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# **Inequalities in the Financial Inclusion in Sri Lanka: An Assessment of the Functional Financial Literacy<sup>1</sup>**

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## **Abstract**

*This paper explores the existing pattern and the levels of disparity of the functional financial literacy in the Sri Lankan context. The study, mainly using quantitative data, selected the sample representing the three main settlement types: urban, rural and estate sector using multi-stage sampling technique related to cluster sampling. The analysis generated five 'domains' of financial literacy scores that capture respondent's relative skills using factor analysis. Tobit regression analysis and cluster analysis were used for testing the determinants and disparity of financial literacy among the respondents. Moreover, descriptive statistics and other statistical techniques such as key driver analysis and correlation analysis were also appropriately applied. The study found that the socio-economic-demographic characteristics have a very strong association with the financial literacy of individuals. The results of the study highlights that the majority of the respondents demonstrate a modest financial knowledge and can be categorized as a literate (bankable) group. The functional financial literacy was quite diverse across respondents depending on the levels of education, income, gender, age, etc. Moreover, the study unveils the characteristics of the individuals with different levels of financial literacy for those who need it for policy actions. Furthermore, the study identified the target group for emphasizing in the provision of financial education to minimize inequalities with an increase in the financial inclusion of the country.*

**Keywords:** Financial literacy, financial inclusion, financial inequality

**JEL classification:** D14, D31, D81, G11

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## **1. Introduction**

Financial inclusion can be defined as the capacity of individuals or different groups of the society to access and use appropriate financial products proposed by the mainstream financial service providers. The positive impact of financial inclusion is widely spread and pervades across the globe. In an era, where human development indicators such as life expectancy, literacy rate etc., have been continuously and steadily improving, there are also countries which, despite domestic and international efforts, fail to show a significant improvement in financial inclusion. There appear to be important complementarities between financial literacy and access to mainstream services or financial inclusion. Financial inclusion is emerging as a way of increasing household well-being. Meanwhile, the recent economic crisis has demonstrated that the skills related to personal financial management are more important than ever before. Existing evidence also suggests that people's financial behavior contributes to their economic and general well-being. A financially literate person has the skills, attitude, knowledge, and behaviors sufficient to be aware of financial opportunities and making choices to suit the circumstances, and taking effective action to improve their well-being (Kim et al, 2003; Xiao et al, 2008). Financial inequality is inherent to social exclusion. Understanding the barriers to financial inclusion and the policy implications can be effective inputs in the point of view of the development of a more socially justifiable and enabling society. Therefore, this study focuses on illuminating the existing pattern and disparities of the financial literacy in different communities in Sri Lanka, with the expectation of examining whether there is a relationship between financial knowledge and socio-demographic characteristics

## **2. Objectives**

The aim of the study was to identify the existing pattern of financial literacy and its inequalities between different communities in Sri Lanka. The study set the following three objectives in order to achieve the aim:

1. To identify the levels of financial literacy in different communities in Sri Lanka.
2. To investigate if there are significant inequalities in financial literacy between different communities in Sri Lanka.
3. To identify whether there is a relationship between financial literacy and the socio-economic-demographic characteristics of individuals.

## **3. A Brief Review of Literature on Financial Literacy and Financial Inclusion**

Even though, there is a dearth of literature on Sri Lanka in financial literacy, there are studies conducted on different aspects of financial literacy and financial inclusion in other countries. However, before the review of empirical evidence, it is important to review the literature on the concept of financial literacy. Financial literacy has many definitions and is often used interchangeably with other terms like financial capability and economic literacy

(Hung et al, 2009; Lusardi, & Olivia (2013); Orotun, 2007; Schwartz, 2010). The term 'financial literacy' is seen by some authors in terms of general literacy and essential skills, where financial literacy is defined as the ability to acquire and use financial information, as measured through comprehension and performance of a financial task (Mason & Wilson, 2007). Therefore, according to this definition, financial literacy does not exist as a separate set of skills, but rather as the application of more general literacy, numeracy, problem solving and other core essential skills in a personal finance context (Murray, 2010). This means that financial literacy or capability includes particular/certain general skills or capabilities a person possesses.

Some researchers have seen 'financial knowledge' as a type of investment in human capital (Lusardi & Mitchell, 2013). However; financial literacy is a relative and not an absolute concept. It might be possible to define a basic level of financial literacy level that is required by everyone in any given society. The review of literature apprises that the most of the functional definitions are context-specific and originated from country-specific problems of financial exclusion and related socio-economic conditions. Financial literacy of adults is defined as 'a combination of awareness, knowledge, skills, attitude and behaviours necessary to make sound financial decisions and ultimately achieve individual financial wellbeing' (Atkinson & Messy, 2012). Beyond that level, the degree and nature of the financial literacy required by any given individual will depend on their environments. However, for a person to become financially literate, requires access to appropriate financial services combined with the ability, knowledge, skills, attitudes, and behaviors to make sound, personal financial decisions.

The lack of a commonly accepted set of measures to assess financial knowledge is most likely due to the relative newness of this research field of financial literacy. In addition, the introduction and distribution of such a measure may have also been impeded by disagreements within the area over which definition of financial literacy should be adopted and how it should be operationalized. Measuring and evaluating the levels of financial literacy is a key component of an effective national strategy for financial education, permitting policy makers to identify target segments and design appropriate responses. Furthermore, international and national comparisons increase the value of such an assessment by enabling countries to benchmark themselves with other countries. Where similar patterns are identified across countries, national authorities can work together to find common methods for improving financial literacy within their respective context. However, financial literacy is a primary step for financial inclusion since introspection, changes behavior which in turn makes people seek and receive financial services and products.

Financial literacy leads to better financial inclusion since prospective clients or target segments are more likely to use financial services once they are made aware of its potential benefits and obligations. Financial inclusion is important for opportunity, empowerment and security of the nation. Therefore, the role of financial literacy in financial inclusion is vital. However, as far as developing countries are concerned, comparatively limited research has been done on financial literacy (Cole & Fernando, 2008).

Coming to the Sri Lankan context, the importance of this study lies in the fact that Sri Lanka, being a Socialist, Democratic Republic, it is imperative that the policies of the government to be such that ensure equitable growth in all sections of the economy. Sri Lanka is generally considered as a country that possesses an excellent system of education and higher literacy rate when compared to most of other developing countries. The literacy rate of the country is around 92 percent, which is higher than that which is expected for a third world country and one of the highest literacy rates in Asia (Central Bank of Sri Lanka, 2013). Despite all these positive characteristics, one of the key lessons from the bankruptcy of finance companies across Sri Lanka was the lack of financial literacy displayed by the local investor community, despite having high levels of literacy extremely smart people. In their pursuit of extra returns, few showed any understanding of the basic relationship between risk and return. The numbers of investment scandals experienced by the Sri Lankans over the past few years have been almost too numerous to mention. Financial literacy is critical in evaluating and uncovering alternative investment opportunities.

The main concern for the supply-side (provider) perspective of financial services is the question of how should the outreach of financial services be. However, access to financial services in Sri Lanka is relatively high due to the spread of a number of service providers. Arora (2010) shows that in Sri Lanka, financial access is highest among all the South Asian countries. Further, if financial access is included in the Economic Development Index (EDI) or the modified Human Development Index (HDI), the ranking of the countries as shown in HDI changes due to their differences in their level of financial development. State-owned banks have achieved admirable outreach, partly due to the proactive steps taken by the Government and partly due to the varied services offered such as pawning, remittance accounts (local and foreign currency), children's savings accounts (including school savings centres), senior citizens accounts, etc. Experts believe that banks have downscaled fairly well to low-income client segments but there is a limit to this. Though the outreach is high in terms of the number of accounts, actual usage is not high. There are various reasons for this, such as the lack of access to credit, poor customer service, lack of proximity/accessibility and poor transparency.

The banking and financial sector in the country must be strong for financial inclusion to take place. In Sri Lanka, the country's banking sector has been showing an advancement and growth. The financial system being stable and resilient, the financial institutions in it are committed to engage in social responsibility related work as well, or to reach out to vulnerable and disadvantaged groups. However, despite this advancement, it is still unable to appreciate its commitment towards financial inclusion. Even though there has been a significant expansion of microfinance in the last few decades, the outreach and penetration are still being criticized as inadequate to meet a substantial amount of the financial needs of the people.

Despite the rapid growth of the financial sector as well as the development of sophisticated financial tools and models, the field of financial literacy remains a major obstacle to financial inclusion. Therefore, the biggest

drawback from of the demand-side (client) is caused by the lack of financial literacy. This can be one of the foremost reasons as revealed, from a household survey conducted in Sri Lanka, where the majority of the poor were usually characterized by low financial literacy (Colombage, 2010). Financial illiteracy is a major barrier that prevents poor people from accessing financial services, and once they have access, they are unable to convert this into effective and appropriate usage of the financial services which will ultimately help to achieve the financial inclusion. The available literature emphasizes the need of understanding the extent of financial knowledge of the people, which is necessary to turn the existing opportunities for their benefit from the point of view of poverty alleviation and development.

## **4. Methods**

### **4.1 Study Area and the Sample**

As indicated in the literature, individual financial literacy and ultimately the wellbeing of the household largely depends on the socioeconomic characteristics which may differ between different regions of the country. Therefore, sampling was carried out with the objective of covering different geographic locations in Sri Lanka in the form of a questionnaire survey in December 2013. The sample was selected from urban, rural and estate strata using multi-stage sampling technique related to cluster sampling. Three districts and six Divisional Secretariat Divisions (DSDs) were chosen for data collection. This was done after considering the spread of urban, rural and estate populations residing at divisional basis. Approximately 12 Grama Niladhari Divisions (GNDs) were randomly selected from each DSDs and approximately 100 households were randomly selected from each GN division with the expectation of obtaining information from approximately 1100 households. It should be noted that the number of observations in each sample was not proportionate to the population and considered as disproportionate random sampling method since this method was perceived as advantageous as it allows for comparisons across sectors. A map of the survey area is shown in Figure 1.

