# INEQUALITIES IN THE FINANCIAL INCLUSION IN SRI LANKA: AN ASSESSMENT OF THE FUNCTIONAL FINANCIAL LITERACY[1]

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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. Based mainly on quantitative data the study selected a sample representing the three main settlement types: urban, rural and estate sector, using the multi-stage sampling technique related to cluster sampling. The analysis generated five 'domains' of financial literacy scores that capture the household head'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 household heads. Moreover, descriptive statistics, key driver analysis and correlation analysis were also 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 household heads demonstrate a modest financial knowledge and can be categorised as a literate (bankable) group. Functional financial literacy was quite diverse across households 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 the fundings for policy actions. The study also identifies the target group for affirmative action in the provision of financial education to minimise inequalities with an increase in the financial inclusion of the country.*

**Keywords:** Financial literacy, Financial inclusion, Financial inequality, Sri Lanka
**JEL Classification:** D14, D31, D81, G11

## 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 across the world. In an era when human development indicators such as life expectancy and literacy rate have been continuously and steadily improving, there are still 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 behaviour contributes to their economic and general well-being. A financially literate person has the skills, attitude, knowledge, and behaviours sufficient to be aware of financial opportunities and making choices to suit the circumstances, and taking effective action to improve their well-being (Kim, Garman & Sorhaindo, 2003; Xiao, Tang, & Shim, 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.

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**Brief Review of Literature on Financial Literacy and Financial Inclusion**

Although 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. Prior to the review of empirical evidence, it is important to review 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 (Orton, 2007; Hung, Parker & Yoong, 2009; Schwartz, 2010; Lusardi & Olivia, 2013). The term 'financial literacy' is seen by some authors in terms of general literacy and essential skills, and is defined as the ability to acquire and use financial information, as measured through comprehension and performance of a financial task (Mason & Wilson, 2000). 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 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 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, one requires access to appropriate financial services combined with the ability, knowledge, skills, attitudes, and behaviours 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 operationalised. 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 contexts. However, financial literacy is a primary step for financial inclusion since introspection changes behaviour 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, requires that the policies of the government be such that ensures equitable growth in all sections of the economy. Sri Lanka is generally considered as a country that possesses a strong system of education and high literacy rates when compared to most of other developing countries. The literacy rate in the country is around 92 percent, which is higher than the third world average 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 and being extremely smart people. In their pursuit of extra returns, few showed any understanding of the basic relationship between risk and return. The investment scandals experienced by Sri Lankans over the past few years have been almost too numerous to count. 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 lack of 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 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 criticised 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 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 characterised 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 emphasises the need for understanding the extent of financial knowledge of the people, which is necessary to turn the existing opportunities into benefit from the point of view of poverty alleviation and development.

## Methods

### 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 as such, this is considered as a disproportionate random sampling method.This method was perceived as advantageous as it allows for comparisons across sectors. A map of the survey area is shown in Figure 1.

