

Solutions to Improve Financial Literacy and Roles of Financial Advisors in Japan

Kyushu University

Graduate School of Economics

The Department of Business and Technology Management

Takahiro Uchiyama

TABLE OF CONTENTS

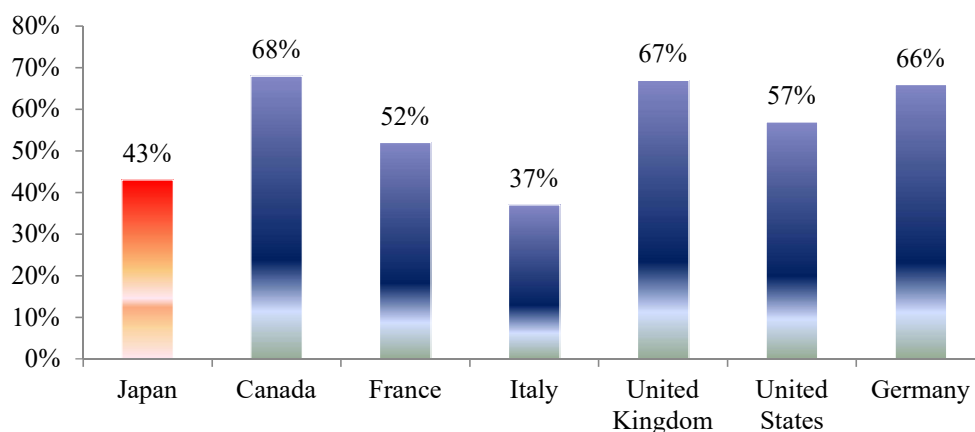
CHAPTER 1 INTRODUCTION	1
1.1 Purpose and Background.....	2
1.2 Current Problems	4
1.3 Objective of the Research.....	6
1.4 Definition of Financial Literacy	7
1.5 Definition of Financial Advisor	8
CHAPTER 2 LEVEL OF FINANCIAL LITERACY.....	10
2.1 The Financial Literacy Survey.....	10
2.2 Previous Studies	10
2.3 Outline of Financial Literacy	11
2.4 Cross-countries Comparison.....	13
2.5 Summary.....	19
CHAPTER 3 ANALYSIS OF FINANCIAL LITERACY	21
3.1 Methodology.....	21
3.2 Comparison and Analysis among Japanese People	21
3.2.1 The Difference of Generation about Financial Literacy	21
3.2.2 Relationship between Life Insurance and Financial Literacy	25
3.2.3 Investment Behavior by Gender.....	31
3.3 Findings	34
CHAPTER 4 ROLES OF FINANCIAL ADVISORS	37
4.1 Current Position of Financial Advisors	37
4.2 Questionnaire	38
4.3 The Perceptions of Financial Advisors.....	38
4.4 Roles of Financial Advisors in Improving Financial Literacy.....	44
4.4.1 Satisfaction Mirror	44
4.4.2 Activities and events for customers to improve financial literacy	46
4.4.3 Financial Advice Map for Financial Literacy Map.....	47
4-5 Summary.....	48
CHAPTER 5 CONCLUSIONS	49
5.1 Solutions.....	49
5.2 Implications	50
5.3 Future Challenges.....	51
APPENDICIES	52
REFERENCES.....	60

CHAPTER 1 INTRODUCTION

1.1 Purpose and Background

This study aims to explore Japanese people's financial literacy (knowledge and judgment of money) in detail and search for ways in which it can be further developed. It is said that Japanese people have lower financial literacy than people in many other countries. In 2014, investigations conducted by S&P Global, a well-known worldwide ranking organization, showed that in terms of financial literacy, Japan was ranked 38th out of 144 countries. Among developed countries, Japan had one of the lowest rankings (Figure 1-1). According to the S&P Global investigations, more than half of Japanese people do not have sufficient financial literacy. I introduce questions that measure four fundamental concepts related to literacy at the end of this study.

Figure 1-1 Percent of adults who are financially literate in advanced countries



[Source] *Financial Literacy around the World: INSIGHTS FROM THE S&P GLOBAL FINLIT SURVEY*

Distinctive features of Japanese personal financial assets, such as too much emphasis on savings and life insurance, may account for low financial literacy.

Furthermore, this low level of financial literacy may affect social issues in Japan, including child poverty¹, the increase in the number of livelihood protection recipients², bank transfer fraud³, etc.

¹ The poverty rate of children is 13.9%, among the households with children, the proportion of one household with adults is 50.8% by the web site of Ministry of Health, Labour and Welfare. (<http://www.mhlw.go.jp/toukei/saikin/hw/k-tyosa/k-tyosa16/dl/03.pdf>)

² The number of people receiving welfare protection is 2,141,811 as of February 2017. 65 years old people account for 45.4 % by the web site of Ministry of Health, Labour and Welfare. (http://www.mhlw.go.jp/file/05-Shingikai-12601000-Seisakutoukatsukan-Sanjikanshitsu_Shakaihoshoutantou/0000164401.pdf)

³ The number of bank transfer fraud was 13,605 in 2016 by the web site of National Policy Agency

Currently, Japan has one of the highest life expectancies of any country in the world⁴, and the need to prepare for a long life is becoming increasingly important. Under the present circumstances, many Japanese people are worried about their futures, not knowing whether they will be able to survive in old age without a paycheck, living on pensions alone. As far as the younger generations are concerned, the number of people who do not want to get married or have children is increasing now in part because of this economic anxiety.

Mr. Ochi, the Deputy Minister for Finance, pointed out on February 3, 2017 that with respect to household financial assets in Japan, “The proportion of cash and savings accounts for 52%, 900 trillion out of 1,700 trillion. It is a relatively small return from them. As aging in society progresses, significant issues are how to maintain living funds for old age and how to manage the building-up of assets by workers.”

Reflecting these situations, authorities such as the Bank of Japan and the Financial Services Agency have been committed to leading the people to shift from savings to investments while enhancing individual financial literacy. The introduction and prevalence of activities around “NISA”⁵ are a typical example.

Furthermore, nationals are increasingly required to make voluntary efforts because of the spread of defined contribution pensions. Defined contribution pensions have two types: the corporate and individual. The individual-type, referred to as “iDeco,”⁶ was changed in 2017 and the scope of people eligible to participate was expanded. At present, the Minister of Health Labour and Welfare and many financial institutions involved in defined contribution services emphasize the income tax incentive for participants in the pension system. Its main purpose is to require that people actually participate in the pension system. In fact, participants tend to focus on tax incentives without deeply thinking about the allocation of pension wealth, as shown in Figure 1-2. In the pension system, participants are required to allocate their pension wealth. They must choose a mutual fund (some funds) out of individually listed funds. According to an investigation conducted by the 401k Educational Society, the understanding of participants when making these decisions tends not to be very high (Figure 1-2).

The investigation also reveals that a lot of participants choose the safest funds (i.e., with principal guaranteed). The rate of participants choosing the safest funds was 61.4 %, on average.

(<https://www.npa.go.jp/safetylife/seianki31/higaijoukyou.html>)

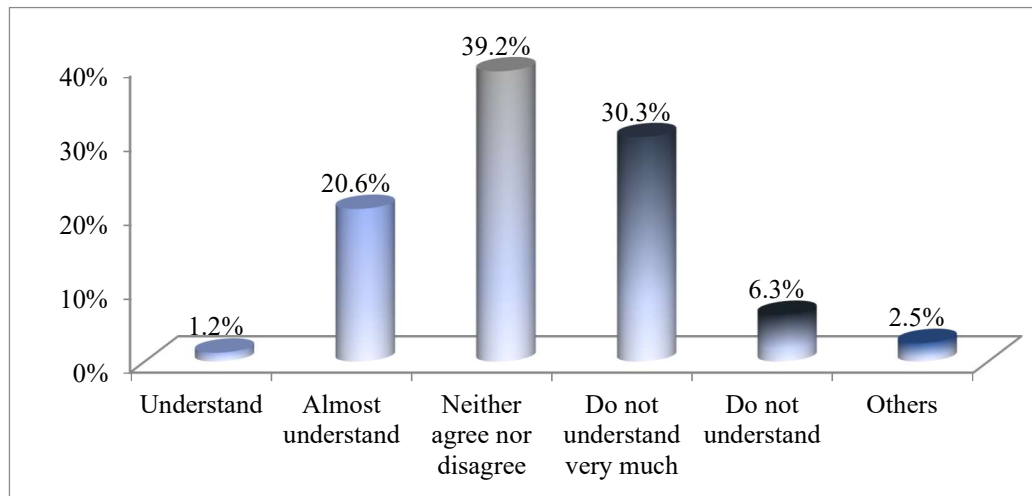
⁴ According to the World Health Statistics 2016, Japan’s life expectancy years is 83.7 years and Japan is the highest country in the world.

(http://www.who.int/gho/publications/world_health_statistics/2016/en/)

⁵ NISA stands for Nippon Individual Savings Account. It is a system that exempts taxation on dividend and capital gain against investment in stocks and mutual funds in the certain investment amount and terms. Japan introduced the rule referencing similar tax rule in the U.K. in 2014.

⁶ iDeco means individual defined contribution. It was named to spread the system in 2017.

Figure 1-2 Participants' understanding of financial products listed in defined contribution



[Source] 401k Educational society in 2016

1.2 Current Problems

Defined contribution⁷ is a typical example of the low financial literacy of Japanese people: participants are forced to manage their own assets; they have a lack of understanding of the selected funds; and, in general, they tend to avoid taking risks. With respect to the corporate type⁸, companies generally make the decision to introduce the system, and employees must comply with the decision regardless of their individual opinions.

It is likely that financial literacy is indispensable, and this momentum is accelerating nowadays. The following investigation shows that about 60% of respondents are worried about their life after retirement, given the current circumstances (Table 1-1). Similarly, about 60% of respondents intend to prioritize the enrichment of everyday life to make preparations for the future (Table 1-3). In other words, decisions of respondents do not reflect their thoughts, and low financial literacy may contribute to the gap between decisions and thoughts. In light of these circumstances, Japanese people might be thinking along the following lines: “Under the low-interest rate, I want to increase my assets in some ways apart from savings, but I am afraid of investment in financial products like stocks”; or “I am not familiar with personal financial matters, and I do not know how to start preparing for my future.” Table 1-1, 1-2, and 1-3 describe the situations clearly.

Table 1-1 Q5 *Do you feel worried or anxious in your everyday life, or do you not have any*

⁷ Japan started Defined contribution in 2001.

⁸ As of August in 2016, 28,652 companies have introduced the cooperate type by Ministry of Health, Labour and Welfare.
(<http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/nenkin/nenkin/kyoshutsu/sekou.html>)

worries or anxieties?

	2016	2017
Yes, I feel this way	65.7%	63.1%
No, I do not feel this way	33.4%	36.4%

[Source] Public Relations Office, Cabinet Office, the Government of Japan, *Overview of the Public Opinion Survey on the Life of the People in August 2017*

Table 1-2 (For 4,126 people who responded “I feel worried or anxious” to Q5)

What do you feel worried or anxious about? Please select all applicable answers (M.A.).

	2016	2017
About plans for my life after retirement	54.0%	53.5%
About my health	51.6%	52.1%
About the health of those in my family	42.8%	42.1%
About the outlook of my future income and assets	39.5%	39.7%

[Source] Public Relations Office, Cabinet Office, the Government of Japan, *Overview of the Public Opinion Survey on the Life of the People in August 2017*

Table 1-3 Preparing for the future vs. enriching everyday life

Regarding your lifestyle, would you like to put forth effort into preparing for your future, such as through savings and investments, or would you like to put forth effort into enriching your everyday life and enjoying it?

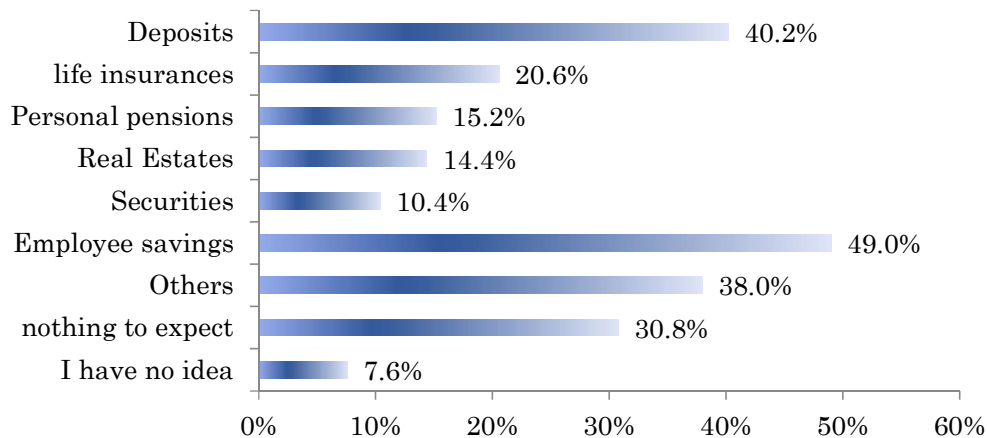
	2016	2017
Prepare for my future, such as through savings and investments	31.3%	32.7%
Enrich my everyday life and enjoy it	60.9%	59.6%

[Source] Public Relations Office, Cabinet Office, the Government of Japan, *Overview of the Public Opinion Survey on the Life of the People in August 2017*

Likewise, another survey conducted by the Japan Institute of Life Insurance⁹ indicates that 74.1% of respondents are worried about economic preparations for old age. Furthermore, I can understand that most people expect deposits and insurance including personal pensions (Figure 1-3). That is to say, the type of principle guarantees is mainly chosen as retirement preparation.

⁹ Survey on the national survey on life insurance 2015

Figure 1-3 Financial products expected as retirement funds



[Source] *Survey on the national survey on life insurance in 2015*

In sum, Japanese people should seriously consider personal finances in order to maintain their lifestyles, but they do not have the financial literacy necessary to do so. Following from this, how can personal finance experts (financial advisors) serve ordinary people?

While financial literacy or investment knowledge plays an important role in people's financial decisions, the role of financial advisors is considered to be even larger.

When financial advisors do not fully comprehend the financial literacy of their customers, they cannot provide these customers with the proper financial services. As a result, their customers' financial literacy level will not improve. A number of previous studies¹⁰ point out that the educational system is responsible for low financial literacy in Japan. Therefore, it is really important to develop the system preferentially. Considering factors such as an aging society, low birth rate, and longevity in Japan, it is crucial to provide supports to address low financial literacy. In this case, financial advisors will be expected to step in.

1.3 Objective of the Research

Considering this background and these problems, I frame the current research question. How should financial advisors contribute to improvement in people's financial literacy? This paper examines Japanese people's financial literacy in depth. In addition, the paper shows financial advisors' perceptions about the financial literacy of their customers. How much do they truly comprehend about their customers' financial literacy?

Thanks to approaches from two directions (i.e., customers [ordinary people] and

¹⁰ Previous studies are summarized chapter two.

financial advisors) I am able to search for the appropriate ways to improve financial literacy. It is essential for financial advisors to take customers' financial literacy into consideration to comply with Fiduciary Duty,¹¹ which is required of financial advisors in recent years. I hope this paper will contribute to understanding about how to improve the quality of financial services in Japan as well as understanding about how to enhance financial literacy among Japanese people.

1.4 Definition of Financial Literacy

I would like to use the Financial Literacy Survey conducted by the Central Council for Financial Services Information in this paper. Thus, I should clarify the definition of financial literacy in advance. Kamiya (2017) researched theses on financial literacy and published a review paper, which lists prior studies around the world. Table 1-4 shows parts of the list.

Table 1-4 The definition of financial literacy

Balatti (2007)	Capability to make informed decisions and make effective decisions regarding the use and operation of money in real life situations
Kim (2001)	Fundamental knowledge required for people to survive in modern society
Noctor, Stoney, & Stradling (1992)	Capability to judge from information and decide on the use and operation of money effectively
Servon & Laestmer (2008)	Individual ability to understand and utilize concepts on finance

[Source] Kamiya (2017), p. 655.

