includes but is not limited to checking accounts, budgeting, and categorizing expenses. More women than men have a budget (2019 CFCS: 53% vs. 48; COVID-19 FWB Survey: 57% vs. 53%, respectively). Fewer women are checking their account balance daily or weekly (2019 CFCS: 67% vs. 75%, respectively). Fewer women stay informed on financial issues (2019 CFCS: 23% vs. 14%, respectively). There are negligible differences in the self-rating levels and the actual financial behaviours: the proportions of women who have a budget and who check their account balance are lower than the proportion who rated themselves “good” and “very good” at tracking their money. The differences may attribute to a few factors: women feel more confident in their money tracking skills and/or women understand “keeping track of money” differently than men. A more prudent questionnaire design is needed in the future to understand the differences between self-rated levels and actual behaviours ¹⁶.

When it comes to using financial tools, products, and services, women are more likely to be vulnerable than men. The findings indicate that women are less likely to use digital tools for money management and are less likely to shop around for financial products and services. Specifically, fewer women using digital tools, such as Excel or Apps, to budget and check their account compared to men. They are more likely than men to write out the budget by hand. These

¹⁶ For the design of the survey, after the question of ‘How would you rate yourself on keeping track of your money,’ another question should follow to identify the strategy of keeping track of money: “Which of the following ways are you using for keeping track of your money?” Options should include budgeting, checking account balance, keeping all the payment receipts, check bank statements, tracking debt progress, etc.

findings have an implication on women's inadequate digital literacy and/or lower awareness or accessibility to the digital tools. Furthermore, women lag men in comparison shopping behaviors. According to the 2019 CFCS, 23% of women self-rated themselves as "not very good" at shopping around for financial products compared to 18% of men. Indeed, only 34% of women compared alternatives when choosing their credit card. This is less than the 45% of men who engage in this behaviour. These findings are in line with OECD's international result, where women are less likely than men to shop around and compare financial products across providers when choosing financial products. They are also reluctant to use formal sources of advice to make an informed financial decision (Messy & Chiara, 2013, pp. 72, 75). Shopping around or using independent advice can help individuals to choose appropriate products and reduce the chance of buying something that does not meet one's need or is subject to mis-selling or fraud. Whether looking to purchase products for saving and investing or to open a new line of credit, or other debt vehicle, shopping around before making the decision will help consumers to find products that are tailored to their needs. Banking arrangements will likely turn into a long-term relationship; hence comparison-shopping behavior is as salient as others. Women are also less likely to participate in investment activities. Another study in Canada shows that women have lower stock market participation rates than men. 31% of women own shares, less than 47% of men; 26% of women invested in the past year, less than 40% of men who self-reported having invested in the past year (2019) (McKnight & Laycock, 2020).

The above indicators show how women behave in terms of personal financial management and navigating the financial marketplace, which are more closely related to women's financial knowledge and attitudes. The indicators in **Table 9** put more weight on how

women are paying down bills and spending. Despite some correlation with financial knowledge and attitude, these indicators have stronger implications on the constraints women are facing.

Table 9 - Gender Differences in Paying Down Bills and Spending

		2014 CFCS		2019 CFCS		COVID-19 FWB	
		Men	Women	Men	Women	Men	Women
Paying Down Bills	Not keeping up or struggling keeping up with bills and payments	28%	34% ¹	39%	39% ^{***2}	43%	47% ^{***}
Spending	Monthly spending more than (or about equal) to income			48%	52% ³	52%	59% ^{***}
	In the past 12 months, run short of money and had to use a credit card					27%	30% ^{**}

Notes:
 Analysis was conducted by the author using the 2019 CFCS core datasets and the Covid-19 Financial Well-Being Survey, and are weighted Data
 To ensure comparable results, analysis from the 2019 CFCS and the Covid-19 FWB Survey exclude all 'Don't know' and 'Prefer not to say' responses.
 Chi-Square tests confirm the anticipated correlation between variables:
 * significantly different from the reference category (men) (p<0.10)
 **significantly different from the reference category (men) (p<0.05)
 ***significantly different from the reference category (men) (p<0.01)

1. The statistical significance levels are not available in the report from:
<https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/managing-money-key-findings.pdf>

2. After rounding, the proportions for men and women are both 39%. Before rounding, 38.7% of men and 39.2% of women are not keeping up or struggling keeping up with their bills and payments. The analysis excludes “Don’t know,” “Prefer not to say,” and exclude those who indicated do not have debt.

3. P=0.115, the result is not significant

Women are more likely to use a credit card in the past 12 months because they ran short of money (30% vs. 27%, respectively, from the COVID-19 FWB Survey). Women are more likely to report that their monthly spending exceeds or is equal to their income, suggested by both the 2019 CFCS and the COVID-19 FWB Survey. A modest difference between women and men are found in their behaviour of borrowing to buy food or pay for daily expenses because they ran short of money (29% vs. 26%) (McKnight & Laycock, 2020). More women are struggling with their bill payments. The results from the 2014 CFCS show that more women than men (34% vs. 28%, respectively) are not keeping up or struggling to keep up with their bills and payments, yet in the 2019 CFCS, the same proportion (39%) of women and men are having some

issues with their bill payments. This gap appears again in the COVID-19 FWB Survey, where 47% of women are not keeping up or struggling to keep up with bills and payments, compared to 43% of men. Budgeting and money tracking behaviours may help women achieve positive outcomes related to their day-to-day financial management and can aid people in designing a befitting strategy to keep up with their bill payments and reduce or eliminate their debt.

However, the evidence points to the contrary. The COVID-19 pandemic might be able to provide a partial explanation. Another explanation is that people are more likely to budgeting when they are under financial stress (Fernbach et al., 2015), implicating that these differences are chained with societal inequalities, such as employment, income, and others. Furthermore, the findings on spending habit implicitly link to the saving behaviors, as spending more or equal to one's income means that there is no money left for saving, which could ultimately affect women's financial well-being if they don't have enough saving to cope with unexpected emergencies, and/or have inadequate retirement savings.

Indeed, OECD found that women participate less in retirement savings planning and build up lower pension assets and entitlements, in particular from the ages of 26 to 44 (OECD, 2021, p. 9). In the earlier section, evidence shows that 32% of women are not financially preparing for retirement, and over half (51%) of them do not know how much to save for retirement. **Table 9** shows among those women who are already retired, only 51% of them said occupational or workplace pensions plans are one of their actual retirement income sources, and 29% of them said occupational or a workplace pension is their primary source of retirement income. Almost half (47%) of women rely primarily on government pension benefits as their retirement income source, and more women are using an inheritance as their retirement income source. Inadequate savings in early stages of life may affect retirement income source; however,

it is noteworthy that among already retired women, their average years of contributing to a workplace pension plan is 26 years, whereas men have an average of 30 years contribution to a workplace pension plan. This finding is further evidence that the gender differences in retirement planning are inextricably linked to the societal inequality of the larger picture.

