Financial Literacy Among Highly Educated and High Income Working Population in Delhi NCR

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Abstract - The study investigated the financial literacy level and the factors influencing financial literacy among working people in Delhi NCR Region who belonged to demographic profile of High Education and High Income. The data was obtained through a survey [interview] of 435 respondents [77% Male, 23% Female] residing in Delhi NCR Region having minimum educational qualification as "Graduate" and minimum family household income of "Rs. 5 Lac per annum". The study attempted to understand the impact of socio demographic variable on composite score of financial literacy. The composite score for financial literacy has been derived by referencing the OECD 2011 framework of a composite measure of financial literacy that combines individual scores of the three dimensions of financial literacy namely the Financial Knowledge [FK], Financial Behaviour [FB] and Financial Attitude [FA]. The study reports that the socio demographic background of the respondents did not result into significantly higher score for financial literacy. The demographic variables like income and age found to be significantly influencing the financial literacy scores however the influence of gender, marital status, and education not found to be significant.

Keywords: Financial Literacy, Financial Knowledge, Financial Behaviour, Financial Attitude, OECD, Organization for Economic Cooperation and Development, PISA.

JEL Codes: D10, D14, D91, G41

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I.   INTRODUCTION

Financial Literacy is a multi-dimensional relative concept measured in terms of a person's understanding, behaviour, and attitude to management of money within the prevailing economic, financial and demographic environment. In the prevailing complex scenario around the global economy and financial markets, the challenges are multi dimensional arising out of the uncertainty of multiple alternatives of individual wealth management, savings, and market risks. Financial literacy and resulting competence could uniquely prepare and compliment life skills of the citizens who can handle opportunities and risks of financial decisions with relative efficiency. The increasingly complex financial scenario is exposing citizens to daily challenges while deciding on their money management alternatives and this makes financial literacy as a major key skill for all citizens.

Definition of Financial Literacy

The OECD 2012-13 (Atkinson, A. and F. Messy, 2012) defines financial literacy as "A combination- of knowledge, behaviour and attitude -necessary to make sound financial decisions and ultimately achieve financial well being"

The financial literacy has been accepted as major skills for financial well being though globally we face challenges of large scale financial illiteracy. Many studies around the world report on much of the world's population continue to be suffering from financial illiteracy and advocate for urgent measures to remedy the problem of financial illiteracy (Lusardi and Mitchell, 2011; Atkinson and Messy, 2012; Brown and Graf, 2013; Thaler, 2013; World Bank, 2014).

Financial literacy around the world is found to be low as measured by various studies including the OECD (2013) survey study carried out across 14 countries. In India, the levels of financial literacy are poor even by the low global standards, according to studies such as the VISA International Financial Literacy Barometer, 2012; Agarwalla, Barua , Jacob, Varma, 2013; MNYL-NCAER, 2007.

The financial incompetence is not only limited to people who are from lower strata of society but also prevalent in those social strata who are well off (High Income), educated. Further this well off strata has long been included in the mainstream of financial system (financially Included) through banking and other financial channels.

Factors Impacting Financial Literacy

There exists a knowledge gap about fundamental link in

literacy, education and behavior as appropriate data is not available for these variables. Though in some studies of US population efforts have been undertaken to construct sophisticated measures of Financial Literacy and establish causal links between financial education, literacy and behaviour (Bernheim, 1995; Lusardi and Mitchell, 2007a, b; Van Rooij, Lusardi and Alessie, 2011).

Several papers link financial literacy to set of behaviors like education levels, Income levels, saving, wealth, and portfolio choices. It has been established in some papers that individuals with higher numeracy and financial skills will opt for investing more in stocks or participate in financial markets (Campbell, 2006; Hastings Tejeda-Ashton and Lydia, 2008; Hastings and Mitchell, 2011).

Indian context

The Indian economy is growing from at steady pace bringing about a change in India's socio-economic profile by creating more jobs, higher disposable income, change in life style and leading consumers to spend more. Easy loans, popularity of credit cards, rising consumerism and compulsive life style needs are exposing good numbers of Indian homes to the risk of being financially vulnerable in the future. As this system crumbles, there is a greater need to work towards making Indian households more financially secure. The Indian context warrants that the majority of population accepts and appreciates the need and importance of financial competence for their well being. Financial competence could uniquely prepare and compliment life skills of the populace who can handle the opportunities and risks with relative efficiency.

Low Financial Literacy not limited to Lower Income Group

In India with complex societal and income profiling, basic financial competence and relevant level of financial education is significantly more relevant for people who are on the marginal end-resource poor however when it comes to channelizing savings to markets or its proper use even the mainstream financially included population perform poorly on their financial behaviour or attitude. There are significant number of people who either avoid using the services or continue to look for traditional products or being mislead into seeking predatory products, services that are not what they intend to seek.