Many previous studies in addition to the above refer to knowledge, understanding, capability and ability as they apply to financial literacy. In the Financial Literacy Survey, the Central Council for Financial Services Information defines financial literacy as consisting of financial knowledge and financial decision-making skills. Moreover, financial knowledge can be divided into five areas based on the Financial Literacy Map¹²: basics of financial transactions, basics of finance and economy, insurance, loan/credit, and wealth building. I show parts of the Financial Literacy Map at the end of this study. Employing these concepts,

¹¹ Principles of Fiduciary Duty is a recommended set of basic fiduciary principles that financial business operators may elect to adopt in connection with their performance of client-oriented services (the Financial Services Agency of Japan).

¹² The "Standard Learning Goals for Different Age Groups" from the "Minimum Level of Financial Literacy That Should Be Attained" prepared by the Committee for the Promotion of Financial Education (Secretariat: Central Council for Financial Services Information).

this paper defines financial literacy as having two dimensions: understanding of financial knowledge and capability of taking action with respect to personal finance. I will use the Financial Literacy Map as a benchmark in the discussion about Japanese people's financial literacy.

1.5 Definition of Financial Advisor

This paper defines financial advisors as existing in four settings: workers in banks, especially sales workers interacting with customers directly; workers in life insurance companies, primarily engaging in selling life insurance; workers in independent life insurance agencies; and independent financial advisors such as Financial Planners¹³. Independent financial advisors make up approximately 7% of the total number of financial advisors, according to data provided by the Association for Financial Planners¹⁴. The author is also an independent financial advisor who has served many clients. I think that the number of people who want to consult with independent financial advisors is gradually increasing in the past several years, but the number is smaller than the number of people consulting with financial advisors who operate within financial institutions. One of the reasons for this trend concerns fees. In case of consulting with independent financial advisors, customers need to pay consultant fee. According to Association for Financial Planners, 30% of financial advisors require 10,000JPY or over per hour as consultation fee¹⁵. Many ordinary people feel big burden. Though I can conceive of the relationship between clients and independent financial advisors, the paper mainly focuses on situations in which people consult, free of charge, with financial advisors who belong to financial institutions. Therefore, when I refer to financial advisors in this paper, I am mainly referring to financial advisors belonging to financial institutions.

Presently, most workers in banks and insurance companies are required to obtain the qualifications to serve as a Financial Planner. Thus, those referred to as financial advisors in this paper are those having Financial Planner qualifications or those aiming to obtain the qualifications. Sugai (2011) mentions that a "Financial Planner is an expert in personal finance and is expected to broaden financial knowledge." Incidentally, I do not consider employees in securities companies as financial advisors in this study. The proportion of customers interacting with employees in securities companies is small, on the whole. According to the National Survey on Securities Investment (N=7,000)¹⁶, conducted by the Japan Securities

¹³ Financial Planner is a qualification that allows one to make life plans with a deep understanding of finance. There are two types of qualifications. One is admitted by the Ministry of Health, Labour and Welfare. The other is provided by the Japan Association for Financial Planners (nonprofit organization).

¹⁴ Association for Financial Planners conducts investigations to understand the situations of financial planners.
(<https://www.jafp.or.jp/aim/fpshikaku/data/>)

¹⁵ Estimate of consultation fee by the website of Association for Financial Planners Website
(<https://www.jafp.or.jp/shibu/oita/seikatsu/aboutfp/fee/>)

¹⁶ The Japan Securities Dealers Association conducts the National Survey on Securities Investment

Dealers Association (2015), 79.5% of respondents have not had the experience of doing transactions that involve any securities company. Besides, customers of securities companies usually have adequate financial knowledge and investment experience.

It is likely that many salespersons in securities companies have professional relationships with such customers. In comparison with the financial advisors I refer to, they do not have occasions to serve ordinary people, who have low levels of financial literacy. Because the purposes of this paper are to analyze the negative impact of low financial literacy and to suggest how to make improvements, I excluded employees in securities companies from my definition of financial advisors. Using a questionnaire, the author investigated how financial advisors probe people's degree of financial literacy. By combining the results of the questionnaire and the Financial Literacy Survey (2016), I expect to arrive at novel conclusions.

once three years.
(<http://www.jsda.or.jp/shiryō/chousa/data/index.html>)

CHAPTER 2 LEVEL OF FINANCIAL LITERACY

This chapter provides an outline for the financial literacy of not only Japanese people but also foreigners. First, I demonstrate how low the financial literacy of Japanese people truly is and what areas in particular they struggle with before tackling a more detailed analysis. I will begin chapter two by introducing the result of the Financial Literacy Survey.

2.1 The Financial Literacy Survey

In the survey, 25,000 individuals aged 18 to 79 were chosen in proportion to Japan's demographic structure, and they answered questions about financial knowledge and financial decision-making skills. The survey comprised 25 true/false questions in accordance with the Financial Literacy Map, which were explained in chapter one. It has 53 items in total including questions about respondents' behaviors, actions, and personal characteristics, such as gender, age, and prefecture of residence. The true/false questions were converted into scores by assigning four points to one correct answer. The scores were widely distributed from 0 to 100 points. The survey period was from February 29 to March 17, 2016, and it was conducted online. About half of the questions were similar to those in surveys conducted by the U.S. Financial Industry Regulatory Authority (FINRA) Investor Education Foundation and the Organization for Economic Co-operation and Development (OECD) so that the results could be compared (The Financial Literacy Survey, 2016). Since the survey is a substantial and high-quality scale and is comparable with financial literacy scales in other countries, it provides some of the most suitable data to analyze people's financial literacy.

2.2 Previous Studies

Kamiya (2017) reviewed 223 papers that have been published in Japan and overseas regarding financial, economic, and monetary literacy. His research took place in Japan in 2012 and overseas in 2013. With respect to this research, he points out that the definitions and scales for financial literacy are vague and that only 35 papers show the specific items of the scale. He mentions that the research on financial literacy has four common themes: fundamental areas, credit and borrowing, savings and investment, and, insurance and security.

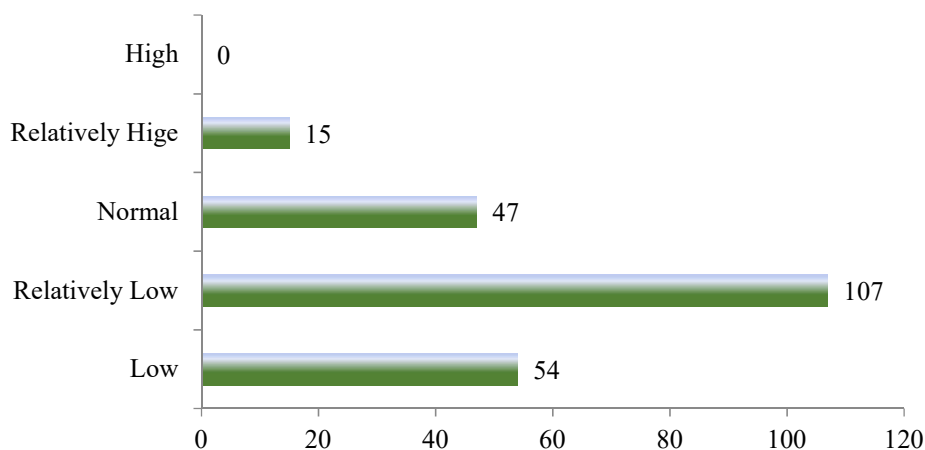
I observed that there are many papers focusing on educational systems and students' financial literacy. For example, Yamaoka et al. (2017) describe the result of a personal finance test that was conducted in high schools and universities. Also, Mandell and Klein (2009) compared the financial literacy of students who took a personal finance course with students who did not take the course, and they continued to observe them over time. After several years, the researchers found some differences between those who took the course and those who did not. However, they could not identify a meaningful positive impact from taking the course.

On the other hand, there is a lack of research on the role of financial advisors in improving the financial literacy of adults, the specific advice method, and the relationship between customers and financial advisors. The lack of research on financial literacy in Japan is especially obvious. It is acknowledged that there is a strong correlation between the seeking of financial advice and the highest levels of financial literacy (Calcagno and Monticone, 2013). Also, it is meaningful to show the actual method of providing advice and the quality of the relationship between customers and financial advisors.

2.3 Outline of Financial Literacy

According to the survey which the author conducted for financial advisors, many of them do not consider the financial literacy of Japanese people to be high (Figure 2-1).

Figure 2-1 Financial advisors' perceptions for Japanese financial literacy
(Number of answers)



[Source] *The questionnaire survey by the author*

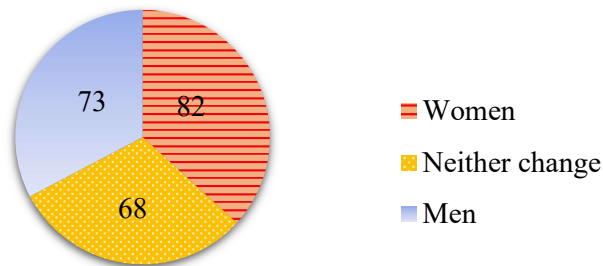
Regarding the following question for financial advisors, “Do men or women have higher literacy?” I did not find a big difference (Figure 2-2).

The discussion in chapter one and the next section (2.4) show that the financial literacy of Japanese people is relatively low. Many financial advisors concur with this situation.

On the other hand, financial advisors' perceptions about the difference between men and women's financial literacy are somewhat different from the actual result.

Figure 2-2 Do men or women have higher literacy?

(Number of answers)



The table 2-1 shows scores by gender and generation. Scores mean the correct answer rates. It clearly shows that the scores of women are lower than the scores of men. Young women's scores, in particular, are much lower than others' scores. Looking at the kinds of questions in detail, the scores for questions on basic finance, economics, and wealth building as an important background for investing in risk assets are much lower.

Table 2-1 Scores of financial literacy survey by gender and generation

(%)

		Total								
		Family budget management			Financial knowledge				Use of outside expertise	
				Life Planning	Basics of financial transactions	Basics of finance and economy	Insurance	Loans/ credit	Wealth building	
Men	Men	58.1	49.4	49.0	71.3	56.2	54.8	57.4	58.3	64.5
	Women	53.2	52.6	51.8	74.5	41.6	50.1	49.3	50.3	66.1
	Total	55.6	51.0	50.4	72.9	48.8	52.5	53.3	54.3	65.3
	Age 18-29	44.8	43.6	37.5	62.6	41.4	37.9	39.5	41.9	54.5
	30s	54.4	49.5	45.6	69.3	51.3	51.5	50.8	52.5	63.3
	40s	56.5	49.5	46.5	69.3	53.6	55.5	55.1	55.8	63.9
	50s	62.4	51.2	52.2	72.8	61.1	62.2	63.8	63.2	66.8
	60s	66.2	52.0	56.6	77.5	65.4	63.5	69.0	68.8	69.9
Women	70s	66.3	50.4	57.4	77.6	66.8	59.0	69.1	71.2	69.8
	Age 18-29	40.9	50.7	40.0	70.4	26.3	34.8	31.6	31.9	58.8
	30s	47.7	53.9	46.7	73.8	32.3	46.3	40.6	41.7	63.6
	40s	52.4	54.7	49.3	74.7	39.2	52.2	47.7	49.1	65.5
	50s	59.1	55.9	57.7	77.9	48.2	58.9	57.3	55.8	70.4
	60s	60.8	51.5	59.2	77.2	52.3	57.0	60.7	62.6	70.9
	70s	57.0	48.1	57.2	71.7	50.8	49.5	56.2	59.7	66.0

[Source] *The Financial Literacy Survey (2016)*

In addition, the results below demonstrate that Japanese people are highly conservative when it comes to investment in risk assets. Regarding question 6 (Q6), a rational respondents would choose “I would invest.” Nearly 80 % of respondents, however, chose “I would not invest.”

Q6 (The Financial Literacy Survey, 2016)

Suppose that, if you invested 100,000 yen, you would either get a capital gain of 20,000 yen or a capital loss of 10,000 yen, at 50% probability. What would you do? Choose only one answer.

[Required entry]

1. I would invest 21.4 %

2. I would not invest 78.6 %

Regarding the results, the survey reported, “For investment with an expected return rate of 5%, 80% of the respondents answered that they would not invest, showing generally strong

Table 2-2 The result for Q6 by gender

	I would invest	Rate
Men	3,761 out of 12,334	30.5%
Women	1,583 out of 12,666	12.5%

[Source] *The Financial Literacy Survey (2016)*

loss aversion.” Furthermore, Table 2-2 shows that women are overwhelmingly represented in the loss aversion category. The survey reported, “Loss aversion was stronger for female respondents.” I will explore the subject of loss aversion by gender much more in chapter four.

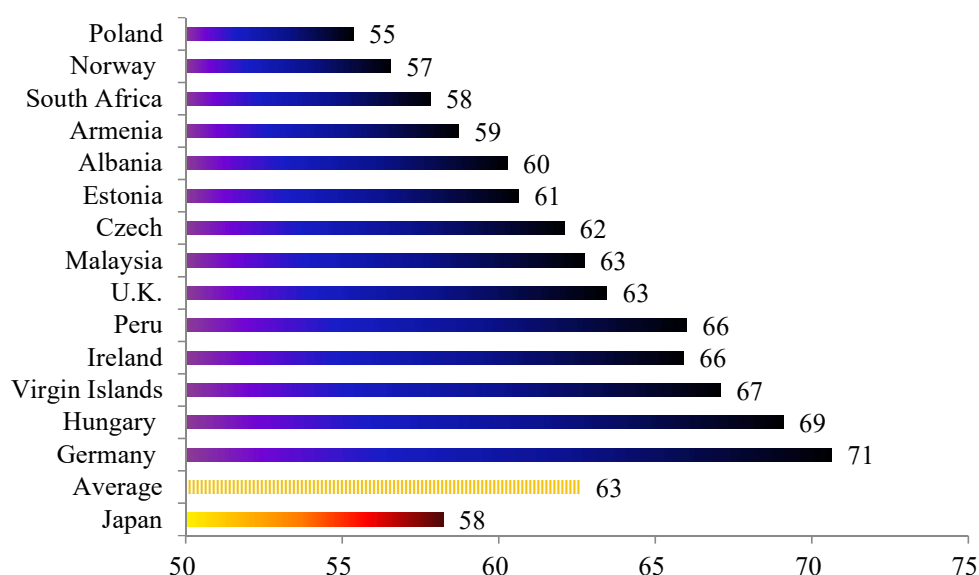
2.4 Cross-countries Comparison

As exemplified by the OECD survey, some international organizations also conduct investigations of financial literacy. It would be meaningful to compare the rates of correct answers for questions by country while also examining each country’s government policy, culture, and relevant background.

Among 14 countries that can be compared in the OECD, the ratio of correct or appropriate answers in Japan is five percent points lower than the average. Correct responses for seven out of 11 questions are also less than average. Figure 2-2 highlights the lower percentage of Japanese respondents who chose answers that represent desirable financial behavior and attitude (e.g., monitoring financial affairs, considering affordability when purchasing something, and prioritizing future savings over consumption).

Figure 2-3 Financial literacy in Comparison with other OECD countries

(%)



[Source] *The Financial Literacy Survey (2016)*

In particular, there is a big gap between Japan's score and the average score with respect to the monitoring of financial affairs. The percentage for Japan was less than 60%, whereas not only economically mature countries such as Germany and the U.K. but also Poland, Norway, Ireland, and Armenia exceeded 80% (Figure 2-3).

Q1 The Financial Literacy Survey (2016).

How much do you agree or disagree that each of the following statements applies to you personally? Choose from the following scale of 1 to 5. Choose one answer for each item.