Table 10 - Gender Differences in Retirement and Retirement Income Sources

	CFCS 2014		CFCS 2019	
	Men	Women	Men	Women
Are not financially preparing for their retirement (among those who are not yet retired)	32%	36% ¹	28%	32% ^{**}
Know how much they need to save for retirement (among those who are not yet retired)	47%	34% ¹	60%	49% ^{***}
Describe their standard of living in retirement not as good as expected or much worse than expected (among those who are already retired)			19%	25% ^{**}
Say an occupational or workplace pension plan is (one of) their retirement income sources (among those who are already retired)			61%	51% ^{***}
Say an occupational or workplace pension is the primary source of income in retirement (among those who are already retired)			44%	29% ^{***}
Say government pension benefits are the primary source of income in retirement (among those who are already retired)			34%	47% ^{***}
Say using an inheritance is their actual retirement income source (among those who are already retired)			9%	13% ^{***}
Among those who already retired, their average years of contributing to a workplace pension plan ²			30 years	26 years ^{***}
Notes: 1. The statistical significance levels are not available. The 2014 CFCS findings were retrieved directly from: https://www.canada.ca/content/dam/canada/financial-consumer-agency/migration/eng/resources/researchsurveys/documents/managing-money-key-findings.pdf Analysis was conducted by the author using the 2019 CFCS Core dataset and are weighted Data. Chi-Square tests confirm the anticipated correlation between variables: * significantly different from the reference category (men) (p<0.10); **significantly different from the reference category (men) (p<0.05); ***significantly different from the reference category (men) (p<0.01). 2. The author used the lincom ¹⁷ command to confirm the result of the average year of contributing to a workplace pension plan is significant at P> t =0.000 level and used weighted Data.				

This chapter summarized findings on gender differences in financial literacy, following the three related factors: financial knowledge, financial attitude, and financial behaviours.

Women’s low level of financial knowledge and financial confidence contributes to their lower

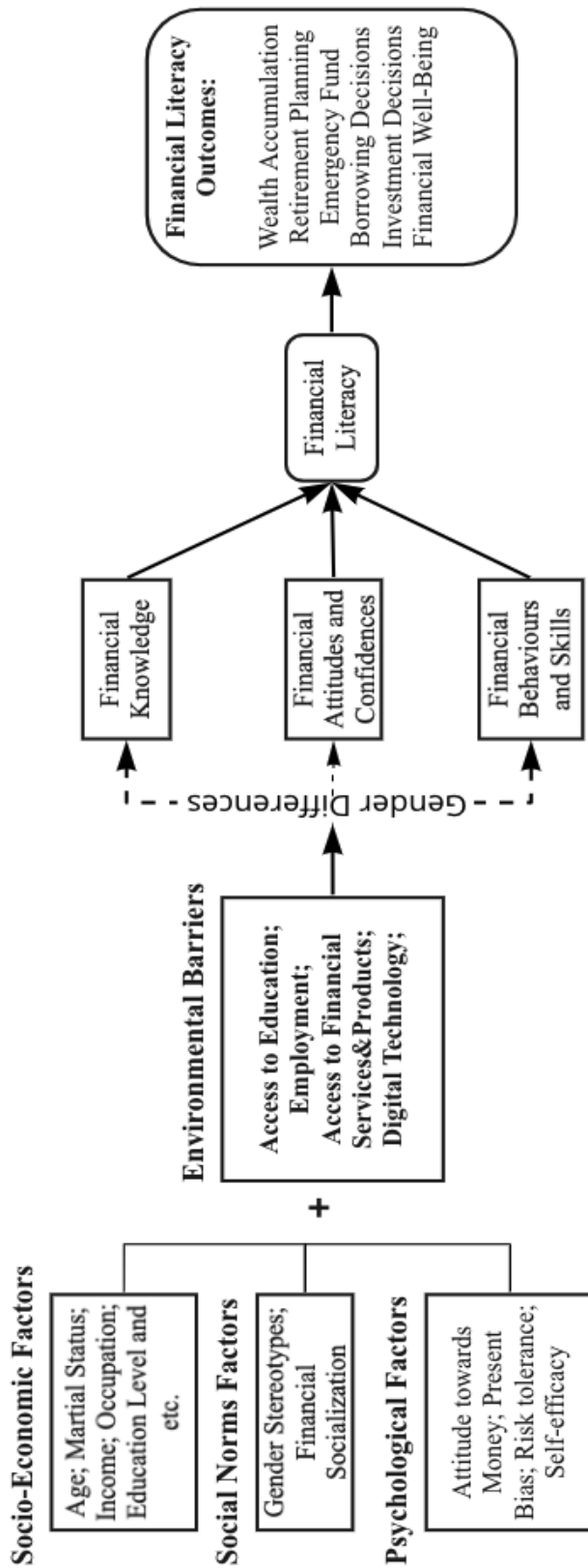
¹⁷ Lincom computes point estimates, standard errors, t or z statistics, p-values, and confidence intervals for linear combinations of coefficients after estimation command, including survey estimation.

level in financial literacy levels. Women are experiencing some vulnerabilities in financial behaviours, and previous subpar experiences may trigger negative financial attitudes or low financial confidence. These women become stuck in a ‘vicious cycle’ of financial literacy. The differences discussed in this chapter in knowledge of financial concepts, confidence in financial skills, willingness to take risks, ability to deal with emergency shocks, and long-term orientation, discussed in this chapter, contribute to differences in outcomes along the life cycle, such as empowerment, well-being, retirement, and others. The next chapter investigates what barriers make women vulnerable.

4. Behind the gender differences

The above chapter collected a substantial amount of evidence on the gender difference in financial knowledge, attitudes, and behaviors in Canada. Women display on average lower financial knowledge and confidence levels, and higher vulnerability in some financial behaviors than men. The existing evidence urges a better understanding of what is behind the gender differences in financial literacy. **Figure 5** illustrates the structure of this chapter. This chapter first exploits existing works of literature that explain the gender differences from socio-economic factors, social norm factors, and psychological factors, and then identifies the environmental barriers that are affecting not only women’s financial literacy but also limit the extent to which women can improve their knowledge, confidence, and skills.

Figure 5 - Factors Attributable to Gender Differences in Financial Literacy



Source: By Author

Many studies focus on socio-demographic and country-specific characteristics factors, and how they contribute to the financial knowledge levels of individual persons. It is found that individual characteristics considerably matter. Higher levels of education and income, as well as self-employment, are associated with higher levels of financial knowledge (Lusardi & Mitchell, 2011a)(Lusardi, 2008)(Lusardi & Mitchell, 2014)(Cupak, Fessler, Silgoner, et al., 2018). The study from Statistics Canada shows that in both gender groups, as the incomes increase, so too does the financial knowledge levels (Drolet, 2016). However, at each income quartile level, men display higher financial knowledge levels than do women in the same income quartile level. Income alone obviously cannot close the financial knowledge gap. Multivariate analyses confirm that the gender gap in financial knowledge among Canadians remains after taking into account of age, education, immigration status, employment status and income. For example, all else equal, Canadian women are still about seven percentage points less likely to give five correct answers than men (Drolet, 2016). At the international level, applying Blinder-Oaxaca counterfactual decomposition method¹⁸ found that after controlling the number of household members, education, age, employment, household financial decision-making status, in 10 of the 12 countries, including Canada, at least three-quarters of the overall financial literacy gap remains unexplained (Cupak, Fessler, Schneebaum, et al., 2018). The author further investigated on the unexplained portion of the gender gap, found a positive correlation between the unexplained portion of the gap and GDP per capita, as well as the female-to-male labor force participation ratio (Cupak, Fessler, Schneebaum, et al., 2018). While, some of the western countries in the study sample have very large gender gaps in financial literacy, including Canada, which leads to

¹⁸ Oaxaca-Blinder decomposition model is a statistical method that explains the difference in the means of a dependent variable between two groups by decomposing the gap into that part that is due to differences in the mean values of the independent variable within the groups, on the one hand, and group differences in the effects of the independent variable, on the other hand.

the author's conclusion that higher GDP does not necessarily come with more gender equality in financial literacy, and social norms about women's participation in economic life are a closer predictor of gender differences in financial literacy (Cupak, Fessler, Schneebaum, et al., 2018, p. 105).