### **4.2 Survey and the Questionnaire**

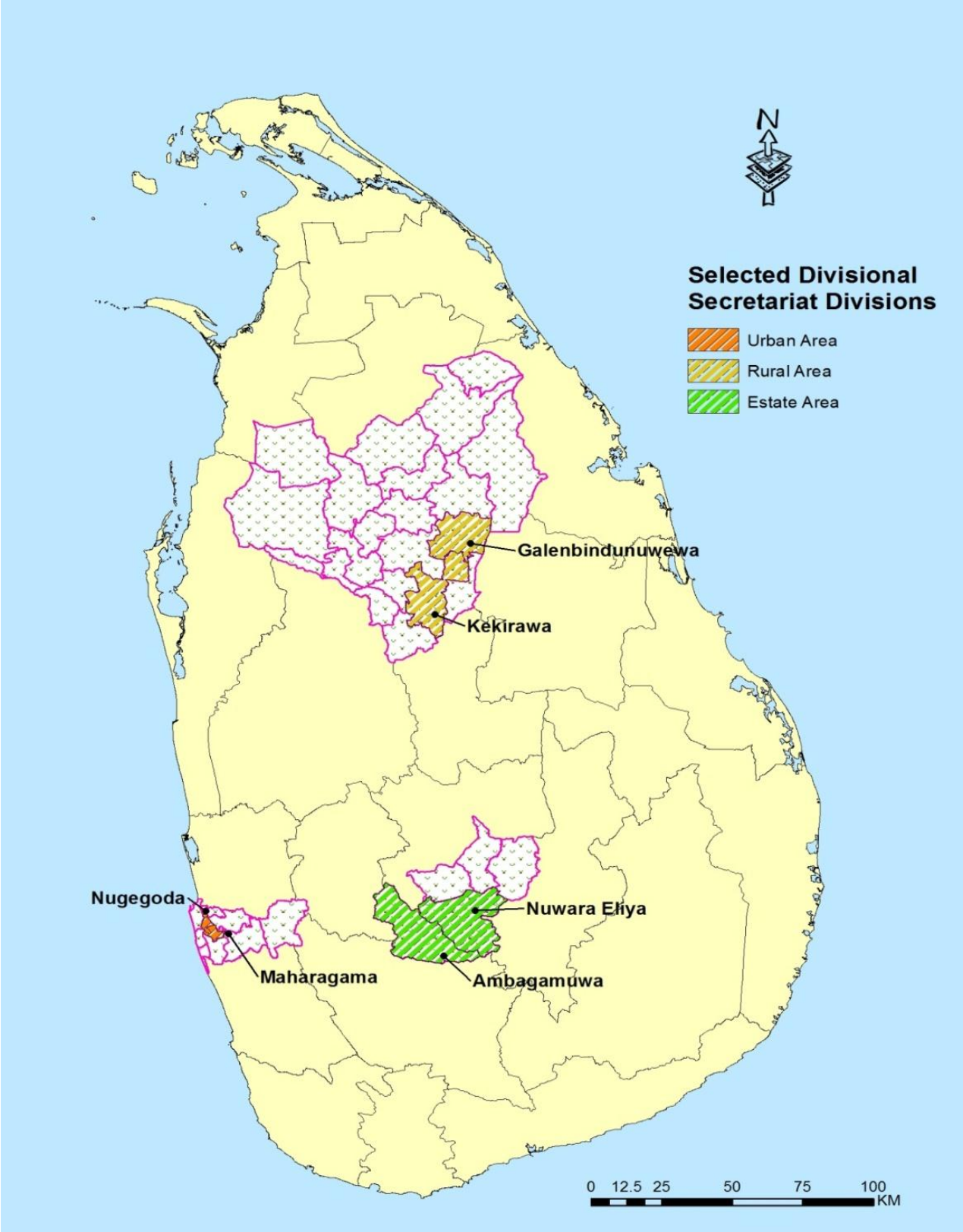
There is no standard set of components of financial knowledge, skills and tests to determine the levels of financial knowledge and skills of people in the context of the developing country. Most assessments of financial knowledge and skills undertaken in surveys, often customized for a target segment of the population. In a comprehensive review of the financial literacy literature, Lusardi and Mitchell (2013) suggest that adults' financial literacy levels around the world have been measured based on three basic concepts i.e. understanding and calculation of interest rates, understanding of inflation, and risk diversification knowledge. However, additional and more sophisticated concepts have also been added to the repertoire of financial literacy questions. This survey focused mainly on determining how influential were the socioeconomic and household characteristics in determining their money management skills. The survey consisted of questions for financial literacy derived from past research as well as those developed by the

present researcher. For both sets of questions, a fixed response question format was used. The questionnaire was somewhat similar to that of a questionnaire developed by OECD for measuring financial literacy (OECD INFE, 2011). The questionnaire for the main survey tried to cover key areas of financial literacy. It was also important to collect detailed information about the respondents' personal characteristics so that it is possible to identify which groups of people had better and worse levels of financial literacy index scores. Financial literacy index scores for each respondent level was calculated by the sum of scores of each question multiplied by corresponding weight divided by total sum of the maximum scores.

### **4.3 Method of Analysis**

The study, being solely quantitative, used descriptive statistics and regression analysis as tools of the analysis. Statistical tests were conducted using the statistical software packages SPSS, Excel, Minitab and STATA. In order to test determinants and disparity of financial literacy of respondents, factor analysis method of the principal components analysis, Tobit regression analysis and cluster analysis were used. In addition, key-driver analysis and correlation analysis were also included in the methodology as a strategy of technique triangulation. The principal component analysis was used mainly as a method of data reduction and to summarize a number of original variables into a smaller set of composite dimensions, i.e. into a few domains of financial literacy. The analysis was mainly of exploratory type that often used to simplify the data. The weights assigned for each question within the factor scores was dependent on how highly it correlated with financial literacy. It was certainly possible that some of the questions would perform rather better than others. The statistical work identified the questions that best measured financial literacy in each domain, and indicated how far each individual variable represented to the total response. Five separate domains for each respondent were created with the help of principal component analysis. The number of explanatory variables, which was 28 at the beginning, was reduced to just five domains with Eigen values greater than 1. These factors account for about 81.28 percent of the total variance. Table 1 displays the domain names and sub-indicators from the rotated factor matrix obtained by the Varimax Rotation procedure. The questions used in each domain appear only in that area of financial literacy, and were not used in other domains. This procedure made it possible to compare the scores across the different domains of financial literacy.

Figure 1: Survey Locations



Source: Author constructed.



Table 1: Domain Names and Sub-indicators

Domain Name	Sub-indicators	Variable	Principal Component
1 Saving Behavior	Banking Practices	Usage of formal financial institutions	0.658
		Nature of bank accounts	0.616
		Number of bank accounts	0.734
	Parents' influence on children's Savings	Households with children's bank accounts	0.515
		Saving frequency for children's bank accounts	0.642
	Saving Habits	Frequency of savings in cash	0.616
		Years of saving habits	0.452
		Decade savings	0.672
	2 Investment and payment mechanisms	People's attitudes towards the better financial practices	9 Statements, whether they agreed or disagreed
Investment in formal financial system			0.869
Principal financial decision maker of the household		Respondent or other	0.607
Households' payment mechanisms		Method of buying durable consumer products	0.509
		The method of paying bills	0.409
3 Awareness on Financial Products	Knowledge about financial products and services and usage	Knowledge about 22 financial tools and usage	0.416
		Perception on 11 factors	0.644
	Methods of obtaining information about financial services	Sources of getting information of financial services	0.304
		4 Risk Management	Identified 11 actions
Retirement plan and insurance	Contribution to pension fund		0.717
	The nature of pension fund		0.534
5 Financial Knowledge	Knowledge of financial planning	Right answers of 6 statements	0.571
		Preferred financial objectives	0.578
	Record keeping behavior	Budget maintaining behavior	0.342
		keeping financial recodes	0.152
	Knowledge interest rates and concept of inflation	Quiz: concept of inflation	0.674
		Quiz : interest rate for savings deposits	0.369
		Quiz : interest rate for fixed deposits	0.465
		Quiz : interest rate for loans	0.307

Source: Author constructed.

It was hypothesized that there is an interaction effect between financial literacy and socio-demographic and household characteristics. Financial literacy index of each domain was included in the regression analysis as the dependent variable with the ten independent variables: 'settlement type' (urban, rural and estate), 'gender', 'age', 'age squared' (include the squared term because year variable might be non-linearly related to the outcome), 'civil status' (married, single: unmarried, divorced and widow), 'education' (not attended school, primary, secondary and tertiary), 'occupational status' (agricultural, government, private, business), 'number of dependents in the family'

(below 18, and above 65 years), ‘income quartile’, ‘income diversification’ (number of income sources) and ‘distance to a financial institute’ (distance to the nearest financial institute from home).The explanatory variables that were used in the analysis and the socio-demographic statistics are presented in Table 2 by settlement types (sector).

Table 2: Socio-demographic characteristics by settlement type (sector).

Explanatory Variable		Urban	Rural	Estate	Total
Gender	Male	64	48	65	60
	Female	36	52	35	40
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Age Group	19 to 27	3	10	11	8
	28 to 36	16	29	23	22
	37 to 45	27	22	25	26
	46 to 54	21	18	19	19
	55 and above	33	21	22	25
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Civil status	Married	88	92	90	90
	Single (Unmarried, Divorced & Widow)	12	8	10	10
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Education	Not attended school	0	4	12	6
	Primary	0	10	32	15
	Secondary	74	83	55	69
	Tertiary	26	3	1	10
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Occupation	Agriculture Sector	0	50	11	22
	Government Sector	33	20	3	18
	Private Sector	35	9	68	38
	Business Sector	32	21	18	22
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
No. of Dependents	No dependents	30	21	7	20
	1 to 2	54	63	60	58
	3 to 5	16	16	30	21
	More than 6	0	0	3	1
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Income Quartiles	Lowest Income Quartile (Q1)	3	25	42	23
	Second Income Quartile (Q2)	14	29	38	27
	Third Income Quartile (Q3)	30	32	15	25
	Highest Income Quartile (Q4)	53	15	6	25
	<b>Total</b>	<b>100</b>	<b>101</b>	<b>101</b>	<b>100</b>
Income diversification	Non-diversified	50	54	68	58
	2- 4 income source	50	46	32	42
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Distance to a financial institute	0-1000 meters	67	8	5	27
	1001-5000 meters	29	59	50	45
	5001-10000 meters	4	11	40	19
	10001 meters above	0	22	5	9
	<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Author constructed.

## 5. Results: Understanding the Landscape of the Financial Literacy

The descriptive statistics of each domain of financial literacy constructed from the survey conducted in the sampling areas are presented and discussed in this section. The descriptive statistics and analytical results which provide a general explanation extend the understanding of the behavior of financial literacy in Sri Lanka. Results are organized into two main segments namely, main domains and sub-indicators and results of the cluster analysis. Each domain begins with a general discussion about the nature of its sub-indicators. The financial behavior scores and its disparities are presented under the results of the cluster analysis.

### 5.1 Main Domains and Sub-Indicators

#### 5.1.1 First Domain: Saving Behavior

Saving behavior was operationalized in the survey as setting aside money to use later. Participants were asked about multiple dimensions of saving behavior questions, including frequency, duration, amount, intended uses, and saving vehicle (i.e. where they actually keep their saved money). The definition of saving behavior of this domain was based on factor loadings pattern.

#### *Banking practices and savings*

Financial inclusion envisages access to usage of formal financial services for verity of services. This sub-sector is devoted to the usage of financial services like banking practices and savings.

Table 3: Usage of formal financial institutions for savings

Sources	Total (%)	Sector (Settlement type)		
		Urban (%)	Rural (%)	Estate (%)
No savings	3	3	7	25
Commercial banks	86	86	78	69
Savings banks	6	7	9	1
Social funds	2	1	4	1
Licensed financial companies	1	2	0	0
Post offices	1	0	1	1
Other institutions	1	0	0	1
Private institutions	1	1	1	0
Total	100	100	100	100

Source: Author constructed.

