

ANTECEDENTS AND CONSEQUENCES OF FINANCIAL LITERACY: A CASE OF RETAIL INVESTORS AT THE COLOMBO STOCK EXCHANGE IN SRI LANKA

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ABSTRACT

Financial literacy has been increasingly considered as a significant pillar for the economic development of a nation. The global financial crisis has further glowed the importance of financial literacy and the need for financial education. Thus, financial literacy has drawn the attention of academics, policy makers, regulators, governments around the world. The research study attempts to investigate the antecedents and consequences of financial literacy focusing on retail investors. A quantitative research approach was adopted in this study and cross-sectional survey was conducted to collect primary data from a sample of 173 retail investors at Colombo Stock Exchange by utilizing structured self-administered online questionnaire. The analysis depicted that the retail investors have relatively high level of financial literacy. In this study four antecedents and two consequences of financial literacy were identified and tested using Generalized Linear Modeling. The results suggested that out of the antecedents considered gender, education level and investment experience significantly influence on the financial literacy of the retail investors. Out of the consequences considered only the portfolio return was significantly influenced by the financial literacy of the retail investors.

Key words: *Financial Literacy, Retail Investors, Investments, Colombo Stock Exchange*

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1. INTRODUCTION

The financial system is one of the seamless specimen for a highly complex system, containing of vastly interconnected sub-systems. Moreover, financial instruments have become ever-more sophisticated and people are offered with new and more dynamic financial products and services. On the other hand, financial markets all around the globe have become progressively reachable to the 'small investor,' as new products and financial services grow widespread (Lusardi and Mitchell, 2013). The access to credit is easier than ever before and opportunities to invest are abundant everywhere. Thus, the complexity of financial decisions, that an individual face now have increased up to unparalleled levels (Das and Kumar, 2015) and individuals are more than ever becoming responsible for their own financial security (Lusardi and Mitchell, 2013). But, are the individuals equipped with adequate financial knowledge and capabilities with the skills to navigate this dynamic financial environment exists today? In other words, do they possess adequate financial literacy to make sound investment decisions? The global financial crisis on the

other hand has further glowed the importance of financial literacy and the need for financial education. Therefore, financial literacy has been increasingly considered as a significant pillar for the development. And financial literacy has drawn the attention of academics, policy makers, regulators, governments around the world.

As Kim (2001) stated, financial literacy is a basic knowledge that an individual need in order to survive in the modern society. Financial literacy is the ability use knowledge and skills to manage financial resources effectively for lifetime financial security (Mandell, 2005). The Organization for Economic Corporation and Development (OECD) has defined financial literacy as a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being. The level of financial literacy possessed by individuals, irrespective of the many other skills of them, is one of a vital factor that leads to personal financial well-being. It allows people to increase and better manage their earnings and therefore better manage life events like education, illness, job

loss, or retirement (Cole and Fernando, 2008). Financial literacy is also directly correlated with positive financial behavior such as timely payment of bills and loan installments, saving before spending and using credit card judiciously (Bhushan and Medury, 2013). In fact, as Lusardi (2008) mentioned, financial literacy affects individual financial decision-making; ignorance about basic financial concepts can be linked to lack of retirement planning, lack of participation in the stock market, poor investment decisions and poor borrowing behavior.

Background of the Study

In the present study the focus is given to the financial literacy of the retail investors at the Colombo Stock Exchange (CSE) in Sri Lanka. A retail investor is an individual who invests in the stock market for his or her personal account (MacIntosh, 1993) and considered to be a person who manages his or her own funds in order to achieve personal financial gain (Van, 2002). Therefore, it is believed that an individual investor needs an in-depth knowledge of the stock market in order to make the most effective decisions regarding his or her personal investments.

There are evidences to support the fact that the financial literacy has an influence on investor behavior. Literature has established strong links between financial literacy and savings and investment behavior. For example, Calvet et al. (2009) discovered that poor financial sophistication is connected with investment mistakes, such as under-diversification, portfolio inertia, and the tendency to sell winning stocks and hold losing stocks. Van Rooij et al. (2009) established the association between financial sophistication and wealth, depend on specific measures of financial literacy. As Monticone (2010) concluded, in order to be successful in the stock market, the individual investors involved in trading should be more knowledgeable and informed. Thus, it is evident that the financial literacy is more vital for a retail investor to make sound investment decisions. Therefor this study attempt to measure the level of financial literacy of the retail investors and to investigate the antecedents and consequences of financial literacy of retail investors.