Earlier studies suggest that social norms and gender stereotypes should be considered when explaining the financial literacy gap. Gender stereotypes can explain gender gaps in various domains (Bordalo et al., 2016)(Lavy & Sand, 2015). Stereotypes represent beliefs about the levels of, and the future returns to, the financial knowledge between men and women (Driva et al., 2016). Studies have found that the financial literacy gender gap exists at younger ages (13-15 ages) (Lührmann et al., 2015)(Driva et al., 2016). After controlling numeracy, risk preferences, and self-confidence, it is found that in both genders teenagers believe that boys have higher interest and ability regarding financial matters, and that the returns to financial knowledge are higher for males (Driva et al., 2016). Agnew et al applied the social cognitive theory of gender development to the financial literacy differences between men and women and found that financial socialization of children in the home by gender is a cause of gender differences later in life (Agnew et al., 2018). This is supported by McHale, Crouter, and Whiteman who stated that "the extent to which opportunities are personal choices are relatively constrained during childhood and adolescence, the implications of family gender socialization may be most apparent later, for an instant, in the kinds of education and career decision individuals make and in the family roles they assume in their adult lives" (McHale et al., 2003). Further, an international study on multiple countries suggested that gender norms are crucial in reaching financial gender equality in adults (Cupák et al., 2021).

Psychological factors, such as differences in risk tolerance and self-efficacy have been broadly discussed in the past. In Canada, the correlation between self-confidence and financial literacy is relatively higher than in other countries (with a correlation coefficient above 0.3) (Cupák et al., 2021). In Canada, some scholars combined the 2009 CFCS and the 2014 CFCS surveys, and found that confidence explained 14% of the gender gap in financial literacy by applying the Oaxaca-Blinder decomposition model when controlling for sex, age, personal finance training, role in financial planning, role in family responsibility for bills payments, labour force status, education, respondent's work type relative to spouse's, province, and year (Fonseca & Lord, 2019). This approach is useful to understand the difference in financial literacy between men and women, looking particularly at the role of confidence. It also determines what proportion of the gender gap is explained by differences in covariates (characteristics of the compared groups, e.g., confidence, labor force status, etc.), or by differences in coefficients - how literacy is produced (Fonseca & Lord, 2019). Another study combining the two CFCS surveys (2009 & 2014) studying gender differences found that stronger beliefs in internal locus of control, conscientiousness, openness are personality traits that can explain the gender differences in financial literacy (Robson & Peetz, 2020). Higher risk tolerance relates positively to both standard and sophisticated investments for men, but only to standard investments for women (Banner & Neubert, 2016). There is a negligible difference in personality traits and how it affects financial behaviours in Canada. Women are more self-disciplined and longer-term in their thinking (TD Wealth, 2017), which are the traits that can be commonly associated with goal-related planning (Sutin et al., 2009)(Tough, 2013). Women are more likely to express nervousness at the first sign of an investment loss and therefore more likely to react hastily to market events (TD Wealth, 2017).

The above discussion utilizes literatures to explain the gender differences in financial literacy. Socio-economic factors can explain the gender differences to a limited extent, as well as social norms factors, psychological factors. The psychological factors found that women are more longer-term oriented, and this forward-looking focus should suggest that women are more dedicated to a vision for retirement, yet this is contradictory with the finding in Section 3.3 where fewer women are financially preparing for their retirement. Moreover, more self-discipline should suggest that women are better at saving and other activities which require a steady commitment, such as paying down debts, reviewing financial plans, etc.; however, women are more often spending more than their income (Section 3.3), and have little left for saving. In a range of countries, women are more likely than men to have experienced problems in covering living costs, and have a lower ability to save for unexpected expenses (Messy & Chiara, 2013, p. 62). These all suggest that the financial literacy gender differences are closely related to the bigger picture of social inequality. The financial rules and norms in a variety of countries often favour men. The pivotal point is that inequality begins from the availability and accessibility of resources for financial literacy. For this purpose, the author identifies four environmental barriers to women's financial empowerment. Addressing these environmental barriers to women's financial empowerment will help to close the financial literacy gender gap in Canada, and ultimately turn them into positive financial outcomes, such as wealth accumulation, retirement planning, better financial decisions (borrowing and investments) and financial well-being.

4.1 Barriers to Women's Financial Empowerment

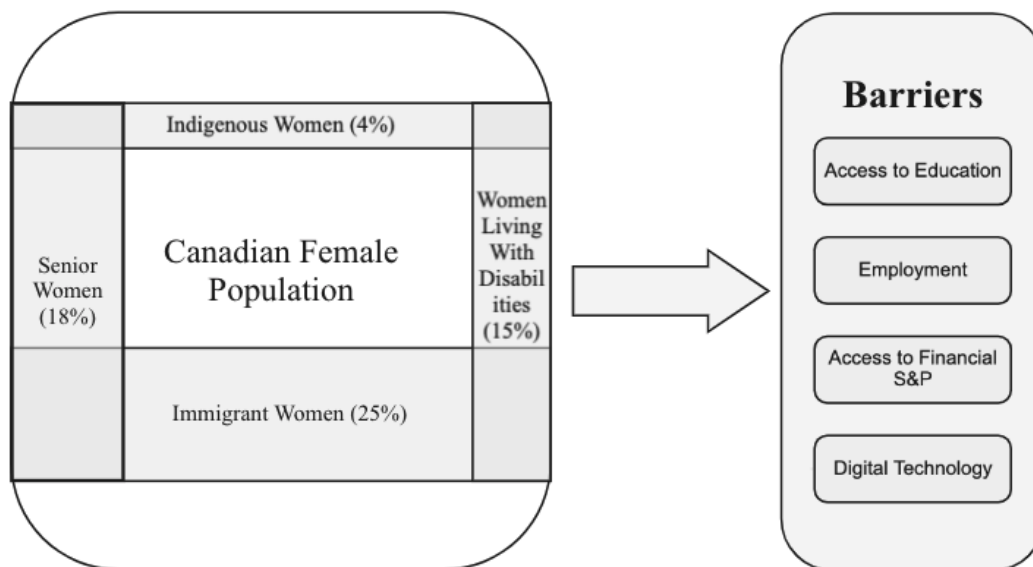
Gender differences in financial literacy are inextricably linked with systemic inequalities that have long existed in society. The author identifies four general barriers that are affecting women's financial literacy: Education, Employment, Accessibility and Digital Technology. In the discussion of each barrier, the author starts with the bigger picture of how this barrier affects women's financial literacy level in Canada. Then, the author identifies one or more sub-groups that are particularly restrained by this barrier, because of the reality that not all women are equally vulnerable. Belonging to one or more sub-groups can leave women in a worse position in the financial marketplace. These sub-groups are: indigenous peoples, accounting for the 4% of Canadian female population¹⁹ (Arriagada, 2016); immigrants, accounting for the 25% of Canadian female population²⁰ (Hudon, 2016); seniors, accounting for 18% of the Canadian female population²¹ (Hudon & Milan, 2016); and those living with disabilities, accounting for 15% of the Canadian female population (Burlock, 2017). To facilitate the discussion, **Figure 6** illustrates the relationship between vulnerable sub-groups and the barriers to financial literacy for women identified in this section.

¹⁹ There were 718,500 indigenous women and girls in Canada who made up 4% of the total female population in Canada. The data was collected in 2011 through National Household Survey.

²⁰ There were 3,544,400 immigrant women and girls in Canada, representing 21.2% of the country's total female population. The data was collected in 2011 through National Household Survey, and the estimated level for 2021 is 25%.