Eighty-six percent (86%) of the households responded saying that they had been able to save some amount of money from their household income during the previous 12 months as at the date of the survey. Three percent (3%) of the households was of the type that they were not able to save because of their low income. Table 3 shows general patterns of financial service usage among the participants. Majority of the participants were relying on commercial banks for their savings deposits. A high percentage of the households that were surveyed had saving habits in the formal sector. Savings regularly can allow individuals to build assets into their adulthood, cushion against setbacks to

their livelihoods, smooth consumption, and provide them with a chance to invest in their future wellbeing. However, the estate sector exhibits less saving practices than the other two sectors under consideration.

Table 4: Categories of bank accounts of household head according to number of bank accounts

Account Category	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Savings	92	88	94	98
Current	5	9	2	2
Special savings	2	2	3	0
Investment	1	1	1	0
Total	100	100	100	100

Source: Author constructed.

The study found that low levels of financial knowledge and skill had an association with the diversification of bank accounts. The results show that almost 92 percent of the households in the total sample had saved in saving accounts. However, no major variations were observed across the sectors.

Table 5: Nature of the bank accounts of household head

Nature of the bank accounts	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Personal accounts	67	62	69	78
Joint accounts	33	38	31	22
Total	100	100	100	100

Source: Author constructed.

The most common type of accounts of household head was of the type of personal accounts which comprised of 67 percent. Whilst it was evident that joint account holders' were 33 percent of the sample, the joint accounts usage of the estate sector participants was very low (22%) compared to the other two sectors.

Table 6: The savings amount of the households as a percentage

Saving amount category	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Under LKR 1,000	48	26	33	41
LKR 1,001 to 5,000	30	53	28	19
LKR 5,001 to 10,000	15	71	14	14
LKR 10,001 to 50,000	6	62	26	13
LKR 50,001 and over	2	92	8	0
Total	100	100	100	100

Source: Author constructed.

Deposits on a formal financial institution indicate that one of determines of basic access to financial services. Financial literacy level tends to affect the savings pattern of the households. The survey discloses the saving amounts of 70 percent of the households. The majority reported positive savings while the average household savings

according to Sector for urban, rural and estate were LKR 4500, 2000, 1035 respectively during a period of one month. Furthermore, the survey results show that the savings amount of the majority of households (48%) was of the range from LKR 0 to 10,000 for one month's period.

Financial inclusion promotes and develops the culture of savings of the nation. Hence, the saving deposits declared by each household was taken into consideration by this survey and presented in Table 7.

Table 7: Declared amount of savings by household head (at time of survey)

Amount (LKR)	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
0 to 10,000	58	28	57	69
10,001 to 30,000	15	13	16	17
30,001 to 50,000	6	4	8	7
50,001 to 100,000	8	11	8	5
100,001 to 500,000	14	30	10	2
500,001 to 1,000,000	2	6	1	0
1,000,001 and above	3	8	0	0
Total	100	100	100	100

Source: Author constructed.

The survey revealed that 58 percent of respondents have had savings below LKR 10,000 at the time of the survey. However, 30 percent of the urban sector respondents declared a LKR. 100, 001 to 500,000 range of saving amounts as outstanding account balance.

Table 8: Saving frequency

Time period	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Daily	1	2	1	0
Weekly	2	5	1	1
Monthly	70	77	70	58
Annually	25	15	27	37
Irregular	2	1	1	4
Total	100	100	100	100

Source: Author constructed.

Seventy percent of the households were able to save as frequently as every month while 25 percent saves annually while around 2 percent of those who saved had done so in an ad-hoc manner. It shows that there was no precedent for saving in a systematic way for almost a quarter of the participants in this sample. Lastly, a very small number of participants had saved on a weekly or daily basis. It means that an insignificant amount of people had not tried to cut daily or weekly expenses by putting aside some money for future expenses.

### *Saving as a habit by respondents*

Table 9: Time period of savings habit

Time period (Years)	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
No savings habit	22	10	22	35
1 to 6	34	10	20	64
7 to 12	17	23	32	0
13 to 18	7	13	10	0
18 and above	20	44	16	1
Total	100	100	100	100

Source: Author constructed.

Since it is generally believed that prolong saving habits can influence the improvement of financial literacy, this study explores how the experience of saving habits affects respondents' financial literacy score. Forty-three percent (43%) of the respondents surveyed have shown a saving habit of 12 years and above in their life. However, respondents in the estate sector demonstrate a very short period of habits for systematic savings.

### *Parents' influence on children's savings*

Table 10: Families with children's bank accounts

Response	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Yes	54	60	60	45
No	46	40	40	55
Total	100	100	100	100

Source: Author constructed.

Saving is a habit and it shows how one foresees the future and plans for it. There is no ideal age to inculcate saving habits in the next generation by setting up a savings account for children and to teach them good financial habits for the sake of a bright financial future. However, almost half of the households in the sample survey have had savings accounts for their children. Again estate sector demonstrates a less performance for having savings accounts for their children.

Table 11: Frequency of depositing money in children's accounts

Time period	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Daily	1	4	0	0
Weekly	2	4	2	1
Monthly	62	75	57	50
Annually	32	20	37	46
Irregular	3	1	4	3
Total	100	100	100	100

Source: Author constructed.

Table 11 shows that majority of respondents are of the frequency of depositing for children's accounts on a monthly basis. However, a significant portion of the respondents were of the type that they annually deposited money in savings accounts of children. This saving habit was very popular in the estate sector. The type of irregular saving pattern was not exhibited in the sample. Generally, savings through regular monthly deposits have been the popular way of saving among Sri Lankans.

### 5.1.2 Second Domain: Financial Investment and Payment Mechanisms

Financial competence encompasses a range of money related activities. Therefore, other important aspects like people's attitudes towards better financial practices, financial investment behavior and institutions and payment mechanisms, etc. were included in the study. This domain can also be termed as the domain of financial investment and payment mechanisms. High positive loading variables were taken under this domain so as to facilitate in identifying the attitudes towards better financial practices and payment mechanisms among the people.

#### *Attitudes towards better financial practices*

The survey revealed some common opinions which represent attitudes towards better financial practices. The respondents were asked in the Survey to declare their responses on whether they agreed or disagreed with a variety of questions designed to test their mindset. Some of the questions were designed to lead them away from prototype answers. The results for attitudes towards better financial practices are given in Table 12.

Table 12: Attitudes towards better financial practices

Statement	Percentage					Mean	Std. Deviation
	Totally disagree	disagree	Agree to a certain level	agree	Totally agree		
1 Loans obtained only at urgent financial needs	3.9	7.3	8.3	50.2	28.5	2.94	1.0133
2 Annual financial plan would facilitate financial transactions	3.4	7.2	12.9	57.2	19.3	2.63	0.8893
3 It is not appropriate to handle a financial plan for a longer period like 5 years	4.5	25.4	33.7	25.4	11.0	2.19	1.0503
4 It is appropriate for each family member to save at least a small amount	1.9	5.7	3.8	35.6	52.7	3.05	0.9412
5 It is shameful to ask for money from relations and friends	12.1	25	18.2	24.2	20.5	2.01	1.2013
6 For financial transactions, banking services are more convenient	2.3	7.2	12.9	45.1	32.6	2.74	0.9356
7 For financial transactions, post offices are more convenient	13.3	31.4	30.3	20.8	3.8	1.78	0.9699
8 For financial transactions ,CBOs are more convenient	10.6	26.9	28	22	11.4	2.00	1.0717
9 Saving money (affiliated to a saving fund) exercises financial stability	0.8	4.5	9.5	42	43.2	2.91	0.8897

Source: Author constructed.

Table 12 presented the levels of personal financial knowledge and the people's attitudes towards better financial practices. Perceptions of respondents on nine different statements are presented in Table 12. The values in each row show the level of agreement of respondents with respect to the statements. Statement 4 of the table reveals that most of the respondents were in a consensus that '*It is appropriate for each family member to save at least a small amount*', which displays their attitude to saving, was very high. Based on the results, there were a significant percent of the respondents have had high level of attitude about the formal financial mechanism. Almost half of them were moderate in attitudes towards better financial practices and lastly there was a significant number of respondents with a high level of financial knowledge on financial planning as well. They are less likely to resort to the use of post office and community based organization (CBO) for financial needs.

### ***Money investment behavior***

Table 13: Perceptions on investment decisions

Decision	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Investing in commercial banks which pay average interest rate	47	42	45	59
Investing at any place which pays a higher interest rate	22	23	24	18
Buying lands	16	15	15	17
Investing in licensed financial companies	10	12	11	6
Investing in share and bond market	5	8	5	0
Total	100	100	100	100

Source: Author constructed.

More than 75 percent of the participants in the sample stated that they had invested money somewhere in some form. Respondent who were more engaged with the formal financial system were also more likely to have investments in commercial banks which paid an average level interest rate. However, nearly one-quarter of the respondents stated that they preferred to invest in any place where they were paid a higher interest rate. Buying land was also an attractive investment method among the participants in the sample. Generally, most of the respondents had a limited understanding on different non-bank investment tools.

### ***Principal financial decision maker of the household***

The study attempted to identify the principal financial decision maker of household. It was found that the principal financial actors were usually, but not exclusively, the husband and wife. Households in which the principal financial decision makers are financially competent are more likely to manage household cash flows and to use a budget to plan future expenditure.



Table 14: The person who make(s) financial decisions in a household or financial decision maker of the household

Person	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Respondent and spouse	41	46	46	33
Respondent only	38	41	32	48
Spouse only	13	7	14	10
Respondent and other family members	6	5	7	7
No special person	1	1	0	1
Other person	1	0	1	1
Total	100	100	100	100

Source: Author constructed.

This study reveals that majority of household heads take financial decisions in cooperation with the spouse. However, the respondents of this survey consisted of at least one of the principal financial decision makers from each household. The results were helpful to decide the target group for educational programs which should be designed for improving financial inclusion.

### ***Households' payment mechanisms***

Awareness on and usage of different forms of payment methods is another important aspect of the financial literacy. Therefore, in order to get the information on payment methods, the question, ‘*What kind of formal financial services did you use for buying durable products?*’ was asked in the survey. Results related to the answers to this question are presented in Table 15.

Table 15: Payment method for buying durable consumer products

	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Easy payments method	48	29	54	55
Ready cash	40	59	36	33
Mortgaging assets	6	4	3	8
Bank loans	3	2	4	2
Hire purchase	2	5	1	1
Other	1	1	2	1
Total	100	100	100	100

Source: Author constructed.

Respondents in this survey generally exhibited a limited knowledge of payment mechanisms accessible through the formal financial system. Almost half (48%) of respondents reported that they had used an easy payment method like equal monthly installments for buying durable consumer products. Furthermore, many respondents were likely to depend on ready cash payment method than other payment mechanisms.

A variety of methods are available in the financial sector to pay for their utility bills. When they were asked whether they used different method of paying bills, the methods they declared are given in Table 16.

Table 16: Method of paying bills

Method of paying bills	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Banks	51	59	51	45
Post office	29	2	39	48
Super markets	11	29	1	1
Directly to that firm	6	7	5	6
Other	2	1	4	0
Using mobile phones	1	2	0	0
Total	100	100	100	100

Source: Author constructed.

Approximately 50 percent of respondents stated that they had used banks for paying bills. Post office also has been reported as a convenient center for billing. However, supermarkets have been found to be popular among the urban respondents.