I keep a close personal watch on my financial affairs

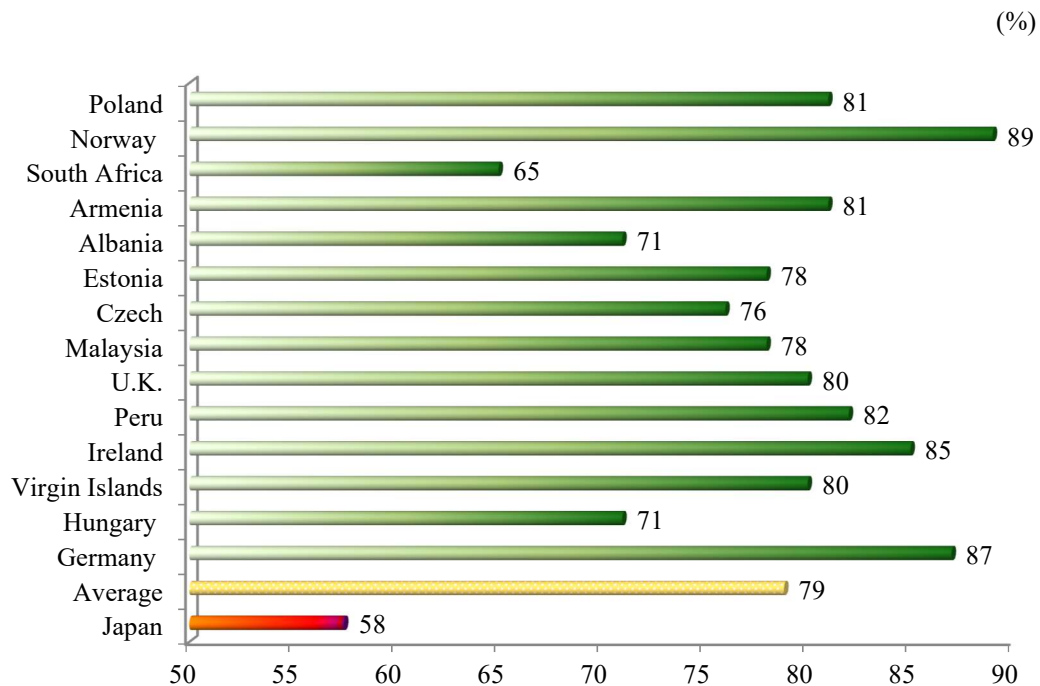
Agree Disagree

1 2 3 4 5

(22.5%) (34.9%) (30.4%) (8.8%) (3.3%)

Shaded numbers indicate desirable financial behavior.

Figure 2-3 Monitoring of financial affairs in comparison with other OECD countries



[Source] *The Financial Literacy Survey (2016)*

With respect to knowledge, the percentage of Japanese respondents' correct answers on items about the definition of inflation was overwhelmingly lower than average, and on items about diversified investment, it was relatively lower than average. Only 61 % of Japanese respondents chose "True" in response to the item below.

Question about inflation (The Financial Literacy Survey, 2016)

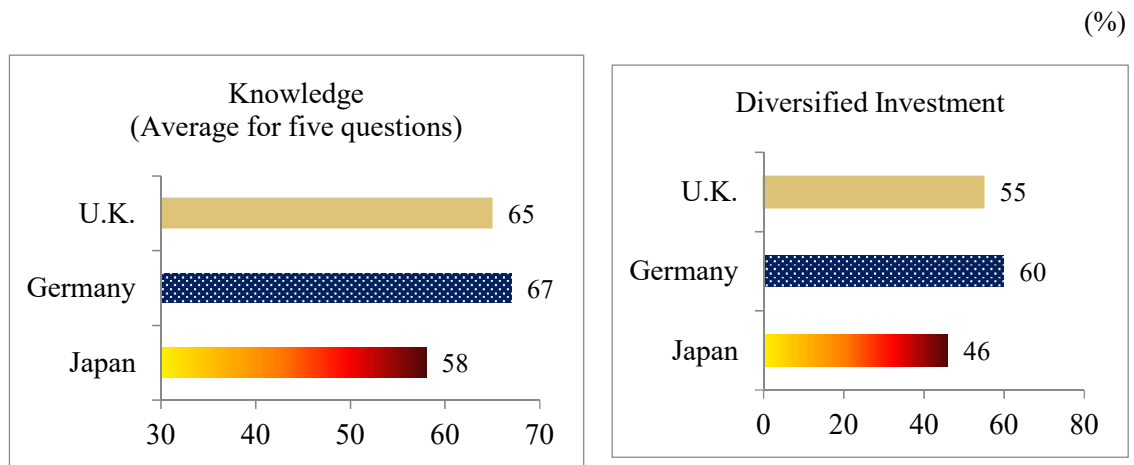
Q. 21-1 High inflation means that the cost of living is increasing rapidly

(True / False / Do not know)

The Financial Literacy Survey (2016) focuses on comparisons with the U.K., Germany and the U.S. as OECD countries. Next, I will summarize the weaknesses of Japan in comparison with these countries. Figure 2-5 shows that average scores for similar questions is lower in Japan than in the U.K. and Germany. Japan's score is inferior to others with regard to the understanding of diversified investment.

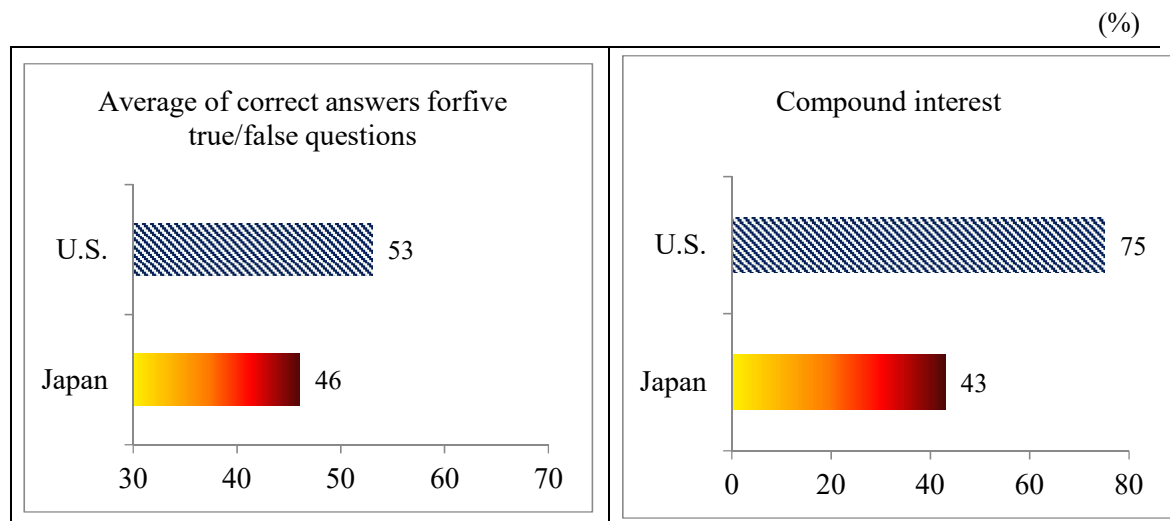
Also, the same can be said of Figure 2-6. In this case, scores for Japan are lower than scores for the U.S. with respect to the understanding of compound interest. Notably, Japanese people's knowledge is lacking in the areas of investment and asset management with respect to financial literacy.

Figure 2-5 Comparison with U.K. and Germany



[Source] *Financial Literacy Survey (2016)*

Figure 2-6 Comparison with U.S.



[Source] *Financial Literacy Survey (2016)*

In fact, many data suggest that Japanese people are not familiar with investment and that they tend to avoid monetary risks, as shown below. Figure 2-7 shows that the proportion of risk assets in total funds circulation is extremely low in Japan. This means that Japanese people are quite conservative regarding asset management. Thus, the performance of assets in Japan is inevitably smaller than the other main countries. Table 2-3 shows the difference in performance in detail.

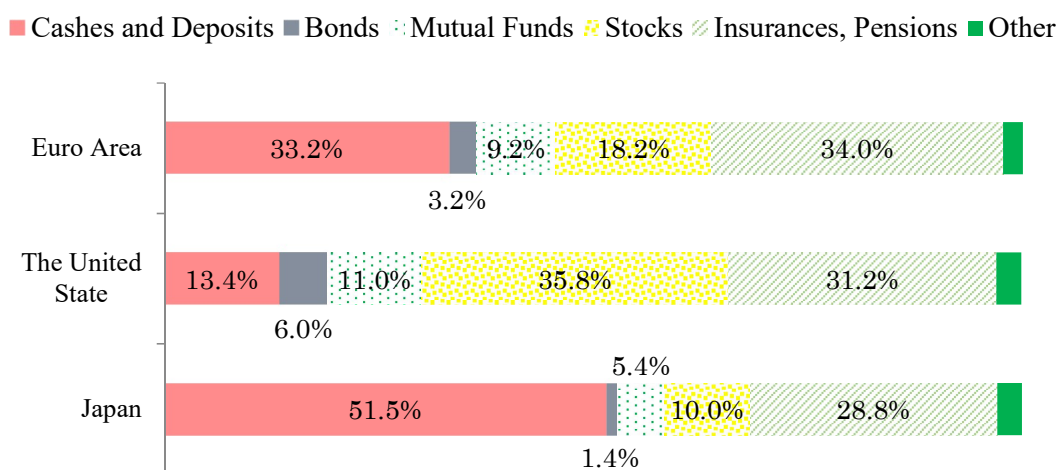
Table 2-3 Performance of assets in Japan, U.S., and U.K.

	Transition of financial asset in household economy by investment return	Transition of financial asset in household economy
JAPAN	1.15	1.47
U.S.	2.32	3.11
U.K.	1.63	2.17

[Note] This figures show the outcomes as of 2015 when the point of 1995 as 1 (1997 in the UK)

[Source] The Financial Services Agency¹⁷

Figure 2-7 Comparison of Japan, the US, and Europe for funds circulation



[Note] As of March in 2017

[Source] Bank of Japan

Of course, I must consider technical problems in statistical analysis when comparing Japan with other countries. In the case of comparisons with the U.S., there are differences in the scope of households and the methods for capitalization, which tends to expand the gap between risk-weighted assets ratios in Japan and the U.S. (Fukuhara, 2016). However, as also shown in the following data, it remains the case that Japanese people tend to avoid monetary risks and prefer secure financial assets.

According to Japan Securities Dealers Association, over 70% of Japanese people do not feel the need for securities investment (Table 2-4). This is equal to the proportion of those who have never experienced securities investment or who never experienced principal loss in another survey (Figure 2-8). Likewise, in the question (Q6) on loss aversion mentioned above,

¹⁷ Explanation documents by Financial Services Agency meeting of experts regarding stable asset formation of households February 3, 2017

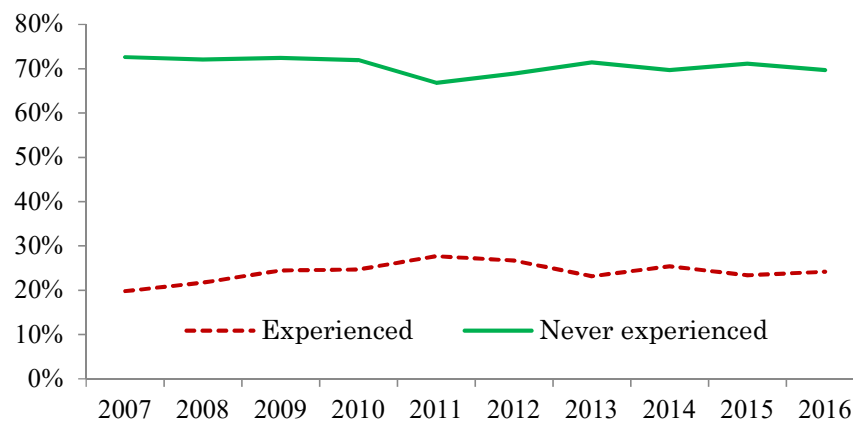
78.6% of people answered "I would not invest." From some of these results, it can be inferred that from 70 to 80% of Japanese people are reluctant to manage their assets actively. Also, as far as Figure 2-8 is concerned, there has been no significant change in the trend over the last few years. The main reason for this circumstance is that Japanese people do not have investment knowledge. It can be presumed that low financial literacy, then, contributes in some way to conservative asset management (Figure 2-9).

Table 2-4 Necessity of securities investment (N=7,000)

I think it is necessary	23.7%
I do not think it is necessary	75.8%

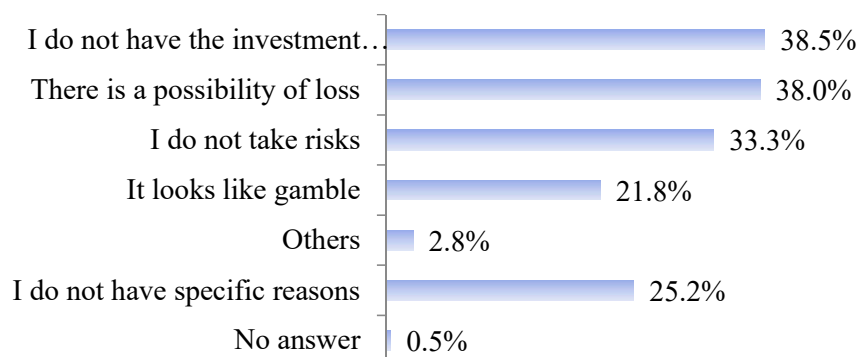
[Source] Japan Securities Dealers Association, *National Survey on Securities Investment 2015*

Figure 2-8 Have you ever experienced principal loss?



[Source] Japan Securities Dealers Association, *National Survey on Securities Investment 2015*

Figure 2-9 The reason people do not purchase risk products?



[Source] Japan Securities Dealers Association, *National Survey on Securities Investment 2015*

Kadoya (2016) explains that less financial assets amplify people's anxiety in the old age in Japan. On the other hand, in china, it has been clarified that the amount of assets does not affect people's anxiety. In India, not being a homeowner will amplify people's anxiety. Unlike China and India, in the case of Japan, investment will most likely alleviate people's anxiety.

Table 2-8 shows that stocks and bonds investment can bring higher return than cash over the long term. Thus, Japanese people should be interested in long-term investment to reduce their anxiety. Improving financial literacy and getting out of loss aversion might have positive influence people's perceptions in the old age.

Table 2-8 Annualized return for each asset class

Category	Asset	Annualized return					
		1 year	3 year	5 year	10 year	15 year	20 year
Cash	Cash	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Stock	Japan stock	24.5%	10.6%	20.5%	3.7%	6.6%	3.4%
	Advanced stock	22.2%	6.7%	19.6%	5.7%	8.6%	6.2%
	Emerging stock	31.1%	4.7%	11.7%	1.8%	11.5%	7.3%
Bond	Japan bond	-0.4%	1.7%	2.0%	2.1%	1.7%	2.0%
	Advanced bond	6.2%	-1.3%	7.7%	2.8%	4.5%	4.5%
	Emerging bond	8.4%	3.7%	10.5%	7.2%	8.5%	7.9%

[Notes]

Cash: Short-term interest rates

Japan stock: All of companies listed with first section of the Tokyo Stock Exchange

Advanced stock: Developed countries equities excluding Japan, 22 countries

Emerging stock: Emerging markets equities, 22 countries

Japan bond: Japanese government bonds, Government agency bonds etc

Advanced bond: Developed countries bonds excluding Japan, about 23 countries

Emerging bond: Emerging markets bonds, about 30 countries

[Source] my index <http://myindex.jp/>

2.5 Summary

In addition to low financial literacy, the Financial Literacy Survey and other data show that Japanese people are very conservative in the way they approach asset management. Given this situation, the Financial Services Agency points out that the ratio of earned income to property income is 3:1 in the U.S. versus 8:1 in Japan and that property income greatly contributes to

U.S. household income. It is thought that policies such as tax incentives (IRA¹⁸) are the keys to understand these situations. The Financial Services Agency believes that Japanese people should use the asset management style in the U.S. as a reference, and the Financial Services Agency and other financial authorities have been committed to spreading NISA and iDeco to help the Japanese people become more capable of performing asset management by themselves. In this way, more and more people will accept the importance of financial literacy. Otherwise, the lack of financial literacy will have a negative impact on future society in Japan.

¹⁸ IRA stands for Individual Retirement Agreement.

CHAPTER 3 ANALYSIS OF FINANCIAL LITERACY

This chapter will clarify some challenges in the area of personal finance in Japan by analyzing the results of a Financial Literacy Survey along several attributes.

3.1 Methodology

Not only the Financial Literacy Survey but also statistical analyses conducted by the Japanese government or financial institutions show data regarding the financial literacy of Japanese people. Since the Financial Literacy Survey conducted on 25,000 individuals aged 18 to 79 who have been chosen in proportion to Japan's demographic structure, it is one of the highest quality survey with respect to personal finance in Japan. Hence, the Financial Literacy Survey is the most suitable method in this study. The survey enables us to study differences according to attributes such as gender, age, and prefecture of residence. Combining the result of the Financial Literacy Survey and other data, I will attain a greater understanding.