²¹ On July 1, 2015, 3.2 million of Canada's 5.8 million seniors aged 65 and over were women, accounting for 17.5% of the female populations.

Figure 6 - Environmental Barriers for Women's Financial Literacy



Source: By Author

Access to Education

Limited access to education is a critical factor which not only reduces the extent to which women can improve their financial knowledge, confidence and skills but also reduces women's financial well-being (OECD, 2013a, p. 47) (Hung et al., 2012). The research in Canada proved that higher education is associated with higher levels of financial knowledge. Women who received university degrees tend to have higher financial knowledge compared with those highest completed education level is a high school diploma (Drolet, 2016). Thus, having adequate education resources is essential for women to gain more financial knowledge, and to be more financially literate.

In Canada, the right to education is contained in provincial/territorial education acts. These Acts typically provide access to public education for children from aged 5/6 years to aged 18/21 years. In addition, human rights acts ensure both access as well as protection from discrimination. Women in Canada have progressed considerably in terms of education and

schooling over the past few decades and have become increasingly well-educated. The proportion of women aged 25 to 64 with a university certificate or degree grew at a faster pace than that of men, more than doubling between 1991 and 2015 from 15% to 35%.

However, indigenous women and women living in the rural areas are still experiences limited access to educational resources. For many indigenous people²², experience with Canada's formal education systems has been a traumatic one and indigenous people, so as indigenous women, continue to have significantly lower levels of education (National Collaborating Centre for Aboriginal Health, 2017). In 2013, half (51%) of indigenous women aged 25 to 64 had a postsecondary qualification, compared with 65% of their non-indigenous (Statistics Canada, 2016). Education accessibility issue exists among rural areas in Canada, although the indigenous population is predominantly rural and remote (OECD, 2020b), thus an overlapping exists. The rural education dropout rate is nearly twice as high as the urban dropout rate in the 2004/2005 school year. The biggest challenge that rural areas are facing is to attract and retain qualified teaching staff, and as well as their access to and use of information and communication technology (Canadian Council on Learning, 2006). The Covid-19 pandemic forces students and teachers to adopt technology faster than ever before, which could be a risk to the rural population. To date, there has not been a study to show how rural area students' accessibility to education resources has been disproportionately impacted by the pandemic.

Employment

Reducing barriers that limit girls' and women's access to employment opportunities would have positive effects, among the others, also on reducing the gender gap in financial literacy, thus improving women's financial empowerment and well-being (OECD, 2013a, p. 51).

²² 'Indigenous peoples' are used here to refer to the First Nations, Inuit and Metis peoples of Canada, as defined in Section 35 of the Canadian Constitution of 1982.

Albeit of the progress in terms of school participation and greater gender equality in education in Canada, the transition from education to employment continues to pose challenges, and greater educational equality does not always translate into greater equality in labour market outcomes. The discrimination in employment opportunities, the wage gap and others have a direct impact on financial women's financial literacy. Working women among others have the highest objective financial knowledge score, and as their income increases, their financial knowledge score increases (Drolet, 2016). Although, being employed and earning a competitive income does not close the gender gap in financial knowledge (Drolet, 2016). The gender wage gap also affects women's retirement planning. A lower salary equals lower pension contributions and therefore less to live on in retirement.

In Canada, more women have entered the workforce in recent years. Canadian workplaces have become more diverse, but there is still a long way to go. Although 84% of women in the core working ages of 25 to 54 years participated in the labor market in August 2021, compared to 22% in 1950, women continue to be somewhat less likely than their male counterparts (91%) to participate in the labor market (Statistics Canada, 2021c). The study from Statistics Canada shows that the gender employment gap decreases as educational attainment increases, but it does not disappear (Moyser, 2017). The extent to which marriage (including common-law) is associated with reduced employment among women has steadily declined over the years (Moyser, 2017). However, the gender wage gap remains considering that the median hourly wage for women (15 years and over) in all industries is 13% less than men²³ (Statistics Canada, 2021a). Some research demonstrate that the discriminatory recruitment and promotion practices of some employers reinforce the gender division of labour, which blocks women's

²³ Calculated based on the open data from Statistic Canada:
<https://www150.statcan.gc.ca/t1/tbl1/en/cv.action?pid=1410006401>

entrance into the stereotypically ‘male’ positions and limits their career advancement. The pay inequality based on gender makes it economically disadvantageous for couples to divide domestic labour and paid work more equitably. Further, work organizations may have preferences for employees who can prioritize paid work due to their limited family responsibilities (usually men) (Grinza et al., 2017) (Acker, 1990).

Covid-19 rolled back the clock on three decades of advances in women’s labor-force participation. Indeed, the Covid-19 pandemic has worsened inequalities in society and women and other vulnerable groups have borne the brunt of job losses (Macklem, 2021). Women are exposed more in the hardest-hit industries and overrepresented in industries less conducive to working remotely. What’s more, the pandemic has made the family responsibilities that women typically shoulder heavier due to the closing of schools and daycares. 20,600 Canadian women fell out of the labor force while nearly 68,000 men joined between February and October in 2020, 55% of jobs lost were made up by women (Desjardins & Freestone, 2020). Women aged 20 to 24 and 35 to 39 are exiting the labor force faster. Over three-quarters of women aged 20 to 24 were out of the labor force and enrolled in post-secondary education, chose to return to school in the face of a recession, which is less concerning to the economy. However, roughly half of the women aged 35 to 39 lost their jobs between February and April 2020, during the hardest hit period of the pandemic. Motherhood appears to be the explanation for not seeking for work. This trend does not differ based on educational attainment. Those women who left the labor force not for the reason of pursuing education are facing the risk of an erosion of skills, which could exacerbate the already existing gender wage gap further (Desjardins & Freestone, 2020).

Among the female population in Canada, immigrant women, indigenous women and women with disabilities are facing a double bottleneck in the labor market. The labor force

participation rate of immigrant women (57%) was somewhat lower compared to women born in Canada (63.3%) (Hudon, 2016). Employment rates for these immigrant women dropped by 12.2 percentage points between May 2019 and May 2020 owing to the COVID-19 pandemic ²⁴ (Statistics Canada, 2021d). Even before the pandemic, it took immigrants longer to achieve employment and income levels comparable to those of Canadian-born individuals with the same education and skills (Prosper Canada, 2015b). The unemployment rate among Indigenous people was 1.8 times the rate among non-Indigenous people prior to the pandemic, reflecting long-lasting disparities in labor market conditions. The indigenous women's unemployment rate is higher than non-indigenous women before and during the COVID-19 pandemic. Indeed, indigenous men and women were similarly impacted in the early months of the pandemic, but labor market conditions have since been more challenging for Indigenous women, partially because they are more likely to engage in unpaid work such as caring for children of family members (Bleakney et al., 2020). Women with disabilities aged 25 to 54 have a lower labor market participation rate (66%) than people without disabilities in the same age group. Women with disabilities are more likely to not be in the workforce, face unemployment, suffer chronic unemployment, want to work full-time, and have lower incomes than men with disabilities and men and women without disabilities (Canadian Feminist Alliance for International Action, 2017).

Access to Financial Services and Products

Not only do women have more difficulties accessing salaried employment on an equal basis with men, but they also lag when they access financial services and products (OECD, 2013a). Having equal access to financial products is an essential step for women to 1) save

²⁴The author calculated this number based on the Labor Force Survey conducted by Statistic Canada.

money and build wealth in a safe place, and potentially help more women out of poverty in longer-term; and 2) access loans and credit products and to make transactions and other advances financial activities. Accessibility ensures women choose from a variety of institutions that are located conveniently for them, and can help them build financial stability, save for retirement as well as capitalize on economic opportunities.