The study on financial literacy in Indian context will attempted to investigate the level of financial literacy and the influence of socio-demographic profiling on financial literacy scores. The financial literacy scores for the study has been derived for a sample population residing in major Indian metro city specifically from National Capital Region India, having high education and high income, by evaluating them on three dimensions of financial knowledge, financial behavior and financial attitude attributes.

II. THE FRAMEWORK FOR MEASUREMENT OF FINANCIAL LITERACY

While finalizing the definition and concept for financial literacy the OECD (2011) has considered the three major dimensions to measure and explain financial literacy; these three dimensions are Financial Knowledge, Financial Behaviour and Financial Attitude. The OECD has used these three basic dimensions to derive a composite 22 point score of Financial Literacy by combining the individual scores of Financial Knowledge [FK-Maximum Score of 8], Financial Behaviour [FB-Maximum Score of 9] and Financial Attitude [Maximum Score of 5]. Each of the three components of financial literacy measure through questionnaire, the few main aspects of Financial Knowledge [8 questions], Financial behaviour [9 questions] and financial attitude [3 questions] covering the following aspects:

Dimensions of Financial Literacy	Variable Content
Financial Knowledge (FK)	Basic Division. Simple and compound interest calculations. Time value of money. Understanding of inflation and its impact on investment return. Investment return based on risks. Investment diversification and return.
Financial Behaviour (FB)	Ability to decide on affordability of products and expenses to it. Habit of paying bills on time Belief in designing household budget and personally monitoring it. Behaviour related to regular savings habits. Behaviour related to inclination to borrow when short of money.
Financial Attitude (FA)	Belief in saving. Belief in long term saving, planning. Belief in risk taking while investing.

III. LITERATURE REVIEW

The OECD (OECD, 2012) defines financial literacy as – "A combination -of knowledge, behavior and attitude - necessary to make sound financial decisions and ultimately achieve financial well being". Moore (2003) explains, "Individuals are considered financially literate if they are competent and can demonstrate they have used knowledge they have learned". The information on levels of financial literacy is relatively limited especially in developing or emerging economies. In the developed nations like USA, UK, and other European Countries a relatively richer strand of literature is available on financial literacy and financial competence.

Financial literacy around the world is found to be low as measured by various studies including the OECD (2013) survey study carried out across 14 countries; Moore, 2003;

Mandell, 2004, Agnew and Szykman, 2005; Lusardi and Mitchell, 2006 reported widespread financial illiteracy.

In India, the levels of financial literacy are poor even by the low global standards, according to some studies such as the VISA International Financial Literacy Barometer (2012).

The debate about the role of Financial Literacy and competence, the extent of the problem it truly represents, the variables that influence Financial Competence levels and the best alternative to address it, continues unabated. This debate is rooted on the backdrop of several considerations.

These observations compel us to explore the reasons and factors influencing level of financial literacy as well to think about existence relationship or lack of it among education or professional competence, Financial Inclusion and resultant financial literacy.

Bernheim (1995) mentions key demographic variables like Gender-women, Education-the less educated, Income- low income, Ethnicity-ethnic minorities; Age-older/younger respondents severely affect financial literacy levels. Several papers (Christelis, Jappelli and Padula, 2010: Almenberg and Widmark, 2011; Van Rooij, Lusardi and Alessie, 2011) link financial literacy to set of behaviors like education levels, Income levels, saving, wealth, and portfolio choice. It has been established in some papers that individuals with higher numeracy and financial skills will opt for investing more in stocks or participate in financial markets.

Financial Literacy remains a relatively less researched area of behavioral finance; even the measures of Financial Literacy used in available studies are often very basic. In various studies researchers used very basic measures while evaluating Financial Literacy like Lusardi and Mitchell (2006, 2007 a) opted for just three questions to measure Financial Literacy, researcher Stango and Zinman (2007) measured the literacy level with only one question. The OECD surveys (2005, 2010, 2012, 2016) use a series of questions to measure knowledge, behavior and attitude to be the sum of scores on these three dimensions.

IV. SAMPLING DESIGN

Low Financial Literacy not limited to Lower Income Group. In India with rapidly changing income profiles of citizens, higher disposable income with significantly larger groups of people specifically in Indian metros, when it comes to channelizing savings into meaningful investment alternatives to meet long term financial goals even this group of upwardly mobile population fail to show significant skills as they perform very poorly on financial literacy dimensions like financial knowledge, behaviour or attitude. The question remains, whether higher income of education of citizens lead to better performance on financial literacy dimensions of knowledge, behaviour or attitude.