2. LITERATURE REVIEW

The term financial literacy was first originated in the 18th century in

the USA (Garg and Singh, 2018). Since then the concept of financial literacy, has been evolved over the years and it has been researched from diverse perspectives. Various scholars, government and non-government organization around the world have conducted research in order to conceptualize the financial literacy (Hung et al., 2009). Some scholars identified financial literacy as a synonymous with financial knowledge and some identified it as an ability and some identified it as both (Hilgert et al., 2003; Mandell and Klein, 2007; Lusardi and Mitchell, 2011; Bucher-Koenen et al., 2016). According to Mandell and Klein (2007), financial literacy is defined as “the ability to evaluate the new and complex financial instruments and make informed judgments in both choice of instruments and extent of use that would be in their own best long-run interests”. And Lusardi and Mitchell (2011) conceptualized financial literacy as the knowledge of basic financial concepts and the ability to do simple calculations. An extensively accepted and all-inclusive definition was proposed by the Organization for Economic Cooperation and Development (OECD). They conceptualized financial literacy as “knowledge and

understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life” (OECD, 2014). OECD introduced three dimensions of financial literacy, which are financial knowledge, financial behavior and financial attitude (OECD-INFE, 2011; OECD, 2005, 2013, 2014).

OECD (2005) evaluated the level of financial literacy in 12 developed countries comprising, USA, Australia, Japan, United Kingdom and European countries. The study concluded that the financial literacy level is very low for most respondents in all of the surveys conducted in the above countries. The majority of studies have been conducted in both developed and developing countries have identified several factors that influencing the level of financial literacy of individuals. Demographic factors such as age, gender, education level, experience, income were identified as significant determinants of financial literacy in most of these studies (Das and

Kumar, 2015). Chen and Volpe (1998) investigated the 924 college students in the USA to assess the level of personal financial literacy. Further, they examined the association between the financial literacy levels and demographic factors such as age, gender, race, nationality, experience, income, academic discipline and class performance. And according to the results, the female students were less literate than male students, and foreign students were less literate than the US citizens. In addition, it was found that the academic discipline, class performance, and work experience were significantly influenced the financial literacy level of students. Worthinton (2004) conducted a study regarding the financial sophistication in Australia and found that, individuals who aged 50-60 are less likely to be financially literate. Lusardi and Mitchell (2006) compared financial literacy of the early Baby Boomers in 2004, and individuals in the same age group in 1992 and found that financial planners belong to both cohorts arrive close to retirement with much higher wealth levels and display higher financial literacy than non-planners. Further, they concluded that among the retired US citizens those aged from 51 to 56 are less

financially literate. Lusardi and Mitchell (2007b) compared respondents' self-assessed financial knowledge levels with objective measures of financial literacy, and found that respondent literacy is higher when they were exposed to economics in school and to company-based financial education programs. Volpe et al. (2002) investigated investment literacy of 530 online investors and the influence of various factors such as age, income, gender, education, and trading experience on investment literacy. And they suggested that online investors must have even more knowledge than normal investors to succeed in the securities markets, as they are more likely to be exposed to various manipulations and financial misinformation. The study concluded that the level of financial literacy of investors varied with their experience, education, age, income, and gender. When it comes to gender, it was found that, the men had much higher financial literacy than women. Additionally, investors with higher income had more knowledge in investment than those with lower income, and investors with college or higher education were financially literate than those with lower level of education. Almenberg and

Soderbergh (2011) conducted a study regarding financial literacy in Sweden and observed that the highest levels of literacy are demonstrated by the people those who aged 35-50 and those older than 65 were found to perform the worst. On the other hand, ACNielsen Research (2005) conducted a survey on adult financial literacy in Australia and the study revealed that the people's level of education, employment, income, marital status and age were associated with the financial literacy.