Appropriate financial services are readily available and accessible for the majority of Canadians. 99% of Canadians have an account at a formal financial institution, higher than the average of high-income OECD countries. Canada is more favorable of reaching out to the vulnerable, there is no gap between men and women, richer and poorer in account ownership (Demirguc-Kunt et al., 2018, p. 134). However, an increasing number of Canadians face seemingly insurmountable obstacles to gain access to formal financial systems, underserved by the financial mainstream. For example, just about 24% of Canadians that are eligible to receive free government education savings contributions through the Canada Learning Bond have taken advantage of this education savings incentive. In this case, those who are underserved by the mainstream financial system are more likely to turn to alternative financial service providers that cannot meet or can only partially meet their needs, while paying very high fees to the providers. These providers include but are not limited to cheque cashers, payday loan providers, title loan stores and rent-to-own shops.

Indigenous women experience greater difficulty accessing the mainstream financial system. Depending on their geographic location, some indigenous communities may have very limited or no local access to safe and affordable financial services. 15% of the country's indigenous population is not served by a bank, and as many as 44% live on reserves in isolated and remote areas that make it hard to access a bank (Shah, 2021). The absence of mainstream

financial institutions in many rural and remote communities and the shift to electronic banking is a significant barrier for some indigenous peoples, which will be elaborated in next sub-section. Fringe financial services such as cheque chasers and payday lenders can seem more welcoming and more easily accessible in some indigenous communities (Prosper Canada, 2015a), which could turn into negative financial outcomes.

Immigrant women have more difficulties accessing financial services and products particularly in the first few years upon arrival in Canada. When accessing financial information and services, language could be a barrier for the ones who come from a non-English speaking country and need to translate Canadian financial terms and concepts in their mother tongue. Even Canadian-born individuals sometimes may find it difficult to understand the technical language in financial institutions. In the first few years of their arrival, immigrants are likely to have no or low credit history, or credit history not recognized by Canada's credit report system. Therefore, they may be more likely to explore fringe financial services to borrow money. Some newcomer women may also be excluded from household money management and financial decision-making, which can leave them particularly vulnerable if they become widowed or separated (Prosper Canada, 2015b).

Women with disabilities are severely circumscribed when accessing financial services and products. Nearly 2.1 million women (14.9%) aged 15 or older reported having one or more disabilities that limited them in their daily activities in 2012 (Burlock, 2017). The impact of living with a disability on their personal finances can be significant and cause hardship for them and their families. Although some progress with respect to the accessibility of financial products and services has been made after decades of effort, there is still more work to be done to reduce barriers that make it difficult for people with disabilities to access financial products and

services. Some financial institutions have not yet systematically provided accessible hardware and software features, and some accessibility standards remain voluntary. Even legally required inclusion standards often lack enforcement (Prosper Canada, 2015c).

Digital Technology

Women may experience some drawbacks from the fast-paced growth of digital financial services and technologies, for example in Section 3.3, findings from the 2019 CFCS show that fewer women use digital tools to budget or to check account balances than men. The emerging of financial technologies (FinTech²⁵), coupled with the recent COVID-19 pandemic, has resulted in the rapid expansion of ‘digital’ financial services and products that are accessed and delivered through digital channels such as mobile phones (Lyons & Kass-Hanna, 2021). The new term - Digital financial literacy (DFL) – emerged and is defined as a combination of various elements of financial literacy and digital literacy²⁶. DFL serves as a catalyst to fostering positive financial outcomes within the digital context (Lyons & Kass-Hanna, 2021).

Digital finance has been expected to help reducing the gaps between men and women in financial inclusion and financial literacy. However, the G20 recognizes that gaps exist as well between men and women in digital financial literacy. Digital finance early adopters tend to be those with higher education and higher incomes (Morgan et al., 2020). An international survey found that 29% of men use FinTech products and services while only 21% of women do. This gap is present in almost all 28 countries including Canada, and about a third of the gap was explained by country characteristics (S. Chen et al., 2021). Women face barriers in their access

²⁵ “FinTech” is defined as ‘technology-enabled innovation in financial services that could result in new business models, applications, processes, or products with an associated material effect on the provision of financial services’ by the Financial Stability Board.

²⁶ Digital literacy is the abilities a person or social group draws upon when interacting with digital technologies to derive or produce meaning, and the social, learning and work-related practices that these abilities are applied to (Stordy, 2015, p. 469).

to the technology used in digital financial services. In many countries, they have lower ownership rates of cell phones than men, including smartphones, and less access to the internet in many countries (Barboni et al., 2018). Even when they do have access to digital financial services, women lack the combined digital skills and financial capability to use them fully and lag men in the use of mobile (Women's World Banking, 2019).

Among women who have low digital literacy levels, senior women face more hurdles in the emerging digital financial world. Nearly 7 million Canadians are aged 65 years and above, accounting for 19% of Canada's population as of July 1, 2021 (Statistics Canada, 2021b). While internet access has reached near-saturation levels among Canadians aged 15 to 64, its diffusion into the senior population is far less extensive, as roughly 30% of seniors do not use the internet, with a significant gender difference in internet use among seniors. 42% of seniors said that information and communications technology (ICT) never or rarely helped them make informed decisions (Statistics Canada, 2019). The reality is that many seniors still find it easier and safer to speak with a representative the old-fashioned way: face to face at a branch. During the Covid-19 pandemic, hundreds of branches were closed, many seniors found themselves unable to pay bills, withdraw cash for groceries and manage their account balances (Marotta, 2020). RBC reported receiving more than 40,000 calls a week from seniors asking for assistance with enrolling in online banking, transferring funds and paying bills (Marotta, 2020). This 'digital ageism' could lead to informational disadvantages and negative financial outcomes for Canada's seniors, particularly for immigrant seniors with language barriers.

Women living in rural areas and indigenous women lack access to reliable internet sources, which can cause them to have low digital literacy and blocks them out from digital financial services. For example, some small businesses in rural areas are unable to use Interac

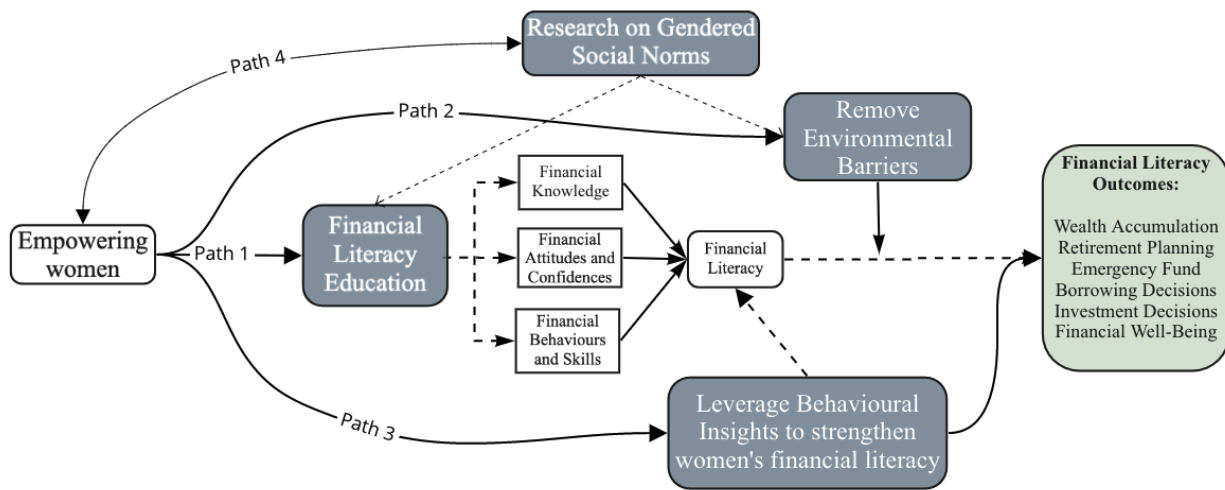
debit payment, and therefore are forced to operate on a ‘cash only’ basis (Innovation, Science and Economic Development Canada, 2019), this poses high risks to people’s health during the pandemic. There is a connectivity gap between rural and urban populations. One key gap that exists is connectivity speed. In 2017, only 37% of rural households had access to 50/10 Mbps, compared with 97% of urban homes. Only about 24% of households in Indigenous communities have access to 50/10 Mbps. Although the Government of Canada has committed to bringing the speed to 90% of Canadians in 2021, the latest report from the Communications Monitoring Report shows that only 87% of households have access to 50/10 Mbps (Canadian Radio-television and Telecommunications Commission (CRTC), 2020). The first step to ensure the rural population’s accessibility to digital financial services is to build the necessary infrastructure for accessibility. Pressure to use online and telephone financial services have also distanced some indigenous community members from mainstream banks. Some customers prefer face-to-face interaction that is more consistent with local understandings of trust. Others are unable to access secure technology or may lack computer literacy skills.

