Financial Literacy and Retirement Planning in Pakistan

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Abstract:

In this paper, we analyze the financial literacy level of individuals using socio-demographic variables, namely age, sex, education level, working in the financial sector, experience level, and income level. Next, we investigate the impact of financial literacy on retirement planning. The empirical results are based on a survey of 472 individuals from Pakistan. The results reveal that an individual's financial literacy has a positive and significant relationship with retirement planning. The findings further reveal that males are more financially literate than females. The results also show that as age increases, people become more careful in spending and concerned about their retirement life, hence start savings as a part of their retirement planning. The findings emphasize the necessity of creating more awareness to enhance the financial literacy levels to help the individuals to plan for their retirements.

Keywords: Financial literacy; retirement planning; investment behavior

JEL Codes: D91; D14

1. Introduction

The quality of life depends on the quality of financial decisions taken by the individuals in any economy. In this financially driven world, an individual must have sufficient financial literacy and knowledge for making effective financial decisions and future planning. Financial literacy (FL) helps individuals make efficient investment decisions (Goyal, Kumar, 2021; Sachitra & Wijesinghe, 2018). Financial literacy also improves financial inclusion in the country and addresses the concern of low access to finance (Morgan, & Long, 2020). The increased financial literacy promotes Small and Medium Enterprises (SMEs) by facilitating the individuals to come forward and play a vital role in the economy's growth. It further helps the individuals to save money and control spending (Perry & Morris, 2005), to make plans for retirement (Lusardi & Mitchell, 2016), and ultimately, successfully accumulate wealth (Nicolescu, Tudorache, & Androniceanu, 2020). FL brings many advantages for the whole economy at both micro and

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macro levels (Lusardi, 2019). Individual savings help business firms to increase their businesses resulting in higher growth of the economy Xue et al., (2018). Investments in any economy bring more productivity leading to a positive growth rate for the whole economy. Individual savings at a smaller scale help the economy during economic downturns (Anderson, Baker, & Robinson, 2017; Grohmann, Menkhoff, 2018).

In Pakistan, a large segment of the population is working in the private sector. Most of the jobs in this sector are non-pensionable. Thus, it calls for a reasonable amount of savings so that people may have a peaceful retirement life. However, a peaceful retirement life requires retirement planning right from the start of the job. Retirement planning provides income support to the individuals, especially in old age or disability or death of wage earner in the family. During the last couple of decades, Pakistan is going through many social changes, including pension planning shifts from government institutions to individuals. The investments today have no geographic boundaries. Therefore, it becomes essential for investors to have appropriate financial literacy for decision making. The importance of FL may also be assessed from the fact that in 2015, the United Nations (UN) considered the quality of education as an essential sustainable development goal for the betterment of a common man. They modified the definition of literacy and included the element of finance in it. According to SDGs, a person is literate if he or she may undertake basic banking transactions.

Several studies have been done across the globe to empirically investigate the relationship between financial literacy, retirement planning, and other socio-economic factors (Arpana & Naidu, 2019; Boisclair, Lusardi, & Michaud, 2017; Moure, 2016; Seay, Kim, & Heckman, 2016). FL, however, yet not much have been done in developing countries like Pakistan, leaving it an under-explored region in the financial literacy literature. Therefore, there is a need to assess the level of FL in Pakistan. For this purpose, the present study employed a survey-based method. Further, it also investigated the relationship between FL and retirement planning. Finally, the difference between the male and female literacy rates has also been investigated.

The findings revealed that males are at higher FL levels than females. Similarly, the results proved that self-employed individuals are more financially literate than employees. The main delimitation of the study was that the questionnaires were distributed to the main cities of the country. The remainder of the study is planned as follows. After the introduction, the relevant

literature is given in Section 2. Section 3 elaborates methodology results are given in Section 4 followed by the conclusion in the last section.

2. Literature Review

FL is defined by the Organization for Economic Co-operation and Development (OECD, 2005) as "a combination of awareness, knowledge, attitudes, and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." The definition has three main components: financial knowledge, the behavior of an individual, and attitude. FL promotes savings in the form of diversifying assets and purchasing insurance. It makes sure that people keep track of their credit scores and make a rational investment decision. It encourages people to save money to help them utilize their resources efficiently (Ahunov, Van Hove, 2020; Van Rooj et al., 2011; Lusardi & Mitchell, 2011).