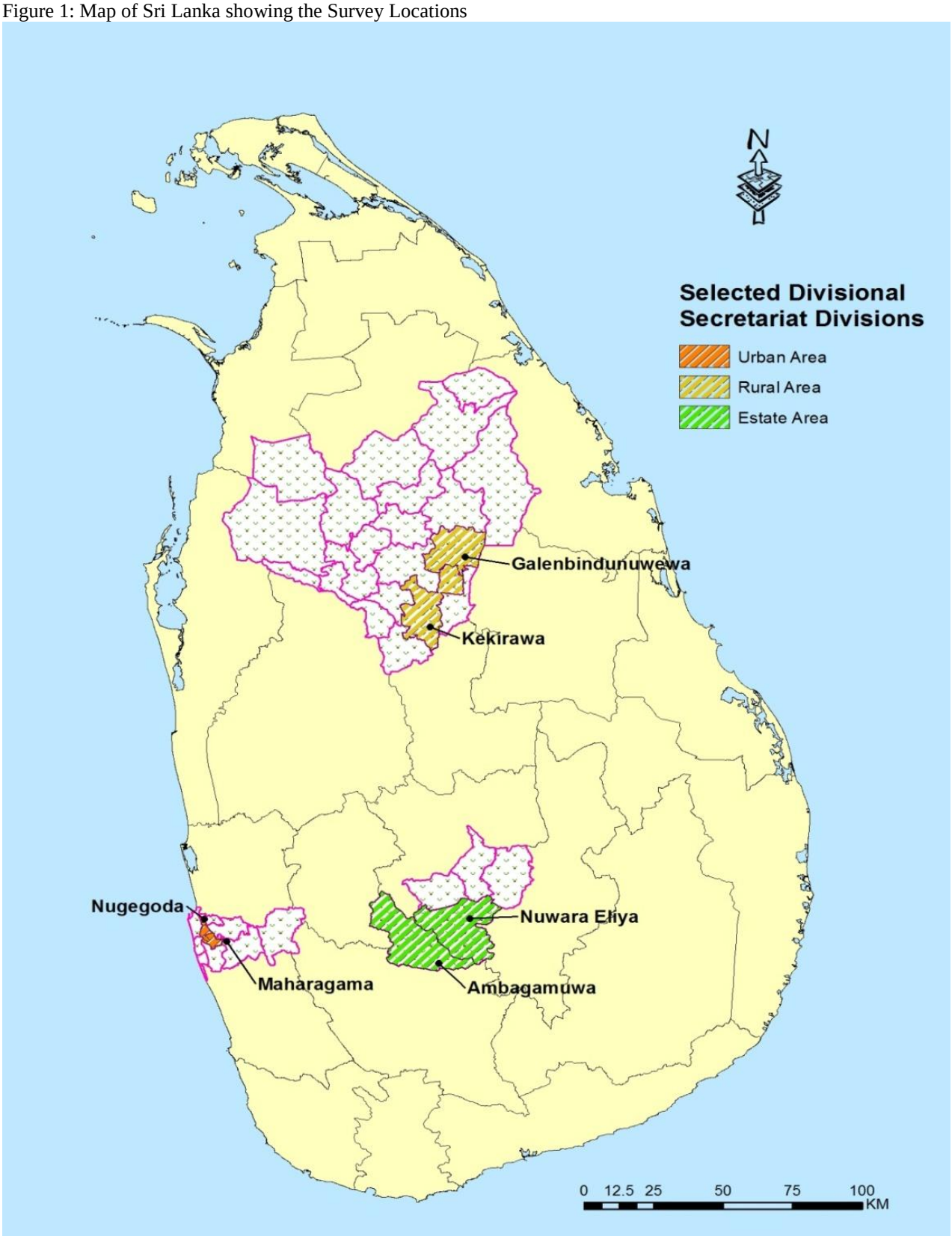
**Survey and the Questionnaire**

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 are often customised for a target segment of the population. In a comprehensive review of the financial literacy literature, Lusardi & 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 the effects of socioeconomic and household characteristics money management skills in the selected communities. 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 household heads' 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 household head were calculated by the sum of scores of each question multiplied by corresponding weight divided by total sum of the maximum scores.

**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 the determinants and disparity of financial literacy of household heads, 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 summarise 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 household head 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 accounted 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 appeared 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: Map of Sri Lanka showing the Survey Locations




Source: Author's, 2014.

Table 1: Domains and Sub-indicators

| | Domains | Sub-indicators | Variables | Principal Component |
|---|---|---|---|---|
| 1 | Saving Behaviour | 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 |
| | | | Decaled savings | 0.672 |
| 2 | Investment and payment mechanisms | People's attitudes towards the better financial practices | 9 Statements, whether they agreed or disagreed | 0.769 |
| | | Money investment behaviour | 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 |
| | | | Usage of mobile phones for transactions | 0.532 |
| 3 | Awareness of Financial Products | Knowledge about financial products and services and usage | Knowledge about 22 financial tools and usage | 0.416 |
| | | Factors affecting selection of a financial institute | 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 | Borrowings in an emergency | Identified 11 actions | 0.538 |
| | | 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 objective | Preferred financial objectives | 0.578 |
| | | Record keeping behaviour | Budget maintaining behaviour | 0.342 |
| | | | keeping financial recodes | 0.152 |
| | | Knowledge of 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's computation, 2014.

It was hypothesised 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 dependants 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 |
| | Total | 100 | 100 | 100 | 100 |
| 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 |
| | Total | 100 | 100 | 100 | 100 |
| Civil status | Married | 88 | 92 | 90 | 90 |
| | Single (Unmarried, Divorced & Widov | 12 | 8 | 10 | 10 |
| | Total | 100 | 100 | 100 | 100 |
| Education | Not attended school | 0 | 4 | 12 | 6 |
| | Primary | 0 | 10 | 32 | 15 |
| | Secondary | 74 | 83 | 55 | 69 |
| | Tertiary | 26 | 3 | 1 | 10 |
| | Total | 100 | 100 | 100 | 100 |
| 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 |
| | Total | 100 | 100 | 100 | 100 |
| 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 |
| | Total | 100 | 100 | 100 | 100 |
| 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 |
| | Total | 100 | 101 | 101 | 100 |
| Income diversification | Non-diversified | 50 | 54 | 68 | 58 |
| | 2- 4 income source | 50 | 46 | 32 | 42 |
| | Total | 100 | 100 | 100 | 100 |
| 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 |
| | Total | 100 | 100 | 100 | 100 |

Source: Author's computation, 2014.

## 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 behaviour of financial

literacy in Sri Lanka. Results are organised 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 behaviour scores and its disparities are presented under the results of the cluster analysis.

**Main Domains and Sub-Indicators**

**First Domain: Saving Behaviour**

Saving behaviour was operationalised in the survey as setting aside money to use later. Participants were asked about multiple dimensions of saving behaviour questions, including frequency, duration, amount, intended uses, and saving vehicle (i.e. where they actually keep their saved money). The definition of saving behaviour 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's computation, 2014.

Eighty-six percent (86%) of the households responded that they had been able to save some amount of money from their household income during the previous12 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's computation, 2014.

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's computation, 2014.

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' were33 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's computation, 2014.

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 Table7.

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's computation, 2014.

The survey revealed that 58 percent of household heads have had savings below LKR 10,000 at the time of the survey. However, 30 percent of the urban sector household heads 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's computation, 2014.

Seventy percent of the households were able to save as frequently as every month while25 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 household heads***

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's computation, 2014.

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 household heads' financial literacy score. Forty-three percent (43%) of the household heads surveyed have shown a saving habit of 12 years and above in their life. However, household heads 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's computation, 2014.

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's computation, 2014.

Table 11shows that majority of household heads are of the frequency of depositing for children's accounts on a monthly basis. However, a significant portion of the household heads 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.