A money transaction via mobile phone is another form of transaction that has been popularized in the modern era. However, it was observed that the percentage of respondents that used mobile phones has still been limited to 15 percent in the urban sector while it is 3 percent and zero in rural and estate sectors, respectively (See table 17).

Table 17: Usage of mobile phones for transactions

Response	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Yes	6	15	3	0
No	94	85	97	100
Total	100	100	100	100

Source: Author constructed.

Respondents generally use direct cash to pay for things that they buy and do not use electronic payment mechanisms. This is not surprising as the knowledge of payment mechanisms have typically been limited to the form of payments in cash.

### 5.1.3 Third Domain: Awareness on Financial Products

Another key section of the questionnaire that was investigated is the respondents' awareness on financial instruments and choice or purchase of financial products. This domain was created to assess the respondents' knowledge on financial products and usage based on high positive loadings, which can be associated with awareness on financial instruments, choice and usage behavior. This domain also incorporates questions regarding the selection

methods of a financial organization for transactions and methods that they use for obtaining information about financial services.

***Knowledge about financial tools, instruments, products and services and usage***

Access to usage of financial services is one of the important indicators of financial inclusion. Therefore, awareness and usage about 22 most common types of financial services in Sri Lanka were tested by the survey. The results on the awareness and usage of financial tools, etc. by respondents are presented in Table 18.

Table 18: Awareness on financial tools, instruments, products and services and usage

Product or service	Not aware	Aware	Usage	Product or service	Not aware	Aware	Usage
Automated teller machine (ATM)	27	50	35	Share market transactions	67	28	5
Tele banking	77	20	3	Unit trusts	90	9	0
Mobile banking	72	24	5	Treasury bonds	85	15	0
Business loans	62	25	13	Pension funds	20	64	17
Saving Accounts	10	55	69	Mortgage services	11	44	44
Credit cards	68	25	7	Fixed deposits	27	54	19
Debit cards	67	24	9	Loans on property	28	63	10
Cheques	41	44	15	Housing loans	39	51	10
Money orders	37	50	12	Unsecured loans	57	40	3
Internet banking	78	18	3	Cumulative funds	93	6	0
Treasury bills	84	16	0	Leasing services	52	35	13

Source: Author constructed.

Savings accounts, mortgage services and automated teller machines (ATM) were the most used and best-known formal financial services with almost 50 percent of respondents having awareness of them and nearly 40 percent using them. Majority of the respondents were found to be familiar with ordinary financial services like pension funds, loans, cheques, money orders, leasing services and fixed deposits even though the usage was very poor. While their awareness and preference for usage of new financial services was very low except in the case of ATM usage, the new financial services like credit card, E-banking, m-banking and investment instruments like shares, mutual funds, etc. were not at all preferred.

***Factors affecting the selection of a financial institute for transactions***

Table 19: Factors affecting for selection of a financial institute

Factor	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Interest rate	24	23	20	26
Distance from home to institute	13	12	12	15
Experiences of friends	12	5	8	23
Service distribution of the institute	11	16	16	4
Branch distribution of the institute	8	12	9	4
Personal and other institutional relationships	9	8	7	5
Conditions for loans	7	9	14	7
Awareness from media	7	5	3	10
Speed of the services	7	7	9	5
Service charges	2	3	2	1
Total	100	100	100	100

Source: Author constructed.

The most common factor affecting the selection of a financial institute for transactions by the respondents was the ‘interest rate’ that accounted for 24 percent. The second most commonly identified factor was ‘distance from home to the financial institute’. It must also be noted that there is a considerable gap between the responses to the first factor from that of the second. . . A Significant number of respondents identified ‘service distribution of the institute’ as the third highest significant factor for selecting a financial institute for transactions. The estate sector respondents cited ‘experiences of friends’ as the second reason and not ‘distance from home to the financial institute’ as was the case with other respondents. .

***Methods of obtaining information on financial services***

Table 20: Sources of getting information on financial services

	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Branches of financial institutions	28	28	39	21
Electronic media	18	20	11	22
Friends	17	9	13	28
Advertisements	16	18	12	16
Print media	14	20	14	6
Awareness programs	6	4	10	5
Other	1	1	1	2
Total	100	100	100	100

Source: Author constructed.

The financial literacy questions were designed to measure and identify the methods of obtaining information on financial services by respondents. Approximately half of the respondents stated that media (Electronic, print and advertisement) was a key source of information. More than one-quarter (28%) of respondents declared that the best place to go for financial information was the branches of financial institutions. This is likely to reflect the respondents' preference for oral communication and may also be a consequence of limited functional literacy.

#### 5.1.4 Fourth Domain: Risk Management and Pension Funds

The strategies adopted by the households in dealing with financial incapability situations have been studied by various researchers. They reveal that people who were financially literate would certainly manage their risk by using formal financial tools. Those who are successfully in risk management planning would also have provision for unexpected events. The sources that the respondents prefer/preferred to borrow in an emergency and the usages of pension funds and insurance were considered under this domain of financial literacy.

#### *Sources prefer/preferred to make borrowings in an emergency by respondents*

Table 21: Actions taken in financial problems

Action	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
Own savings	16	69	5	25
Mortgaging jewellery	15	18	27	43
Borrowing money without interest from relations	14	23	2	46
Borrowing money with interest from relations	12	6	35	29
Bank loans	10	25	24	12
Money lenders	8	5	44	7
Mortgaging assets	5	9	11	10
Engage with ROSCAS	5	4	10	18
Commercial financial institutions	2	8	3	3
Selling stored harvest	2	1	12	1
Micro finance companies	1	2	2	0
Total	100	100	100	100

Source: Author constructed.

The respondents were asked to reveal their most important borrowing source/s in an emergency. Table 21 gives summary details in this regard. It was interesting to find that the majority of the respondents use their own savings at times of emergency. The survey results show that almost 39 percent of the households in the total sample have borrowed from various informal financial sources. The survey also reveals that pawn broker loans are accessible to most of the people, while commercial banks and the formal financial institutes had been accounted for approximately 12 percent of the total number of loans.

### ***Retirement plan and insurance***

Level of financial literacy shows a close association with retirement planning or contribution to a pension funds. The result concerning this relationship is presented in Table 22.

Table 22: Contribution and the nature of pension funds

Contribution and the nature of pension fund	Total (%)	Sector		
		Urban (%)	Rural (%)	Estate (%)
<b>Contribution for a pension fund in total sample</b>	<b>28</b>	<b>49</b>	<b>21</b>	<b>16</b>
Government	74	86	86	23
Private sector	20	10	2	70
Insurance fund	3	3	2	5
Other Pension fund	2	1	2	0
Own fund	1	0	8	2
Total	100	100	100	100

Source: Author constructed.

Especially, around 72 percent of respondents did not have any retirement plan. Majority of respondents stated that they relied on and contributed to government pension schemes. More than 20 per cent of the respondents expected to rely on private sector retirement benefits.

#### **5.1.5 Fifth Domain: Money Management, Financial Planning and Knowledge**

The final domain of financial literacy comprises of people's knowledge in financial planning while it takes into account preferred financial objective/s and recordkeeping behavior. In particular, personal financial literacy quizzes covered the questions on knowledge of diversifying investment, interest rates and the concept of inflation.

### ***Knowledge in financial planning***

Table 23: Knowledge in financial planning and investment

Statement	Answer (%)	
	Yes	No
Financial plan is valid for a limited period is a correct statement	58	42
Financial plans should take into account possible changes in your life	85	15
Financial planning is about investments only	32	68
Risk is higher in the investments that yield a higher return is a correct statement	74	26
Risk can be minimized by investing in different sectors	59	41
Inflation causes higher cost of living is a correct statement	93	6

Source: Author constructed.

Planning ahead is required to cope with unexpected events and to make provisions for the long term in business and everyday life. Results revealed that respondents generally exhibit some knowledge of the range of financial planning and investment statements.

### ***Budgeting and recordkeeping behavior***

Table 24: Budgeting and record keeping behavior

<b>Behavior</b>	<b>Response</b>	<b>Total (%)</b>	<b>Sector</b>		
			<b>Urban (%)</b>	<b>Rural (%)</b>	<b>Estate (%)</b>
Budget maintaining behavior	Yes	32	39	66	19
	No	68	61	34	81
Record keeping behavior	Yes	34	53	31	18
	No	66	47	69	82

Source: Author constructed.

The management of cash flows and budgeting is an essential skill in financial planning. Budget maintaining behavior typically starts with an analysis of past spending patterns and a plan for future expenditure. This study shows that a majority of the households were less likely to maintaining a budget and keeping records of the household cash flows alone with future expenditure planning. It appears many households keep informal type ‘mental’ budgets.

### ***Knowledge of interest rates and the concept of inflation***

Table 25: Knowledge of interest rates and concept of inflation

<b>Quiz</b>	<b>Answer</b>	<b>Total (%)</b>	<b>Sector</b>		
			<b>Urban (%)</b>	<b>Rural (%)</b>	<b>Estate (%)</b>
There is a financial gain at the interest rate of 8% while inflation rate is 9%	Correct	<b>20</b>	<b>14</b>	<b>30</b>	<b>16</b>
	Wrong	80	86	70	84
Awareness of the interest rate for savings deposits	Correct	<b>16</b>	<b>28</b>	<b>16</b>	<b>4</b>
	Wrong	84	72	84	96
Awareness of the interest rate for fixed deposits	Correct	<b>9</b>	<b>23</b>	<b>4</b>	<b>1</b>
	Wrong	91	77	96	99
Awareness of the interest rate for loans	Correct	<b>6</b>	<b>13</b>	<b>4</b>	<b>2</b>
	Wrong	94	87	96	98

Source: Author constructed.

The quizzes were constructed to test the general knowledge of interest rates in the cotemporary market and the concept of inflation. The results suggest a slightly better knowledge on the concept of inflation compared to the knowledge on the interest rates for saving, fixed deposits, and loans. Participants’ knowledge of the current market interest rate for savings was slightly higher compared to the knowledge of interest rates for loans and fixed depots which were very low.