Different studies used different factors that might influence the FL levels and retirement planning. According to behavioral theory (Petit, 1967), humans are unique creatures and do not always make rational decisions. Since investors are also humans, they do not always make a well-informed decision because their judgment is clouded by their biases and attitudes. This theory provides us insights into how investors make decisions. In a similar context, Schmidt and Sevak (2006) used behavioral models to study how people behave, comprehend facts, and form opinions. A similar study was conducted in the USA by Shimizutani, and Yamada (2020). Their findings revealed that people with insufficient financial literacy were either young or old but rarely middle-aged. These people were also single; comparatively less educated, had less income, and belonged to a minority set of society. Similarly, other studies assessed the financial literacy level of Australian undergraduate students (Alkan, Oktay, Unver, & Gerni, 2020; Beal & Delpachitra, 2002). They deduced that students in this age bracket (average 18-24 years) were less financially literate. However, students who scored high were primarily males, having some work experience.

Further, Volpe et al., (2002) explored the differences in demographic and socio-economic groups in Australia. For this experiment, 530 online investors were examined. The findings revealed that the discrepancies lie within the literacy rates, gender, experience, age, and income. Women were less financially literate than men. Furthermore, older participants were found more

financially literate than younger respondents. Similar findings were presented by Hamid and Loke (2021) and Kumari and Khalidah (2020).

Many studies found that gender plays an important factor in retirement planning. For instance, Al-Bahrani, Buser, and Patel (2020) studied the impact of gender on financial literacy and retirement planning. The findings suggested that females were more risk-averse and hence were less financially literate and did not plan for retirement. The financial ability of women was dependent on financial knowledge, risk-taking behavior, and confidence. This study further elaborated that society has contained females to conventional roles such as the homemaker and caregiver; women lack knowledge and confidence when it comes to financial matters.

Another Australia based study by Worthington (2006) found that people with inadequate financial literacy were unemployed females. They further found that individuals having less financial literacy were mostly from non-English speaking backgrounds. They further proved that people aged between 50-60 years were more financially literate, followed by professionals, business owners, and farm owners. In the UAE, the FL of investors was measured by Al-Tamimi and Al Anood (2009). They concluded that financial literacy is dependent on the education level, income level, and workplace activity of an individual. Similarly, a study was conducted in Hyderabad city of India, by Agarwal et al., (2010) to evaluate the financial literacy of online investors. They found that online investors were more financially literate. There were variations in financial literacy because of demographic and socio-economic differences.

Gallery et al. (2011) found factors affecting the investment decisions of the individuals. Their results revealed FL, demographic, socio-economic, and risk preferences were significantly related to retirement planning. Similar results were found by Nicolescu, Tudorache, and Androniceanu (2020). Similarly, Sohn et al., (2012) examined the relationship between spending habits and the financial literacy of students of Korean students. The results found that students having moderate monthly allowances were more financially literate than those with comparatively higher allowance. In Malaysia, Janor et al., (2017) provided evidence of financial distress among Malaysian youth because of the lack of financial literacy. They further suggested that authorities need to invest in organizations that may help people manage their finances. They also conducted a similar experiment in the lesser developed countries like India and Indonesia. They concluded that FL was strongly and significantly related to the financial behavior of

individuals. Similarly, Kebede and Kuar (2015) examined the impact of FL on personal finance management in both developed and developing countries. They found that people lack the basic FL skills essential to making appropriate personal financial decisions. The result was the same in both developed and developing countries. They found that FL, age, educational level, income level, employment, and people with less experience in developed financial markets were significantly related to the investment decisions and retirement planning of an individual.

Fachrudin et al., (2016) measured the impact of education on investment decisions and financial literacy. The findings revealed that education was not significantly related to investment decisions. They also found that FL helped the individuals to make appropriate investment decisions. Janor et al., (2016) administered a comparative study out of Malaysia and the United Kingdom. They found that FL levels were extremely low in both countries. They concluded that authorities need to take effective measures for the economic health of these countries. They also revealed that FL was significantly related to retirement planning and investment decisions.