Beal and Delpachitra (2003) claimed that having financial literacy enable investors to make informed investment decisions about their money and minimizes the chances of being misled on financial matters. Klapper et al., (2013) and Bucher-Koenen et al., (2016) concluded that people with high financial literacy participate well in stock market activities, and they face minimal macroeconomic and income shocks during the crisis periods. According to Van Rooij et al. (2009) individuals with high level of financial literacy are more likely to perform better in terms of numeracy and it has further proven by Lusardi and Mitchell in 2011. Van Rooij et al. (2011) suggested that, people with higher financial literacy

will lead to better investment decisions and are more likely to participate in the stock market. Financial literacy and stock market investments are thus highly associated. Hilgert, et al. (2003) confirmed that financial literacy is positively related to household wealth. And further they established a relationship between financial literacy and savings as well as a positive connection between financial knowledge and investment value and concluded that informed, financially sophisticated individuals make sound financial decisions and they are capable to develop wealthier investments. This implies that respondents who believe to be more financially literate are more likely to have a higher worth of investments. Abreu and Mendes (2010) studied the impact of investors' levels of financial literacy on portfolio diversification. And the results suggest that investors' financial literacy and the information sources have a significant impact on the number of different assets included in a portfolio.

On the other hand, Agarwalla et al. (2015) attempted to study the level of financial literacy of young workers in India and found that individuals with higher financial literacy are likely have more earning

on saving. Connolly and Hajaj (2001) found that the low level of financial literacy associated with financial and social exclusion, and it results in lower returns. Kailanya (2014) claims that the high level of financial literacy leads to higher financial return. Deuflhard, et al. (2015) attempted to explain the household return by financial sophistication and concluded that increase in financial literacy is associated with an increase in interest rate. Chu, et al. (2017) conducted a survey in China and attempted to measure the financial literacy and further categorized into basic financial literacy and advanced financial literacy and they indicated that people with higher levels financial literacy had a better chance of earning a positive investment return, suggesting that high level of financial literacy will result in a better financial outcome.

3. RESEARCH QUESTIONS

The research questions reflect the fundamental purposes of conducting the study. This study attempts to answer the following questions:

1. What is the current level of financial literacy of the retail

investors in the Colombo Stock Exchange (CSE) in Sri Lanka?

2. What are the antecedents and consequences of financial literacy of investors in the Colombo Stock Exchange (CSE) in Sri Lanka?

It is assumed that answering the first question will help to discover various dimensions of financial literacy and to explore the level of financial literacy of the retail investors at the Colombo Stock Exchange in Sri Lanka. And the second research question will facilitate finding the antecedents and consequences of financial literacy of retail investors at the Colombo Stock Exchange.

4. RESEARCH METHODOLOGY

Conceptual Framework and Hypothesis

Based in the literature and the research questions and the following conceptual model were developed and it represents the synthesis of the whole study. For this study, four key antecedents of financial literacy namely Gender, Age, Education level, and Investment Experience have been considered in the model. Investment Return and the Investment Size were considered as

the consequents of the financial literacy.

investors at the Colombo Stock Exchange

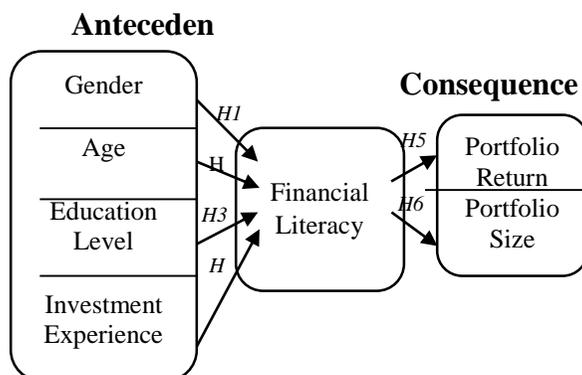


Figure 1.1: Conceptual Framework

In line with the above conceptual model, the following hypotheses were formulated:

- H1: Gender influences the level of financial literacy of retail investors at the Colombo Stock Exchange.
- H2: Age is positively related with the level of financial literacy of retail investors in the Colombo Stock Exchange
- H3: Education level is positively related with the level of financial literacy of retail investors in the Colombo Stock Exchange
- H4: Investment experience is positively related with the level of financial literacy of retail investors at the Colombo Stock Exchange
- H5: Financial literacy is positively related with portfolio return of retail investors at the Colombo Stock Exchange
- H6: Financial literacy is positively related with portfolio size of retail

Operationalization

Operationalization is a process of defining the variables in to measurable indicators. The following table presents the operationalization of variables of this study.