3.2 Comparison and Analysis among Japanese People

Comparing a lot of data in the Financial Literacy Survey by attribute, I examine how the degree of financial literacy influences an individual's activities and perceptions. The Financial Literacy Survey (2016) compared data by prefecture and explained that with higher financial literacy, the fewer people encounter financial troubles. Also, the higher financial literacy becomes, the more investment experiences people have; whereas with lower financial literacy, the more people encounter financial trouble and the lower financial literacy is, the fewer investment experiences people have. Regarding the relationship between financial literacy and financial troubles or investment experience, the survey shed light on this by analyzing the top five and bottom five prefectures in terms of financial literacy. In a similar manner, I compare features by prefecture as part of my investigation. This process would enhance understanding of the effect of financial literacy on household economic attitudes.

3.2.1 The Difference of Generation about Financial Literacy

Chapter two suggested the possibility that, in Japan, women's financial literacy may be lower to men's. It was mentioned that young women, in particular, may lack financial literacy. Still, when analyzing the degree of financial literacy by generation, regardless of gender, the financial literacy of young people tends to be lower than that of older people.

The Financial Literacy Survey has 25 questions that correspond to the Financial Literacy Map. After analyzing responses to these questions by age group, the author picked up the questions for which a percentage of correct answers was 15% points or lower than average by age group. Respondents older than 40 did not have any questions under this condition.

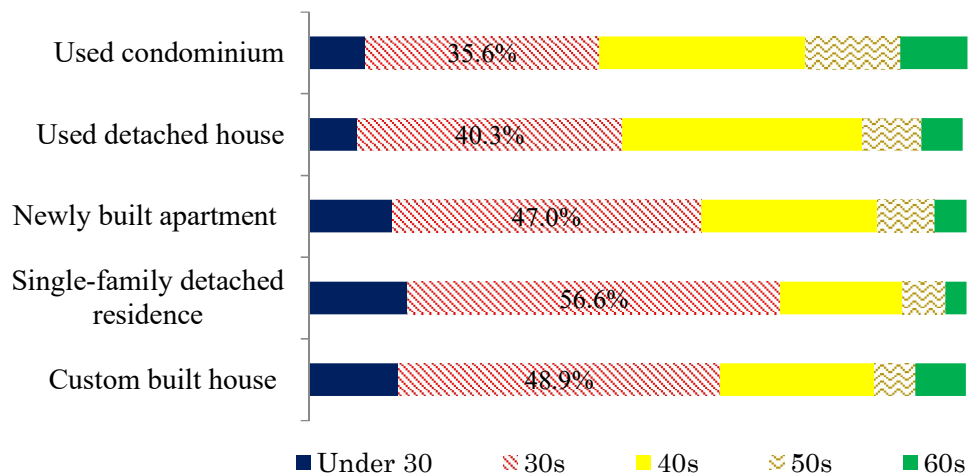
Respondents in their 30s had four questions that matched this condition, and for those in the 29 years and under group, most of the questions matched the condition. I assume that a lack of knowledge and experience affected these results. The generation of people in their 30s experiences many significant life events. These individuals need financial literacy in various situations.

Table 3-1 Average age of marriage and childbirth

Events	Average age
<Marriage>	
Men	31.1 years old
Women	29.4 years old
<Childbirth>	
First Child	30.7 years old
Second Child	32.6 years old
Third Child	33.6 years old

[Source] The Ministry of Health Labor and Welfare, *The Population Dynamics Survey, Marriage and childbirth data (2016)*

Figure 3-1 Average age of house purchase



[Source] *Survey on housing market trends in 2014*

The average age of marriage and childbirth in Japan is in the early 30s (Table 3-1), while the average age of home purchase is in the late 30s (Figure 3-1). Regarding home purchase, average age is further categorized by type of home, but the 30s is the most common age group for both types. At the time of childbirth, most couples will purchase educational

endowment insurance; most people will also obtain a mortgage at the time of home purchase. In other words, it is safe to say that the 30s are a time when it is very important to get a certain degree of financial literacy. Therefore, I explore this generation at this time. Four questions for which respondents in their 30s had 15% points or lower percentage points of correct answers than the average are shown in Table 3-2.

Table 3-2 Questions with a low correct answer rate in their 30s

(2) Q20. <i>Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? Choose only one answer.</i>
(3) Q21-1 <i>High inflation means that the cost of living is increasing rapidly. True?</i>
(4) Q23 <i>Which of the following is appropriate as an action to take when investing (making deposits, etc.) or borrowing funds at a time when interest rates are rising?</i> 1. <i>Investing and borrowing at fixed interest rates</i> 2. <i>Investing at a fixed interest rate and borrowing at a floating interest rate</i> 3. <i>Investing at a floating interest rate and borrowing at a fixed interest rate</i> 4. <i>Investing and borrowing at floating interest rates</i> 5. <i>Don't know</i>
(5) Q31 <i>Suppose you owe 100,000 yen on a loan and the interest rate you are charged is 20% per year compounded annually. If you didn't pay anything off, at this interest rate, how many years would it take for the amount you owe to double? Choose only one answer.</i> 1. <i>Less than 2 years</i> 2. <i>At least 2 years but less than 5 years</i> 3. <i>At least 5 years but less than 10 years</i> 4. <i>At least 10 years</i> 5. <i>Don't know</i>

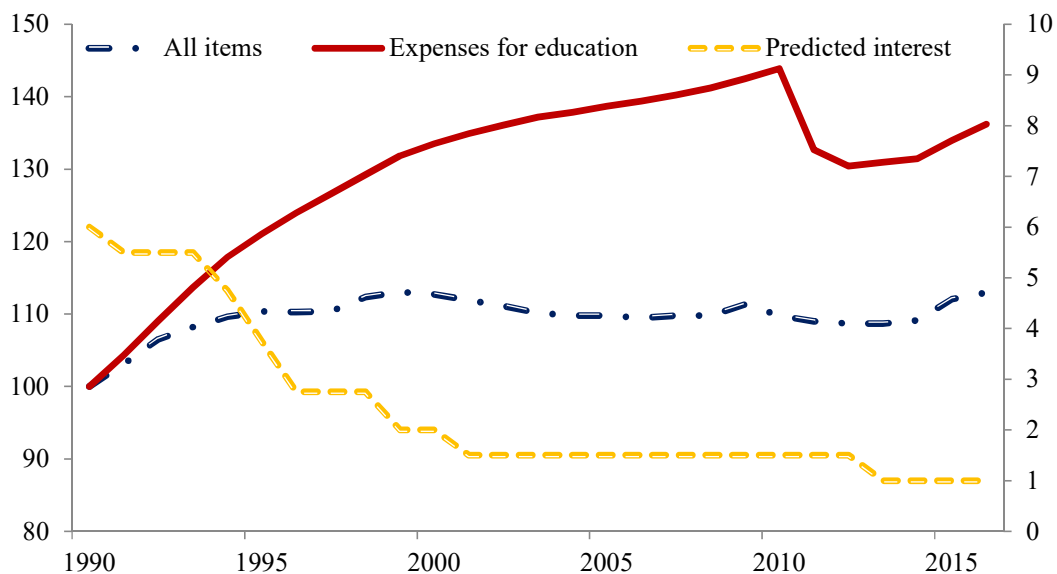
[Source] *The Financial Literacy Survey in 2016*

You can see that questions about inflation and interest rate corresponded to the conditions. This generation is the time to purchase education endowment insurance, and it is also the time to contract a mortgage when purchasing a house.

Figure 3-2 displays the transitions of goods prices, education expenses, and predicted interest from 1990 onward. The increase in education expenses is high in comparison with the increase in other items. Contrary to these trends, the predicted interest rate stopped falling after it declined. Educational endowment insurance is basically determined by the predicted interest rate at the time when the contract was completed. In the case of ultra-low interest rates, considering other options might be best, but among those who have children under 10 years

old, the percentage who have educational endowment insurance is 57.2 % (goo Research¹⁹, 2013). As anticipated, choosing educational endowment insurance is popular with many people. But when understanding about the implications of inflation increases, people will consider other options besides educational endowment insurance.

Figure 3-2 Setting the consumer price index (all items) and education-related expenditure as 100 as of 1990 (left axis) vs. the trend in predicted interest rate (right axis)



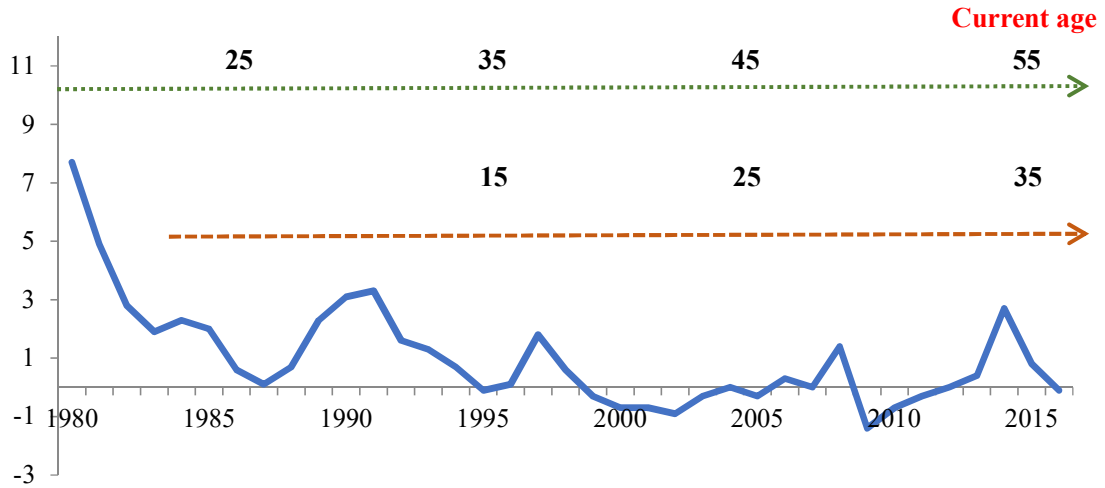
[Sources] The Ministry of Internal Affairs and Communications Statistics Bureau of Consumer Price Index, *Consumer price index (total) and expenses for education* and Inoguchi (2013)

Figure 3-3 compares the trends in the inflation rate (annual rate) since 1980 with the age transitions of current 55-year-old people on behalf of their 50s and current 35-year-old people on behalf of their 30s. In the case of 55-year-olds, when they were younger than 25 years of age (i.e., when they became members of society) the prices of goods declined. Afterwards, prices increased annually at a rate of nearly 3%, around the time of marriage, childbirth, and housing purchase. Meanwhile, people who are in their 30s now are at close to 0%, excluding the effect of consumption and the consumption tax hike that increased from 5% to 8% in 2014. In other words, people who are in their 30s now have experienced almost no increase in prices, up to today. In sum, it is known that financial literacy tends to be higher for people with increased age, but there is likely another factor that deepens financial understanding. This is the actual experiencing of events and incidents in the personal finance

¹⁹ The result of research is indicated by the web site (<https://research.nttcoms.com/database/data/001583/>)

domain.

Figure 3-3 Inflation rate and age transitions of people who are 55 and 35 years old now



[Sources] The Ministry of Internal Affairs and Communications Statistics Bureau of Consumer Price Index, *Consumer price index (total), expenses for education*

3.2.2 Relationship between Life Insurance and Financial Literacy

It is well known that the life insurance participation rate for Japanese people is extremely high. Akita (2005) compares the multiplier of death benefits against GDP per capita by country. The multipliers for the U.S., U.K., and Germany are approximately one, whereas for Japan, it is more than four times. Japanese people tend to purchase life insurance excessively, and this is one of the unique features of Japanese society.

According to the National Survey on Life Insurance (2015), which the Japan Institute of Life Insurance conducts once every three years, 68.6% of respondents have little knowledge about life insurance and 29.9% have sufficient knowledge (N=4,020).

Even though many Japanese people responded that they do not understand life insurance, they still purchased life insurance excessively. Thus, I assume that low financial literacy in Japan has an influence on the scale of purchases for life insurance. Then, I frame a hypothesis here (H1).

H1. The death benefit amount for groups with relatively high financial literacy will be below average or around average and the death benefit amount for groups with relatively low financial literacy will be higher than the average.

By analyzing the purchase of life insurance policies by prefecture, I highlight the effect of financial literacy on people's life insurance purchasing decisions in Japan. First, I listed the status

of life insurance per family by prefecture from the data announced by the Life Insurance Association of Japan. Then I match the data with scores from the Financial Literacy Survey, also by prefecture. Tables 3-3 and 3-4 indicate the results.

Table 3-3 State of life insurance purchase by prefecture

Prefecture	Insurance policies purchased per household (number)	Amount of death benefit per family (1,000 yen)
Hokkaido	2.55	10,632
Aomori	2.76	13,684
Iwate	2.97	14,552
Miyagi	3.39	16,707
Akita	2.94	13,642
Yamagata	4.04	19,590
Fukushima	3.31	16,570
Ibaraki	2.79	13,950
Tochigi	3.38	18,509
Gunma	3.12	16,905
Saitama	2.82	14,794
Chiba	2.83	14,640
Tokyo	2.86	16,323
Kanagawa	2.72	14,341
Niigata	3.34	18,172
Toyama	4.11	21,958
Ishikawa	3.67	19,110
Fukui	4.49	24,648
Yamanashi	3.19	16,705
Nagano	3.15	16,233
Gifu	3.35	17,953
Shizuoka	3.50	17,524
Aichi	3.19	17,555
Mie	3.15	16,016
Shiga	3.28	17,049
Kyoto	2.82	14,428
Osaka	2.86	15,677
Hyogo	2.81	14,403
Nara	2.91	14,978

Wakayama	3.03	14,581
Tottori	3.76	18,732
Shimane	3.15	15,310
Okayama	3.17	16,462
Hiroshima	2.99	14,971
Yamaguchi	2.89	13,372
Tokushima	3.42	16,942
Kagawa	3.25	17,689
Ehime	2.78	13,944
Kochi	2.89	13,699
Fukuoka	3.02	14,522
Saga	3.69	18,019
Nagasaki	3.06	14,327
Kumamoto	3.23	15,068
Oita	3.09	13,671
Miyazaki	2.74	11,598
Kagoshima	2.73	11,889
Okinawa	1.94	8,799
Ave.	3.1	15,763

[Sources] *Trends for life insurance and the Financial Literacy Survey in 2016*

I combined the data for life insurance and the Financial Literacy Survey to identify the five prefectures with the highest financial literacy as well as the five prefectures with lowest financial literacy. Examining the relationship between the percentage of correct answers given to true/false questions (score) in the Financial Literacy Survey (2016) and the status of life insurance, I did not find obvious differences. Regarding number of insurance policies, the upper group has fewer policies than the lower one. On the other hand, regarding the death benefit amount, the upper group's is larger than the lower one's. Both group averages are almost equivalent with the total group average (Table 3-4). Therefore, my hypothesis (H1) did not make sense.

Table 3-4 Prefectures with highest and lowest scores for total financial literacy

Rank	Prefecture	Score (%) (Correct answer rate)	Insurance policies (Number)	Amount of death benefit (1,000 yen)
No. 1	Nara	60.5	2.91	14,978
No. 2	Kagawa	59.4	3.25	17,689
No. 3	Kyoto	58.2	2.82	14,428
No. 4	Okayama	58.0	3.17	16,462
No. 5	Kagoshima	57.9	2.73	11,889
Ave.			2.98	15,089
No. 42	Tottori	52.5	3.76	18,732
42	Nagasaki	52.5	3.06	14,327
No. 44	Aomori	51.7	2.76	13,684
No. 45	Yamagata	51.6	4.04	19,590
No. 46	Okinawa	51.3	1.94	8,799
No. 47	Yamanashi	48.7	3.19	16,705
Ave.			3.00	14,621

[Sources] *Trends for life insurance and the Financial Literacy Survey (2016)*

Instead of considering the scores for the entire Financial Literacy Survey (2016), next I focused solely on the score denoting behaviors around the purchasing of life insurance. Because, I have another hypothesis (H2).

H2. The process of comparing and scrutinizing benefits during the purchasing of insurance might lead to avoiding excessive death benefits.