Lusardi and Mitchell (2011, 2014, and 2019) proved that individuals with less FL did not plan well for their retirement. They also found that females and the young were unable to answer the basic three questions related to FL. The large majority of Americans rely on the security net for retirement; because of this dependency, taxes may increase. Sekita (2011) proved that individuals in Japan had low financial literacy. Women, young people, and individuals with a low income were found to have less FL. They further found that savings habits from childhood helped individuals to plan for their retirement in adult age.

Similarly, Koenen and Lusardi (2011) and Boisclair et al., (2017) found that in different parts of Germany, people were at different levels of FL. In West Germany, the people were more financially literate as compared to East Germany. This was mainly due to a lack of education and low income earning opportunities in East Germany. The data used for this study was taken from the SAVE survey, a household panel designed to understand the behavior and savings. They surveyed via questionnaires and had a sample size of 1,059 respondents in 2009. The females were less likely to respond than males.

Klapper and Panos (2011) conducted a survey of 1,400 respondents in June 2009. The findings revealed that FL was high among young respondents and having a high educational level and low among the people living in rural areas. They also found that FL helped the individuals to plan for their retirement effectively and efficiently. They further added that the individuals in rural areas rely upon public provision and less on pension saving programs.

Van Rooij, Lusardi, and Alessie (2011) found similar results that FL helped individuals plan their retirement in the Netherlands. The response rate was 74 percent consisting of 1508 from the overall 2028 household surveyed from September 23 to September 27, 2005. They indicated that the policymakers of the Netherlands might consider investing in the financial education of the young. They found that a majority of the Dutch household did not plan for retirement. They also found that many of the Dutch people did not have a proper understanding of financial plans.

Agnew, Bateman, and Throp (2012) found that Australians were less financially literate than other countries. Therefore, many citizens of Australia did not plan for their retirement. They surveyed 1,024 Australians for this study in 2012. Likewise, Boisclair, Lusardi, and Michuad (2015) conducted surveys via the internet from May 17 till May 31 2012, and 6,911 respondents were interviewed. They found that approximately 42 percent of Canadians were able to answer three basic FL questions. Further, they proved that women, minorities, and individuals having little educational background scored worse.

Aubram, Kovarova- Simecek, and Wanzenried (2016) found that the Swiss were more financially literate than the people in Austria. They found that financially literate individuals start planning for their retirement at a younger age. The people working in the financial sector were more literate on average. They further found that the women in both of the countries were less financially literate than men. Overall findings showed stronger results for the Swiss. Also, the elder age citizen cared more about pension planning than the youth of both countries.

Similarly, Kalmi and Ruuskanen (2018) and Klapper and Panos (2011) investigated the relationship between FL and retirement planning. They also provide similar results. Niu and Zhou (2018, 2020) found that financial literacy helped individuals to plan for their retirement in China. The findings further revealed that families having more children decrease the probability

of retirement planning. Women were relatively less financially literate than men (Gustafsson & Omark, 2015). Similarly, Gale, Harris, and Levine (2012) proved that individuals who study finance made better financial decisions and retirement planning.

Kalmi and Ruuskanen (2018) proved that the FL level was unevenly distributed among the population of Finland. One of the interesting findings of the study was that financial literacy was positively and significantly related to retirement planning. The results were significant only for the women population. Hsiao and Tsai (2018) investigated whether individuals with more financial literacy were more active participants in derivatives markets or not. The results revealed that FL helped individuals to purchase complex derivatives products. Similarly, Xue, Gepp, O'Neill, Stern, and Vanstone (2018) identified the FL level in elderly people in Australia. They found that FL in elder people decreased asset loss and increased savings. The findings further showed that young people were more financially literate. Better FL was also positively and significantly related to higher educational attainment, good health, outright home-ownership, and better occupation. Similarly, Çera, Khan, Belas, & Ribeiro (2020) and Grohmann, Klühs, and Menkhoff (2018) found that high financial literacy helped individuals make beneficial investments.

Retirement Planners are the respondents who save willingly for their retirement. In countries like Pakistan, relatively less work is done to know the FL levels in the populations. There is somewhat less work done in developing countries like Pakistan to investigate the financial literacy levels in the working population. In addition, there is less evidence available to see whether people are having a certain level of FL plan for their retirement or not. Therefore, this study helps to fill these research gaps, hence adds to the existing literature on FL and retirement planning.

