

Factors Determining the Level of Financial Literacy of the Youth Job Seekers of Sri Lanka; A Tobit Analysis

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INTRODUCTION

Financial literacy is defined as the processes which individuals use a combination of skills, resources and contextual knowledge to process information and make decisions knowing the financial consequences of the decision (Mason, 2000). Financial literacy includes understanding how financial services are used including bank accounts, credit cards, debt instruments and financial infrastructure including ATMs, internet banking and online payments. In brief, financial literacy includes knowledge, attitudes and practice of processes in a financial culture. This study attempts to assess the current level of financial literacy of the potential youth job seekers penetrating into the Sri Lankan job market within the next five years, and to identify the factors determining the level of their financial literacy. Edirisinghe and *et. al* (2017) conducted a recent study with a sample of 223 management undergraduates of three Sri Lankan universities to evaluate the relationship between financial literacy level and the financial behavior. In their study the financial literacy level was subdivided into four categories and used as independent variables. Our study entirely differs from Edirisinghe and *et.al* (2017) basically in two aspects. Firstly, they consider how financial behavior is influenced by financial literacy whereas we consider how financial literacy itself is determined. Secondly, their study is limited to university undergraduates reading management degrees whereas our concern is youth job seekers including school leavers and undergraduates in any discipline.

The objectives of this research are to measure the level of financial literacy, which is unobservable by nature and to identify the factors determining financial literacy and the degree of their influence. The research question is what factors determine the level of financial literacy of the youth job seekers in Sri Lanka in the current context.

METHODOLOGY

The financial literacy of the job seekers, the dependent variable of this study, by nature is unobservable. Traditionally, many researchers have used “the big three questions of financial literacy”¹ introduced by Olivia S. Mitchell (Annamaria,2011) to measure and assign a numerical value to each respondent. The “Big Three financial literacy questions” have been used in more than 20 countries to measure financial knowledge. Those who could answer at least two of those MCQ questions correctly were considered as having financial literacy whereas those who failed to do so were regarded as financially illiterate. We do highlight some severe drawbacks in this measurement which caused to produce absolutely misleading results in such related studies; namely, (a) Assessing the level of financial literacy of a respondent-based on just three areas pertaining to compound interest, the value of money against inflation and minimizing risk by diversification, is too narrow. (b) There is no logical reason to argue that a respondent who knows many other things, except those three, is financially illiterate. (c) Deducing financial literacy, which is a continuous variable varying from zero to infinity, to a binary variable, is questionable. In order to overcome these weaknesses in this study, we introduce an alternative index varying from 0-24 based on a set of MCQs examining the respondent’s knowledge, attitudes and practices of financial literacy not only limiting to the above three areas but also including inflation, time value of money, banking habits, exposure to banking practices, monetary laws of the country etc.

The following multiple regression model was developed employing the said financial literacy index as the dependent variable and the factors that are most likely to determine the financial literacy of the respondents as explanatory variables. In doing so, the explanatory

¹“The big three questions of financial literacy” introduced by Olivia S. Mitchell are as follows.

(1) Suppose you had \$100 in a savings account and the interest rate was 2% per year.

After 5 years, how much do you think you would have in the account if you left the money to grow?

(1) More than \$102 (2) Exactly \$102 (3) Less than \$102 (4) Do not know (5) Refuse to

answer

(2) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

(1) More than today (2) Exactly the same (3) Less than today (4) Do not know (5) Refuse to

answer

(3) Please tell me whether this statement is true or false. ‘Buying a single company’s stock usually provides a safer return than a stock mutual fund’. (1) True (2) False (3) Do not know (4) Refuse to

answer

variables widely used in literature were modified to better suit to Sri Lankan context.