The study considered respondents within the age bracket

25-55 years residing in major Indian Metro city specifically in National Capital Region India, having good education and gainfully earning and evaluating them on their financial literacy level for their financial attitude, financial behavior and financial knowledge attributes.

The sample size after accounting for missing value and error was 378; however total responses were collected from 435 respondents of National Capital Region-Delhi, during October 2015 to December 2016. The researcher has in the present study, adopted non- probability purposive sampling technique.

V. STUDY METHODOLOGY

The study evaluated financial literacy levels by measuring people on financial knowledge, behavior and attitude while also investigating the socio-demographic variables that influence financial literacy scores of population.

An extensive list of questions was used to measure financial literacy and related variables. The demographic and individual attributes on which data was collected were gender, age, level of education, marital status, family income, family size, no. of dependents, financial decision making process and budgeting of expenditure.

The OECD framework to measure financial literacy has been referenced for this study. The financial literacy was measured through a composite score for financial literacy derived from a combination of sub score on financial knowledge, financial behaviour and financial attitude. The level of financial knowledge was evaluated using a combination of eight very elementary and basic questions that tested the basic numeracy, computation of simple and compound interest (time value of money), understanding of link between inflation and price, relation between inflation and return, investment risk-return relation, concepts of diversification in reducing the risk. The Financial Knowledge questions contained a total of 8 score points with each question having a score point of 1. Each correct answer was given a score of one. Respondents with score of 6 and above were categorized as individuals possessing high financial knowledge.

The financial behaviour of the respondents was measured by a set of 9 questions investigating the way respondents dealt with money in their day to day routine affairs. The questionnaire subjected the respondents to 9 behavioral issues including evaluation on affordability of products and expenditures, checking the responses on timely payment of bills, behaviour relating to planning and monitoring of household budget, evaluation of financial products prior to investment, habits relating to active saving, responses to borrowing preferences or patterns. All correct responses were given a score of 1 and the wrong responses were scored as 0. All the respondents who scored a score of 6 or above were categorized as exhibiting good and acceptable financial behaviour in terms of scope of this study.

The financial attitude of the respondents was measured by obtaining scaled responses from the respondents. The study evaluated the financial attitude of the respondents using three questions referencing the OECD approach to capture the respondent's extent of belief in planning, propensity to save and consume. The scaled responses were evaluated using a scale from 1 to 5 by numerically adding all the 3 scaled responses and then dividing their total by 3 to get the attitude score. A score of 5 indicates the highest positive financial attitude score. Respondents with an average financial attitude score of greater than 3 on a combined total financial attitude score of across of 5 were categorized as those with positive financial attitude.

The profile of respondents for the study consisted of earning member male or female members of the family having family income of at least Rs. 5 lacs per annum with minimum educational qualification as under graduate. The respondents were obtained from gainfully working population of 3 categorical age groups age groups 25-36 Years; 36-45 Years; 46-55 Years, having annual family income in any of the following categories, more than Rs. 20 Lacs, within Rs. 5-15 Lacs per annum or less than Rs. 5 lacs per annum. The responses were collected individually through face to face response collection from 435 respondents of National Capital Region-Delhi, during October 2015-December 2016 period.

The financial literacy for each respondent was derived using a composite measure of financial literacy score by adding respective individual score of respondent on financial knowledge, financial behaviour and financial attitude. It is only logical and likely that higher scores of respondents on each of these three dimensions will lead to a composite high score for financial literacy meaning a positive influence.

The literature on financial literacy favors the numerical competence of the respondents in shaping the overall financial literacy score and thus indicating key role of financial knowledge scores on the two other dimensions of financial literacy scores i.e. the financial behaviour and financial attitude. On the other hand the financial behaviour of the respondents may get shaped based on their attitude towards money i.e. their financial attitude scores. It is only logical and likely that higher scores of respondents on each of these three dimensions will lead to a composite high score for financial literacy meaning a positive influence.

In addition to measure the financial literacy level of the respondents the study also attempted to explain the influence of variable like gender, marital status, age, level of education, occupation, family income on financial literacy by proposing the following hypothesis;

H0   1: The financial literacy across different **gender** group is not significant.

H0   2: The financial literacy across different **marital** category is not significant.

H0   3: The financial literacy across different **age** category is not significant.

H0   4: The financial literacy across different **education** category is not significant.

H0   5: The financial literacy across different **income** category is not significant.

VI.   RESULTS AND DISCUSSIONS

The scores of respondents on the three response variable financial knowledge, financial behaviour, financial attitude and a composite score of financial literacy derived through this survey on financial literacy indicate a low financial literacy score for the people with high education and high income. Only **15%** of the respondents obtained high score, individually on all the three dimensions of financial literacy [Figure-6]. Over all 62% of the respondents scored high on financial knowledge, 52% of the respondents scored high on financial behaviour and 41% of the respondents scored high on financial attitude measures respectively [Figure-5].