This chapter sketch out the picture of why women are less financially literate than men, and how different factors play a role in the gender differences. Women’s financial literacy hinges on what we do next in the future. Based on the discussion of this chapter, the next chapter will focus on the insights and recommend policy directions for narrowing the gender differences in financial literacy.

5. Recommendations to Bridge the Gap

Financial literacy is not an end goal but is rather a means to improve one’s financial well-being in a personally meaningful way (Financial Consumer Agency of Canada, 2020b). Based on the findings in Chapter 3 and the discussion in Chapter 4, this Chapter proposes a few recommendations to empower women and achieve better financial literacy outcomes. In the literature review of financial literacy chapter (Chapter 2), the positive outcomes of being financially literate are wealth accumulation, retirement planning, having an emergency fund, better financial decision-making, and financial well-being. Thus, **figure 7** demonstrates four pathways to help women achieve positive financial literacy outcomes.

Figure 7 - Pathways to Help Women Achieve Positive Financial Literacy Outcomes



Source: By Author

To provide reliable recommendations, the author reviewed a wide range of documents, papers, and journals. The selection includes academic journals with experimentation components, documents from international organizations (such as G-20, OECD), working papers

from feminist organizations located in the US and Canada, and government documents from Canada and UK.

The first pathway is to use financial literacy education program to strengthen women's financial knowledge, increase women's financial confidence, and promote financial behaviours. Financial education includes program that aims to change knowledge, attitudes, and behaviors of individuals in relation to their finances (Fox et al., 2005). Financial literacy education also provides skill-based knowledge and behaviours that are necessary for women to become informed consumers of financial products and services, and to effectively manage their personal finances. Study using the US National Financial Capability study show that having ever received financial education was associated higher levels of a financial capability index comprised of financial knowledge, subjective financial literacy, desired financial behaviors, and perceived capability (Xiao & O'Neill, 2016). The most recent meta-analysis study using 76 randomized experiments around the world with a total sample size of over 160,000 individuals found robust evidence on financial education positive effects on financial knowledge and behaviours (Kaiser et al., 2020, p. 28). Many of the interventions studies in randomized experiments are cost-effective (Kaiser et al., 2020, p. 29). Although the above studies did not consider the binary indicators, such as gender, but financial education are found to be effective for both genders in Canada in improving subjective financial knowledge and financial self-efficacy (Rothwell & Wu, 2019); however, the higher objective financial knowledge score post financial education were at least partially driven by higher scores of men (Rothwell & Wu, 2019), implying that men are gaining more knowledge from the general financial education. Hence, the financial literacy education program should be tailored to address women's needs. The financial literacy gender differences are driven by not only lower knowledge level but also lower confidence level. The

financial education programs should convey information as well as instill confidence in women of their knowledge and decision-making abilities (Bucher-Koenen et al., 2016). Based on the findings in the section 3.4, women are significantly less likely to engage in financial learning.

Thus, the government should promote financial education and awareness in the following ways:

- Recognize the varied backgrounds of the female population in Canada is the first step. Collaborate with non-profits organizations to reach out to women from diverse backgrounds, as Weisbrod argued that “when populations are diverse, services that satisfy the majority may leave many people under-satisfied, thus non-profits organizations are understandable as an alternative mechanism for providing collective services” (Weisbrod, 1997, p. 542). This approach helps the government get in touch with diverse communities, such as new immigrants, indigenous communities, and those living with disabilities. Financial training program targeted to women will be more efficient if using the effect of community and female trainers as role models. The learning environment is an important part. Providing opportunities for sharing, encouraging a gender-exclusive classroom, and valuing relationship can establish an environment conducive to women’s learning needs.
- Promote adequate learning contexts. For example, the government should provide incentives for employers who provide complimentary financial literacy training sessions to their employees. Subjects should not only cover the pension plans and insurance products but also financial fraud, and risks, as well as personal financial management, savings, budgeting etc. The training is beneficial for all employees, but more specifically such training can raise women’s awareness and increase their knowledge, especially

when they start to receive paychecks, and become more involved in the financial decision-making process.

- Provide financial literacy education in early ages, and address gender differences at these early age training. In Canada, provincial and territorial governments take the responsibility of formal education, given by the Canadian Constitution, and the federal government helps to coordinate provincial and territorial financial literacy education efforts. The report of the federal Task Force on Financial Literacy addresses roughly one-third of recommendations that were addressed to provincial and territorial governments (Task Force on Financial Literacy, 2010). Currently, all provinces now mandate, or have a plan to mandate, financial literacy education, but the implementation plans vary across the country. Education in school can give both girls and boys equal opportunities to become aware of financial issues and to acquire basic financial skills but social and cultural factors may limit their opportunities to do so. Some gender differences in specific competencies that emerge from a very young age, such as mathematic skills, and the financial literacy education program should be considered. In Ontario, teachers in elementary schools expressed that they lack an appropriate curriculum and lack support from schools. Local governments need to provide enough support and even specified training for financial literacy education teachers to make sure that the teachers deliver knowledge while avoiding passing gender stereotypes. Moreover, financial literacy education should engage parents. Research shows that financially confident parents are more likely to set a good example for their daughters for managing money responsibly (Girl Scouts Research Institute, 2013). Theory suggests that children and adolescents develop skills, knowledge and attitudes in their early years from the example set by their

parents and peers (Shim et al., 2009). Family influences significantly affect financial management practices that are associated with the financial management practices of students. Financial problems such as credit card debt can significantly be influenced by parents, as attitudes and behaviors are formed during childhood (Sam et al., 2012).

- Evaluate and monitor financial education programmes. There have been relatively few evaluations of financial education programmes to determine what has worked well and what has not worked on women's financial literacy education. After the evaluation, the government should broadly deliver the strategies that are proved effective for women and girls.