$$\begin{aligned}
 FL = & \beta_0 + \beta_1 Sector + \beta_2 Age + \beta_3 Age^2 + \beta_4 Sex + \beta_5 Ed \\
 & + \beta_6 Nvq + \beta_7 Med + \beta_8 Fed + \beta_9 Income \\
 & + \beta_{10} Fincome + \beta_{11} Subject + \beta_{12} Finnovation \\
 & + \beta_{13} Dol + \beta_{14} ChaCima + \beta_{15} Cim + \beta_{16} Inbank \\
 & + \beta_{17} Ict + \beta_{18} Manufacturing \\
 & + \beta_{19} Transeport + u
 \end{aligned}$$

where,

<i>FL</i>	Index varying 0-22 based on the number of correct responses to the MCQ paper by each respondent
<i>Sector</i>	A dummy variable {1 if urban or semi-urban, 0 otherwise}
<i>Age</i>	Age of the respondent in years
<i>Sex</i>	A dummy variable {1 male, 0 otherwise}
<i>Ed</i>	Respondent level of education, a numerical value $0 < ed < 7$ as per SLQF
<i>Nvq</i>	A dummy variable {1 if a vocational training followed, 0 otherwise}
<i>Med</i>	Level of education of the respondent's mother, a numerical value $0 < Med < 7$ as per SLQF
<i>Fed</i>	Level of education of the respondent's father, a numerical value $0 < Fed < 7$ as per SLQF
<i>Income</i>	Respondent's monthly income
<i>Fincome</i>	Respondent's monthly family income excluding his income
<i>Subject</i>	Number of subjects followed out of Economics, Commerce, business studies, accountancy, Money and banking
<i>Finnovation</i>	Number of uses from savings account, current account, ATM card, Online banking, credit card
<i>Dol</i>	Transfers or remittances if not employed
<i>ChaCima</i>	A dummy variable {1 if done Chartered or CIMA, 0 otherwise}
<i>Cim</i>	A dummy variable {1 if done CIM, 0 otherwise}
<i>Inbank</i>	A dummy variable {1 if family members employed in banking or insurance, 0 otherwise}

<i>Ict</i>	A dummy variable { 1 if done ICT, 0 otherwise }
<i>Manufacturing</i>	A dummy variable { 1 if family members employed in manufacturing, 0 otherwise }
<i>Transport</i>	A dummy variable { 1 if family members employed in transport, 0 otherwise }
<i>u</i>	Error term

As shown by the histogram in Figure 1, the dependent variable is truncated at min=0, and max=22. Thus, OLS estimates are likely to produce misleading results. We employed Tobit regression as the most appropriate technique in this analysis. The Tobit model, which is called a censored regression model, is developed by James Tobin in 1958 to mitigate the problem of zero-inflated data for observations of household expenditure on durable goods (Tobin, 1958). It is widely used in Econometrics to estimate linear relationships between variables when there is either left- or right-censoring in the dependent variable.

$$y_i^* = x_i^* \beta + \epsilon_i$$

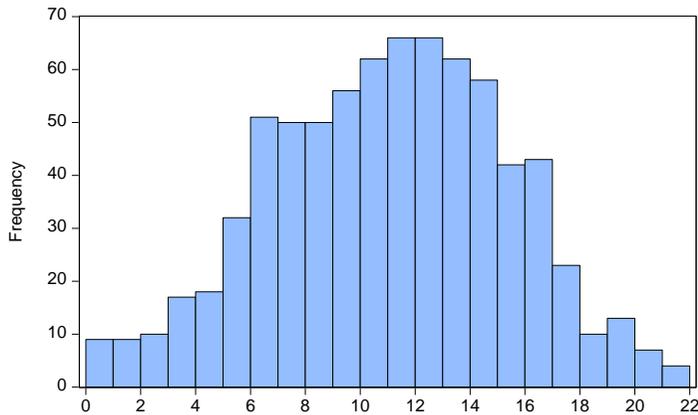
$$y_i = a \text{ if } y_i^* \leq a$$

$$y_i = y_i^* \text{ if } a < y_i^* < b$$

$$y_i = b \text{ if } y_i^* \geq b$$

Censoring from above takes place when observations with a value at or above a certain threshold, are considered to be equal to that threshold, though it might actually be higher but not observable. In the case of censoring from below, values those that fall at or below a threshold are censored, although the unobserved true values might fall even below this threshold. However, the Tobit estimates might be misleading in the presence of heteroskedasticity. Thus, all variables were tested and found no heteroskedasticity before feeding them into the model. The bell-shaped histogram in Figure 1 also depicts the quality of the MCQ paper that we administered to ascertain the financial literacy level of each candidate.