The mean composite score for financial literacy for the study was 14.31 with standard deviation of 3.06 [Figure-1]. The study reported mean composite score of financial literacy as 14.31 which is comparable [Table 2] to OECD 2016 study of financial literacy of 30 countries that reported low financial literacy across countries with mean composite score of 13.96.

The low composite score of financial literacy reported under these aforesaid studies are despite the fact that the financial literacy questionnaire contained very basic and elementary questions related to financial knowledge, behaviour and attitude.

In the present study the respondents represented a population with high income and education residing in Indian Metro yet their composite score for financial literacy at 14.31 still remained within comparable range as reported for OECD countries covering a population from low to high income level and diverse educational background, social profile [Figure-2]. The current study also reports that only **15%** of the respondents scored high, individually on all the three dimensions (FK, FB, and FA) of financial literacy [Figure-6], the low score of 15% is relatively lower to the scores of most of the countries covered under OECD'2016 [Figure-6].

Financial Literacy and Demographic Variable

The study has obtained data on socio demographic and individual attributes of the respondents on gender, marital status, age, level of education, occupation, family income. The respondents belonged to population residing in Delhi NCR region with High Income and High Education.

Financial Literacy based on Gender

The descriptive statistics reports of male respondents scoring relatively better on financial literacy score when compared with the financial literacy scores of female respondents. The study reports of average financial literacy of 14.45 for Male respondents and 13.81 for female respondents [Figure 3]. This trend of female scoring relatively less of financial literacy score is similar to the one reported through OECD 2016 study [Figure 3].

Financial Literacy based on Income

The respondents in relatively higher income groups scored better on financial literacy score when compared with the financial literacy scores of respondents in the immediate lower income group. The study reports of average financial literacy of 14.08 for respondents in the income group above Rs. 20 lac p.a. and 13.20 for respondents in the income group >=Rs. 5 Lac and <= Rs. 20 lac p.a. [Figure 4]. This trend of respondents from higher income group scoring relatively high on financial literacy score is similar to the one reported through OECD 2016 study [Figure 4].

Financial Literacy and Demographic Variable- Inferential Statistics

Gender

H0   1: The financial literacy across different gender group is not significant. [Sig=0.88, Not Rejected)

Table 1 indicates the value of F statistic as 2.925. Further the significance value (0.088) is more than the usual threshold value of 0.05 (5%). This suggests the difference between the gender and the financial literacy level of people in Delhi NCR is not significant.

Marital Status

H0   2: The financial literacy across different marital category is not significant. [Sig=0.046, Rejected)

Table 2 indicates the value of F statistic as 3.112. Further the significance value (0.046) is less than the usual threshold value of 0.05 (5%). This suggests the difference between the marital status and the financial literacy level of people in Delhi NCR is significant.

Age

H0   3: The financial literacy across different age category is not significant. [Sig=0.004, Rejected)

Table 3 indicates the value of F statistic as 5.630. Further the significance value (0.004) is less than the usual threshold value of 0.05 (5%). This suggests the difference between the Age and the financial literacy level of people in Delhi NCR is significant.

Education

H0   4: The financial literacy across different education category is not significant. [Sig=0.088, Not Rejected)

Table 4 indicates the value of F statistic as 2.196. Further the significance value (0.088) is more than the usual threshold value of 0.05 (5%). This suggests the difference between the education level and the financial literacy level of people in Delhi NCR is not significant.

Income

H0   5: The financial literacy across different income category is not significant. [Sig=0.009, Rejected)

Table 5 indicates the value of F statistic as 6.865. Further the significance value (0.009) is less than the usual threshold value of 0.05 (5%). This suggests the difference between the income level and the financial literacy level of people in Delhi NCR is significant.

VII.   CONCLUSION

The scores of respondents on the three response variable financial knowledge, financial behaviour, financial attitude and a composite score of financial literacy derived through this survey on financial literacy indicates a low financial literacy score for people with high education and high income. This is more concerning that the low composite score is despite the fact that the respondents represented upstream population of high income and education individuals and the financial literacy questions were very basic and elementary. The low scores of financial literacy also highlight that higher education and income profile of the respondents do not exactly reflect into higher financial literacy for them.

Gender of the respondent had some impact of financial literacy as male respondents generally scored better on financial literacy as compared to female respondents however this is not found statistically significant. The financial literacy of respondents with higher or professional qualification not found to be significantly different from someone who was having relatively lower educational qualification like under graduate. The effect of education on financial literacy not found significant beyond basic formal education. The financial literacy generally improves with age and found to be significantly influencing the financial literacy of respondents in the age groups 25-55. The income of the respondents significantly influences the financial literacy of the respondents.