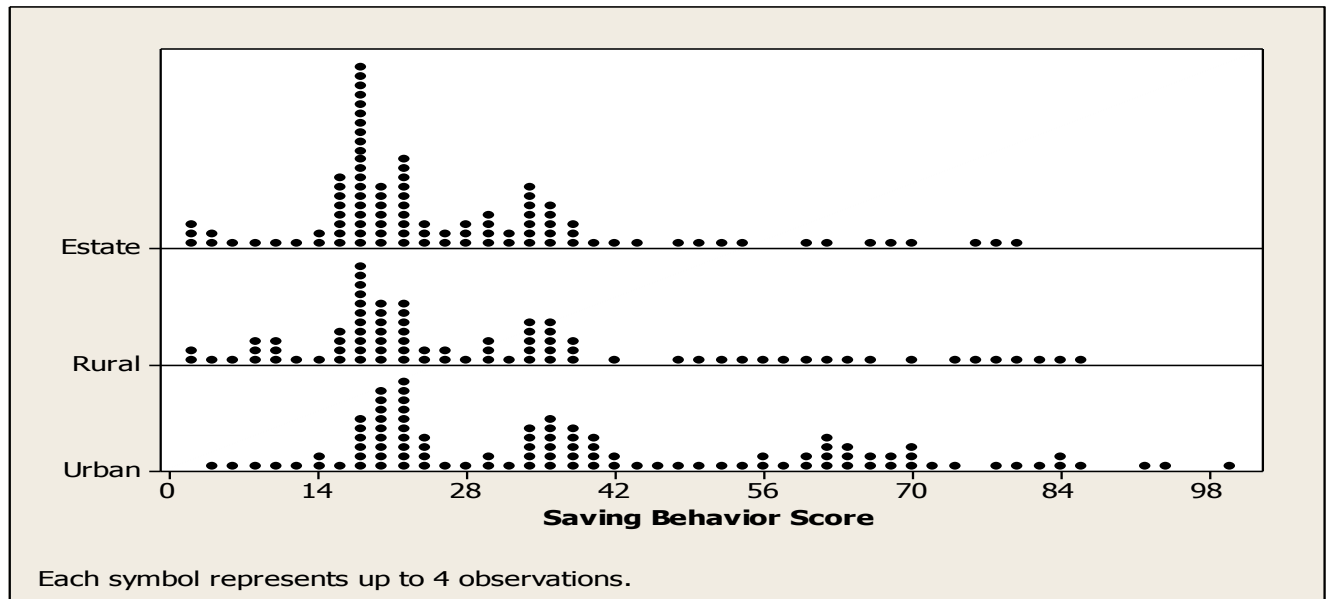
## 5.2 Cluster Analysis

### 5.2.1 Spatial Analysis

This section describes the domains that were used to derive measures or scores in financial literacy with regard to the respondents. It displays how the scores have been spatially distributed within each domain by settlement type. Furthermore, the section explains how each domain may be used in cluster or segmentation analyses.

#### First Domain: Distribution of scores for savings behavior

Figure 2: Dotplot of savings behavior scores by sector



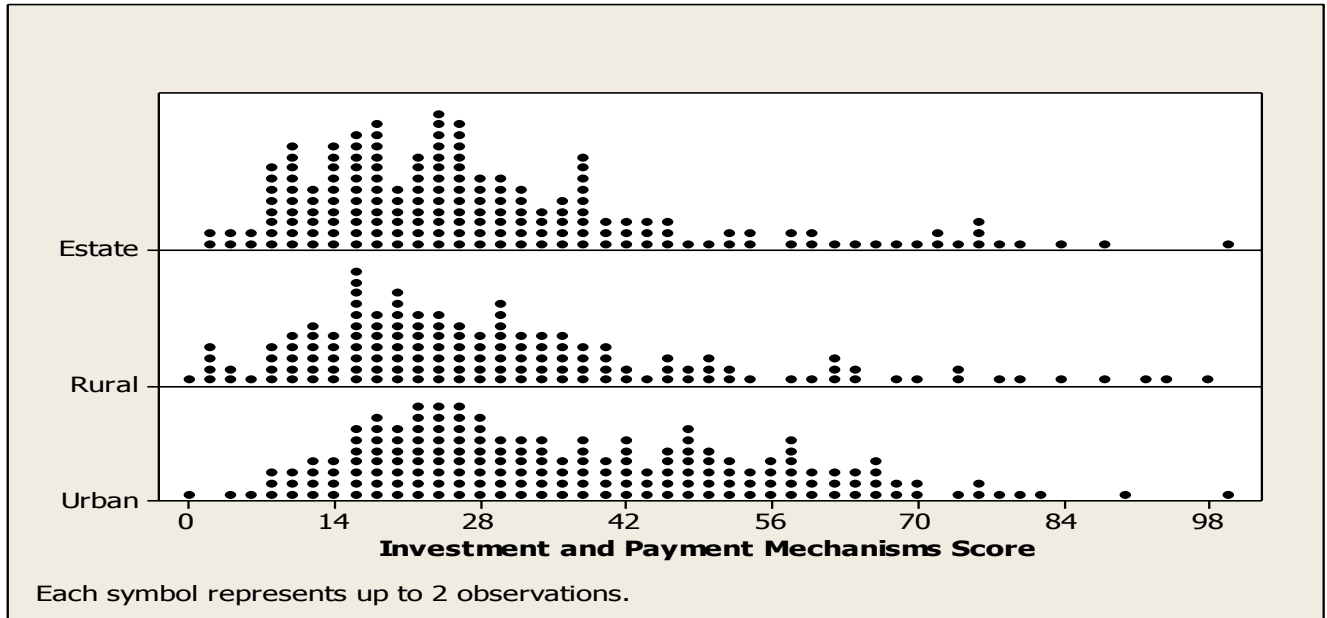
Source: Author constructed.

Figure 2 shows the distribution of constructed index scores on the saving behavior domain. Most of the respondents' scores are relatively low on savings behavior, as adjudged by the set of questions in Table 1. It reveals that there is a considerable level of diversity in the scores within this domain. Respondents living in urban areas show the highest scores for saving behavior, while the estate and rural sectors exhibit low scores in the domain. Most respondents have been clustered around the bottom range of scores for choosing products.



### Second Domain: Distribution of scores for investment and payment mechanisms

Figure 3: Dotplot of investment and payment mechanisms scores by sector

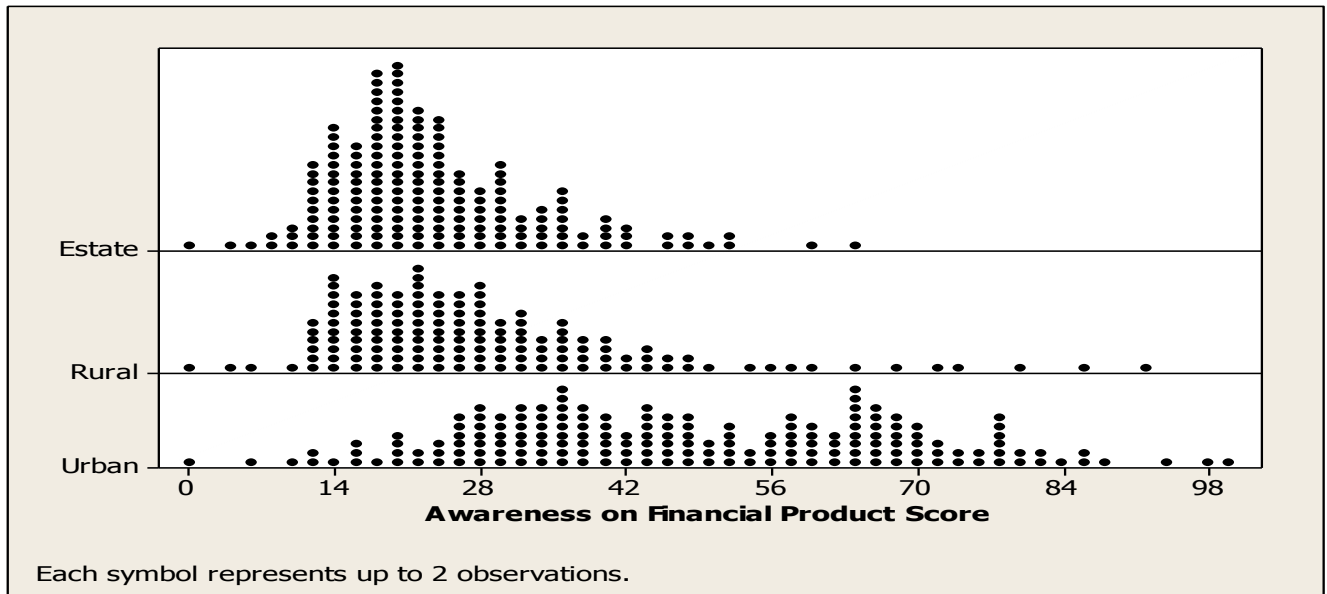


Source: Author constructed.

There is a great uniformity in the extent of investment and payment mechanisms of the respondents which is seen in Figure 3. Relatively urban sector scored at the highest level while a great number of people in all sectors were below the average in score distribution, with only a small percentage taking more than 50 score level in this domain.

### Third Domain: Distribution of scores for awareness on financial products

Figure 4: Dotplot of awareness on financial product score by sector

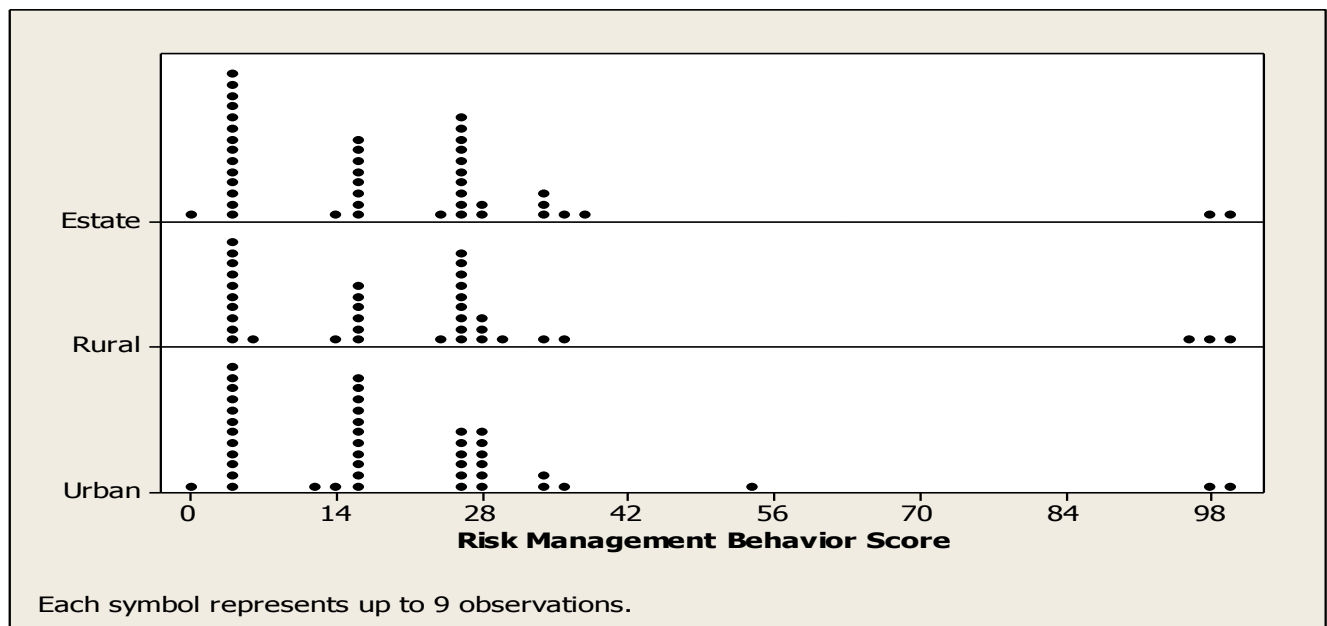


Source: Author constructed.

Figure 4 shows a relatively widely spread distribution of scores with some respondents in the urban sector peaking to a higher level. There is a fairly flat and positive or right-skewed series of scores in relation to the score of awareness on financial products in rural and estate sectors. A significant number of respondents have not had awareness on diversified financial products while the usage also seems low.