3 Measurement of Financial Literacy

All three questions related to FL are adapted from the study of Lusardi and Mitchell (2011, 2019). We made a small change in the question related to compound interest. The currency was changed to the Pakistani rupee to create a better understanding of the respondents of Pakistan.

Understanding of interest rates: Suppose you have Rs.100 in a savings account, and the interest rate was 2% per year. After five years, how much do you think you would have in the account

if you left the money to grow? More than Rs.102; Exactly Rs. 102; Less than Rs. 102; Don't Know

Understanding of inflation: Imagine that the interest rate on your savings account was 1% per year, and the inflation was 2% per year. After one year, how much would you be able to buy with the money in this account? More than today; exactly the same; Less than today; don't know

Understanding of risk diversification: Is the following statement true or false? Buying a single company's stock usually provides a safer return than a stock mutual fund. True; False; Don't Know.

The first question measures the understanding level of the people of Pakistan regarding the compound interest rate. The second question tries to evaluate the knowledge regarding the inflation rate and the savings rate. It tries to assess how the common man can relate the savings rate with the inflation rate prevailing in the country. The third question makes an effort to assess the understanding level of respondents of Pakistan regarding risk diversification.

1. Data Description and Sample Selection

The quantitative online survey was carried out from April 10 to July 20, 2020. The online questionnaire was created on Google docs and was distributed to the individuals via social networks. The questionnaire involved three famous questions related to FL adapted from the questionnaire originally developed by Lusardi and Mitchel (2011). In addition to financial literacy questions, the questionnaire also included questions pertaining to demographics like gender, age, working experience, education level, income level, employment status, working in the financial sector. We restricted our study between the age brackets above 24 years of age following the previous studies following Lusardi and Mitchell (2015, 2019). This age bracket is carefully chosen to include only those individuals in the sample having some prior work experience. In total, the sample of this study constitutes 472 responses covering all areas of Pakistan.

2. Research Methodology and Variables Description

The quantitative data are empirically examined by applying different statistical tools. After presenting summary statistics, we estimate ordered logit regression, Probit, and ordinary least square model to investigate the relationship between FL and retirement planning. The dependent

variable is retirement planning. Retirement planners are those individuals who save willingly for their retirement.

The independent variable FL is an ordinal variable. In this paper, we created an index of self-assessed FL. The index is the sum of answers to three separate questions of financial literacy. Furthermore, the index presents the sum of correct answers; one point is assigned to each correct answer. Therefore, the answers of the index have a range between 0-3. Income information is reported using five broad categories. It is also not a continuous variable. These categories are further coded using dummy variables (one dummy for each income category from 1 to 5). The same is true for age. It is divided into four categories; each having a dummy variable starting from 1.Employment status is also divided into five broad categories starting from employed till retired people. This variable is also a dummy variable starting value from 1 to 5. Working in the finance sector is also a dummy variable having a yes or no answer. The dummy values used in the study are 1 and 0. Another important variable of the study is education. It is divided into six broad categories. The description stated from less than 10 years of education till 18 years of education and above. It is also a dummy variable starting from 1 to 6.

The econometric model of the study is defined as:

$$RP_i = \alpha_i + \alpha i FL_i + \alpha_3 Z_i + \varepsilon_i \quad (1)$$

In the above equation, RPi stands for retirement planning, FLi stands for financial literacy and Zi is the vector of socio-demographic variables that includes age, gender, employment status, working in the financial sector, experience and income and εi is the error term.

3. Empirical Evidence

3.1 Summary Statistics

The summary statistics of the socio-demographic variables are presented in Table 1.

Table 1: Summary Statistics of Socio-Demographics Variables

	No. of Responses	%age
Age		
24-35 Years	307	65.0
36 to 54 Years	62	13.1
55 to 64 Years	55	11.6
65 or more	48	10.1
Gender		
Male	231	48.9
Female	241	51.1
Employment Status		
Employed	266	56.4
Self-Employed	54	11.4
Employed and Self Employed	83	17.5
Unemployed	69	14.6
Working In Financial Sector		
Yes	128	27.1
No	344	72.9
Experience		
Less than or equal to 10 Years	6	.12
12 Years	20	4.2
14 Years	66	14.0
16 Years	197	41.7
18 Years or Above	183	38.8
Income		
Less than Rs. 15,000	75	15.8
Rs. 15,001 to 50,000	177	37.5
Rs. 50,001 to 100,000	127	26.9
Rs. 100,001 to 150,000	58	12.3
Above Rs. 150,000	35	7.4