Overall the financial literacy of individuals from Indian metro (Delhi NCR, India) having high education, high income is similar to the levels that prevail among comparable groups in other countries. There are however differences that are notable to mention, despite the education and income levels of the respondents in the sample being high, it does not translate into adequate financial literacy. This is likely due to lack of financial education measures adopted within the country's formal education system, lack of initiatives on the part of policy makers, financial services regulators, providers and employers. Regulated Interest rate regime adopted by
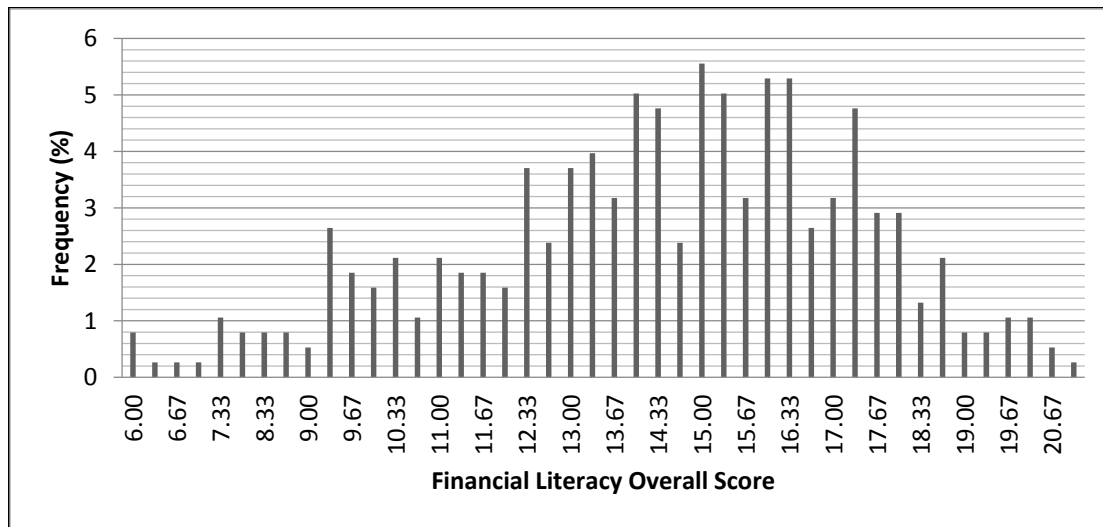
government and monetary authority through small savings and bank fixed has indirectly influenced people to remain laidback on their appreciation for being financially well informed and competent. The policy makers and the stakeholders can come together for a comprehensive and more directed approach in addressing concerns of low financial literacy.

REFERENCES

[1] Agarwalla,Barua , Jacob,Varma, A Survey of Financial Literacy among Students, Young Employees and the Retired in India (2012) , https://faculty.iima.ac.in/~iffm/literacy/youngemployeessandretired2012.pdf

[2] Agnew JR, Szykman LR, Asset allocation and information overload: the influence of information display, asset choice, and investor experience. Journal of Behavioral Finance 6(2), 2005, 57–70. doi:10.1207/ s15427579jpfm0602_2

[3] Almenberg, Johan and Widmark, Olof, Numeracy, Financial Literacy and Participation in Asset Markets, 2011, p. 1-40

[4] Annamaria Lusardi and Olivia Mitchell, (2007 a), Baby Boomer retirement security: The roles of planning, financial literacy, and housing wealth, Journal of Monetary Economics, 54, (1), 205-224, pp. 205-224

[5] Annamaria Lusardi and Olivia S Mitchelli, Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education, 2007b, pp. 35-44

[6] Atkinson, A. and F. Messy (2012), "Measuring Financial Literacy: Results of the OECD / International Network on Financial Education (INFE) Pilot Study", OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing. DOI: 10.1787/5k9csfs90fr4-en

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

[8] Bernheim, B. Douglas, "Do Households Appreciate Their Financial Vulnerabilities? An Analysis of Actions, Perceptions, and Public Policy," Tax Policy and Economic Growth, Washington, DC: AmericanCouncil for Capital Formation, 1995a, pp. 1-30

[9] Brown. M. and R. Graf. 2013. Financial literacy and retirement planning in Switzerland. Numeracy 6(2). http://dx.doi.org/10.5038/1936-4660.6.2.6

[10] Campbell, J., 2006, Household finance, Journal of Finance, 61, 1553-1604

[11] Christelis, D., T. Jappelli, and M. Padula, 2010, Cognitive abilities and portfolio choice,European Economic Review, 54, 18-39

[12] Justine S. Hastings & Lydia Tejeda-Ashton, 2008. "Financial Literacy, Information, and Demand Elasticity: Survey and Experimental Evidence from Mexico," NBER Working Papers 14538, National Bureau of Economic Research, Inc.