Questionnaire Design

The researcher employed a questionnaire adapted from Lusardi and Mitchell, (2008) in order to measure the level of financial literacy of the investors. The questionnaire consists of fourteen (14) questions of which six (06) elicit demographic and socioeconomic information of the investors and, remaining eight (08) questions measure the level of financial literacy of the investors.

Data Collection and Analysis

Method

According to the sample plan prepared at the initial stage, the sample consisted of 200 investors among whom the self-administrated questionnaires were distributed. Out of that 200, only 173 questionnaires were completed by the respondents

and proceeded for the further analysis. Therefore, the response rate was 86.5% and was well above the acceptable level. According to Baruch and Holtom (2008) acceptable response rates may vary based on the mode by which the survey is administered (Postal: 50% adequate, 60% good, 70% very good, Phone: 80% good, Email: 40% average, 50% good, 60% very good, Online: 30% average, Face-to-face: 80-85% good).

As the response variables in concern are categorical, the typical regression analysis could not be used, due to the violation of

regression assumptions. Thus, based on the types of the data and the objectives of the research, Generalized Linear Modeling technique was utilized to test the study hypotheses. The antecedents were tested using Linear Model as the response (financial literacy) is a scale variable. The consequences were tested using Ordinal Logistic Model as the responses (portfolio return and size) are categorical variables in ordinal scale. This analysis procedure was carried out using SPSS software.

Table1.1: Operationalization Table

Variable	Definition	Type	Indicators
Financial Literacy	Retail investors' knowledge of the stock market, its' functions and basic stock market instruments.	Continuous	Main function of the stock market Knowledge of mutual fund. Relationship between interest rate and bond prices Which is riskier: stocks vs bonds Highest return over long period: savings accounts, bonds or stocks. Highest fluctuations: savings accounts, bonds, stocks. Risk diversification. What is safer: company stock vs stock mutual fund
Investment Experience	Number of years that an investor has been actively operating in	Categorical	Number of years

	the stock market.		
Age	Age of the retail investor.	Categorical	Number of years
Gender	The state of being male, female or other.	Categorical	Male/ Female/ Other
Education Level	Highest education level of the investor.	Categorical	Below O/L, O/L, A/L, Diploma, Bachelor Degree, Master or Above
Portfolio Size	The total investments: investors' total amount of the Stock holdings at CSE.	Categorical	Less than Rs.300,000, 300,000 – 600,000, 600,000 – 900,000, 900,000 – 1,200,000,
Portfolio Return	The annual return for the total Stock holdings at CSE.	Categorical	Less than 8%, 8% - 12%, 12% – 15%, 20% – 25%

Source: Lusardi and Mitchell, (2006, 2008, 2011), Das and Kumar, (2015), Kailanya (2014), Deuflhard (2015), van Rooij et al. (2007), Cole and Fernando (2008)

5. DATA ANALYSIS AND RESULTS

Sample profile

As demonstrated in the Figure 1.3, out of the total of 173 respondents, 126 were males amounting to 73% of the sample and 47 were females amounting to 27% of the sample. Thus, it is apparent the fact that female investors are substantially lower in the Colombo

Stock Exchange. Further, 111 respondents were married and 62 were single which were 64% & 36% respectively in percentages as shown in the Figure 1.2.

Table 1.2: Annual Return

Return	Frequency	Percentage	Cumulative Percentage
Less than 8%	13	7.5%	7.5%
8% - 12%	16	9.2%	16.7%
12% – 15%	97	56.1%	72.8%
15% - 20%	45	26.0%	98.8%
20% – 25%	2	1.2%	100%
Total	173	100.0%	

Source: Survey Data 2017

When the investors were analyzed according to the annual rate of return earned from the stock market investments that they own, 7.5% of the sample have mentioned that they earned a return less than 8% during the last year. The majority of the investors, which is 56.1% of the total sample (and 97 in number) indicated that they got a rate of return between 12%-15%. Another 26% of the sample said that they yield a return between 15% -20%. Only 1.2% of the sample mentioned that they realized a rate of return between 20%-25% in the last year. So, it is apparent that the majority, which is 82.1% of the sample have realized an annual return between 12% - 20%.