**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 behaviour 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 household heads 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's computation, 2014.

Table 12 presented the levels of personal financial knowledge and the people's attitudes towards better financial practices. Perceptions of household heads on nine different statements are presented in Table 12. The values in each row show the level of agreement of household heads with respect to the statements. Statement 4 of the table reveals that most of the household heads 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 was a significant percentage of the household heads that 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 household heads 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 organisation (CBO) for financial needs.

***Money investment behaviour***

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's computation, 2014.

More than 75 percent of the participants in the sample stated that they had invested money somewhere in some form. Household head 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 household heads 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 household heads 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's computation, 2014.

This study reveals that majority of household heads take financial decisions in cooperation with the spouse. However, the household heads used for 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's computation, 2014.

Household heads in this survey generally exhibited a limited knowledge of payment mechanisms accessible through the formal financial system. Almost half (48%) of household heads reported that they had used an easy payment method like equal monthly installments for buying durable consumer products. Furthermore, many household heads 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's computation, 2014.

Approximately 50 percent of household heads 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 household heads.

A money transaction via mobile phone is another form of transaction that has been popularised in the modern era. However, it was observed that the percentage of household heads 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's computation, 2014.

Household heads 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.

**Third Domain: Awareness of Financial Products**

Another key section of the questionnaire that was investigated is the household heads' awareness of financial instruments and choice or purchase of financial products. This domain was created to assess the household heads' knowledge on financial products and usage based on high positive loadings, which can be associated with awareness on financial instruments, choice and usage behaviour. This domain also incorporates questions regarding the selection methods of a financial organisation 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 household heads are presented in Table 18.

Table 18: Awareness of 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's computation, 2014.

Savings accounts, mortgage services and automated teller machines (ATM) were the most used and best-known formal financial services with almost 50 percent of household heads having awareness of them and nearly 40 percent using them. Majority of the household heads 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's computation, 2014.

The most common factor affecting the selection of a financial institute for transactions by the household heads 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 household

heads identified 'service distribution of the institute' as the third highest significant factor for selecting a financial institute for transactions. The estate sector household heads cited 'experiences of friends" as the second reason and not 'distance from home to the financial institute' as was the case with other household heads.

***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's computation, 2014.

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

**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 household heads 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 household heads***

Table 21: Actions taken in Financial Problems

| Action | Total | Sector | | |
|---|---|---|---|---|
| | % | Urban % | Rural % | Estate % |
| Own savings | 16 | 69 | 5 | 25 |
| Mortgaging jewelries | 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 |

Source: Author's computation, 2014.

The household heads 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 them used 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 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 (%) |
| Contribution for a pension fund in total sample | 28 | 49 | 21 | 16 |
| 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's computation, 2014.

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

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

The final domain of financial literacy comprises people's knowledge in financial planning, while it takes into account preferred financial objective/s and recordkeeping behaviour. 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 minimised by investing in different sectors | 59 | 41 |
| Inflation causes higher cost of living is a correct statement | 93 | 6 |

Source: Author's computation, 2014.

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 household heads generally exhibit some knowledge of the range of financial planning and investment statements.

***Budgeting and record keeping behaviour***

Table 24: Budgeting and Record Keeping Behaviour

| Behaviour | Response | Total (%) | Sector | | |
|---|---|---|---|---|---|
| | | | Urban (%) | Rural (%) | Estate (%) |
| Budget maintaining behaviour | Yes | 32 | 39 | 66 | 19 |
| | No | 68 | 61 | 34 | 81 |
| Record keeping behaviour | Yes | 34 | 53 | 31 | 18 |
| | No | 66 | 47 | 69 | 82 |

Source: Author's computation, 2014.

The management of cash flows and budgeting is an essential skill in financial planning. Budget maintaining behaviour 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

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

Source: Author's computation, 2014.

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.