[13] Justine S. Hastings, Olivia S. Mitchell, How Financial Literacy and Impatience Shape Retirement Wealth and Investment Behaviors, NBER Working Paper No. 16740, 2011, pp. 1-26

[14] Leora Klapper, Annamaria Lusardi , Financial Literacy Around the World: INSIGHTS FROM THE STANDARD & POOR', World Bank Development Research Group, Leora Klapper, World Bank Development Research Group Annamaria Lusardi, 2014

[15] Lusardi A, Mitchell OS, Financial literacy and planning: implications for retirement well-being, In: Mitchell OS, Lusardi A (eds) Financial literacy: implications for retirement security and financial marketplace. Oxford University Press, Oxford, 2011a, pp 17–39

[16] Lusardi, Annamaria, and Olivia S. Mitchell. 2006. Financial Literacy and Planning: Implications for Retirement Wellbeing. Working Paper, Pension Research Council, Wharton School, University of Pennsylvania. http://pensionresearchcouncil.wharton.upenn.edu/wp-content/uploads/2015/09/PRC-WP-2006-1.pdf

[17] Maarten van Rooij & Annamaria Lusardi & Rob J. Alessie, 2011. "Financial Literacy, Retirement Planning, and Household Wealth," NBER Working Papers 17339, 2011, pp. 1-40

[18] Mandell, L. (2004). Financial literacy: Are we improving? Results of the 2004 national Jump$tart survey.Washington, DC: Jumpstart Coalition, https://www.federalreserve.gov/boarddocs/speeches/2004/20040401/attachment.pdf

[19] MNYL-NCAER 2007, India Financial Protection Survey, http://demo.ncaer.org/Downloads/RecentReleases/Max-NCAER-Book.pdf

[20] Moore, Danna, Survey of Financial Literacy in Washington State: Knowledge, Behavior, Attitudes, and Experiences. Technical Report, Social and Economic Sciences Research Center, Pullman, WA: Washington State University, 2003, pp. 3-39

[21] OECD (2016), PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris, https://doi.org/10.1787/9789264266490-en

[22] OECD (2017), G20/OECD INFE report on adult financial literacy in G20 countries

[23] OECD INFE (2011) Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy: Questionnaire and Guidance Notes for conducting Internationally Comparable Survey of Financial literacy

[24] OECD, 2013, https://www.oecd.org/daf/fin/financial-education/TrustFund2013_OECD_INFE_Fin_Lit_and_Incl_SurveyResults_by_Country_and_Gender.pdf

[25] OECD/INFE INTERNATIONAL SURVEY OF ADULT FINANCIAL LITERACY COMPETENCIES © OECD 2016, https://www.oecd.org/daf/fin/financial-education/OECD-INFE-International-Survey-of-Adult-FInancial-Literacy-Competencies.pdf

[26] OECD-Paper-Poilcy-Guidance-Financial Education and the Crisis, 2008, p. 2

[27] Shlomo Benartzi and Richard H. Thaler, "Behavioral Economics and the Retirement Savings Crisis"Science Magazine, Vol 339, March 8, 2013.
Stango and Zinman , Fuzzy Math in Household Finance:A Practical Guide, 2007, https://pdfs.semanticscholar.org/075b/ec81068f52be56cbe90872be2c93cbed2ceb.pdf

[28] VISA Inc., (2012), VISA International Financial Literacy Barometer 2012, http://www.africamoneyskills.com/downloads/FL_Barometer _Final%20Apr%202012.pdf

List of Figure and Table

Figure 1: Distribution of Financial Literacy Score (all respondents)