In Table 3-5, I listed the prefectures belonging to the upper group and the lower group in terms of the proportion of “yes” responses for the following question.

Q24. When you purchased your current life insurance, did you compare offers from different life insurance providers?

In this way, I will confirm the importance of the process used when purchasing life insurance.

Table 3-5 Prefectures with the highest and lowest proportions of “yes” responses to Q24

Rank	Prefecture	Proportion of YES (%)	Insurance policies (Number)	Amount of death benefit (1,000 yen)
No.1	Chiba	59.5	2.83	14,640
No.2	Kagoshima	59.1	2.73	11,889
No.3	Kanagawa	58.9	2.72	14,341
No.4	Miyazaki	58.6	2.74	11,598
No. 5	Hokkaido	58.0	2.55	10,632
	Hyogo	58.0	2.81	14,403
	Nagasaki	58.0	3.06	14,327
		Ave.	2.78	13,119
No. 42	Iwate	46.3	2.97	14,552
	Kagawa	46.3	3.25	17,689
No. 44	Kumamoto	46.2	3.23	15,068
No. 45	Tokushima	46.1	3.42	16,942
No. 46	Tottori	45.6	3.76	18,732
No. 47	Ehime	41.8	2.78	13,944
		Ave.	3.24	16,154

[Sources] *Trends for life insurance and the Financial Literacy Survey (2016)*

For Table 3-6, in the same way as before, I listed the highest and lowest groups according to the proportion of “yes” responses to the following question.

Q32. When you invested in a financial product most recently, did you compare it with other financial institutions' products or other types of financial products in order to choose one that was considered to be the most beneficial?

Table 3-6 Prefectures with highest and lowest proportions of “yes” responses to Q32

Rank	Prefecture	Proportion of YES (%)	Insurance policies (Number)	Amount of death benefit (1,000 yen)
No.1	Kochi	70.0	2.89	13,699
No.2	Yamaguchi	69.9	2.89	13,372
No.3	Kanagawa	69.7	2.72	14,341
No.4	Mie	69.6	3.15	16,016

No. 5	Kagoshima	68.4	2.73	11,889
		Ave.	2.88	13,863
No. 43	Kumamoto	51.5	3.23	15,068
No. 44	Yamanashi	51.4	3.19	16,705
No. 45	Tottori	50.0	3.76	18,732
	Tokushima	50.0	3.42	16,942
No. 47	Ishikawa	48.5	3.67	19,110
		Ave.	3.45	17,311

[Sources] *Trends for life insurance and the Financial Literacy Survey (2016)*

In Tables 3-5 and Table 3-6, the upper group, which purchased life insurance or a financial product after comparing it with other options, has fewer life insurance policies and lower death benefits than the lower group. However, scales of economy by prefecture might affect outcomes. Thus, I examined the ratio of death benefits to per capita income for both the upper group and the lower one. The average ratio for all prefectures is 5.59 times.

Table 3-7 The ratio of death benefit to per capita income

With respect to Table 3-5	Ratio
Upper group	5.00
Lower group	6.20
With respect to Table 3-6	
Upper group	4.94
Lower group	6.52

[Sources] *Trends for life insurance and the Financial Literacy Survey (2016)*

In the Financial Literacy Survey (2016), differences in financial literacy were analyzed by prefecture. I then used them as a reference to gain further understanding through matching life insurance data with the data of Financial Literacy Survey (2016) for each prefecture. Although I divided the upper five and the lower five prefecture groups by the level of financial literacy, I did not find something worth noting. However, when making the different groups similar in the previous situation, by focusing on attitudes about comparing with other options when purchasing life insurance or investing in risk assets, I found that the bottom group tends to purchase too much life insurance. Therefore, I can say my hypothesis (H2) is correct.

3.2.3 Investment Behavior by Gender

Next, I focus on investment behavior by gender. In general, in Japan men's financial literacy tends to be higher than women's, particularly with respect to investment knowledge and active investment. Taking the result below into account, the Financial Literacy Survey reports "Loss aversion is stronger for female respondents."

Q6. Suppose that if you invested 100,000 yen, you would either get a capital gain of 20,000 yen or a capital loss of 10,000 yen at 50% probability. What would you do? Choose only one answer.

Table 3-8 The result of Q6 in The Financial Literacy Survey

	I would invest	Ratio
Men	3,761 out of 12,334	30.5%
Female	1,583 out of 12,666	12.5%

[Source] *The Financial Literacy Survey*

In this section, I conduct a chi-square test to analyze the difference by gender, while framing next hypothesis.

H3. There is no difference in loss aversion between men and women.

I did a chi-square test with the following formula: observation power as n ; the expectation frequency as E ; the row number as I ; the column number as j ; and df indicates degrees of freedom.

Table 3-9 The observed frequency

	Men	Female	Total
I would invest	3,761	1,583	5,344
I would not invest	8,573	11,083	19,656
Total	12,334	12,666	25,000

Table 3-10 The expected frequency

	Men	Female	Total
I would invest	2,637	2,707	5,344
I would not invest	9,697	9,959	19,656
Total	12,334	12,666	25,000

$$X^2 = \sum_i^2 \sum_j^2 \frac{(n_{ij} - E_{ij})^2}{E_{ij}}$$

$$df = (2-1)*(2-1) = 1$$

$$X^2 = 3.46985115$$

It is significant at the 10% significant level. Likewise, I asked the same question with respect to financial advisors. The result was shown in Table 3-11.

Table 3-11 Financial advisors' respondents for the question of loss aversion

	I would invest	Ratio
Men	97 out of 132	73.5%
Women	72 out of 91	79.1%

[Source] *The questionnaire by the author*

In the case of financial advisors, there is little difference by gender. My hypothesis is correct. Rather, the rate of women who answered "I would invest" was higher than the rate of men. This can be interpreted in two ways. First, there is no difference between men's and women's fundamental loss aversion, and it is possible to mitigate loss aversion through certain financial experiences or through learning financial planning. Second, perhaps women are not actually more prone to loss aversion but simply do not like calculations.

Table 3-12 Analysis of correct answer rate for true or false questions

Question Number	Correct answer rate (%)		Difference	Significant level
	Women	Men		
4	58.5	51.6	6.9	
5	46.7	47.1	-0.4	
12	53.2	53.2	0	
13	50.4	44.8	5.6	
14	68	64.3	3.7	
15	74.1	70.6	3.5	
16	81.4	78.9	2.5	
18	60.6	71	-10.4	
19	33.3	52.7	-19.4	*

20	48	63.4	-15.4	
21-1	52.3	69.5	-17.2	*
22	17.6	30.5	-12.9	
23	38.1	50	-11.9	
25	41.2	52.3	-11.1	
26	52.2	49.2	3	
28	57	63	-6	
21-2	66.3	70.6	-4.3	
30	49.4	52.3	-2.9	
31	32.1	49.2	-17.1	
21-3	72.7	76.9	-4.2	
21-4	37.9	53.9	-16	
33	40.4	44.2	-3.8	
36	59.7	59.4	0.3	
37	63.8	61.7	2.1	
38	74.8	72.5	2.3	

[Notes] Any question shaded indicates women's score underperformed men's score 10% points or more. * means 10% of significant level.

[Source] *The Financial Literacy Survey in 2016*

The table displays the difference in average scores by gender for true or false questions in the Financial Literacy Survey. Any question for which there was a 10% points or more difference by gender tends to require mathematical thinking, such as questions about interest rates, bond prices, and investment results. There are three questions that show a 15% points or more difference between genders, and for two out of the three questions, the difference is significant at the 10% significance level. (Since Q6 about loss aversion is not a true or false question but a behavioral economics analysis question, the question was not listed in the above figure.)

According to PISA²⁰, regarding gender differences for mathematical literacy scores, the score for boys was 539 points, and for girls the score was 525 points; boys' scores were 14 points higher than girls'. It is said that there is a statistically significant difference. For the above two reasons, it seems necessary to reconsider the perception that women's loss aversion is relatively higher than men's.

²⁰ PISA stands for Programme for International Student Assessment. "PISA is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students." (OECD)
(<http://www.oecd.org/pisa/aboutpisa>)

As for reading comprehension in PISA, girls' scores are higher than boys' in all survey-participating countries, and the difference is statistically significant. Apparently, the same can be said about financial literacy. Concerning true/false questions in the Financial Literacy Survey, in the six questions below, women outperformed men (Table 3-13). Except for the question 13, which confirmed the three major expenditures of life, all questions required that respondents read the sentences carefully to decide how to proceed. It can be said that questions in which women outperformed men required reading comprehension. Although it is not a significant difference, you can say that women demonstrate this capability for reading comprehension in the area of financial literacy as well.

Table 3-13 Questions of higher female answer rate than men's one

Question Number	Correct answer rate		Difference	Significant level
	Female	Men		
4	58.5	51.6	6.9	
13	50.4	44.8	5.6	
14	68	64.3	3.7	
15	74.1	70.6	3.5	
16	81.4	78.9	2.5	
26	52.2	49.2	3	

[Source] *The Financial Literacy Survey (2016)*

3.3 Findings

I confirmed various features of Japanese people's financial literacy in chapter two and analyzed them in detail at chapter three. In this section, I summarize what I grasped as follows.

(1) The importance of comparing different options when purchasing life insurance.

Comparison between prefectures indicated comparing options will likely help people avoid purchasing excessive life insurance.

(2) The importance of financial knowledge for people in their 30s.

Many people in their 30s experience significant life events such as purchasing houses and the birth of children. In general, these people will not be able to experience such significant life events many times in their lives. Hence, they should acquire financial knowledge such as about inflation and interest rates from a long-term perspective in order to make appropriate decisions. However, I found that people in this generation were short on knowledge. Therefore, it is important for them to seek opportunities to acquire knowledge before such events.

(3) The importance of management of the household economy by both husband and

wife.

I doubted the perception that women tend to demonstrate more loss aversion. But I did find that women are not as skilled in numeracy as men. On the other hand, women tend to have higher reading comprehension than men. As far as married couples are concerned, I emphasize the importance of sharing management of the household economy as husband and wife. Each can support the other, and it will be likely to lead to effective management. Regarding household economic management in Japan, Okamoto (2015) mentions that the proportion of management by only the wife is higher and the proportion of management by both husband and wife is lower than in other countries (Table 3- 14).

Table 3-14 Proportion by revenue management types and its change

	Husband	Wife	Both
	(Japan)		
1994	11.8	61.2	19.8
2002	11.5	58.1	20.3
2012	17.5	55.9	11.2
	(Average on 17 countries)		
1994	7.9	16.9	58.1
2002	7.3	15.5	56.2
2012	9.1	14.9	52.1

[Source] Okamoto (2015) p. 55

These results can be compared with those from 17 countries in the OECD. In most countries, the proportion of households in which economic management is by only the wife is very small, and the proportion in which both the husband and wife share the responsibility for economic management is very high, which is opposite to what is observed in Japan.

With respect to Germany, Ireland U.K., Poland, South Africa and the Czech Republic, out of the 17 countries in the OECD, it is possible to compare some data in the Financial Literacy Survey with Japan. In comparison with these countries and Japan about the rate of monitoring one's own financial affairs, I obtained interesting outcome. These countries indicate high proportion not only joint revenue management but also monitoring of financial affairs. On contrast, both of items in Japan are low. (Table 3-15, Figure 3-4).

Table 3-15 Proportion of joint revenue management and monitoring of financial affairs

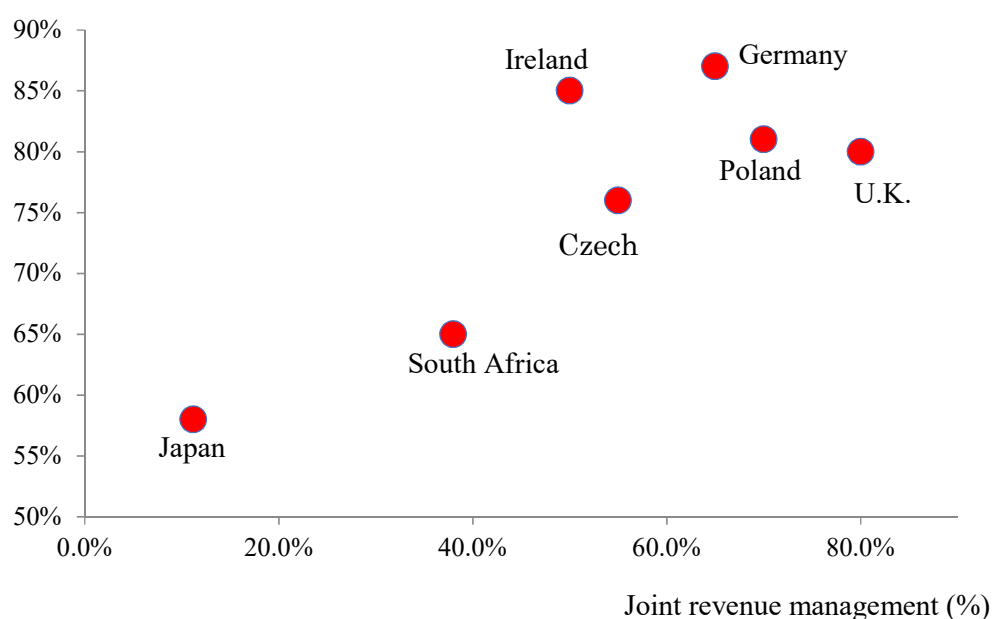
Country	Joint revenue management	Monitoring of financial affairs
Japan	11.2%	57.5%
Germany	65.0%	87.0%
Ireland	50.0%	85.0%
U.K.	80.0%	80.0%
Poland	70.0%	81.0%
South Africa	38.0%	65.0%
Czech	55.0%	76.0%

[Note] The proportion of joint revenue management for each country was calculated by the author based on Okamoto (2015).

[Sources] Okamoto (2015) and *The Financial Literacy Survey (2016)*

Figure 3-4 Proportion of joint revenue management and monitoring of financial affairs

Monitoring of financial affairs (%)



[Sources] Okamoto (2015) and *The Financial Literacy Survey (2016)*

Joint revenue management by both husband and wife will affect people's awareness about and attention to money. Thus, I believe that joint management will help Japanese people to enhance their financial literacy, in the sense that it will help improve their attention to money. My suggestion regarding joint management of the household economy will likely bring about positive change for financial literacy in Japan.

CHAPTER 4 ROLES OF FINANCIAL ADVISORS

This chapter explores the roles of financial advisors in improving people's financial literacy. As I discussed in chapter two, many studies point out the educational system as a problem when it comes to financial literacy. These studies emphasize the importance of reforming the educational system as a prerequisite for developing financial literacy. On the other hand, few studies have been done to explore the roles of financial advisors. It might take many terms to reform the educational system, but I do not think the same applies to reforming perceptions about financial advisors. I will suggest some ideas here.

4.1 Current Position of Financial Advisors

Because of the prevalence of internet financial services, financial advisors are forced to emphasize their existence. I describe the changing landscape for financial services from a few decades ago until now. After the financial Big Bang in the late 1990s, the regulation of financial services was gradually relaxed. As one example, banks could not provide insurance services before but afterwards could provide them. Thanks to this new movement, customers can receive a variety of financial services and products in one financial institution. Today, banks—familiar to a lot of people—arrange not only for deposits and mortgage loans but also for mutual funds, life insurance, and medical insurance.

Furthermore, life insurance agencies, which provide various companies' products, are now standard. Meanwhile, the number of independent of financial advisors has been increasing. In other words, citizens can now procure financial advice in various places and situations, and it has become easier for consumers to consult with financial advisors now than ever before. Financial services by internet, including internet banks and life insurance, are common now. More and more people will use these services because of the advantage that their cost is low. In this case, a lack of financial literacy may pose difficulties.

Ideally, consumers should receive financial services from financial advisors who can give them the appropriate advice, and consumers should choose internet financial services after they have already developed their financial literacy. In response to the changing landscape for financial advisors, the decision-making of customers will also change. Now, "Fintech²¹" is also accelerating. Thanks to Fintech, many financial institutions are preparing to reduce their workforce and streamline tasks to make them more efficient. Financial advisors must enhance the importance of their existence by providing high-level consultations and appropriate advice for each customer.

²¹ Fintech shorten Finance and Technology.