Being financially literate is not enough for women to achieve the positive financial literacy outcomes. The environmental barriers identified in Section 4.1 that are not only affecting women's financial literacy, but also having impact on their life in a broader context. Hence, the second pathway is recommended to remove environmental barriers for women. The second pathway addresses women's low financial literacy by removing the environmental barriers and promoting the accessibility of financial products and services. The government should ensure that basic education is accessible for everyone, especially the groups that are particularly vulnerable. The government and other stakeholders should promote accessibility of financial products and services for women, by:

- Collecting gender-based data. This is the first step toward expanding women's access to and use of financial products and services. Specifically, two types of data should be collected: from the demand side (consumer), and the supply side (financial service provider). These two types of data help to identify what is the challenges women experiencing when trying to access or use financial products and services, evaluates the

needs of women and tailor financial products and services. The Surveys should be conducted repeatedly to identify changes over time in women's financial inclusion and promote the strategies with positive effects. Without gender-disaggregated data, financial institutions may not be able to demonstrate the business case for serving diverse women, nor develop products attractive to women. Similarly, without the gender-disaggregated data, regulators and supervisors may not be in a position to determine the extent to which the policy goal of expanded women's financial inclusion is achieved (Imboden, 2018). In Mexico, as the result of collecting gender-oriented data, the gender difference in access to financial service declined, and the proportion of adult women with access grew 2% more than that of the men during the same period (Sholevar & Harris, 2020).

- Expanding and facilitating the usage of and access to FinTech to help women overcome social barriers associated with traditional financial products, services and delivery channels, such as mobility, identification, and others. For example, mobile money will enable women to receive government transfers digitally directly. Such technology greatly reduces leakages while ensuring that benefits reach the intended beneficiaries. At the same time, the government should develop regulatory frameworks on digital financial services and FinTech for protection purposes and recognize digital financial inclusion for women. The government should consider a regulatory sandbox approach to experiment with innovative financial products or services within a well-defined space and duration, similar to the approach adopted by the Monetary Authority of Singapore (Alam et al., 2019). This approach is slated to reduce the incidence of missed opportunities for fintech providers who would otherwise refrain from developing products and solutions for “risky” women borrowers (Alam et al., 2019).

- Encouraging and advancing gender-oriented financial products and services by promoting gender-responsive regulations and issuing guidelines, which can ensure that financial institutions do not develop gender-blind financial products. For example, provide appropriate incentives for banks that hire and train more female agents or officers to deliver financial products and services. Evidence suggests that women use financial services more often and effectively when they are served by female bank employees (Arora & Krishnaswamy, 2015) (Jhabvala et al., 2014) (Beck et al., 2013). Female agent and officers can help break the gender stereotypes when delivering financial products and services and serve as role models for other women. Designing financial products based on women’s psychological characteristics is another approach. For example, women are more risk averse than men, thus the financial institutions and financial service providers can design investment or retirement products adapting to these characteristics and attracting female clients.

More importantly, addressing the unequal accessibility of employment opportunities, and the gender wage gap will make a large contribution to closing the gender gap in financial literacy. More women are experiencing money worries, struggling with bill payments, spending more than their income. These findings suggest that women are not earning enough, which leads to the struggle in financial management, and inadequate planning for retirement. Although the *Pay Equity Act* requires employers to ensure men and women receive “equal pay for work of equal value,” and the *Employment Equity Act* requires employers remove barriers to the workplace for women, indigenous people, members of racialized groups, and people with disabilities, there is still much to be done. Ontario is the first province to pass the Pay Transparency Act, but the implementation has been delayed. The Act was made in effect in

2021, and the salary data in the private sector will be made public in 2022. A study in 2019 found robust evidence that the public sector salary disclosure laws in Canada reduced the gender pay gap between men and women by approximately 30 percent (Baker et al., 2019). The Pay Transparency Act is a great step taken towards closing the gender wage gap. But the gender wage gap will remain unless all provinces take an effort in this uphill battle. Moreover, Chapter 4 illustrates how COVID-19 has had a disproportionately impact on women's labour force participation and employment status. The government should ensure that women's equal representation in all COVID-19 response planning and decision-making, ensure truly intersectional gender analysis (GBA+) on all forthcoming pandemic policies not only for understanding differential impacts, but also for designing policies (Sultana & Ravanera, 2020), and target women and girls in all efforts to address the socio-economic impact of Covid-19 (United Nations, 2020). The government should actively invest in initiatives to support economic recovery, and design skill development, enhancing and refining programs that are responsive to women's needs (Dessanti, 2020).

The above two pathways both require long term investment and are hard to measure the effectiveness. Despite the measurements, observing how women benefits from the more equal environment needs to conduct longitudinal studies. Hence, the third pathway provides a low-cost option with a prompt effect for helping women achieve better financial literacy outcomes. The government, Financial Literacy stakeholders, and financial institutions should leverage behavioural insights to strengthen women's financial literacy. Promoting girls' and women's financial literacy education generally is the critical first step toward financial empowerment. Nevertheless, there is no one-size-fits-all type of approach. Individuals learn and process information differently, and their demographical, cognitive, and psychological characteristics

have an impact on their financial management behaviours. Some experts argue that inertia, lack of willpower might reduce the effectiveness of financial education programmes (OECD, 2005). Thus, applying behavioural insights in financial education and financial interventions can help to understand the decision-making process of target groups, and to reach desired financial outcomes such as increasing savings, budgeting or adopting new financial tools and products, etc.

Default options are pre-set courses of action that take effect if nothing is specified by the decision-maker (Thaler & Sunstein, 2009), and setting defaults is an effective nudge when there is inertia or uncertainty in decision making (Samson, 2014). The more uncertain customers are about their decision, the more likely it is that they will go with the default. This had led some experts to argue for automatic enrolment for defined contribution plans along with default contribution rates and default asset allocation. The automatic enrollment in qualifying workplace pension schemes has been proved to be effective, the opt-out rate was just 9%. As a result, the participation rate rose from 36% to 71% in UK's experimentation companies, who previously required employees to make an active choice (Gov.UK, 2013). Automatic enrollment in pension plans can help women starts to prepare for their retirement, and potentially accumulate more wealth for their retirement life.

Women are found to have more loss aversion than men. Using this psychological characteristic to design financial products and services can effectively help women to save more. Women are less likely to increase pension saving or debt repayments on their own initiatives, as this feels like a financial loss. Research suggests that individuals dislike losses up to twice as much as we like equivalent gains (Kahneman & Tversky, 1979). If instead, individuals agree to give up a small part of their future income increases, this reframes the increase in payments as merely a smaller increase in income rather than a drop in income (Thaler & Benartzi, 2004).

Financial interventions or education should focus on teachable moments, such as when women are receiving government payments, making financial management decisions, or purchasing financial products and services. It is an effective strategy to connect real-life decision-making together with financial capability interventions and helps to ensure that information is more likely to be retained, used, and can influence cash management behaviours (Global Partnership for Financial Inclusion, 2020, p. 25). An experiment in China resulted in a 40% increase in retirement savings by providing a short financial lesson to individuals immediately before being asked about the level of contribution they would like to make towards their pension plan (Song, 2020). Other examples include providing information about the risks and functions of a mortgage loan to a first-time home buyer, teaching children about savings accounts when they receive money for the first time in their life or teaching micro-entrepreneurs to choose and apply for a loan when they decide to expand their business. Leveraging teachable moments provides women who are experiencing environmental barriers, such as a low education level, new opportunities to learn relevant knowledge and prompt action.

Behavioural nudges may have a significant impact on encouraging women to save, for example using products such as commitment savings accounts and defined-contribution pension accounts. A randomized control trial conducted in Bolivia, Peru and the Philippines found that SMS reminders of “goal specific” savings reminders resulted in increased savings by 16%, especially when the benefits of saving are made salient, such as by highlighting the savings objective (Karlan et al., 2014).