**Fourth Domain: Distribution of scores for risk management**

Figure 5: Dotplot of risk management behavior score by sector

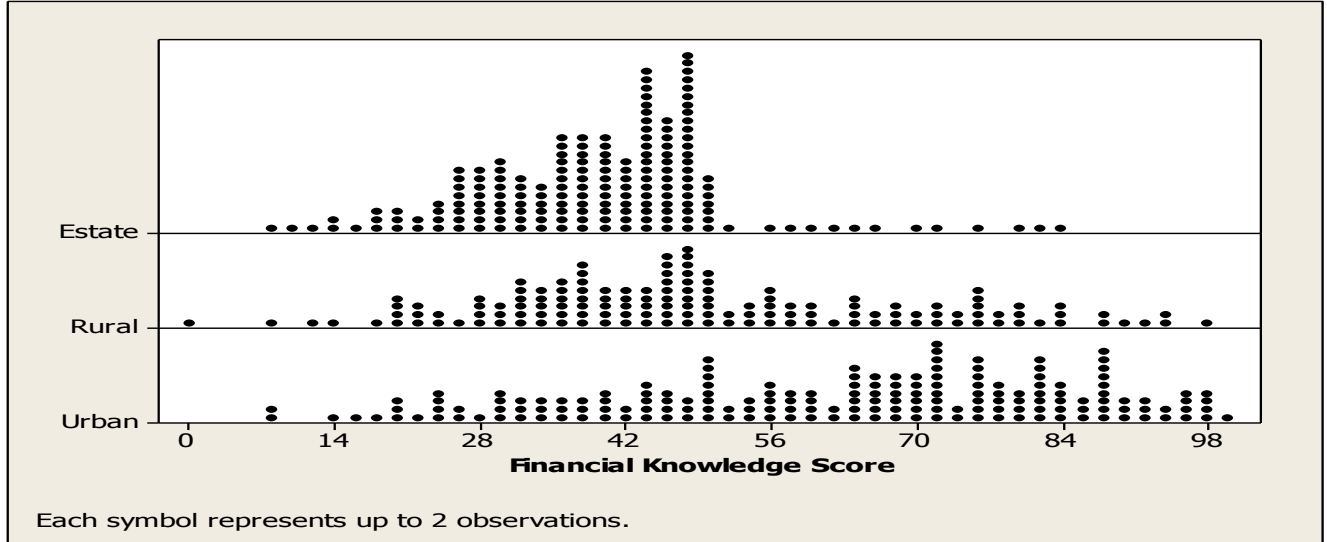


Source: Author constructed.

The distribution of scores on risk management behavior shows quite a sizeable group scoring which is relatively low. Majority of respondents fall in the levels less than 50 under this domain. Few respondents maintain their index scored at the average level, thereby indicating that few people w adapt risk management tool/s for their life.

### Fifth Domain: Distribution of scores for financial knowledge

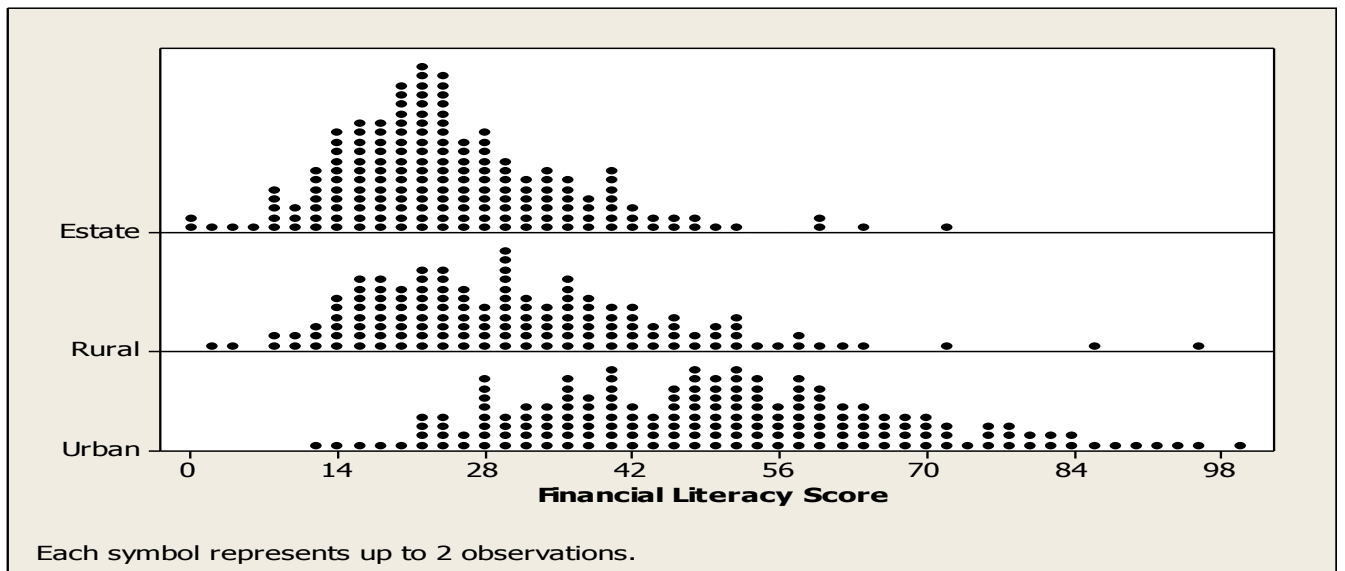
Figure 6: Dotplot of financial knowledge score by sector



Source: Author constructed.

The shapes of the distributions reflect a more diversified knowledge of finance in the three sectors under consideration. The urban sector shows a relatively positive result with a more closely grouped population which indicates a stronger financial knowledge than the other two sectors. Rural sector respondents show a relatively flat dispersion on their financial knowledge with some peaks towards the center. However, most of the respondents have been centered around the bottom range in the estate sector under this domain. Dotplot of the overall financial literacy index is shown in Figure 7.

Figure 7: Dotplot of overall financial literacy vs. Sector



Source: Author constructed.

### 5.3 Correlation Analysis

This section presents the results of an analysis of the inter-links between the domains of financial literacy. In table 27 we present a statistical measure of the degree of association between each domain and the strength of the relationship between each domain. The strongest correlations were found between financial knowledge and awareness on financial products. The savings behavior and awareness on financial products with financial knowledge also show a moderate association.

Table 27: Pearson correlation coefficients of five domains of financial literacy

<b>Domain names</b>	<b>Saving Behavior</b>	<b>Investment and payment mechanisms</b>	<b>Awareness on Financial Products</b>	<b>Risk Management</b>	<b>Financial Knowledge</b>
Saving behavior	1				
Investment and payment mechanisms	0.146603	1			
Awareness on financial products	0.321058	0.170735	1		
Risk management	-0.07556	0.043961	-0.02984	1	
Financial knowledge	0.232592	-0.00197	0.498817	-0.064655765	1

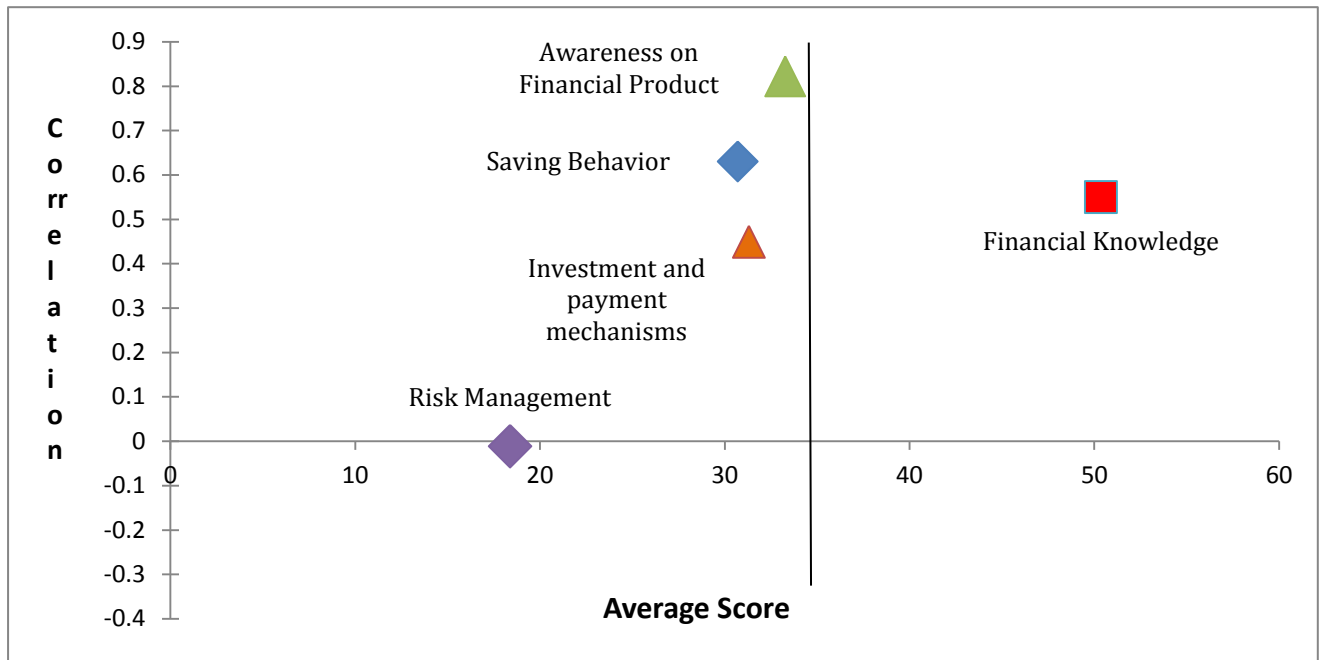
Source; Author constructed.

The values shown vary from +1 (meaning perfect positive correlation) to -1 (perfect negative correlation), with values of 0 indicating no correlation.

### 5.4 Key Driver Analysis

Key driver analysis is a statistical method used to further identify and describe the relationship between the domains and overall financial literacy index. The results of the key driver analysis are presented in Figure 8. This figure illustrates the relative contribution of each domain to the overall financial index. The highest contribution in financial literacy has been received from the financial knowledge domain. Although another three key drivers were positive, they were below the average level of the overall financial composite index. The risk management domain has not had a strong contribution to the overall financial literacy index. Meanwhile, the risk management domain shows an inverse relationship with the overall financial literacy index.

Figure 8: Key-drivers on financial literacy



Source; Author constructed.

### 5.5 Regression Analysis

The index scores were taken for the investigation of variations in financial literacy across the five domains. This section presents the results of a regression analysis in order to unveil the differences between levels of financial literacy scores. Tobit model of regression was the analytical tool used for determining the impact of the explanatory variables on the probability of financial literacy index score. This model was used instead of the Ordinary Least Squares (OLS) since it can well account for the censoring of the dependent variable (The indexes are on the 0-100 scale). This analysis comprised of six separate regressions in order to examine the main factors associated with the financial literacy indexes. The following sections present the interpretation of the regression results. Table 26 shows the effect of each characteristic on the levels of capability indicating a range for each domain.