The study examines the demographics of the sample. The summary statistics reveal that 71.4% sample was between 24-35 years of age. The sample consists of 48.9% of the male while 51.1% of the female population. The survey consists of a large sample of employed individuals, out of which 72.9% of respondents were not working in the financial sector. The survey was mostly filled by the respondents who have a reasonable experience of working in any

organization. Only 0.12% of the sample was filled from the respondents having less than or equal to 10 years of experience. 37.5% of the sample had income between Rs.15, 000 to 50,000. The average income per month above Rs.150, 000 was only 7.4%.

Table 2: Summary Statistics of financial literacy questions and Retirement Planning

	No. of Responses	%age
Compound Interest		
More than Rs. 102	351	74.4
Exactly Rs. 102	25	5.3
Less than Rs. 102	35	7.4
Do not Know	61	12.9
Inflation		
More than Today	66	14.0
Exactly the Same	27	5.7
Less than Today	279	59.1
Do not Know	100	21.2
Risk Diversification		
True	105	22.2
False	264	45.9
Do not Know	103	31.8
Saving Status		
I have no Savings and Investments	184	39.0
I have Savings	123	26.1
I have Investments	43	9.1
I have Savings and Investments	122	25.8
Total	**472**	**100.0**

Table 2 shows the results of the three financial literacy questions. The first question asked was about the compound interest question. About 74.4% of respondents answer this question correctly. Only 12.9% of respondents claim that they do not know the answer. The respondents who could not answer the question rightly were about 13% in Pakistan. The second question asked from the respondents was about the inflation and savings rate. 59% of the total respondents answer this question correctly. About 21.2 % chose don't know the answer. 19.7% of respondents could not answer the question correctly. The third question was about the returns of the individual stock and mutual funds. Only 22.2% of respondents answer this question

correctly. 55.9% of respondents got this answer wrong. Only 22% of respondents answer the question correctly. Around 22% of respondents indicated that they do not know the answer. Similarly, we also wanted to see the saving pattern of the working population of Pakistan. Around 25% of respondents claim that they have both savings and investment. 26% of the respondents have only savings, whereas around 9% have only investments. Around 39% of the respondents claim they have neither savings nor investment for their future.

These findings are similar to the studies conducted in various other regions (Arrondel, 2018; Lusardi, 2019; Niu & Zhou, 2020). Similar findings suggest that questions related to the compound interest rate and inflation have a higher rate of acceptance in the individuals. However, the question related to risk diversification has fewer rates of correct answers. A large number of respondents prefer to choose do not know option in the risk diversification question. Even do not know responses to the risk diversification question seem higher in developed countries like the USA and Germany.

5.2 Who knows the more?

We use three different specifications for financial literacy: (1) whether the respondent answers all the questions correctly; (2) the number of questions the respondents answer correctly, and (3) dummies for each of the questions the respondents answered correctly.

Table 3: Distribution of responses to FL Questions

		TVM		Inflation		Risk		Over All	
		Correct	DK	Correct	DK	Correct	DK	All Correct	>2=DK
Age	24 to 35 Years	71.2	14.8	54.0	23.2	55.8	21.7	34.4	33.5
	36 to 54 Years	87.5	6.9	80.6	9.7	54.2	18.1	34.7	25.0
	55 to 64 Years	98.2	2.1	96.2	5.2	66.7	33.3	66.7	33.3
	65 Years or more	73.7	10.5	57.9	26.3	57.9	26.3	40.4	40.4
Gender	Male	87.0	5.6	74.0	10.0	63.4	16.0	37.8	24.2
	Female	62.2	19.9	44.8	32.0	53.5	27.4	33.3	41.5