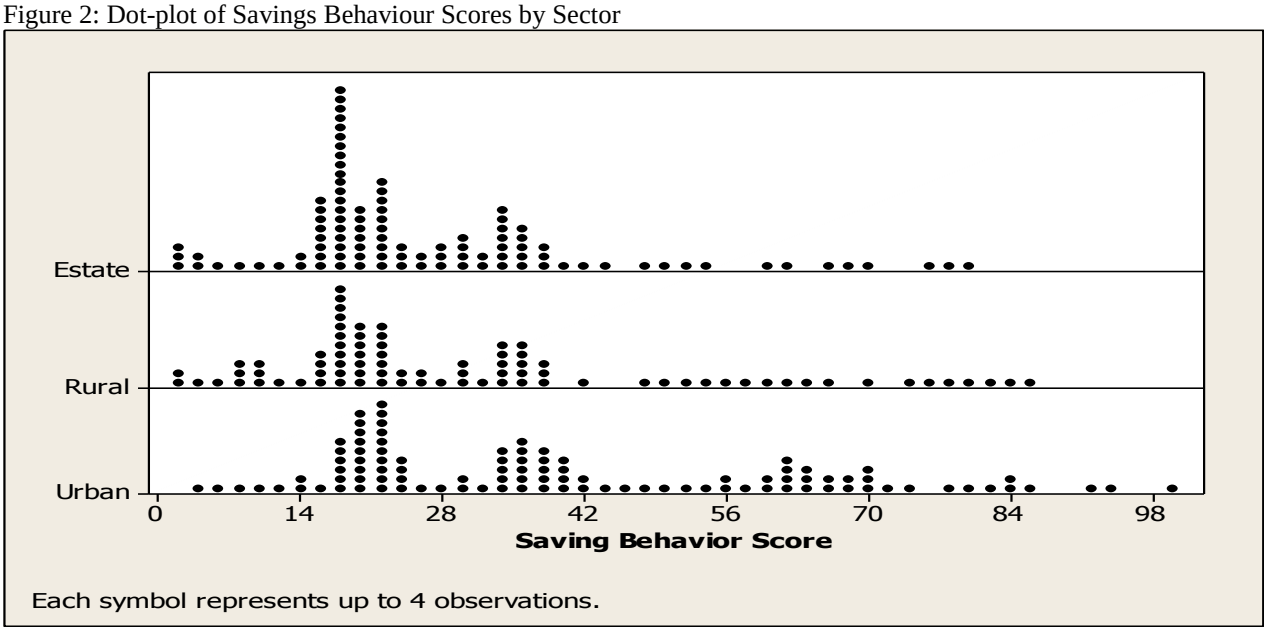
**Cluster Analysis**

**Spatial Analysis**

This section describes the domains that were used to derive measures or scores in financial literacy with regard to the household heads. 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 behaviour**

Figure 2: Dot-plot of Savings Behaviour Scores by Sector

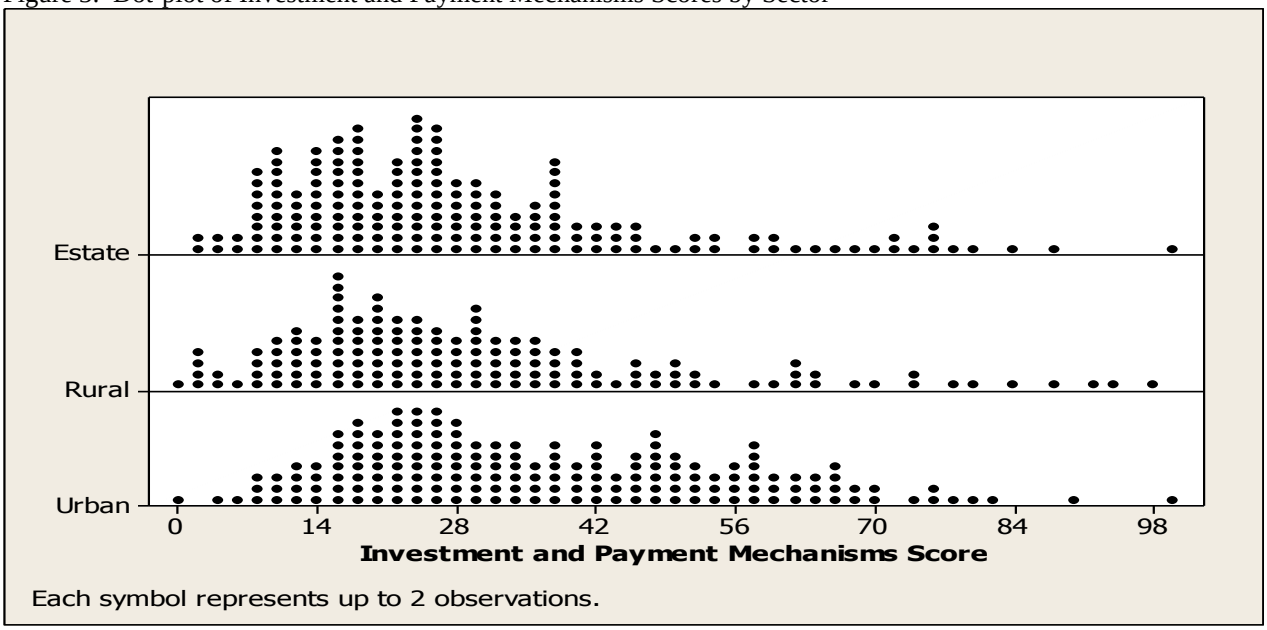



Source: Author's, 2014.

Figure 2 shows the distribution of constructed index scores on the saving behaviour domain. Most of the household heads' scores are relatively low on savings behaviour, 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. Household heads living in urban areas show the highest scores for saving behaviour, while the estate and rural sectors exhibit low scores in the domain. Most them have been clustered around the bottom range of scores for choosing products.