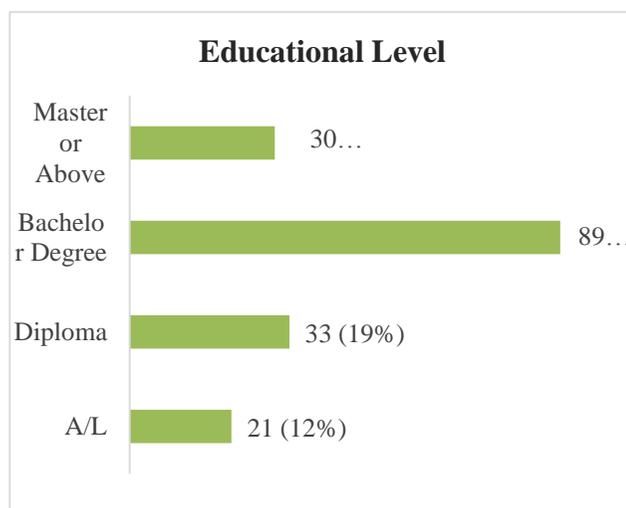


Figure: 1.2 Education Levels

Source: Survey Data 2017

Table 1.3: Portfolio Size

Portfolio Size (Rs.)	Frequency	Percentage	Cumulative Percentage
Less than 300,000	70	40.5 %	40.5%
300,000 – 600,000	58	33.5 %	74.0%
600,000 – 900,000	24	13.9 %	87.9%
900,000 – 1,200,000	21	12.1 %	100.0 %
Total	173	100%	

Source: Survey Data 2017

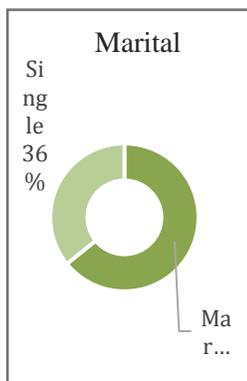


Figure: 1.2
Marital Status

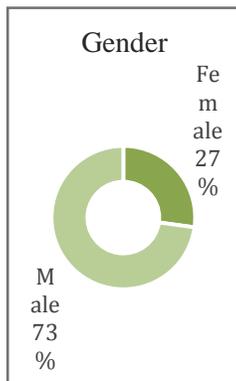


Figure: 1.3
Gender

Above figure presents the education levels of the retail investors in the sample. When the respondents were analyzed according to the educational qualification that they possess, there were 30 (17%) investors who had

qualifications equal to master or above, 89 (52%) were Bachelor Degree holders, 33 (19%) were Diploma holders and others were qualified up to G.C.E A/L which accounted for 12% out of the sample and 21 in number. The finding in the Figure 1.3 shows that the respondents are highly qualified because 88% of the respondents were educationally qualified at least up to diploma level. And it implies that the respondents were educated enough to understand the questionnaires which were given to them and hence the information obtained from the respondents can be considered factual and representative.

Above table represents the portfolio size of the retail investors in the sample. It was recorded that the highest number (70 in number) of retail investors have portfolio amount of less than Rs. 300,000, which represents 40.5% of the sample, while the lowest number of investors belonged to the category of Rs. 900,000 – 1,200,000 which is amounted for 12.1% and 21 in number.

Table 1.4: Results of Financial Literacy Questions

Financial Literacy Questions		Correct		Incorrect	
		Frequency	Percentage	Frequency	Percentage
Q1	Main function of the stock market.	125	72.30%	48	27.70%
Q2	Knowledge of mutual fund.	116	67.10%	57	32.90%
Q3	Relationship between interest rate and bond prices	82	47.40%	91	52.60%
Q4	What is safer: company stock vs stock mutual fund	112	64.70%	61	35.30%
Q5	Which is riskier: stocks vs bonds	140	80.90%	33	19.10%
Q6	Highest return over long period: savings accounts, bonds or stocks	147	85.00%	26	15.00%
Q7	Highest fluctuations: savings accounts, bonds, stocks	143	82.70%	30	17.30%
Q8	Risk diversification	106	61.30%	67	38.70%

Source: Survey Data 2017.

Level of financial literacy of the retail investors

The financial literacy of the investors was measured through the questionnaire adopting eight indicators, namely; Main function of the stock market, Knowledge of mutual fund, Relationship between interest rate and bond prices, what is safer (company stock vs stocks of mutual funds), Which is riskier (stocks vs bonds), Highest return over a long period (savings accounts, bonds or stocks), Highest fluctuations (savings accounts, bonds, stocks) and Risk diversification. These indicators were adopted from

Lusardi and Mitchell (2007a) and the results are presented in the table 1.4.