4.2 Questionnaire

The author carried out an investigation for how financial advisors understand the degree of customers' financial literacy. The outline of the questionnaire is below. All results are attached in the last part of this chapter.

Table 4-1 The outline of questionnaire

Number	223 (Men 132, Women 91)
Term	From July to November
Areas (Number of respondents)	Okayama (45), Kagawa (6), Ehime (1), Hiroshima (3) Fukuoka (103), Saga (12), Nagasaki (18), Kumamoto (19), Kagoshima (16)
Age	From 20s to 60s
Financial Institutions	A major bank Regional banks Major life insurance companies Independent insurance agencies

When the author was in charge of financial seminars for financial advisors, the author distributed the questionnaires to participants. The participants took part in the seminars to pass the financial planning examination and to enhance their skills. Therefore, it can be said that they are suitable respondents. Also, the author visited financial institutions directly and requested that some financial advisors answer the questionnaires. Since these advisors always serve their customers in order to provide financial services and products, they are also suitable respondents. First, I discuss the result of question number seven.

4.3 The Perceptions of Financial Advisors

In the questionnaire, I established three questions how respondents in the Financial Literacy Survey (2016) think about. As I touched upon some time before regarding question six, which measures the degree of loss aversion, only about 20% respondents answered "I would invest." I asked the following question to examine how financial advisors understand ordinary people's level of loss aversion?

Q7 in the questionnaire.

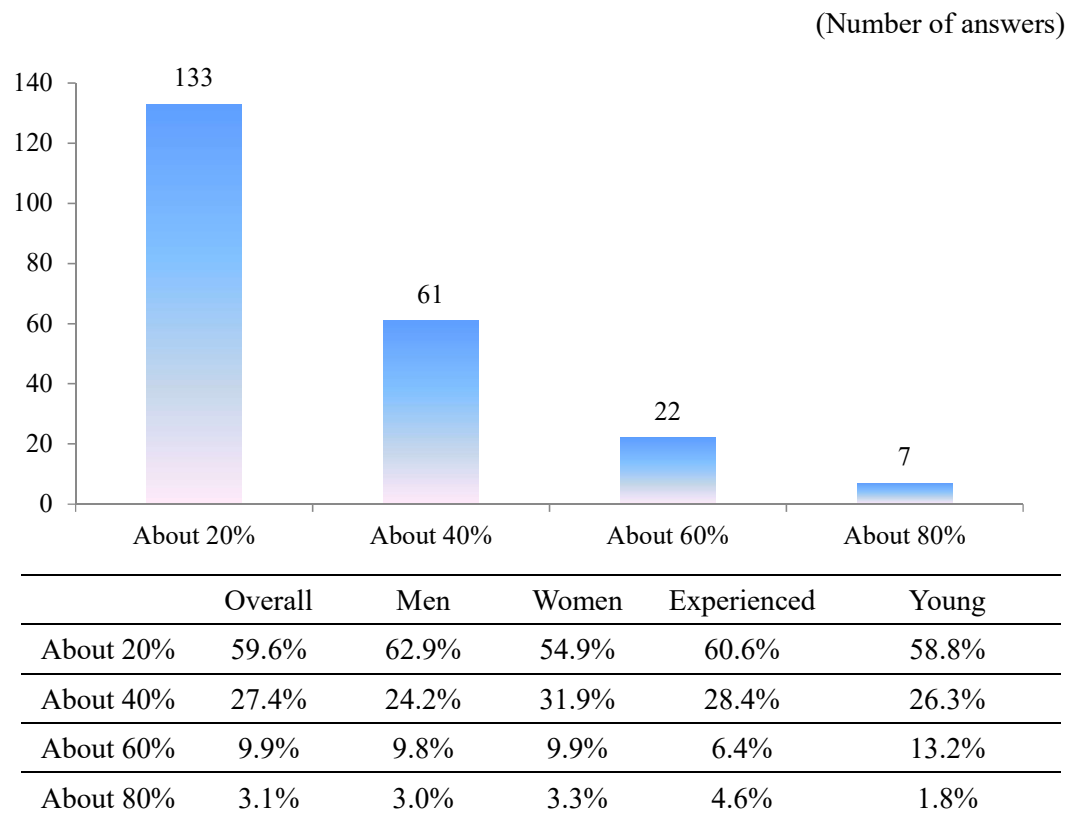
Do you think what percentage of respondents surveyed "I would invest" in the question six?

Choose only one out of four options.

(About 20% / About 40% / About 60% / About 80%)

Out of 223 respondents, 133 choose “about 20%,” and only 29 respondents selected “about 60%” or “about 80%.” In general, it turned out that financial advisors tend to grasp the loss aversion of Japanese people. (Figure 4-1)

Figure 4 -1 The result of Q7 in the questionnaire



[Source] *The questionnaire survey by the author*

In addition, each answer category is shown by gender and carrier. There are some opinions about the proper attributes for financial consultations in practice. As examples, younger financial advisors are better suited than senior advisors for asset management consultations; and women’s advisors should be engaged rather than men’s advisors regarding life insurance. Then, I explore the difference in response rates by attribute. “Experienced” means those financial advisors who have ten years or more of experience. “Young” means the period of experience is less ten years.

Financial advisors comprehend that many people have an aversion to loss. There is no difference in perception according to attribute. There seems to be no significant problem for financial advisors to provide financial advice and products with the current perceptions.

Next, to examine the perceptions of financial advisors about people’s understanding of inflation, I asked the question below.

Q8 in the questionnaire.

What percentage of respondents surveyed do you think had a certain understanding of inflation?

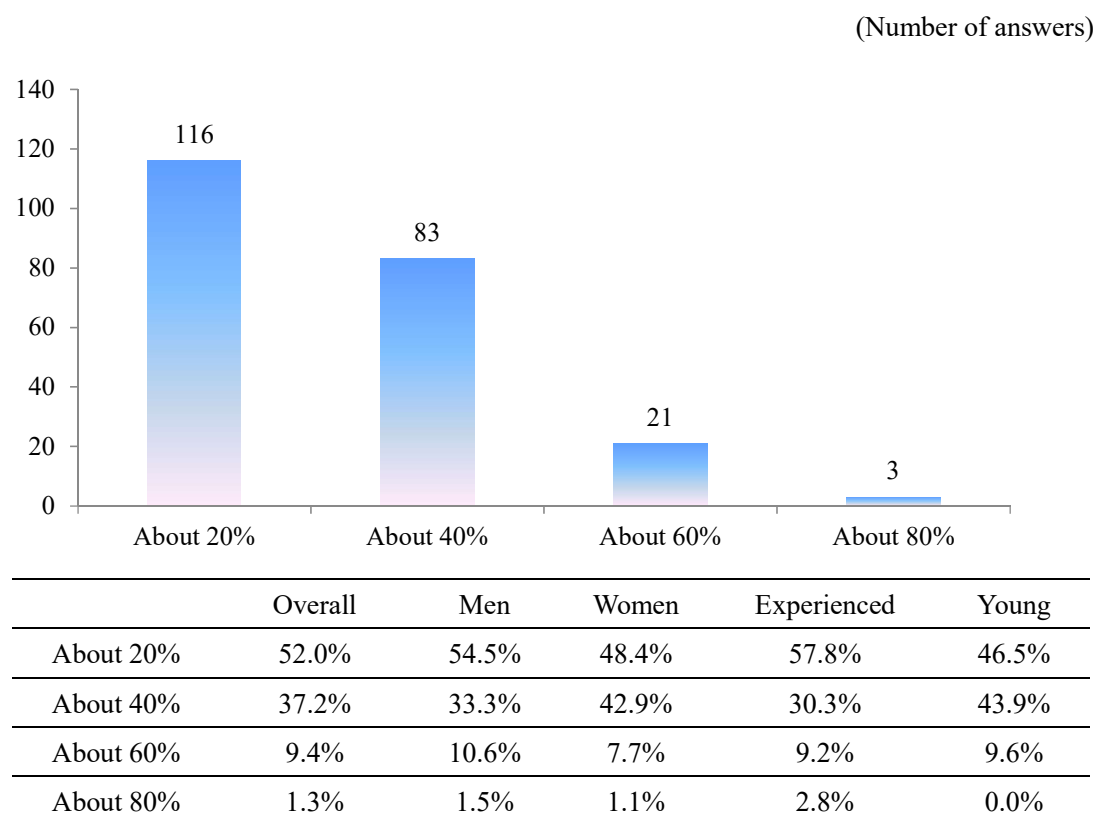
Choose only one answer.

(About 20% / About 40% / About 60% / About 80%)

The answer in the Financial Literacy Survey is 60.8%

About 60% of respondents in the Financial Literacy Survey understood inflation correctly, but only 21 financial advisors answered “about 60%,” 116 answered “about 20%,” and 83 answered “about 40%.” It turned out that financial advisors hardly recognized that the people’s degree of understanding of inflation is high.

Figure 4 -2 The result of Q8 in the questionnaire



[Source] *The questionnaire survey by the author*

Since financial advisors do not overly evaluate the degree of understanding of inflation, they carefully advise about the necessity of future inflation measures etc. In other words, many financial advisors tend to underestimate their clients’ understanding. Judging from this, they may neglect to talk about the importance of the inflation hedge because of troublesome feeling.

Especially regarding inflation, women's understanding tends to be low. Women have better reading comprehension than numeracy capability, and this tendency can be seen in

financial literacy. It may be difficult for many women to explain inflation by setting the inflation rate or interest rate or by showing the formula for a calculation. It may be a more effective explanation to provide stories to illustrate examples, such as whether you can purchase certain goods several years later in certain situations.

Financial advisors must keep in mind that people in their thirties do not have a thorough understanding of inflation. Many of them experience important life events such as marriage, childbirth, and housing purchase. Hence, they must make decisions about personal finance, such as about obtaining housing mortgages and purchasing educational endowment insurance. They do not experience these events many times over the course of a lifetime and it is difficult to expect people to understand at the very moment they are having their first experiences. Regarding educational endowment insurance, people may think about it only once or twice in a lifetime because of the low total fertility rate in Japan.²² On the basis of these circumstances, financial advisors should give their clients multiple options so that they can think about their long-term financial plan.

The next issue is about financial advisors' perception of people's preparation for emergency. I asked the question below.

Q9 in the questionnaire

What percentage of respondents surveyed do you think have saved the equivalent of cost of living for three months to prepare for emergency?

(About 0% / About 30% / About 50% / About 70% / About 100%)

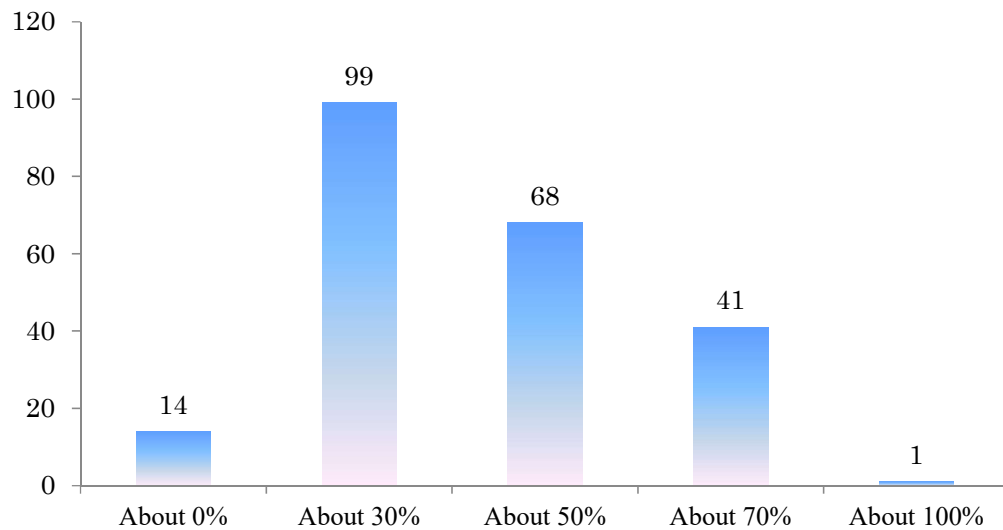
The answer in the Financial Literacy Survey

Yes 54.9% No 29.7% Do not know 15.4%

²² Total fertility rate in Japan is 1.44 as of 2016 (Ministry of Health, Labor, and Welfare)

Figure 4 -3 The result of Q9 in the questionnaire

(Number of answers)



	Overall	Men	Women	Experienced	Young
About 0%	6.3%	8.7%	7.5%	8.3%	4.4%
About 30%	44.4%	58.0%	37.5%	50.5%	38.6%
About 50%	30.5%	20.3%	25.0%	22.0%	38.6%
About 70%	18.4%	13.0%	30.0%	19.3%	17.5%
About 100%	0.4%	0.0%	0.0%	0.0%	0.9%

[Source] *The questionnaire survey by the author*

In fact, about 50% of respondents answered “Yes.” The perception of female financial advisors was slightly overestimated, but many financial advisors answered “30%” and about 14 financial advisors said “About 0%,” which was an underestimate. According to the Financial Literacy Survey (2016), then, the percentage of Japanese who are preparing for emergency is higher than in the U.S.

Table 4-2 Comparing Japan and U.S.

	Japan	U.S.
The proportion of those who have confidence about financial knowledge	13%	73%
Those who had set aside emergency or rainy day funds	55%	46%
The proportion of those who have life insurance policy	70%	53%

[Source] *The Financial Literacy Survey (2016)*

The percentage of people who are confident in financial knowledge is overwhelmingly

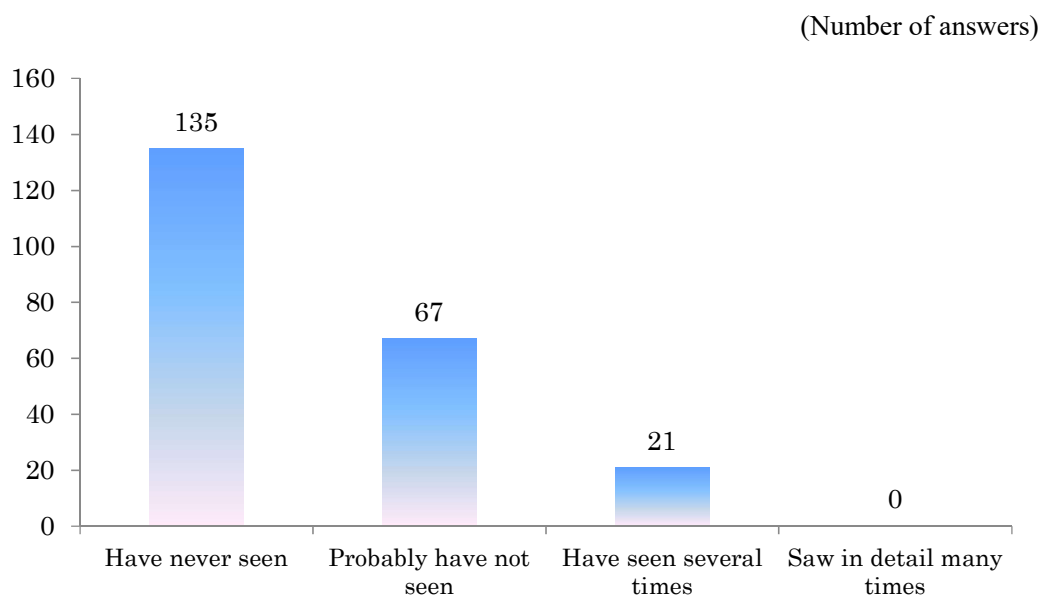
lower in Japan than in the U.S., as shown in Table 4-5. The lack of confidence leads to anxiety about the future, enhancing perceived need to prepare for emergency. The proportion of people having a life insurance policy may also be high from the same high awareness of risk. Since the Japanese are very conservative about asset management, funds for emergency will mainly consist of cash and deposits. It is hardly a bad thing that people prepare for an emergency. However, excessive anxiety and preparation may cause inefficient asset management. Thus, understanding of the social security system, investment knowledge, and financial experience, etc., will enhance people's confidence and may lead to more efficient asset management. Financial advisors must grasp that point.

In the last of the questionnaire, I asked financial advisors whether or not they have looked at the Financial Literacy Survey.