Using Behavioral insights to design a simplified key facts statement, or disclosure boxes facilitates comparison shopping behaviours as an alternative to educating financial consumers. In the 1968, the US mandated financial disclosure according to the Truth in Lending Act, which

requires the presentation of key financial terms for credit products and standardized the calculation of certain key product terms and disclosure formats. Then Peru and Mexico adopted a similar disclosure act. A study focused on low-income consumers was conducted in Peru and Mexico and drew the conclusion that the key fact statement significantly improved individuals' ability to make informed financial decisions and encouraged comparison shopping behaviours (Gine et al., 2017). Women in Canada are found to be significantly less likely to shop around for financial products, and it is imperative to run similar experiments in Canada to identify how to encourage comparison shopping, and ultimately, assist women in finding the best-suited products to meet their needs and financial circumstances.

Last but not the least, the fourth pathway is to continue research on social norms and how it affects gender inequality not only in the financial marketplace but also in the society as a whole. Social norms are informal, unwritten rules and expectations around how groups of people behave. Gendered social norms prescribe different roles and expectations to men and women. These norms often prescribe men to take risks, not express emotions, be sexually active and aggressive, heterosexual, drink alcohol and not seek help (Edström et al., 2015). Researching and acknowledging the role of social norms play for men is not to excuse the abusive or oppressive behavior of some males but rather, "it is to better understand the forces that shape men's attitudes so that they can be engaged more effectively as allies for gender equality and women's financial inclusion (Falsini, 2021)." The findings from gendered social norm studies will help with the design of financial literacy education targeted to women and will help with the strategic planning for removing environmental barriers from women. A better understanding of social norms facilitates women's financial and economic empowerment, and ultimately helps women to achieve well-being and other positive outcomes. Canada committed to funding \$172 million over

5 years, starting in 2021-22, with \$36.3 million ongoing, to Statistics Canada to implement a Disaggregated Data Action Plan that will fill data and knowledge gaps. The funding includes the efforts of governments and society to address systemic racism, gender gaps (including the power gaps between men and women) and bring fairness and inclusion considerations into decision-making.

Government, communities, and stakeholders should take active steps to address the social norms related issues that restrict women's financial literacy and financial inclusion and other social inequality issues required to shift deeply ingrained norms about gender affecting both men and women. Norm transformations are key drivers for sustainable systemic change, which requires participation from entire communities and all gender groups. The UNFPA's²⁷ gender-transformative approaches (Appendix 2) provide a practical guide on how to translate bold commitments to gender equality, women's and girls' empowerment, and gender transformation into practical action, from individual to interpersonal, community, systems/institutions, to policies and legislative (UNFPA et al., 2020). Evidence shows that gender transformation is possible, but it is a long-term process, often generational, and needs sustained investments over time (UNFPA et al., 2020). Such transformation will help Canada to close the gender differences in financial literacy, but more importantly, the societal inequality.

²⁷ UNFPA – United Nations Population Fund

6. Conclusion

Gender differences in financial literacy in Canada are significant and prolonged. The financial literacy gender differences cannot be discussed in isolation, because they are inextricably linked to the larger picture of social inequality. This research found that women have a lower level of financial knowledge than men in both subjective measurements and objective measurements. Women also have a lower level of financial confidence, less interest in financial matters, and are less likely to improve their financial knowledge and skills. Women also appear to be more long-term oriented and are outperforming men in relation to keeping track of their money, and making a budget, etc. However, financial stress is more prevalent in women prior to and during the Covid-19 pandemic, and more women are struggling with paying their bills. Environmental barriers, such as education, employment, accessibilities, and digital technology, restrain women to various extents. Certainly, not all women are equally vulnerable. Indigenous women, immigrant women, women with disabilities, and senior women experience these obstacles to a wildly disproportionate degree. Socio-economic factors, social norms factors, and psychological factors all play a role. No single explanation can satisfactorily explain the differences in financial literacy between men and women.

This paper suggests that the causality goes both ways: limited economic resources may reduce women's ability to become more financially literate, and at the same time, disparities in economic resources reduce women's ability to gain more financial knowledge and practices. This highlights the need for policies addressing gender inequalities in both social inequality and financial literacy as means to improve women's well-being.

Thus, narrowing the financial literacy gender differences in Canada hinges on not only improving financial literacy itself, but also on removing the environmental barriers. Improving

women's financial literacy level and empowering women through education, employment, accessibilities, and digital literacy are auxiliary to each other. Thus, the four pathways proposed in Chapter 4 are essential to empower women and require collective and sustainable actions. Financial literacy education can improve women's financial knowledge, confidence, and behaviours, which increases their level of financial literacy. The design of the financial education programs needs to tailor to women's needs and recognize diversity. But financial literacy itself is not enough for women to achieve positive outcomes. Thus, empowering women by ensuring equal access to education and employment, closing the gender wage gap, diversifying the workplace, and promoting accessibility of financial services and products (the second pathway) will remove the environmental barriers for women with varies level of financial literacy. The above two pathways both require long term investment, and it is hard to evaluate their real impacts. Hence, the third pathway, leveraging behavioural insights, provides a low-cost option with a prompt effect to strengthen women's financial literacy. The application of choice architecture, nudge, or others can effectively help women make informed financial decisions at the point of decisions. Furthermore, more research on gendered social norms is needed to understand how women are affected by it. Besides research, it is essential to have sustainable funding resources and practical actions to address social norm related issue, more importantly, how to avoid passing the gendered social norm in younger girls' financial education or avoid integrating it into the financial products and services.

The future research in Canada can help better understand the differences between genders in financial literacy. First of all, it is imperative to refine the definition of Financial Literacy. Many scholars put an equal sign between financial knowledge and financial literacy in their research, conducting financial knowledge score as financial literacy score. But literacy goes

beyond just knowledge. Secondly, the literature on the potential causes of these gender differences in financial literacy in Canada is still in its infancy and it is difficult to establish causal links. It needs further studies on the determinants of these disparities. For example, there is very little research on gender-specific differences in the process of learning about financial literacy, how women response to the traditional education programmes. Third, more experimentations, pilot programs are needed to study the most efficient approach to close the gender differences.

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8. Appendix

Appendix 1:

Table 1: First-step scoring of objective assessment using 3 items

OA_Q01	OA_Q05	OA_Q10
Incorrect	Incorrect	Incorrect
Incorrect	Incorrect	Missing
Missing	Incorrect	Incorrect
Missing	Incorrect	Missing
Incorrect	Missing	Incorrect
Incorrect	Missing	Missing
Incorrect	Incorrect	Correct
Correct	Incorrect	Incorrect
Incorrect	Correct	Incorrect
Correct	Incorrect	Missing
Incorrect	Correct	Missing
Missing	Missing	Incorrect
Missing	Incorrect	Correct
Incorrect	Missing	Correct
Missing	Missing	Missing
Missing	Correct	Incorrect
Correct	Incorrect	Correct
Correct	Missing	Incorrect
Incorrect	Correct	Correct
Missing	Correct	Missing
Correct	Correct	Incorrect
Correct	Missing	Missing
Correct	Correct	Missing
Missing	Missing	Correct
Missing	Correct	Correct
Correct	Missing	Correct
Correct	Correct	Correct

}

}

}

The respondent is further asked easier financial literacy questions:
OA_Q04, OA_Q12, OA_Q14, and OA_Q11

}

}

The respondent is further asked a mix of easy and difficult financial literacy questions:
OA_Q11, OA_Q08, OA_Q07 and OA_Q09

}

The respondent is further asked more difficult financial literacy questions:
OA_Q07, OA_Q09, OA_Q02, and OA_Q03

Appendix 2: Gender-Transformative Approach