Table 1.4 depicts that most respondents have given the correct answer to the all eight questions, showing that they have a relatively high level of knowledge about how the stock market operates and the riskiness of the different financial assets. They are also more likely to be relatively less knowledgeable about mutual funds and the risk and returns of the mutual funds. But the most difficult question is the one that tested the relationship between bond prices and interest rates, for which only about 47.4% of the sample provided the correct answer.

Table 1.5: Financial Literacy Score (FLS)

Number of Correct Answers	Frequency	Percent	Cumulative Percent
8	12	6.9%	6.9%
7	34	19.7%	26.6%
6	60	34.7%	61.3%
5	29	16.8%	78.1%
4	21	12.1%	90.2%
3	14	8.1%	98.3%
2	3	1.7%	100%
1	0	00%	100%

Source: Survey Data 2017.

Table 1.5 above indicates that only 6.9% of respondents could answer all the financial literacy questions accurately. And 1.7% of respondents answered only two questions accurately which is the lowest score recorded by a respondent. However about 78% of the sample investors has given correct answers for at least 5 questions. In other words, 78% of the respondents have scored more than 5 out of the total financial literacy score of 8.

Antecedents of Financial Literacy

In order to derive more details on who could accurately answer the financial literacy questions, an

Table 1.6: (GLM) Model Effects – Antecedents

Variables	Wald Chi-Square	df	Sig.
Gender	10.768	1	.001
Education Level	15.276	3	.002
Age	0.459	1	.498
Investment Experiences	3.269	1	.071

Dependent Variable - Financial Literacy analysis of the antecedents of financial literacy was conducted.

Accordingly, the total financial literacy score was tested utilizing Generalized Linear Modeling against age, gender, investment experience, education level of the investors. According to Wald Chi-Square statistics of the Generalized Linear Modeling shown in the below table, only two effects are statistically significant at the 0.05 level, which are the gender ($p = 0.001$) and the education level ($p = 0.002$). And the Investment experience is significant at 0.1 level ($p = 0.071$). Further, it was revealed that the age does not have an impact on financial literacy ($p = 0.498$)

Table 1.7: Parameter Estimates Antecedents

Parameter	B	Std. Error	Hypothesis Test		
			Wald Chi-Square	df	Sig.
Intercept	5.644	.8547	43.598	1	.000
Female	-.808	.2463	10.768	1	.001
Male	0 ^a
A/L	-.736	.3959	3.459	1	.063
Diploma	.553	.3731	2.200	1	.138
Bachelor Degree	.501	.3216	2.429	1	.119
Master Degree or Above	0 ^a
Age	-.018	.0271	0.459	1	.498
Investment Experience	.097	.0537	3.269	1	.071

Note: a - set to zero because this parameter is redundant

According to the parameter estimates of the model (as shown in table 1.7), it is notifiable that financial literacy scores of female investors are 0.808 lower than that of male investors. When it comes to education level, financial literacy score of investors with A/L as the highest qualification is 0.736 lower than those who have a master degree or above qualification. Financial literacy score increases by 0.097 when the investors are getting one more year of investment experience.

Consequences of Financial Literacy

In order to identify the consequences of the financial literacy, portfolio size and the portfolio return were tested against

financial literacy score of the investors by utilizing Generalized Linear Modeling. And the results are depicted in the following table (Table: 1.8).

As table 1.8 indicated, that the Portfolio Return is influenced by the financial literacy level of the investors and it is significant at 0.05 level ($p = .038$) but the Portfolio Size was not significant at 0.05 level ($p = 0.641$).

Table 1.8: (GLM) Model Effects - Consequences

Consequence	Wald		
	Chi-Square	df	Sig.
Portfolio Size	0.218	1	.641
Portfolio Return	4.288	1	.038
Independent Variable - Financial Literacy			

“Return 1” is the estimated cut point on the portfolio return variable which was used to differentiate very low return category from other return categories when the FLS value is zero. Hence, the investors could be classified as very low return makers, when they obtain a value of -1.295 or less for portfolio return while they were having zero FLS. The other return thresholds can be interpreted in a similar way. Accordingly, with a zero FLS value, low return makers will obtain a value between -1.295 and -0.365, moderate return makers will obtain a value between -0.365 and 2.276, high return makers will obtain a value between 2.276 and 5.745, and very high return makers will obtain a value higher than 5.745 for portfolio return. However, in general, it can be said that for a one unit increase in FLS, a 0.224 increase in the ordered log odds of being in a higher category of return would be expected.