Employment Status	Employed	80.8	12.0	57.1	21.4	53.8	22.9	35.0	32.7
	Self-Employed	66.7	13.0	64.8	16.7	57.4	18.5	38.2	29.6
	Employed and Self Employed	75.0	11.0	70.0	10.0	65.0	9.0	30.0	10.0
	Unemployed	55.1	21.7	56.5	23.2	52.2	23.2	23.2	39.1
	Retired	71.4	11.1	61.9	25.4	65.1	25.4	42.9	38.1
Working in Finance	Yes	82.8	4.7	67.2	13.3	60.9	10.9	37.5	21.9
	No	71.2	16.0	56.1	24.1	54.1	25.9	34.9	37.2
Education	Less than 10 Years	33.4	42.0	42.2	33.0	10.7	65.0	18.0	72.3
	10 Years	45.0	50.0	51.0	50.0	50.0	75.2	38.0	63.4
	12 Years	55.0	48.0	40.0	43.0	30.0	50.0	40.0	60.0
	14 Years	78.5	24.2	47.0	24.2	43.9	16.7	31.8	37.9
	16 Years	85.6	10.2	77.4	19.8	50.3	21.3	48.6	34.0
	18 Years or Above	86.9	7.1	77.2	16.9	68.9	20.8	53.3	27.3
Income	Less than Rs. 15,000	54.9	23.9	52.1	32.4	59.2	18.3	26.8	39.4
	Rs. 15,001 to 50000	70.1	12.4	50.3	20.3	53.7	18.6	33.9	31.1
	Rs. 50,001 to 100,000	83.5	7.9	68.5	15.8	57.5	17.3	48.0	25.2
	Rs. 100,001 to 150,000	82.8	12.1	69.0	13.8	56.9	34.5	27.6	37.9
	Above Rs. 150,000	91.4	8.6	68.6	31.4	54.3	37.1	34.3	42.9
Savings	No Savings and Investment	32.3	67.2	45.3	46.4	23.1	44.6	33.3	54.4
	Savings	46.8	52.7	44.2	39.0	35.2	51.8	41.5	54.2
	Investment	54.4	43.1	51.3	42.2	41.6	49.6	44.3	48.9
	Both savings and investment	72.2	32.7	72.8	22.9	44.5	45.2	54.2	32.6

Note: *DK stands for don't know and TVM stands for the time value of money.*

Table 3 presents the distribution of responses to the financial literacy questions across various demographics of the sample. Respondents who fall in the age bracket of 24-35 years had the lowest proportion of correct answers to both compound interest and inflation questions. The proportion of correct answers rises as the age bracket increases in the respondents. The respondents who fall in the age bracket 55 to 64 were found more financially literate than the other brackets of age used in the study. Similarly, 55-64 age brackets gave the highest correct answers. In addition, only 33% of this age bracket chose greater than two do not know the answer. In Pakistan, adults are more financially literate than the younger lot. The second demographics which give very useful result are gender-based results. Males performed better than females on all the questions related to financial literacy. Only 37% of males gave all the correct answers related to the financial literacy questions. About 87% of males gave the correct answer of the compound interest; only 62% of the female population knew the correct answer of compound interest. 19.9% of females opt for the do not know option in the compound interest question. Only 74% of male respondents chose the correct option of the inflation question. However, 44% of female respondents could only choose the right answer to the inflation question. However, the risk diversification question has received less percentage from both males and females. The correct answer to the risk diversification question was given by 63% males and 53% by females. In addition, female respondents also chose more 'do not know' option in comparison to male respondents.

Respondents having more experience performed best in answering the question related to financial literacy. Employed respondents had the highest proportion of correct answers to all the questions of financial literacy, followed by those respondents who were employed and had their own business as well. Retired respondents gave the highest percentage of the correct answer to the risk diversification question. Interestingly, 42% of the retired respondents gave correct all three financial literacy questions. Unemployed respondents gave the least correct three answers related t the financial literacy questions. Similarly, employed respondents had the highest percentage of do not know option than the rest of the respondents. The respondents working in the financial sector performed better than the respondents' working in the non-financial sector. 82% of the respondents working in the financial sector gave the correct answer of the compound interest. 67% gave correct inflation questions, while 60% answered the risk diversification question correctly. Only 21% of respondents working in the financial sector opted for the do not

know option. The respondents working in the non-financial sector had an overall 37% do not option.

Different education levels also respond differently to answering FL questions. The respondents with higher education levels were found more financially literate as compared with low education levels. The same is the situation with the income level. Respondents with more income level were found more financially literate than the respondents with less income levels. Respondents having both investments and savings perform best in answering the questions. They also performed best in answering all the correct answers to three questions. 54% was the total percentage of correct answers for all three questions.