Q10 in the questionnaire

Have you ever looked at the Financial Literacy Survey done by the Central Council for Financial Services? (Have never seen / Probably have not seen / Have seen several times /

Figure 4-4 The result of Q10 in the questionnaire



	Overall	Men	Women	Experienced	Young
Have never seen	60.5%	62.1%	58.2%	55.0%	65.8%
Probably have not seen	30.0%	28.0%	33.0%	34.9%	25.4%
have seen several times	9.4%	9.8%	8.8%	10.1%	8.8%
Saw in detail many times	0.0%	0	0	0	0

[Source] *The questionnaire survey by the author*

Saw in detail many times)

Almost all respondents answered “Have never seen” or “Probably have not seen” (Figure 4-4). In spite of the large scale investigation done by the Central Council for Financial Services Information, financial advisors seem not to recognize the presence of the survey. Especially, young financial advisors seem not to read the survey. Since the result of the survey reveals people’s perceptions and behavior for personal finance in detail, there is no reason for it not to be consulted.

4.4 Roles of Financial Advisors in Improving Financial Literacy

In chapter two, I discussed the characteristics of the Japanese people’s financial literacy. Furthermore, I investigated some personal finance issues which people face in chapter one and five. Based on them, I suggest some ways financial advisors can improve people’s financial literacy. I will begin by introducing a way to apply the "satisfaction mirror" to personal financial business.

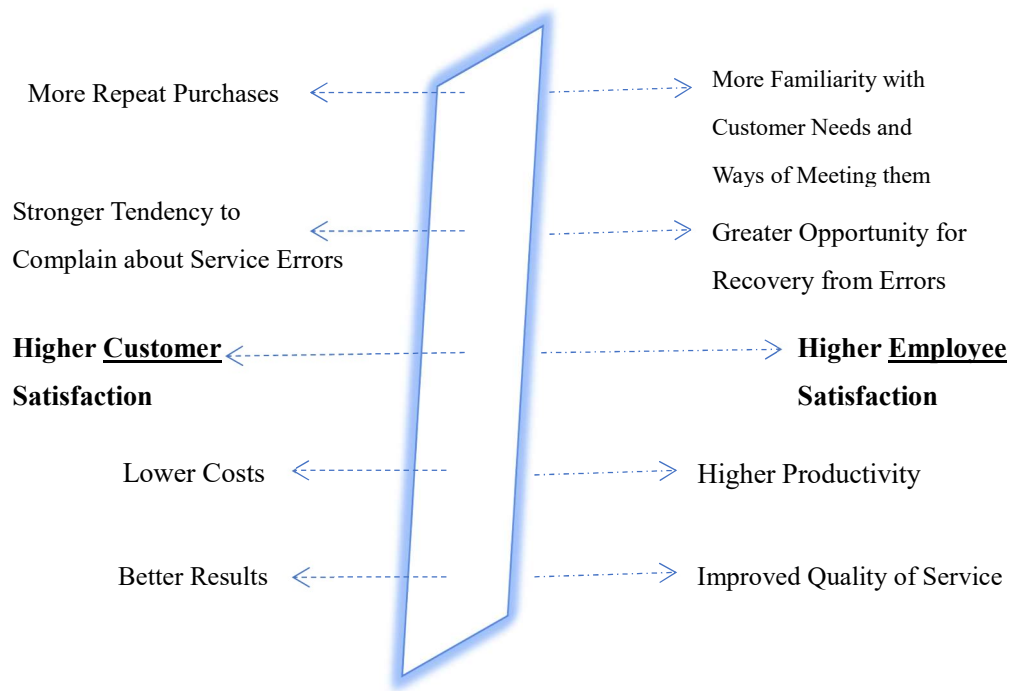
4.4.1 Satisfaction Mirror

The theory of the satisfaction mirror will be one of the ways for financial advisors to improve people’s financial literacy. Satisfaction mirror is a theory originally used to describe the relationship between customer and employee satisfaction (Figure 4-5). A high level of customer satisfaction brings a mirror effect to employee satisfaction. Furthermore, it reflects and raises customer satisfaction even more (Heskett and Sasser, 1998). The theory is not used in personal financial business very much, but it effectively applies to the relationship between individuals and financial advisors. I use as a premise a sales scene for mutual funds, which is one of the most popular asset management products for general consumers (Figure 4-6).

The Financial Services Agency also warns that the holding period of mutual funds in Japan is much shorter than in the U.S. and the U.K. One of the reasons for this may be that financial advisors, such as bankers, propose frequent selling and buying to obtain sales commissions. Originally, mutual funds themselves provide diversification through investing in many shares, bonds, etc., to reduce risks. Moreover, most of them are maintained at regular investment destinations and these destinations assume long-term possession for investors. Frequent trades cause trade waste fees and inefficient tax burden, and they contribute to deteriorating yield. As a result, customers can harbor dissatisfaction.

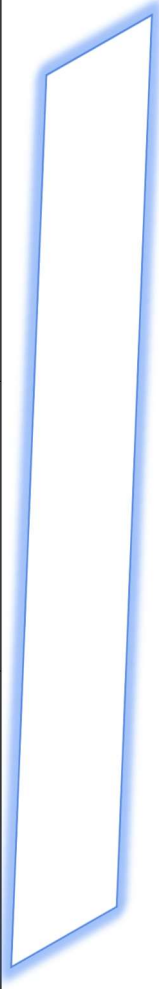
In such circumstances, some consumers will think that it is better to purchase mutual funds through internet banks rather than buying them via financial advisors in financial institutions. However, only sophisticated customers should purchase risky financial products like mutual funds via the internet. Doing this will cause an undesirable or bad flow of results.

Figure 4-5 Basic of satisfaction mirror



[Source] "Gurobisu MBA Kiiwarado Zukai Kihon Fureemuwaaku 50"

Figure 4-6 Satisfaction mirror for financial advisors

(1) FA are reliable for customers. Customers will keep good relationship with FA while consulting with them. Customers rely on FA and require many transactions. It does not mean frequent selling and buying but adding new money.		(2) FA can hear concrete requests from customers, understand customers' perception more deeply and provide better consulting and appropriate mutual funds.
(3) As the amount of transaction increases, customers will be highly interested in their financial transactions and sometimes point out insufficient consulting and mistakes.		(4) The relationship with customers will deepen more. FA will make further efforts to recover by receiving strict complains. The number of customers without saying claims will decrease.
(5) Thanks to efficient transactions, the costs must decrease. Customers may sometimes get fees preferential treatment.		(6) Assets in custody will increase. Profitability improvement in the long-run.
(7) Better asset management		(8) Development of consulting quality

[Note] FA stands for financial advisors

4.4.2 Activities and events for customers to improve financial literacy

Although in chapter three I suggested it is effective that both the wife and the husband should jointly manage the household economy, financial advisors and institutions tend to unevenly focus on women. As one example, the number of financial seminars targeting women is many more than those targeting married couples. I conducted web research in the following way.

- Search engine: Google
- Search keywords: “women, money seminar,” “women, money workshop,” ...
- Survey date: October 30, November 8, 15, and 28, 2017

- Surveyed seminars: Seminars to be held one year before the survey date or after the survey date (seminar announcement) were targeted.

Table 4-3 Money seminars for women

Date	Seminar title	Venue
November 5th in 2016	Money seminar for beginners of women in Fukushima prefecture	Fukushima
February 21th in 2017	Free money seminar for mothers under raising	Tokyo
October 30th in 2017	How to increase money high income girls	Tokyo
November 5th in 2017	Money seminar for women	Tokyo
November 9th in 2017	Future design money seminar for women	Hiroshima
November 14th in 2017	Money courses for mothers wanting to save children's educational funds	Osaka
December 14th in 2017	Belle Maison money seminar. Solutions of your matters of your asset problems	Tokyo Osaka

Although I frequently found financial seminars for women (Table 4-3), I did not find them for couples. Only one case for a couples' seminar appeared in my investigations.

Holding financial seminars for couples will give them opportunities to jointly think about their household economy. For this reason, financial advisors or financial institutions should increase in seminars for couples. Also, financial institutions should change the hours of operation. Now, some financial institutions operate at night and on weekends, and many other financial institutions should do the same. This will make it easier for couples to consult with financial advisors.

Since I prioritize searching for ways to enhance customers' financial literacy while conducting sales activities, I do not take marketing factors into account in this case.

4.4.3 Financial Advice Map for Financial Literacy Map

Financial Literacy Map summarizes the contents to be learned about minimum learned financial literacy. The Financial Services Agency established the Financial Economics Education Study Group and published the map by age group.

As you can see in this paper, there are areas of financial literacy that are not strong, depending on age group or gender, and so on. All of this means that people have not cleared the minimum level of financial literacy. Therefore, in order to enable people to make progress on this map, I created a new map based on my research, summarizing the role of financial advisors in supporting customers. I named The Financial Advice Map for Financial Literacy Map is

attached at the end of this study. The map indicates what financial advisors should do to empower the people living on the map with respect to personal financial viewpoint. Financial Literacy Map is described separately from elementary school students to the elderly, but this time in my paper, I focused on adults and summarized the map in this way. This map is regarded as a comprehensive summary of this research.

4-5 Summary

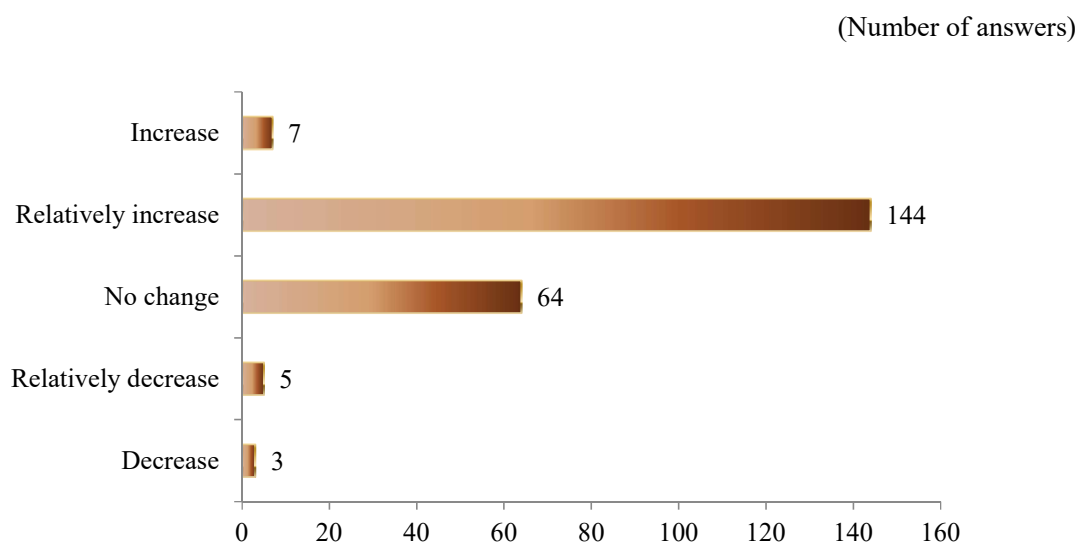
This chapter describes the possibilities of financial advisors to improve people's financial literacy as well as suggests some methods to do so.

According to the questionnaire, out of 223 financial advisors, 151 respondents think that Japanese investment knowledge has been growing in the recent three to five years (Figure4-7).

Q5. Do you think that Japanese investment knowledge has been enhancing in recent three to five years?

Decrease Relatively decrease No change Relatively increase Increase

Figure 4-7 The result of question five in the questionnaire



[Source] *The questionnaire survey by the author*

By and large, this paper explains that Japanese are conservative in asset management, but many financial advisors seem to feel the gradual change of customers' conservative. Financial advisors should regard this change as an opportunity to enhance people's financial literacy.

CHAPTER 5 CONCLUSIONS

Compared to other countries, financial literacy in Japan is relatively low, especially literacy pertaining to investment. Loss aversion is also very high. Considering recent trends for which voluntary efforts are required for making retirement funds, it is a key point that we should take measures which the study indicates as soon as possible. And, financial advisors are able to help development of financial literacy.

5.1 Solutions

Noteworthy is that this study points out the importance of comparing alternative options when people purchase life insurance. When analyzing various attributes of the Japanese people, this study found that there are various strengths and weaknesses, and also discussed the adverse effects of not having a certain level of financial literacy before significant life events. Likewise, taking finds in this study into account, the author lists the solutions from financial advisors view point. The lists involve in the Financial Advice Map for Financial Literacy Map attached the last this chapter.

- ✓ Since it is important, in particular, to compare life insurance products, financial advisors should propose multiple plans and alternative options other than life insurance.
- ✓ In order to make the most of the strengths of men and women, financial advisors should urge couples to manage households jointly after marriage.
- ✓ Considering that making the right decisions when marriage, childbirth, and home purchase are needed is crucial, financial advisors should explain the necessity of learning basic personal financial matters before such life events as soon as possible.
- ✓ Financial advisors should explain the possibility of price increases in the future, and the mechanism that interest is borne on the borrowed amount before determining the floating rate or the fixed rate. In the case of selecting the floating rate, financial advisors should explain in an easy to understand way basic knowledge on how the interest rate fluctuates.
- ✓ As there is a possibility that the preparation for education and retirement funding may not be carried out in an appropriate way, financial advisors should confirm why these preparations are done by the present methods and provide alternative plans to improve on current ways.
- ✓ Financial advisors should explain about the financial ADR²³, which provides solutions for financial trouble at low cost and over short terms. Customers will be relieved to know the existence of the financial ADR. It will contribute to a good relationship between

²³ ADR stands for Alternative Dispute Resolution. One of the financial ADR is FINMAC (Financial Instruments Mediation Assistance Center)

customers and Financial Advisors.

- ✓ Financial advisors should make the most of the Financial Literacy Survey and other survey to deeply understand customer condition.

Financial advisors have opportunities to contact consumers on many occasions such as for insurance and mortgage contracts as well as securities investment. They are also in a position to comprehend the low financial literacy of Japanese people. Therefore, financial advisors can contribute to improving people's financial literacy. To do so, it is necessary for them to strive even further to give customized advice and support, while considering individual customer attributes.

5.2 Implications

At present, many people tend to prioritize financial transactions conducted over the internet without any face-to-face contact with financial advisors. However, the environment of personal finance is rapidly changing with the appearance of virtual currency and the development of Fintech. Without a certain degree financial literacy, more and more people may face with financial challenges. In other words, new social problems regarding personal finance may emerge one after another.

When it comes to current social problems, these will be improved if financial literacy is further developed. In this study, the author suggested that household economy management be done jointly in the case of couples. Recently, the poverty rate of single-parent households exceeded 50%, far exceeding that of two-parent households. Many of these single-parent households lack educational funds for children. Thus, education gaps owing to poverty are a crucial problem now. In the elder generations, damage caused by transfer fraud is another social problem. Does a low level of financial literacy have an influence on these social problems, more or less?

If the number of couples cooperating to economically manage households increases, leading to reduction of divorce as a result of financial problems, it will contribute to reducing the number of single-parent households. It can also be expected to improve poverty-related problems. In addition, it is expected that people who have careful attitudes about money will increase through their engagement in household economic management. As a result, there will also be a reduction in the damage from fraud when these people become senior citizens.

The increase in livelihood protection recipients is because the number of elderly recipients is increasing, which underscores the importance of earlier preparation for retirement through better understanding of the social insurance system and, also of asset management. Thus, the defined contribution pension will give people decent opportunities to learn about the social insurance system and to practice investment. Typical Japanese people with low levels

of financial literacy should change their minds and take actions to prepare for future society.

5.3 Future Challenges

This study used the Financial Literacy Survey but did not obtain individual data. In the future, I would like to tackle other problems in financial literacy through setting hypotheses and conducting consumer surveys to further analyze Japanese financial literacy and to suggest effective solutions. Another issue is that the paper describes a financial advice map, but it does not apply to the entire Financial Literacy Map. It will be a significant achievement to complete the financial advice map and to inform many more financial advisors about the map.

Development of financial literacy can enhance people's living standards. Furthermore, it can serve as one of the pillars to solve various social problems. In that sense, financial advisors should further explore their presence and their possibilities while remembering their responsibilities.

APPENDICIES

<Appendix 1>

The literacy questions that measure the four fundamental concepts for financial decision-making: basic numeracy, interest compounding, inflation, and risk diversification. (The answer options are in the brackets, with the correct answer in bold.) in the S&P Global FinLit²⁴ Survey.