6. CONCLUSION

The prime purpose of this study was to investigate the antecedents and consequences of financial literacy of retail investors at Colombo Stock Exchange. The

quantitative research approach was adopted in this study and cross-sectional survey was conducted to gather primary data from a sample of 173 retail investors by utilizing online structured self-administered questionnaire. The statistical methods were employed to analyze the data.

The analysis of retail investors’ financial literacy showed that most of the retail investors have a relatively high level of knowledge about the way stock market operates and the riskiness of the different financial instruments. But they are more likely to be less knowledgeable about mutual funds and the risk and returns of the mutual funds.

In order to derive more particulars on the financial literacy of retail investors, the demographic factors (antecedents) were tested against the financial literacy of the investors. The analysis exposed that the male investors are more literate than female investors, the Bachelor Degree holders are well literate than the investors who had A/L as their highest qualification and investors with more investment experience are tend to be more literate. Therefore, it can be concluded that the financial literacy level is influenced by gender, education level and the investment experience of the retail

investors. As the results indicated, age of the investors was not a significant factor on financial literacy. The results revealed that the portfolio return was influenced by financial literacy of the retail investors, thus making it a consequence of financial literacy.

This study enriches the knowledge regarding the financial literacy of the retail investors, especially in the Sri Lankan context. The study identifies three (03) antecedents on which investors' level of financial literacy is likely to be influenced and one (01) consequence which is influenced by the level financial literacy of the retail investors.

Future Research and Implication

In this research study, an attempt has been made to explore the financial literacy of retail investors at CSE. Although, this study produces a set of antecedents and one consequent of financial literacy, future research could be carried out to further refine the scale, explanation and assessment of this important construct. Thus, the antecedents and consequences developed in the present study should be validated in other contexts with larger and more diverse

samples. The present study only utilizes the quantitative method, but future research could be carried out employing the mixed method by combining both quantitative and qualitative methods. It will enable the researchers to collect detailed, comprehensive and rich data. On the other hand, this study is a cross-sectional study; therefore, it is not clear whether the results are stable over the long period of time. Further research on the antecedents and consequences of financial literacy could be done in order to study how behavioral, attitudinal, and demographic characteristic of investors correlate with their level of financial literacy. If the knowledge about these relationships is more available and accessible, the strategies to improve the financial literacy can be better specified.

7. REFERENCES

- Abreu, M., & Mendes, V. (2010). Financial literacy and portfolio diversification. *Quantitative finance*, 10(5), 515-528.
- ACNielsen Research (2005), ANZ Survey of Adult Financial Literacy in Australia: Final Report, ACNielsen Research, Melbourne, November.
- Agarwalla, S. K., Barua, S. K., Jacob, J., & Varma, J. R. (2015). Financial literacy among working young in

- urban India. *World Development*, 67, 101-109.
- Almenberg, J., & Säve-Söderbergh, J. (2011). Financial literacy and retirement planning in Sweden. *Journal of Pension Economics & Finance*, 10(4), 585-598.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human relations*, 61(8), 1139-1160.
- Beal, D. J., & Delpachitra, S. B. (2003). Financial literacy among Australian university students. *Economic Papers: A journal of applied economics and policy*, 22(1), 65-78.
- Bhushan, P., & Medury, Y. (2013). Financial Literacy and its Determinants. *International Journal of Engineering, Business and Enterprises Application(IJEBEA)*, 155-160.
- Bucher-Koenen, T., Alessie, R., Lusardi, A., & Van Rooij, M. (2016). *Women, confidence, and financial literacy*. Mimeo.
- Calvet, L. E., Campbell, J. Y., & Sodini, P. (2009). Measuring the financial sophistication of households. *American Economic Review*, 99(2), 393-98.
- Chen, H., & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial services review*, 7(2), 107-128.
- Chu, Z., Wang, Z., Xiao, J. J., & Zhang, W. (2017). Financial literacy, portfolio choice and financial well-being. *Social Indicators Research*, 132(2), 799-820.
- Cole, S., & Fernando, N. (2008). Assessing the importance of Financial Literacy. *ADB Finance for the Poor*, 9 (2).
- Connolly, C., & Hajaj, K. (2001). *Financial services and social exclusion*. Financial Services, Consumer Policy Centre, University of New South Wales.
- Das, S. C., Kumar, V. (2015), Antecedents and Consequences of Financial Literacy: A Comprehensive Literature Survey for Indian Context, *Shimla Management Journal*, 8(1).
- Deuflhard, F., Georgarakos, D., & Inderst, R. (2015). Financial literacy and savings account returns.
- Garg, N., & Singh, S. (2018). Financial literacy among youth. *International Journal of Social Economics*, 45(1), 173-186.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Fed. Res. Bull.*, 89, 309.
- Hung, A., Parker, A. M., & Yoong, J. (2009). Defining and measuring financial literacy, RAND Working Paper Series WR-708.
- Kim, J. (2001). Financial knowledge and subjective and objective financial well-being. *Consumer Interests Annual*, 47, 1-3.
- Klapper, L., Lusardi, A., & Panos, G. A. (2013). Financial literacy and its consequences: Evidence from Russia during the financial crisis. *Journal of Banking & Finance*, 37(10), 3904-3923.
- Lusardi, A. (2008). Household saving behavior: The role of financial literacy, information, and financial education programs (No. w13824).