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

Figure 3: Dot-plot of Investment and Payment Mechanisms Scores by Sector

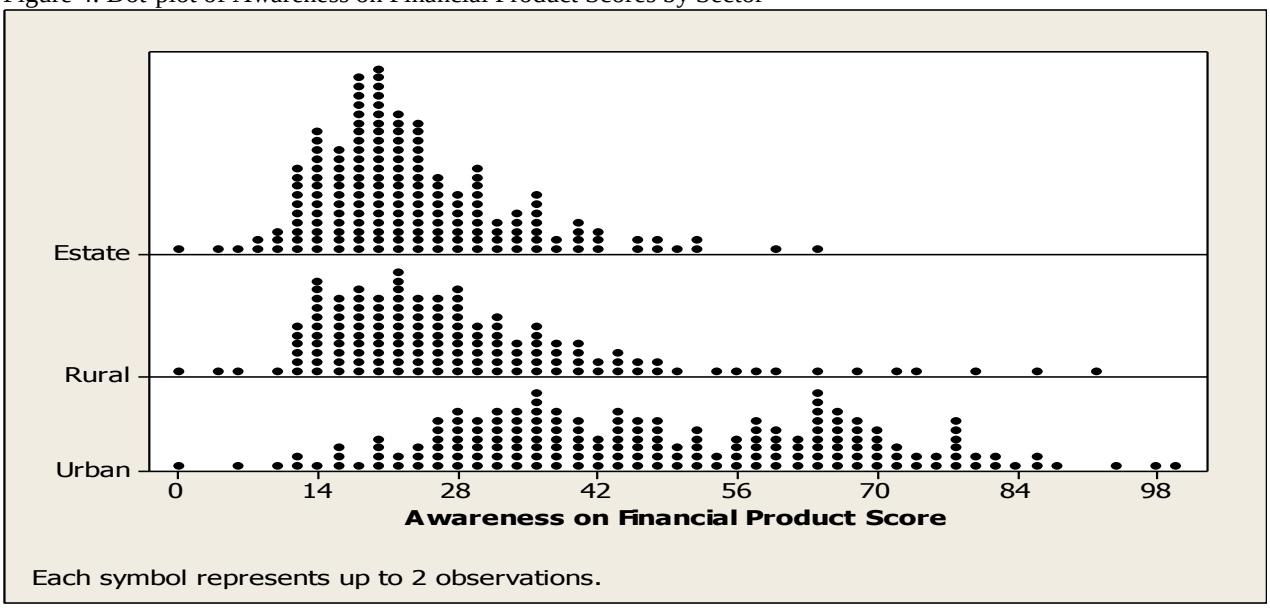



Source: Author's, 2014.

There is a great uniformity in the extent of investment and payment mechanisms of the household heads 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 of financial products**

Figure 4: Dot-plot of Awareness on Financial Product Scores by Sector

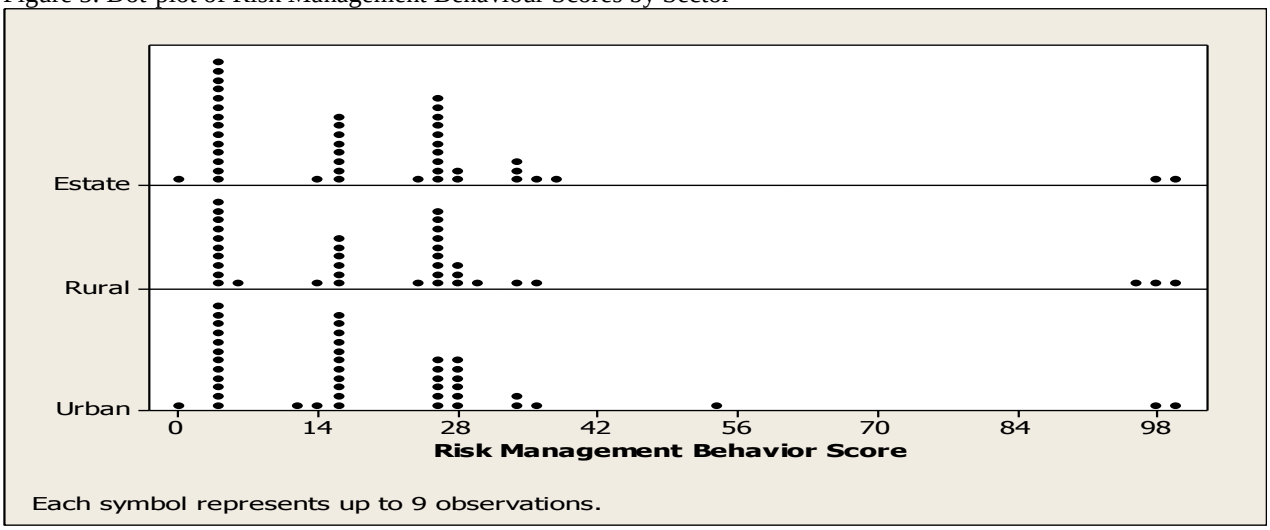



Source: Author's, 2014.

Figure 4 shows a relatively widely spread distribution of scores with some household heads 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 of financial products in rural and estate sectors. A significant number of them have not had awareness on diversified financial products while the usage also seems low.