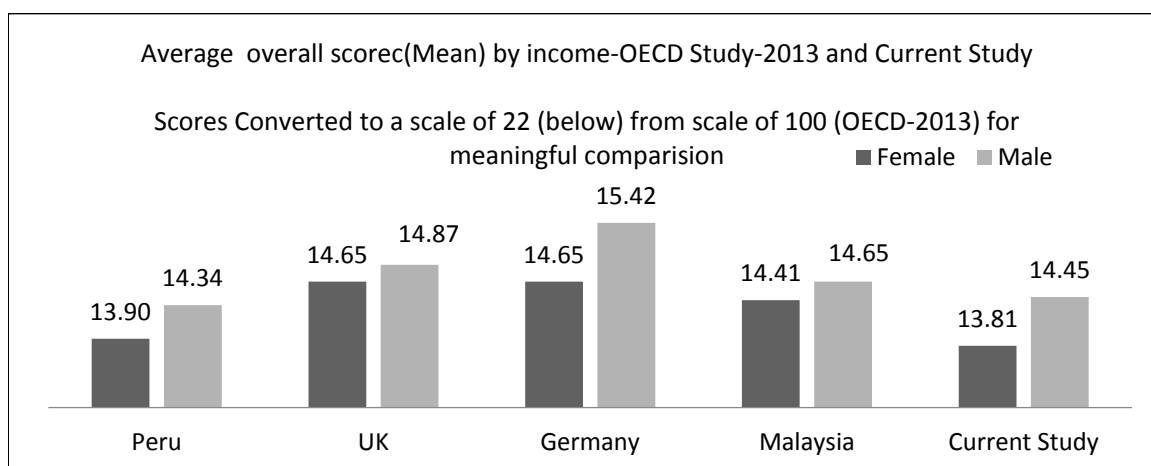**Figure 2: Distribution of a composite score of Financial Literacy based on score for FK, FB, FA**

All respondents (overall FL score out of 22)
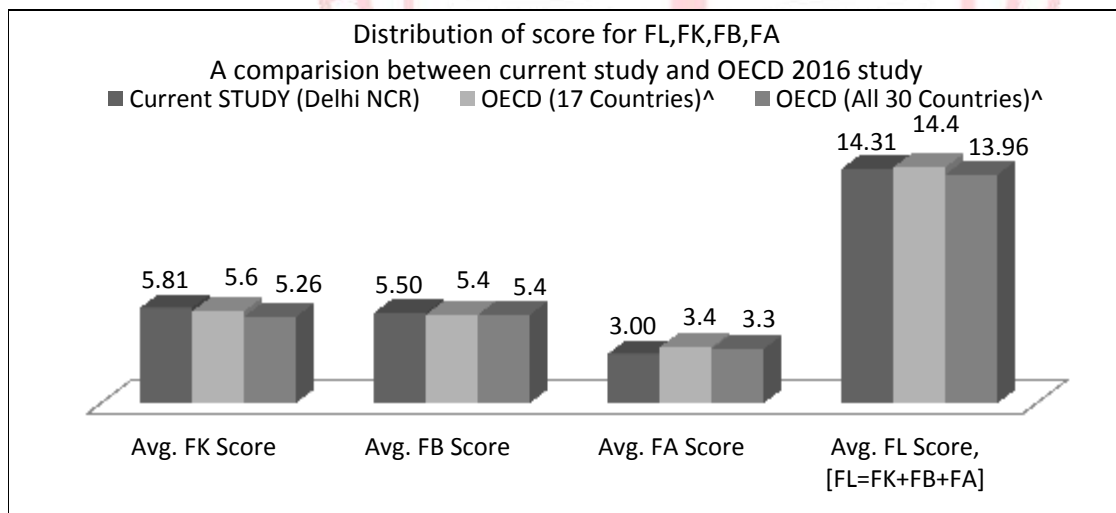
^OECD-2016 had 7 FK questions (FK Max. Score=7) and Maximum FL Score of 21 whereas the current study has 8 FK questions (FK Max. Score=8) and Maximum FL score of 22, OCED score of FK hence multiplied by 8/7.

Figure 3: Mean overall FL score by gender

#FINANCIAL LITERACY AND INCLUSION: RESULTS OF OECD/INFE SURVEY ACROSS COUNTRIES AND BY GENDER (OECD 2013)

Figure 4: Mean overall score by income

When compared with the current study the trend is similar to one observed in OECD (2013)
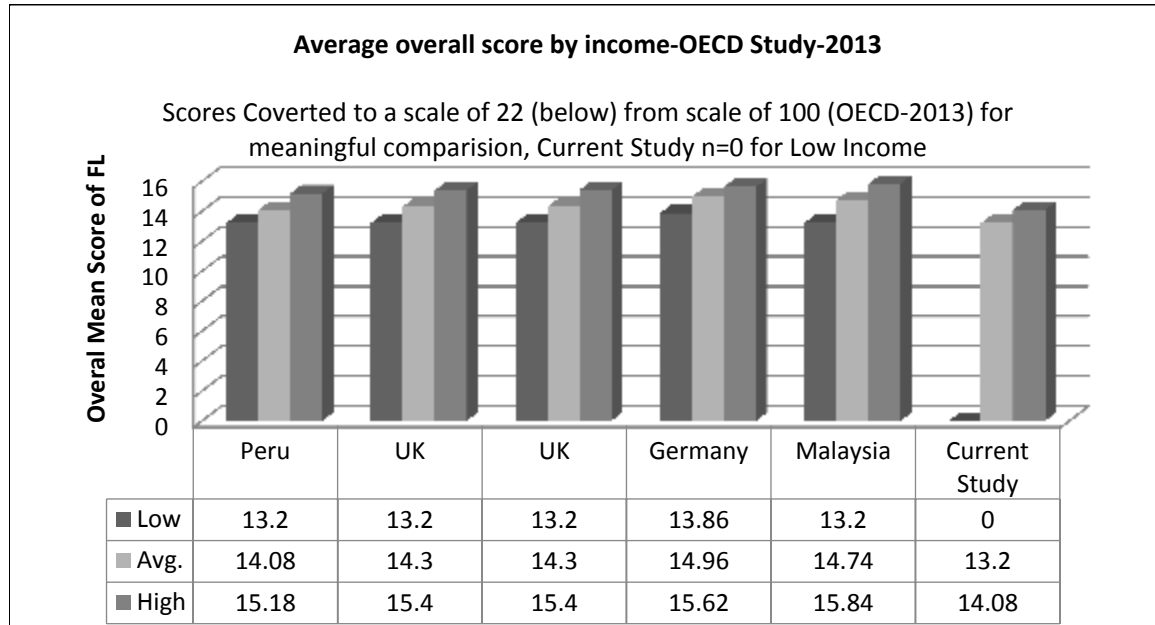