5.3 Determinants of Retirement Planning

The results of our regression analysis are reported in Table 4. The coefficients are presented in the table. Robust standard errors are given in parenthesis.

Table 4: Determinants of Retirement Planning

Independent Variables	Logit	Probit	OLS
Financial Literacy	0.32***	0.47	0.10***
	(0.08)	(0.13)	(0.02)
Age	0.37 *	0.42**	0.18***
	(0.20)	(0.17)	(0.07)
Gender	0.42***	0.01	0.13***
	(0.09)	(0.10)	(0.03)
Employment Status	0.46**	0.73**	0.14*
	(0.23)	(0.37)	(0.08)
Working in Financial Sector	0.23**	0.23	0.08**
	(0.12)	(0.15)	(0.03)
Education	0.22**	0.35**	0.027
	(0.11)	(0.16)	(0.03)
Income per Month	3.52***		0.51**
	(0.28)		(0.08)
LR/ Wald chi^2	265.63***	27.17***	
Pseudo R^2	0.22	0.17	0.52
No. of observations	472	472	472

Note: Retirement Planning is the dependent variable. The independent variable is financial literacy and other relevant socio-demographic variables used in the study are gender, employment status, working in financial sector, education, and income per

month. Coefficients are given in the columns followed by a robust error in parenthesis. *, **, *** presents the significant level at the 1%, 5%, and 10% respectively.

In this study, retirement planning is calculated by individuals having any voluntary savings or investments. Following the study of Biosclair and Lusardi (2016) and Lusardi (2019), we restrict our sample to the respondents having ages starting from 24. The estimated coefficient of financial literacy reveals a positive and significant relationship with retirement planning. The result implies that FL motivates the individual to plan for retirement. The increase in retirement planning may eventually help boost the economy as a large population of Pakistan is working in the private sector. Our findings proved that awareness about financial education or financial training might help individuals to create awareness for more savings. More savings help individuals to have a peaceful retirement life.

Further, the estimated coefficient of age indicates that age is significantly and statistically related to retirement planning. The result implies that older individuals tend to save more in comparison with the young individuals in Pakistan. There is also an interesting finding in our study. In Pakistan, males are more concerned about retirement planning in comparison with females. The result depicts the culture prevailing in Pakistan that males being head of the house, has all the responsibilities of the house, including retirement planning. Another important finding of the study is that a higher education level in the country may help to increase retirement planning in the country. Higher education gives a sense of responsibility to an individual, and he starts thinking about peaceful retirement life.

Similarly, the estimated coefficient of working in the financial sector proves that people working in the financial sector are more concerned about their retirement planning in comparison with the people working in the non-financial sector. The income per month is also positively and significantly related to retirement planning. The result implies that people having a higher income urge to save more than the individuals having less income level.

4. Conclusion

This study aims to assess the level of FL in the working population of Pakistan. We also determine the impact of financial literacy and other socio-demographic variables on the retirement planning of the population of Pakistan. The findings suggest that males save more than the female population of Pakistan. This finding implies that more financial literacy

programs may be conducted to improve FL and access to financial services to the females of Pakistan. The findings further suggest that self-employed individuals in Pakistan are found more financially literate and care more for retirement planning as compared to the individuals working in organizations.

Moreover, the findings reveal that people working in the financial sector are more financially literate than the people working in other sectors. The findings also prove that as the experience increases, the individual urges to save more and start thinking about retirement planning. The results also provide theoretical and practical implications for improving the FL of individuals in Pakistan. Engaging industry champions and intellectuals may also enhance financial literacy, creating a virtuous cycle, thereby addressing the issue of low savings rate and asset creation. Additionally, these findings may influence policymakers in Pakistan to enhance their efforts in improving financial literacy among individuals. This may help to improve the savings rate thus, resulting in more participation of households in the financial markets, which subsequently enhances the well-being of the general population and decreases the level of poverty (Lusardi, 2019). Improving financial literacy may help the individual to make more rational financial decisions. Our findings suggest that FL levels are relatively low in Pakistan, and great efforts are required to enhance the FL within the country. A future study can be done to investigate whether business education helps the students to start saving at a relatively young age or not in Pakistan.

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