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

Figure 5: Dot-plot of Risk Management Behaviour Scores by Sector

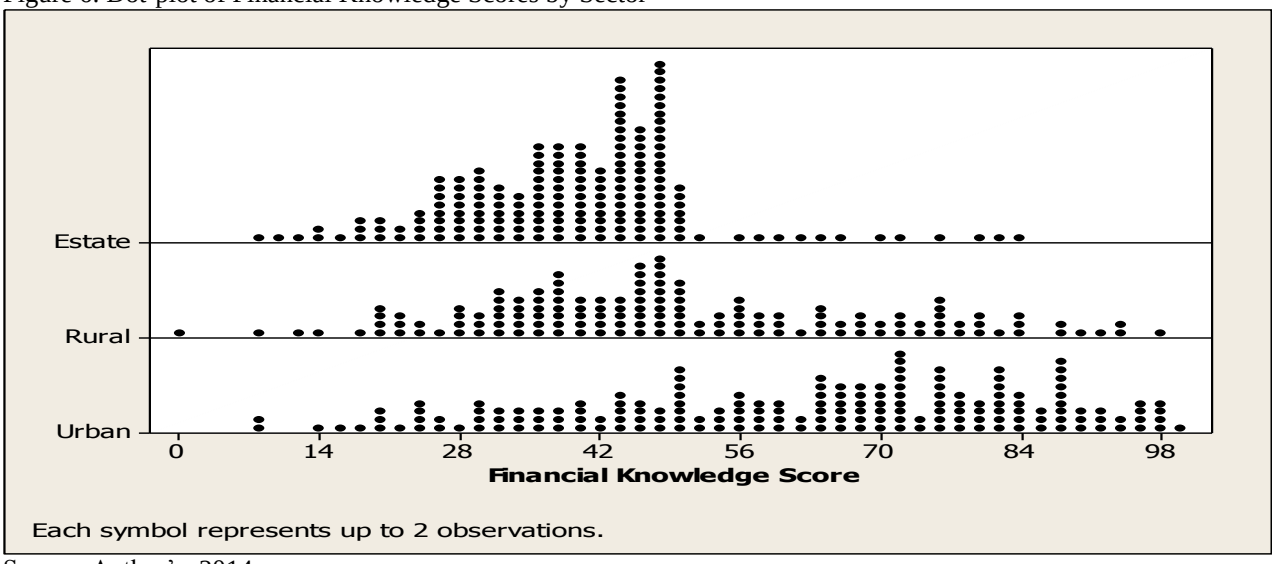



Source: Author's, 2014.

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

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

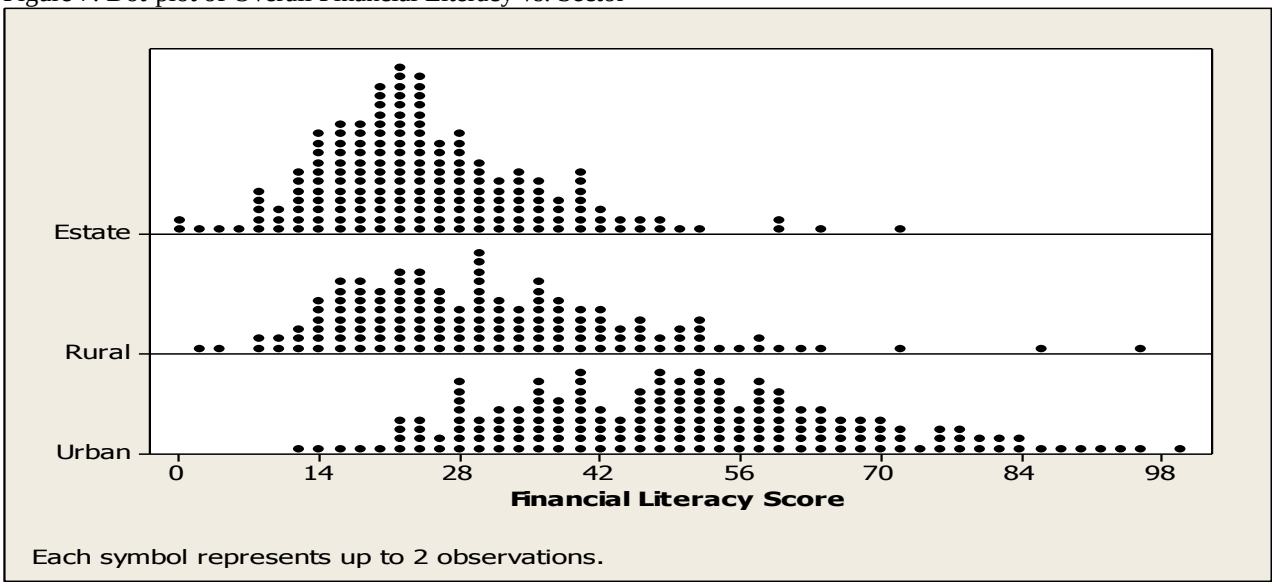
Figure 6: Dot-plot of Financial Knowledge Scores by Sector




Source: Author's, 2014.

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. Household heads living in the rural areas show a relatively flat dispersion on their financial knowledge with some peaks towards the center. However, most of them have been centered around the bottom range in the estate sector under this domain. Dot-plot of the overall financial literacy index is shown in Figure 7.

Figure 7: Dot-plot of Overall Financial Literacy vs. Sector




Source: Author's, 2014.

**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 of financial products. The savings behaviour and awareness of financial products with financial knowledge also show a moderate association.

Table 26: Pearson Correlation Coefficients of Five Domains of Financial Literacy

| Domain names | Saving Behaviour | Investment and payment mechanisms | Awareness on Financial Product | Risk Management | Financial Knowledge |
|---|---|---|---|---|---|
| Saving behaviour | 1 | | | | |
| Investment and payment mechanisms | 0.146603 | 1 | | | |
| Awareness of 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 |