Table 26: Regression Results of Five Domains and Overall Index of Financial literacy

Explanatory variables	Saving Behavior	Investment and payment mechanisms	Awareness on Financial Product	Risk Management	Financial Knowledge	Overall Index
	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Model
Constant	<b>26.97***</b> (3.065)	<b>34.65***</b> (3.771)	<b>19.55***</b> (2.800)	<b>29.58***</b> (3.461)	<b>31.48***</b> (3.469)	<b>25.09***</b> (3.687)
Sector (Reference: Estate)						
Urban	<b>9.920***</b> (5.060)	<b>3.531*</b> (1.725)	<b>14.63***</b> (9.409)	-1.978 (-1.039)	<b>18.03***</b> (8.922)	<b>15.56***</b> (10.26)
Rural	1.537 (0.859)	-0.658 (-0.352)	<b>2.447*</b> (1.724)	-2.254 (-1.297)	<b>8.871***</b> (4.810)	<b>3.034**</b> (2.194)
Gender (Compared to Female)	1.612 (1.349)	-0.279 (-0.224)	<b>3.311***</b> (3.493)	<b>-1.985*</b> (-1.711)	1.525 (1.237)	<b>2.368**</b> (2.563)
Age	-0.127 (-0.385)	-0.326 (-0.945)	0.0138 (0.0525)	<b>-0.625*</b> (-1.950)	<b>0.649*</b> (1.906)	-0.0746 (-0.292)
Age-squared	0.00177 (0.548)	0.00280 (0.832)	-0.00136 (-0.534)	<b>0.00623**</b> (1.991)	<b>-0.00670**</b> (-2.020)	4.73e-05 (0.0190)
Civil status (Reference : Single)						
Married	-2.012 (-0.804)	-2.180 (-0.834)	-1.789 (-0.901)	<b>4.922**</b> (2.025)	-1.347 (-0.522)	-2.536 (-1.311)
Education (Reference : Not attended school)						
Primary	-0.194 (-0.0689)	-3.042 (-1.036)	0.429 (0.192)	<b>-4.634*</b> (-1.697)	-2.218 (-0.765)	-1.603 (-0.737)
Secondary	2.024 (0.767)	-2.674 (-0.970)	<b>5.104**</b> (2.437)	-1.292 (-0.504)	-1.409 (-0.518)	2.018 (0.989)
Tertiary	4.783 (1.420)	0.603 (0.172)	<b>17.06***</b> (6.385)	-1.603 (-0.490)	-0.450 (-0.130)	<b>10.71***</b> (4.113)
Occupation (Reference : Agriculture)						
Government	1.122 (0.570)	-0.102 (-0.0496)	<b>5.506***</b> (3.522)	-0.963 (-0.503)	<b>3.993**</b> (1.966)	<b>3.902**</b> (2.561)
Private sector	-0.297 (-0.164)	0.344 (0.182)	1.905 (1.327)	-0.571 (-0.325)	-0.652 (-0.349)	0.889 (0.636)
Business	1.800 (0.987)	1.212 (0.637)	<b>3.158**</b> (2.184)	0.231 (0.131)	-0.00140 (-0.000748)	<b>2.759*</b> (1.958)
No. of Dependents	<b>-1.947***</b> (-4.096)	-0.747 (-1.506)	0.438 (1.162)	-0.705 (-1.527)	-0.517 (-1.055)	<b>-0.837**</b> (-2.276)
Income Quartile (Reference : Income Q1 Lowest)						
IncomeQ2	0.104 (0.0632)	2.910 (1.541)	<b>2.351*</b> (1.803)	0.230 (0.144)	0.573 (0.338)	<b>2.534**</b> (1.994)
IncomeQ3	0.376 (0.208)	<b>2.969*</b> (1.730)	<b>5.161***</b> (3.597)	1.666 (0.949)	<b>5.045***</b> (2.706)	<b>4.932***</b> (3.527)
IncomeQ4	<b>3.688*</b> (1.793)	<b>6.482***</b> (3.019)	<b>8.663***</b> (5.311)	0.349 (0.175)	<b>6.262***</b> (2.954)	<b>9.453***</b> (5.946)
Income diversification	<b>1.404*</b> (1.777)	<b>3.998***</b> (4.846)	<b>-1.279**</b> (-2.041)	<b>1.276*</b> (1.662)	<b>-3.158***</b> (-3.877)	0.853 (1.397)
Distance	7.68e-06 (0.0547)	7.48e-05 (0.511)	-0.000117 (-1.047)	<b>0.000452***</b> (3.319)	-0.000179 (-1.239)	-4.34e-05 (-0.400)
Sigma	<b>17.04***</b> (42.99)	<b>17.79***</b> (42.99)	<b>13.52***</b> (42.99)	<b>16.55***</b> (42.99)	<b>17.57***</b> (43.00)	<b>13.17***</b> (42.99)
Observations	986	986	986	986	986	986

Source: Author constructed.t-statistics in parentheses \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

**First Domain:** The Tobit coefficient estimate which was associated with the urban settlement type is positive and statistically significant ( $p < 0.10$ ) indicating that the urban respondents seem to be better when considering their savings behavior compared to the other sectors. The variable, 'Number of dependents' carries a higher significant level with a negative sign implying that respondents with lesser number of dependents in their family tended to score higher at the saving behavior than the respondents having more dependents. The variables, 'income diversification' and 'highest income quartile' are positively related with least significant ( $p < 0.10$ ). It implies that the group who had higher scores in the saving behavior domain is more likely to be those who are in the highest income quartile with a diversification in their income. The remaining variables do not show a significant influence on the domain of saving behavior of financial literacy.

**Second Domain:** In relation to the socio-demographic determinants, the regression results for the domain of investment and payment mechanisms show that the variable 'urban' has positive signs with most statistically significant ( $p < 0.01$ ) which means that respondents in the urban area have scored highest, relative to those in the other two sectors. The variable 'income' had estimated positive coefficients for the income quartile 3 and 4 which were statistically significant at  $p < 0.10$  and  $p < 0.01$  respectively. This shows that an increase in the income of respondents is strongly associated with the increase in the knowledge on investment and payment mechanisms score. The estimates associated with the income diversification variable was positive and statistically significant ( $p < 0.01$ ) indicating that those who are lower in income diversification tend to score lower relative to those who are higher. There is no significant relationship between the investment and payment mechanisms and other factors in this regression analysis.

**Third Domain:** When considering the third domain, the regression analysis confirmed that several characteristics have an association with the awareness on financial products. The variable 'Settlement type' had estimated coefficients of positive for the urban and rural which were statistically significant at  $p < 0.01$  and  $p < 0.10$  respectively indicating that compared to the estate sector, urban and rural sectors are likely to be ahead in the awareness or usage of financial products. The coefficient of the variable 'gender' was positive and statistically significant at  $p < 0.01$ . The results revealed that the male respondents had the likelihood of increasing the score of awareness on the financial product. The women tended to attain lower scores than men in this domain. When considering the education factor, estimated coefficients of secondary and tertiary level education were positive and statistically significant at  $p < 0.10$  and  $p < 0.01$  levels which means that respondents who had a secondary and tertiary level education dominated in the sphere of awareness in financial products especially compared to the group of respondents who never attended school. The variable 'Occupational status of the respondents' was a dummy variable and had an estimated coefficient with positive value with regard to the government sector and business sector which were statistically significant at  $p < 0.01$  and  $p < 0.05$  levels respectively. These results indicated that occupational status

of the respondents could affect the awareness on financial products positively while the employees in the Government sector and also in the business sector tended to score higher under this domain. The level of income a respondent had was a strong indicator, estimated coefficients value had positive for the income quartile 2 quartile 3 and 4 levels variables and statistically significant at  $p < 0.10$ ,  $p < 0.01$  and  $p < 0.01$ , levels respectively. This indicates that compared to the lowest income quartile the highest income quartile performed well in this domain. Differentiating the income sources had a significant ( $p < 0.05$ ) and negative influence on the awareness of financial products.

**Fourth Domain:** When considering the risk management domain, the estimated coefficient for gender variable shows an inverse relationship with statistically significant at  $p < 0.10$  level. This means that women are more likely than men to be engaged in the practice of risk management. This inverse relationship can be observed in the age variable also at a significant level of  $p < 0.05$  while the squared age variable is positive and a significant ( $p < 0.01$ ), indicating a U-shaped relationship. Lower average age of the respondents and elderly respondents are more likely to manage their risk better than others. The result indicates that age increases with practice of risk management likely to decrease up to a peak age at 50 year. Meanwhile, Civil status coefficient had positive and significant ( $p < 0.05$ ) suggesting that married respondents tend to take the risk management option than the singles. In the case of education level, estimated coefficient value was negative for primary education variable and statistically significant at  $p < 0.10$  level indicating that the primary educated respondents seem to experience risk management than the other categories of respondents. The variable of diversified income, being significant ( $p < 0.01$ ), shows a positive influence on risk management. This clearly indicates that an increase in income sources could increase the practice of risk management too.

**Fifth Domain:** Regression analysis of this domain attempts to determine the impact of the explanatory variables on the probability of financial knowledge index score. Coefficient estimates are associated with the settlement type of urban and rural are positive and statistically significant ( $p < 0.01$ ) indicating that the respondents of the urban and rural areas scored highest on financial knowledge than those of the estate sector. Age variable coefficient had a positive sign and was statistically significant at level  $p < 0.10$  while the squared age variable was negative and significant ( $p < 0.05$ ), indicating an inverse U-shaped. The evidence indicates that age increases with financial knowledge index score likely to increase up to a peak age at 48 year, after which the financial knowledge index score declines. Another key determinant we observed was the occupation of respondents which was taken under four nominal occupation categories. However, only the category of government workers and their estimated coefficient was positively significant ( $p < 0.01$ ) which means a positive impact on the financial knowledge. Furthermore, the results show that the respondents of the higher income level indices are also included in this domain. Estimated coefficients of the income variable had positive values for the income quartile 3 and for income quartile 4 which were statistically significant at  $p < 0.01$  level. This implies that an increase in the level of people's income will



increase the financial knowledge. Finally, the parameter of income diversification that shows a negative sign and being statistically significant at  $p < 0.01$  level decreases the financial knowledge in response to an increase in income diversification. In other words, as income diversification increases, financial knowledge indices decrease.

**Overall Index (Model):** This last regression analysis identified the significant factors directly associated with the overall index of financial literacy. Most of the estimates or coefficients associated with the socio-demographic variables have the expected parameter signs which were found to be statistically significant. The variables that captures urban and rural settlement, male, highest educated group, government workers, business community and higher income quartiles groups (Q2, Q3, Q4) show statistical significant with a positive sign. However, the results indicate an inverse relationship between income diversification and the financial literacy in the overall index.

### **5.6 Disparity in the financial literacy level in relation to financial inclusion**

This section presents a classification of groups according to the average factor scores vis-a-vis overall averages. This has been arranged according to the areas of weaknesses and successes in respondent scores of the five domains. The scores were used to distinguish the respondents with a good performance from the others. The individuals are compared with the average of each domain and according to this method an individual may have got plus or minus scores around the average.