- National Bureau of Economic Research.
- Lusardi, A. and Mitchell, O. (2006). Financial literacy and planning implications for retirement wellbeing, Working Paper No. 1, Pension Research Council. Wharton School, University of Pennsylvania. The Wharton School.
- Lusardi, A. and Mitchell, O.S. (2007a). Financial literacy and retirement planning: New evidence from the Rand American Life Panel.
- Lusardi, A., & Mitchell, O. S. (2007b). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of monetary Economics*, 54(1), 205-224.
- Lusardi, A., & Mitchell, O. S. (2008). Planning and financial literacy: How do women fare? *American Economic Review*, 98(2), 413-17.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and planning: Implications for retirement wellbeing (No. w17078), National Bureau of Economic Research.
- Lusardi, A., & Mitchell, O. S. (2013). Debt and debt management among older adults. *Draft. Ann Arbor, MI: Michigan Retirement Research Center*.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of economic literature*, 52(1), 5-44.
- MacIntosh, J.G. (1993). The Role of Institutional and Retail Investors in Canadian Capital Markets. *Osgoode Hall Law Journal*, 31(2),371-472.
- Mandell, L. (2005). Financial literacy: Does it matter, *Buffalo, NY: University of Buffalo. April*.
- Mandell, L., & Klein, L. S. (2007). Motivation and financial literacy. *Financial services review*, 16(2), 105.
- Monticone, C. (2010). How much does wealth matter in the acquisition of financial literacy? *Journal of Consumer Affairs*, 44(2), 403-422.
- OECD (2005). *Improving Financial Literacy: Analysis of Issues and Policies*. Paris, France: OECD.
- OECD (2009). *Framework for the Development of Financial Literacy Baseline Surveys*. Paris: Organization for Economic Co-ordination and Development.
- OECD (2013). "Financial literacy framework", in OECD (Ed.), *PISA 2012 Assessment and Analytical Framework: Mathematics, Reading, Science, Problem Solving and Financial Literacy*, OECD Publishing, Paris.
- OECD (2014). "PISA 2012 technical background", in OECD (Ed.), *PISA 2012 Results: Students and Money: Financial Literacy Skills for the 21st Century*, OECD Publishing, Paris.
- OECD-INFE (2011). *Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for Conducting an Internationally Comparable Survey of Financial Literacy*, OECD Publishing, Paris.
- Van Rooij, M., Lusardi, A. and Alessie, R. (2009). Financial literacy and retirement planning in the Netherlands, DNB Working Paper No. 231, pp. 1-38.

- Van Rooij, M., Lusardi, A., & Alessie, R. (2007). Financial literacy and stock market participation (No. w13565). National Bureau of Economic Research.
- Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics*, 101(2), 449-472.
- Van, H. J. C (2002), *Financial Management & Policy*, 12th ed, Pearson Education, India.
- Volpe, R., Kotel, J. and Chen, H. (2002), A survey of investment literacy among online investors, *Financial Counseling and Planning*, Vol. 13 No. 1, pp. 1-13.
- Worthington, A C. (2004). The Distribution of Financial Literacy in Australia. In Discussion Paper, No. 185. Queensland University of Technology, Brisbane.