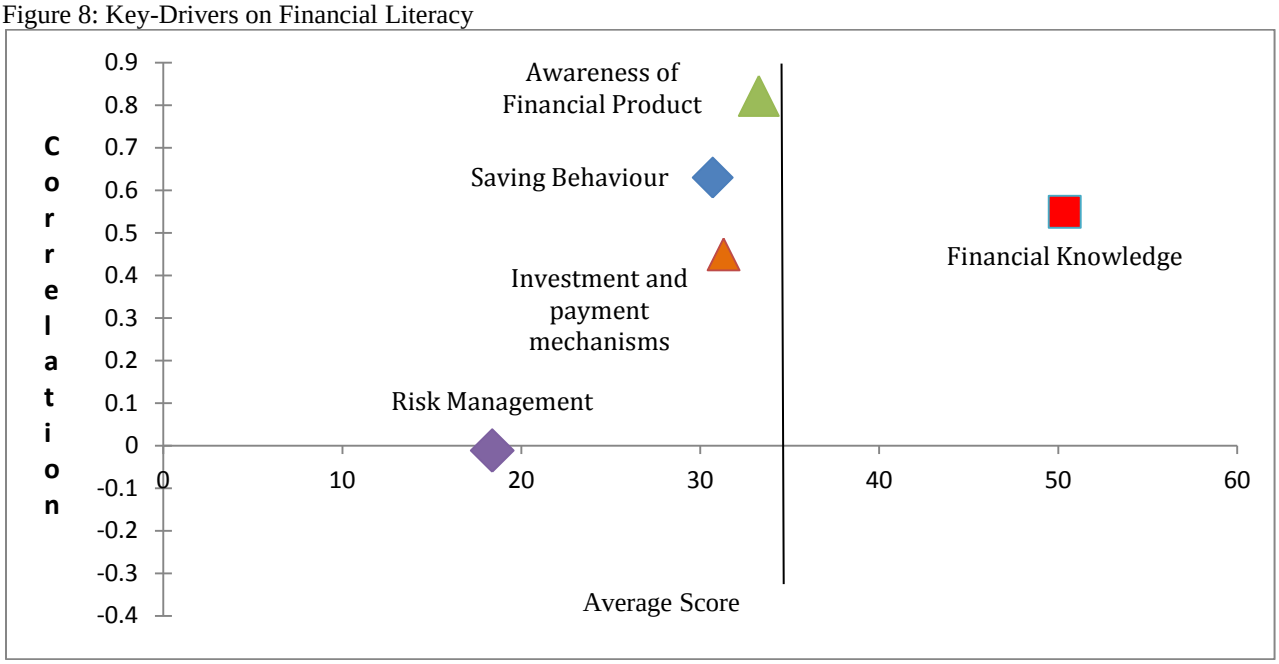
Source; Author's, 2014

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

**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 three other key driver results 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's, 2014.

**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 obtain 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 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 27: Regression Results of Five Domains and Overall Index of Financial literacy

| Explanatory variables | | Saving Behaviour | 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 | | **26.97*** ** | **34.65*** ** | **19.55*** ** | **29.58*** ** | **31.48*** ** | **25.09*** ** |
| | | (3.065) | (3.771) | (2.800) | (3.461) | (3.469) | (3.687) |
| Sector (Reference: Estate) | | | | | | | |
| | Urban | **9.920*** ** | **3.531*** | **14.63*** ** | -1.978 | **18.03*** ** | **15.56*** ** |
| | | (5.060) | (1.725) | (9.409) | (-1.039) | (8.922) | (10.26) |
| | Rural | 1.537 | -0.658 | **2.447*** | -2.254 | **8.871*** ** | **3.034** ** |
| | | (0.859) | (-0.352) | (1.724) | (-1.297) | (4.810) | (2.194) |
| Gender | | 1.612 | -0.279 | **3.311*** ** | **-1.985*** | 1.525 | **2.368** ** |
| (Compared to Female) | | (1.349) | (-0.224) | (3.493) | (-1.711) | (1.237) | (2.563) |
| Age | | -0.127 | -0.326 | 0.0138 | **-0.625*** | **0.649*** | -0.0746 |
| | | (-0.385) | (-0.945) | (0.0525) | (-1.950) | (1.906) | (-0.292) |
| Age-squared | | 0.00177 | 0.00280 | -0.00136 | **0.00623** ** | **-0.00670** ** | 4.73e-05 |
| | | (0.548) | (0.832) | (-0.534) | (1.991) | (-2.020) | (0.0190) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Civil status (Reference : Single) | | | | | | |
| Married | -2.012 | -2.180 | -1.789 | **4.922**** | -1.347 | -2.536 |
| | (-0.804) | (-0.834) | (-0.901) | (2.025) | (-0.522) | (-1.311) |
| Education (Reference : Not attended school) | | | | | | |
| Primary | -0.194 | -3.042 | 0.429 | **-4.634*** | -2.218 | -1.603 |
| | (-0.0689) | (-1.036) | (0.192) | (-1.697) | (-0.765) | (-0.737) |
| Secondary | 2.024 | -2.674 | **5.104**** | -1.292 | -1.409 | 2.018 |
| | (0.767) | (-0.970) | (2.437) | (-0.504) | (-0.518) | (0.989) |
| Tertiary | 4.783 | 0.603 | **17.06***** | -1.603 | -0.450 | **10.71***** |
| | (1.420) | (0.172) | (6.385) | (-0.490) | (-0.130) | (4.113) |
| Occupation (Reference : Agriculture) | | | | | | |
| Government | 1.122 | -0.102 | **5.506***** | -0.963 | **3.993**** | **3.902**** |
| | (0.570) | (-0.0496) | (3.522) | (-0.503) | (1.966) | (2.561) |
| Private sector | -0.297 | 0.344 | 1.905 | -0.571 | -0.652 | 0.889 |
| | (-0.164) | (0.182) | (1.327) | (-0.325) | (-0.349) | (0.636) |
| Business | 1.800 | 1.212 | **3.158**** | 0.231 | -0.00140 | **2.759*** |
| | (0.987) | (0.637) | (2.184) | (0.131) | (-0.000748) | (1.958) |
| No. of Dependents | **-1.947***** | -0.747 | 0.438 | -0.705 | -0.517 | **-0.837**** |
| | (-4.096) | (-1.506) | (1.162) | (-1.527) | (-1.055) | (-2.276) |
| Income Quartile (Reference : Income Q1 Lowest) | | | | | | |
| IncomeQ2 | 0.104 | 2.910 | **2.351*** | 0.230 | 0.573 | **2.534**** |
| | (0.0632) | (1.541) | (1.803) | (0.144) | (0.338) | (1.994) |
| IncomeQ3 | 0.376 | **2.969*** | **5.161***** | 1.666 | **5.045***** | **4.932***** |
| | (0.208) | (1.730) | (3.597) | (0.949) | (2.706) | (3.527) |
| IncomeQ4 | **3.688*** | **6.482***** | **8.663***** | 0.349 | **6.262***** | **9.453***** |
| | (1.793) | (3.019) | (5.311) | (0.175) | (2.954) | (5.946) |
| Income diversification | **1.404*** | **3.998***** | **-1.279**** | **1.276*** | **-3.158***** | 0.853 |
| | (1.777) | (4.846) | (-2.041) | (1.662) | (-3.877) | (1.397) |
| Distance | 7.68e-06 | 7.48e-05 | -0.000117 | **0.000452***** | -0.000179 | -4.34e-05 |
| | (0.0547) | (0.511) | (-1.047) | (3.319) | (-1.239) | (-0.400) |
| Sigma | **17.04***** | **17.79***** | **13.52***** | **16.55***** | **17.57***** | **13.17***** |
| | (42.99) | (42.99) | (42.99) | (42.99) | (43.00) | (42.99) |
| Observations | 986 | 986 | 986 | 986 | 986 | 986 |