<Appendix 2> Summary extract of the Financial Literacy Map

1. Risk diversification

Suppose you have some money. Is it safer to put your money into one business or investment, or to put your money into multiple businesses or investments?

[one business or investment; **multiple businesses or investments**; don't know; refused to answer]

2. Inflation

Suppose over the next 10 years, the prices of the things you buy double. If your income also doubles, will you be able to buy less than you can buy today, the same as you can buy today, or more than you can buy today?

[less; **the same**; more; don't know; refused to answer]

3. Numeracy (interest)

Suppose you need to borrow 100 US dollars. Which is the lower amount to pay back: 105 US dollars or 100 US dollars plus three percent?

[105 US dollars; **100 US dollars plus three percent**; don't know; refused to answer]

4. Compound interest

Suppose you put money in the bank for two years, and the bank agrees to add 15% per year to your account. Will the bank add more money to your account the second year than it did the first year, or will it add the same amount of money both years?

[**more**; the same; don't know; refused to answer]

5. Compound interest

Suppose you had 100 U.S. dollars in a savings account and the bank adds 10% per year to the account. How much money would you have in the account after five years if you did not remove any money from the account?

[**more than 150 dollars**; exactly 150 dollars; less than 150 dollars; don't know; refused to answer]

²⁴ FinLit stands for Finance Literacy

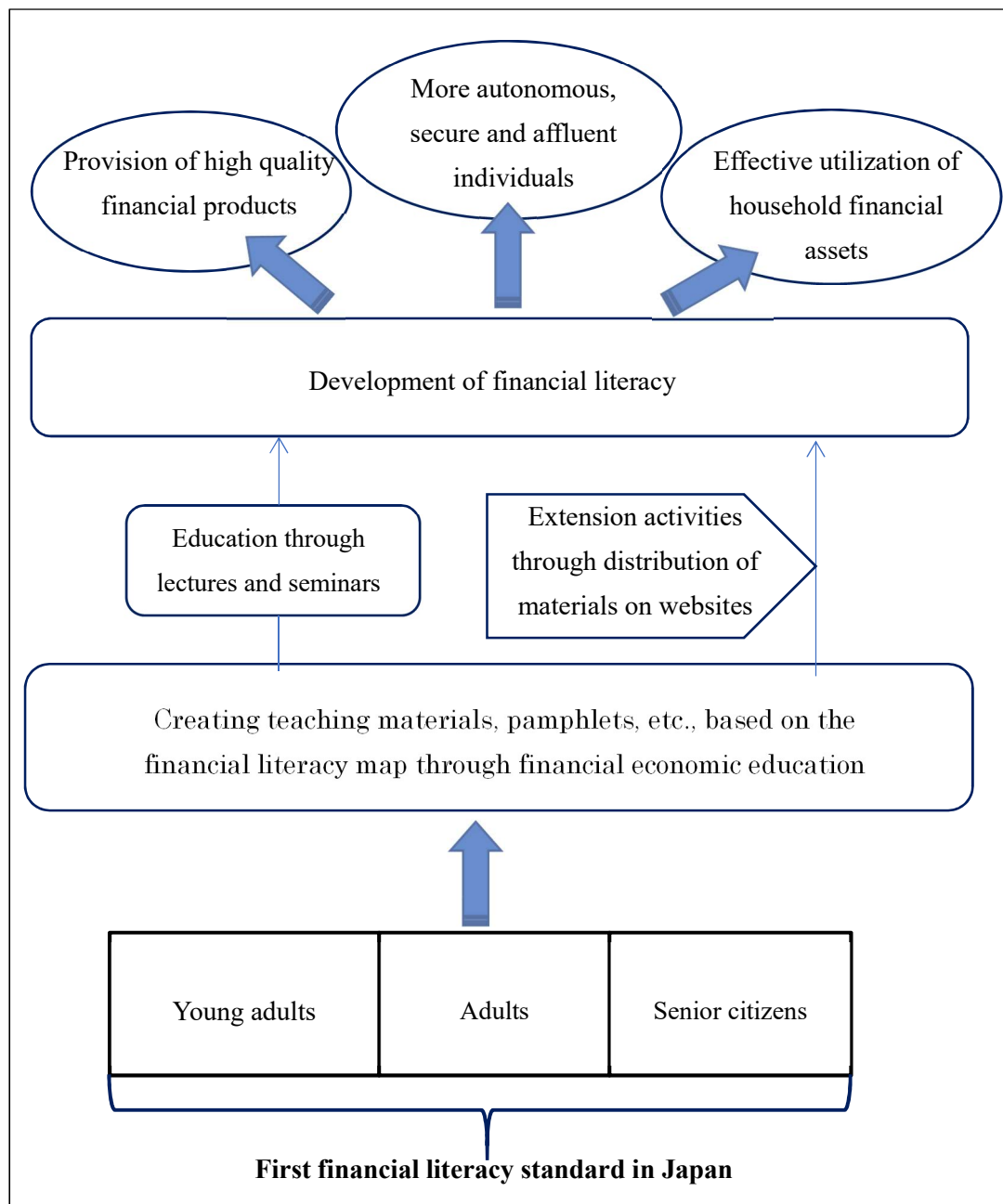
Category	Young adults	Adults	Senior citizens
	Starting to live independently in terms of lifestyle and financial aspects.	Living independently and assuming full-fledged responsibility as working people.	Covering living expenses mainly with pension income and money obtained by cashing out financial assets.
Family budget management	Being able to spend money on one's hobby or improving one's skills according to a plan, while properly managing income and expenditure to support one's household income.	Being able to understand income and expenditure as well as assets and liabilities of one's household by keeping a household account book as the breadwinner of the household, and improving the balance as necessary.	Being able to manage income and expenditure and take necessary action for improvement according to a post-retirement plan.
Life planning	Working on a life plan so that one can achieve one's dreams and hopes while engaging in the occupation one has chosen. Being able to estimate how much money one would need to achieve one's life plan, and to	Reconsidering one's life plan, financial plan, and assets to hold when necessity arises in light of the changes in one's circumstances, and making constant efforts to achieve one's life plan in view of one's life in	Reviewing one's post-retirement life plan while taking into consideration the effective use of leisure time and contribution to one's family and society. Changing one's lifestyle to one affordable with a pension and making steady efforts so that one can live a spiritually rich and stable life.

	save money and manage assets according to a plan.	old age. Engaging in financial education for children at home in cooperation with school.	
--	--	---	--

[Note] For details on the Financial Literacy Map, see the website of the Central Council for Financial Services Information (<https://www.shiruporuto.jp/e/>).

[Source] *The Financial Literacy Survey (2016)*





<Appendix 3> Definition of the Financial Literacy Map



[Source] Presentation document in a subcommittee by Masataka Honke. ²⁵

²⁵ The subcommittee took place on June 27th in 2014, Masataka Honke, the Chairman of the Financial Public Relations Central Committee, wrote the document. Since this study does not focus on reforming school education but rather on financial transaction sites, elementary to university students are omitted in the chart by the author.

<Appendix 4> Financial Advice Map for the Financial Literacy Map

1.Family budget management
<p><Financial Literacy Map> For young adults</p> <p>Being able to spend money on one's hobby or on improving one's skills according to a plan while properly managing income and expenditure to support household income.</p> <p style="text-align: center;"></p> <p><Financial Advice Map></p> <p>In order to make the most of the strengths of men and women, FA should urge couples to manage households jointly after marriage.</p>
2.Life planning
<p><Financial Literacy Map> For young adults</p> <p>Being able to estimate how much money one would need to achieve one's life plan, and to save money and manage assets according to a plan.</p> <p style="text-align: center;"></p> <p><Financial Advice Map></p> <p>Considering that making the right decisions when marriage, childbirth, and home purchase are needed is crucial, FA should explain the necessity of learning basic personal financial matters, such as interest rates and inflation, as soon as possible.</p> <p><Financial Literacy Map> For adults</p> <p>Reconsidering one's life plan, financial plan, and assets needed in light of potential changes in one's circumstances and making a constant effort to achieve one's life plan in view of one's life in old age.</p> <p style="text-align: center;"></p> <p><Financial Advice Map></p> <p>As there is a possibility that the preparation for education and retirement funding may not be carried out in an appropriate way, FA should confirm why these preparations are done by the present methods and provide alternative plans to improve on current ways.</p>
3.Financial knowledge, understanding of financial/economic circumstances, and appropriate selection/use of financial products
<p><Financial Literacy Map> For young adults, adults, and senior citizens</p> <p>Being able to compare and examine collected information and pursue appropriate consumption behaviors.</p> <p style="text-align: center;"></p> <p><Financial Advice Map></p> <p>Since it is important, in particular, to compare life insurance products, FA should propose multiple plans and alternative options other than life insurance.</p>

<Financial Literacy Map> For young adults

Understanding the basic characteristics of mortgage loans, acquiring concrete knowledge when necessity arises, and establishing borrowing according to repayment ability.



<Financial Advice Map>

FA should explain the possibility of price increases in the future, and the mechanism that interest is borne on the borrowed amount before determining the floating rate or the fixed rate. In the case of selecting the floating rate, FA should explain in an easy to understand way basic knowledge on how the interest rate fluctuates.

4. Appropriate use of outside expertise

<Financial Literacy Map> For young adults

Understanding the need to know the appropriate institutions, and which provide consultation from different viewpoints when selecting or using financial products.



<Financial Advice Map>

One-third of those who experienced financial trouble did not know such a consultant office or a system existed at the time of the survey. Hence, FA should explain about the financial ADR, which provides solutions for financial trouble at low cost and over short terms. Customers will be relieved to know the existence of the financial ADR. It will contribute to a good relationship between customers and FA.

[Note] FA stands for financial advisors

<Appendix 5>

金融リテラシーに関するアンケート（金融機関業務、FP業務従事者向け）

金融リテラシーに関する調査を行い、論文を作成しています。集計データとしてのみ利用いたします。

何卒、ご協力のほどよろしくお願いいたします。（2～3分で終了します。）

①あなたのことを教えてください。

男性 女性 年齢（ ）歳代 現在勤務している都道府県（ ）

②金融・FP業務歴（通算）

1年未満 1年以上 3年以上 5年以上 10年以上 15年以上 20年以上

③日本人の金融リテラシーは高いと思いますか？

※金融リテラシーとは、お金の知識や判断力のこととして考えてください。

低い やや低い 普通 やや高い 高い

④日本人の男性と女性、どちらが、金融リテラシーが高いと思いますか？

男性 女性 どちらも変わらない

⑤ここ数年（3年～5年）、日本人の投資に関する意識（積極性）や知識力は高まっていると思いますか？
（業務歴の短い方も分かる範囲でご回答ください。）

低下している やや低下している 変わっていない やや高まっている かなり高まっている

⑥10万円を投資すると、半々の確率で2万円の値上がり益か、1万円の値下がり損のいずれかが発生します。あなたなら、どうしますか？（どちらか1つ回答してください）

投資する 投資しない

⑦上記⑥の間に、日本人18歳～79歳の25,000人（調査対象者）の何割が「投資する」と回答したと思いますか？

約2割 約4割 約6割 約8割

⑧同調査対象者25,000人のうち何割が「インフレ」に対し一定の理解を有していたと思いますか？

約2割 約4割 約6割 約8割

⑨同調査対象者25,000人のうち、失業など非常時の備えとして3か月分の生活費を確保している人の割合は？

ほぼゼロ 3割未満 約半分 7割以上 ほぼ10割

⑩金融広報中央委員会が、わが国初の大規模調査として実施した「金融リテラシー調査」を2016年6月に公表しました。この調査結果を見たことがありますか？

見たことがない おそらく見ていない 何度か見た 細かく調査内容など確認した

アンケートは以上です。ご協力ありがとうございました。

同調査を踏まえパーソナルファイナンスを取り巻く環境が改善することに努めたいと思っております。

内山FP総合事務所株式会社

代表取締役 内山 貴博

<Appendix 6>

Questionnaire on Financial Literacy in English

We will only use data as summary for preparing the thesis.

Thank you for your cooperation of couple of minutes in advance.

1. Could you please tell me about yourself?

Male Female age group () resident prefecture ()

2. How many years have you been working in financial fields or working as Financial advisor?

within 1 year over 1 year over 3 years over 5 years over 10 years over 15 years
over 20years

3. Do you think that the Japanese financial literacy has been enhancing? (knowledge and making effective decisions about financial matters)

Not at all A little Quite a lot Very much

4. Which do you think that male or female has financial literacy more?

Male Female Neither

5. Do you think that Japanese investment knowledge has been enhancing in recent three to five years?

Decrease Relatively decrease No change Relatively increase Increase

6. Suppose that, if you invested 100,000 yen, you would either get a capital gain of 20,000 yen or a capital loss of 10,000 yen, at 50% probability. What would you do?

Yes (I would invest.) No (I would not invest.)

7. What do you think about how percentage of Japanese 25,000 people (18 years old to 79 years old) answered 'I want to invest'?

About 20% / About 40% / About 60% / About 80%

8. What do you think about how percentage of Japanese 25,000 people (18 years old to 79 years old) agreed 'the inflation'?

About 20% / About 40% / About 60% / About 80%

9. What percentage of respondents surveyed do you think have saved the equivalent of cost of living for three months to prepare for emergency?

About 0% / About 30% / About 50% / About 70% / About 100%

10. Have you ever seen the result of the Financial Public Relations Central Committee published the "Financial Literacy Survey" in June 2016?

Have never seen / Probably have seen / Have seen several times / Saw in detail many times

The questionnaire is all. Thank you for your cooperation.

Based on this survey we would like to improve the personal finance.

Uchiyama FP Office Co., Ltd.

Takahiro Uchiyama

REFERENCES

Aketa, H. (2005). “Seikatsurisuku no henka to seimeihokenjigyou no syourai.”, [Changes in living risk and the future of Japan’s life insurance business]. *Nihon hoken igaku kaishi*, [Japanese Journal of Insurance Medicine], Vol.103, No.2, pp.119-129. (in Japanese).

Central Council for Financial Services Information. (2016). Financial Literacy Survey

FUKUHARA Toshi. (2016). Arrangement of issue on risk assets of Japanese-U.S. Households. Bank of Japan.

Inoguchi, K. (2013). “Minkan seimeihokengaisya no yoteiriritsu no hensen to seihosyohindoukou.”, [Changes in predicted interest rates of private life insurance companies and trends of life insurance product]. *Kyosai souken repoto*, [Kyosai research institute report], No.125, pp.4-13. (in Japanese).

Kadoya, Y. (2016). “What makes anxious about life after the age of 65? Evidence from international survey research in Japan, the United States, China and India.” *Review of Economics of the Household*, Volume 14, Issue 2, pp 443-461.

Kamiya, T. (2017). “Fainansiaru literasi syakudokaihatu no genjyo to kadai.”, [A review of definitions and measurement scales for financial literacy]. *Shinrigaku Kenkyuu 2017*, [The Japanese Journal of Psychology], Vol.87, No. 6, pp.651-668. (in Japanese).

MonticoneCalcagno and ChiaraRiccardo. (2013). Financial literacy and the demand for financial advice. *Journal of Banking & Finance*.

Okamoto, M. (2015). “Sekai to nihon no kakeikanri no jittai to doukou: Kokusaisyakaityousa deeta wo motiita panerubunseki oyobi takourojittobunseki.”, [The actual states and trends of household management in the world and Japan: Panel analysis and multinomial logit analysis by use of international social survey data]. *Kikan Kakeikeizaikenkyu 2015*, [Quarterly household economic research], No.107, pp.54-63. (in Japanese).

Sugai, T. (2011). ”Paasonaru fainansu to paasonaru fainansu kyoiku ni tsuite.” [On personal finance and personal finance education]. *Toyo eiwa daigakuin kiyuu*, [The Graduate School of Toyo Eiwa University Bulletin], pp.71-90. (in Japanese).

Yamaoka, M, Asano, T, Abe, S. (2017). “Dai sankai paasonaru fainansu tesuto no kekka ni kansuru yobitekikousatsu.” [A preliminary analysis of student’s personal financial literacy on the third test administration in Japan], *Azia taiheiyou toukyuu*, [Journal of Asia-Pacific studies], No.28, pp.53-75. (in Japanese).