Panel A of Table 28 shows the bankable group in financial inclusion. This group comprises of respondents who had scores above the average of the overall composite index of financial literacy. Those who are included in the “**Literate**” cluster are the most financially literate with index values scored well above the average in all domains and aspects. This most bankable group gets the attributes of urban, male in gender, 25-34 years in age group, married, educated at tertiary level, employed in the government sector, non-dependent on their family, included in the highest income quartile(Q4), non- income diversified practice, having a close distance to a financial institute (around 2.2km).

The second cluster, which has been classified as “**Good level of financial literate**”, had only one or two weak domains (individuals may have got scores less than the average score in the particular domain) and with overall composite index above the average. This group is basically living in urban areas, male, age (45-54), married, educated at tertiary level, government sector workers, no dependents, included in the highest income quartile(Q4), low in income diversification, and distance to a financial institute is around 2.2 to 3.5km range. This cluster represents 28.4 percent of the sample.

Table 28: Disparity in the Literacy Level among the Respondents

<b>Panel A: Above the average score of composite index of financial literacy</b>			<b>BANKABLE</b>	
	Number of weak Domains	Per cent of sample	Socio-demographic category	Cluster
1	Non	2.38	Urban, Male, Age (25-34), Married, Educated(Tertiary), Government sector workers, no dependent, Highest income quartile(Q4), non-income diversified, Distance to a Financial institute (around2.2km)	Literate
2	1 Domain weak	11.66	Urban, Male, Age (45-54), Married, Educated(Tertiary), Government sector workers, no dependent, Highest income quartile(Q4), less income diversified, Distance to a Financial institute (around2.2km)	Good Level
3	2 Domains weak	16.74	Urban, Male, Age (45-54), Married, Educated(Tertiary), Government sector workers, no dependent, Highest income quartile(Q4), non-income diversified, Distance to a Financial institute (around3.5km)	
4	3 Domains weak	9.61	Urban, Male, Age (35-44), Married, moderate Educated(Secondary), Government sector workers, no dependent, Highest income quartile(Q4), less income diversified(2), Distance to a Financial institute (around3.6km)	Moderate Level
5	4 Domains weak	3.13	Estate, Female, Age (35-44), Married, moderate Educated(Secondary), Private sector workers, less dependent(2), lower income quartile(Q2), less income diversified(2), Distance to a Financial institute (around4.7km)	
6	All Domains weak	0.00	Non	
	Total	43.52		
<b>Panel B: Below the average score of composite index of financial literacy</b>			<b>UNBANKABLE</b>	
7	Non	0.00		
8	1 Domain weak	0.22	Rural, Female, Age (35-44), Married, moderate Educated(Secondary), Government sector workers, non-dependent, moderate income quartile(Q3), less income diversified(2), Distance to a Financial institute (around5.7km)	Fair Level
9	2 Domains weak	2.81	Rural, Male, Age (over 55), Married, moderate Educated(Secondary), Private sector workers, less dependent(2), lower income quartile(Q2), less income diversified(2), Distance to a Financial institute (around5.9km)	
10	3 Domains weak	16.63	Estate, Male, Age (35-44), Married, moderate Educated(Secondary), Private sector workers, less dependent(2), lowest income quartile(Q1), non-income diversified, Distance to a Financial institute (around5.9km)	Poor Level
11	4 Domains weak	24.95	Estate, Male, Age (over 55), Married, moderate Educated(Secondary), Private sector workers, less dependent(2), lowest income quartile(Q1), non-income diversified, Distance to a Financial institute (around6.5km)	
12	All Domains weak	11.99	Estate, female, Age (over 55), Married, lesser Educated(Primary), Private sector workers, moderate dependent(3), lowest income quartile(Q1), non-income diversified, Distance to a Financial institute (around7.0km)	illiterate
	Total	56.59		

Source: Author constructed.

Cluster three which has been named as “**Moderate level of financial literate**”, includes those individuals with quite a low level of financial literacy, i.e. those with three to four domains are weak. This cluster represents about 36.94 percent of the sample. Respondents in this cluster comprised of the attributes, urban and estate sectors, male and female, age (35-44), married, moderately educated (Secondary), government and private sector workers, less dependent, highest income quartile and lower income quartile(Q2), less income diversified(2), and the distance to a financial institute is around 3.6-4.7km. .

Panel B in Table 28, displays the non-bankable group of financial inclusion where the respondents who have got scores below the average of the overall composite index of financial literacy. Fourth cluster, which has been classified as “**Fair level of financial literate**” group with only one or two weak domains encompasses the following socio-demographic attributes such as rural sector male and female, age is at the ranges of 35-44 and over 55 years, married, moderately educated(Secondary), government and private sector workers, less-dependent, moderate income quartile(Q3) and lower income quartile (Q2), less income diversified, distance to a financial institute is around 5.7-5.9km. This cluster represents a very small number of units in the sample which is about 3.03 percent.

The fifth cluster, which is classified as “**Poor level of financial literate**” represents 41.95 per cent of the sample area and having 3 or 4 weak areas. This cluster being the largest group of the sample comprises of the attributes such as estate sector, male, age ranges are 35-44 and above 55, married, moderately educated (Secondary), private sector workers, less dependent(2), lowest income quartile(Q1), less income diversified, distance to a financial institute is around 5.9to 6.5km.

The last cluster includes those who are with a very low level of financial literacy and therefore can be known as the “**financially illiterate**” group. This cluster represents about 11.99 percent of the respondents in the sample. This cluster had all five weak areas or the domains which were taken into consideration in the analysis with scores below the average level. This cluster includes mostly the estate sector , female, age is over 55, married, lesser educated (Primary), private sector workers, moderate dependent (3), represent the lowest income quartile (Q1), non-income diversified, and the distance to a financial institute is far (around 7.0km and above).

## 6. Conclusion

This paper provides an insight into the existing pattern and the levels of disparity of the functional financial literacy in the Sri Lankan context. The results of the survey highlight a kind of functional financial literacy of the respondents in the sample areas. The study shows that the financial literacy is quite diverse across the settlement types (sector). However, it is of interest to note that this traditional segmentation like settlement types, no longer works for identification in-depth of the pattern and the levels of disparity of the functional financial literacy among the people. The study clearly indicates and identifies the attributes of individuals who are capable of financial literacy and hence

included in financial functions from those of others. The characteristics that are most strongly associated with levels of financial literacy at domain level can also be easily identified. Generally, respondents acquired more scores on the financial knowledge domain while the worst situation is displayed at the function of risk management domain. The financial literacy showing diversity across the respondents' socio-demographic characteristics reveals that male respondents in general have a higher financial literacy compared to females. In general, the higher the education and income level, a higher financial literacy demonstrated. The result of the survey also shows that the age group within 25-34 years and married people had a higher financial literacy than others. Typically, urban sector exhibits a higher functional financial literacy while the distance to a financial institute was a very significant factor in determining financial inclusion. The respondents who had no dependents in their family and those who relied on one income source was also associated with a high level financial literacy. It seems that the behavioral segmentation along with a traditional kind of socio-demographic segmentation yields more useful information towards a financial inclusion. However, among the financially excluded groups the estate sector, female, age over 55, lesser in education, moderately dependent, lowest quartile in income, longer distance to a financial institute are the characteristics that were highlighted by the study and has to be attended by the policy makers. As a whole, the findings clearly highlighted an appropriate set of policies for increasing the financial literacy in order to increase the well-being of people via financial inclusion in addition to other measures. Educational programs are the especially recommended for increasing the financial literacy of people.

### References

Arora, R.U. (2010). *Measuring Financial Access*. Discussion Paper Economics, 2010-7, Griffith University. ISSN1837–ISSN7750.

Atkinson, A., McKay, S., Kempson E., & Collard, S. (2007). Levels of Financial Capability in the UK: Results of a Baseline Survey. *Public Money & Management*, 27(1): 29-36, February.

Atkinson, A., & Messy, F-A. (2012). Measuring Financial Literacy: Results of the OECD INFE Pilot Study, *OECD Working Papers on Finance, Insurance and Private Pensions*, No. 15. OECD Publishing.

Behrman, J., Olivia, M. S., Soo, C., & Bravo, D. (2010). Financial Literacy, Schooling, and Wealth Accumulation. *NBER WP 16452*.

Cole, S., & Fernando, N. (2008). *Assessing the Importance of Financial Literacy*, ADB Finance for the Poor, Volume 9 (2).

Colombage, S.S. (2010). The Potential of Using Mobile Money Systems for Enhancing Financial Inclusion in Sri Lanka. *Sri Lanka Journal of Advanced Social Studies*, Vol. 1 - No. 2, pp.3-24

Central Bank of Sri Lanka. (2013). *Annual Report*. Colombo. Central Bank of Sri Lanka.

Hung, A. A., Parker, A. M., & Yoong, J. K., (2009). Defining and measuring financial literacy. *RAND working paper*. Retrieved January 15, 2014, from [http://www.prgs.edu/content/dam/rand/pubs/working\\_papers/2009/RAND\\_WR708.pdf](http://www.prgs.edu/content/dam/rand/pubs/working_papers/2009/RAND_WR708.pdf)

Kim, J., Garman, E. T., & Sorhaindo, B. (2003). Relationships among credit counseling, clients' financial well-being, financial behaviors, financial stressor events, and health. *Financial Counseling and Planning*, 14(2), 75-87.

Lusardi, A., & Olivia, M. S. (2013). The Economic Importance of Financial Literacy: Theory and Evidence, *GFLEC Working Paper Series No. 2014-001*. <http://dx.doi.org/10.2139/ssrn.2260193>

Mason, C., & Wilson, R. (2000). Conceptualizing financial literacy. *Business School Research Paper 2000:7*, Loughborough University. Retrieved January 21, 2014, from <https://dspace.lboro.ac.uk/2134/2016>

Murray, T. S. (2010). Financial Literacy: A Conceptual Review. Report submitted to Task Force on Financial Literacy. Data Angel Policy Research. Retrieved January 21, 2014, from [http://publications.gc.ca/collections/collection\\_2011/fin/F2-205-2011-eng.pdf](http://publications.gc.ca/collections/collection_2011/fin/F2-205-2011-eng.pdf)

OECD INFE (2011). *Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting Internationally Comparable Survey of Financial literacy*. Paris: OECD.

Orton, L. (2007). Financial Literacy: Lessons from International Experience. *Working paper, Canadian Policy Research Networks*. Retrieved January 15, 2014, from [http://rcrpp.ca/documents/48647\\_EN.pdf](http://rcrpp.ca/documents/48647_EN.pdf)

Schwartz, S. (2010). Can financial education improve financial literacy and retirement planning? *Discussion paper 12*, Institute for Research on Public Policy. Retrieved January 15, 2014, from <http://www.irpp.org/assets/research/faces-of-aging/can-financial-education-improve-financial-literacy-and-retirement-planning/IRPP-Study-no12.pdf>

Xiao, J. J., Tang, C., & Shim, S. (2008). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicator Research*. DOI 10.1007/s11205-008-9288-6.

Xu, L., & Zia, B. (2012). Financial literacy around the world: An overview of the evidence with practical suggestions for the way forward, *policy research working paper No. 6107*, World Bank, Washington, DC.