Figure: 01 Distribution of the Dependent Variable



Data was collected from a representative random sample of 757 including unemployed school leavers, university undergraduates, GCE A/L students and vocational trainees. A self-administered online questionnaire was directed to a selected random sample of 2,500 in the potential age between 15-35 and 1,242 responses were received. When those employed were removed, we left with the study sample of 757 cases randomly scattered over all districts of Sri Lanka.

FINDINGS AND DISCUSSION

As depicted in Table 1, the findings show that the variables such as respondents' sex, income, the family background characterized by family income, parent's educational qualifications do not have significant influence on the level of respondent's financial literacy. It is interesting to note that the respondent's age has a positive impact on financial literacy up to maximum 27 year and then starts dying out gradually. As these are not time series data, it does not show how the financial literacy of the same person changes with age. It only implies that the young generation is more versatile with financial literacy than older generation in the current society.

$$L = \beta_2 Age + \beta_3 Age^2$$

$$\frac{\partial FL}{\partial Age} = 1.64 - 2(0.03) Age$$

$$0 = 1.64 - 0.06 Age$$

$$Age = \frac{1.64}{0.06} = 27$$

Method: ML - Censored Normal (TOBIT) (Newton-Raphson / Marquardt steps)		
Dependent Variable: FL		
Included observations: 757		
Left censoring (value) series: 0		
Right censoring (value) series: 23		
Variable	Coefficient	z-Statistic
C	(13.18)	(1.40)
S2+S3	0.70 **	2.12
AGE	1.64 **	1.92
AGE^2	(0.03) *	(1.65)
SEX	0.11	0.36
ED	(0.24) **	(1.94)
NVQ	0.60	1.24
MED	(0.13)	(0.86)
FED	(0.12)	(0.75)
INCOME	(0.00)	(0.57)
FINCOME	0.00	0.75
SUBJECT	0.79 ***	6.13
FINNOVATION	0.55 ***	6.00
DOL	0.00 **	2.21
CHARTED+CIMA	1.08 **	2.02
SIM	4.46	1.16
INBANK	2.02 ***	2.71
ICT	0.10	0.08
MANUFACTURING	1.38 **	1.90
TRANSESPORT	(0.72)	(0.54)
Mean dependent var	10.53	
S.D. dependent var	4.34	
S.E. of regression	3.83	
Sum squared resid	10,776.78	
Log likelihood	(2,075.62)	
Avg. log likelihood	(2.74)	
Right Sensored obs	-	
Left censored obs	9.00	
Uncensored obs	748.00	

As expected, the respondent's knowledge on the subjects such as Economics, Commerce, Business Studies, Accountancy, Money and Banking significantly improves the financial literacy and so do professional courses such as CIMA and CHARTED. It was also found the higher the exposure to use of savings accounts, current accounts, ATM cards, online banking, and credit cards by the respondent, the higher the level of financial literacy he/she gains over the ordinary people not using them. Controlled for the above all, the level of

education showed a significantly negative impact on the level of financial literacy. This finding is not surprising when the subject combinations of the Sri Lankan education system are concerned. In many other developed countries, subjects such as Economics and Commerce are taught to all school children and university students irrespective of their specialization, whereas Sri Lanka does not have such a mechanism for the education itself to provide a higher level of financial literacy.

Furthermore, the findings show that the respondents from urban and semi-urban areas have a higher level of financial literacy than those in rural areas. This could be due to the disparities in financial infrastructure such as the spread of banks and financial institutions, degree of commercialization that in turn influences buying and selling and payment methods, easy access to commercial hubs and media. However, it was found that a close family member of the respondent being employed in banking, insurance or manufacturing industry as opposed to other sector, such as transport, has some positive spillover effect that enhances the level of the respondent's financial literacy.

CONCLUSIONS

As it was revealed from the findings that some disciplines unambiguously enhance the financial literacy it can be recommended that the subjects such as Economics, Commerce, Business Studies, Accountancy, Money and Banking should be included into school curricula and university curricula in spite of the majoring discipline. The salary and other payment systems must be encouraged to operate via bank accounts and financial infrastructure should be further extended to rural communities. One weakness of this research is that it is based on a sample already using internet and hence assumed to be technically more advanced. Hence, the actual mean value of financial literacy levels of the common Sri Lankan society might be even lower than the level revealed by this research.

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