Source: Author's computation, 2014. t-statistics in parentheses *** p<0.01, ** p<0.05, * p<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 household heads seem to be better when considering their savings behaviour compared to the other sectors. The variable, 'Number of dependents' carries a higher significant level with a negative sign, implying that those with fewer number of dependants in their family tended to score higher at the saving behaviour than those 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 behaviour 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 behaviour 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 household heads 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 their income 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 of 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 household head 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 household heads who had a secondary and tertiary level education dominated in the sphere of awareness in financial products especially compared to the group of household heads who never attended school. The variable 'Occupational status of the household heads' 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 household heads could affect the awareness of 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 household head 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 and 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 household heads and elderly household heads 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 was positive and significant ($p<0.05$), suggesting that more of married household heads 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 household heads seem to experience risk management than the other categories of household heads. 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 household heads 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 observed was the occupation of household heads 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 household heads 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.

**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-à-vis overall averages. This has been arranged according to the areas of weaknesses and successes in household head scores of the five domains. The scores were used to distinguish the household heads 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 household heads that 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 Household Heads

Panel A: Above the average score of composite index of financial literacy Bankable

| | 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 | | |

Panel B: Below the Average Score of Composite Index of Financial Literacy Un-bankable

| | | | | |
|---|---|---|---|---|
| 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's, 2014..

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. Household heads 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 household heads 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 rages 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 5.9 to 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 household heads 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).

**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 household heads 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, household heads 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 household heads' socio-demographic characteristic reveals that the males among them in general have a higher financial literacy compared to the 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 household heads who had no dependents in their family and those who relied on one income source were also associated with a high level financial literacy. It seems that the behavioural 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, ) lower level of education, being moderately dependent upon, being in the lowest quartile in income bracket, and being far from a financial institution 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. *Griffith University Discussion Paper Economics, (7).*

Atkinson, A., McKay, S., Kempson E., & Collard, S. (2007). Levels of financial capability in the UK: Results of a baseline survey. *Public Money and Management, 27(1), 29-36.*

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, ( 15).* OECD Publishing.

Cole, S., & Fernando, N. (2008). *Assessing the importance of financial literacy, ADB Finance for the Poor. 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, 1( 2), 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, (708).* Retrieved from www.prgs.edu. 15/01/2014.

Kim, J., Garman, E. T., & Sorhaindo, B. (2003). Relationships among credit counseling, clients' financial well-being, financial behaviours, 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, (001).*

Mason, C., & Wilson, R. (2000). Conceptualising financial literacy. *Business School Research Paper, (7).* Retrieved from https://dspace.lboro.ac.uk/2134/2016. 21/01/ 2014.

Murray, T. S. (2010). Financial literacy: A conceptual review. *Data Angel Policy Research.* Retrieved from http://publications.gc.ca/ . 21/01/ 2014.

Organisation for Economic Co-operation and Development/International Network on Financial Education (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. *Canadian Policy Research Networks Working Paper.* Retrieved from http://rcrpp.ca. 15/01/ 2014.

Schwartz, S. (2010). Can financial education improve financial literacy and retirement planning? Institute for *Research on Public Policy Discussion Paper, (12).* Retrieved from http://www.irpp.org. 15/01/2014.

Xiao, J. J., Tang, C., & Shim, S. (2008). Acting for happiness: Financial behaviour and life satisfaction of college students. *Social Indicator Research, (8).*