Average overall score by income-OECD Study-2013

Scores Coverted to a scale of 22 (below) from scale of 100 (OECD-2013) for meaningful comparision, Current Study n=0 for Low Income

	Peru	UK	UK	Germany	Malaysia	Current Study
■ Low	13.2	13.2	13.2	13.86	13.2	0
■ Avg.	14.08	14.3	14.3	14.96	14.74	13.2
■ High	15.18	15.4	15.4	15.62	15.84	14.08

Figure 5: High And Low Score on All the Three Dimensions of Financial Literacy

High and Low Score Count on FK, FB, FA , (FL-Max Score=22)

	Financial Knowledge Score (High=>6)	Financial Behaviour Score (High=>6)	Financial Attitude Score (High>3)
■ Low Count	38%	48%	59%
■ High Count	62%	52%	41%
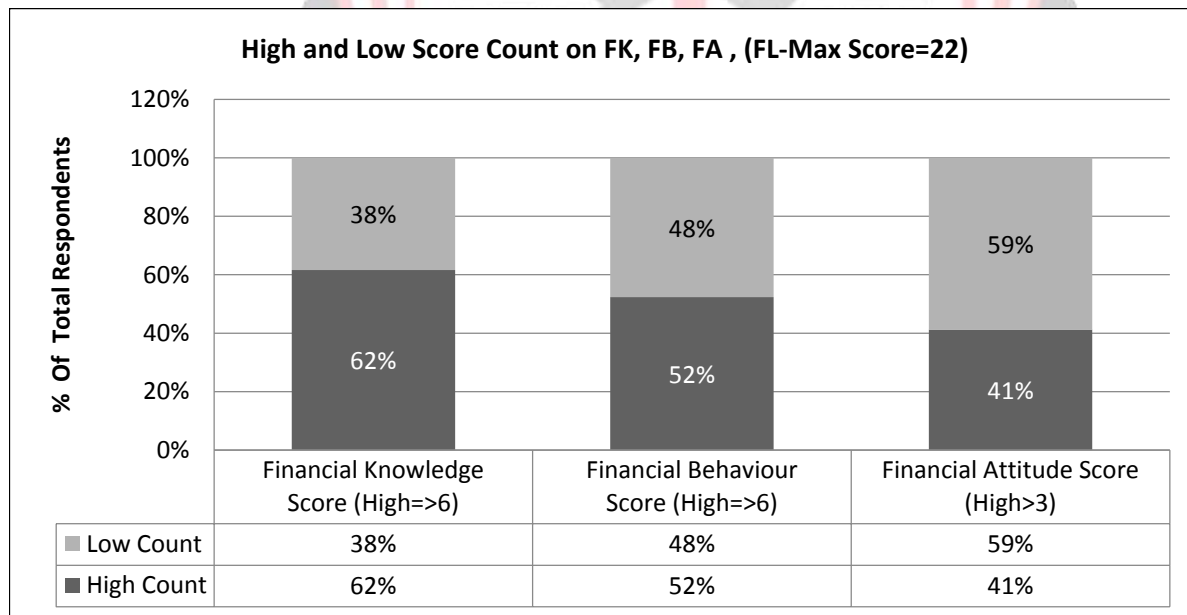
Figure 6: High Score Count [Weighted % all Respondents] in All the 3 FL Dimensions FK, FB, FA

% [count] of all respondents by no. of high score on either of the 3 dimensions of FL [i.e. FK,FB,FA]

A comparision of OECD 2013# Study and Current Study
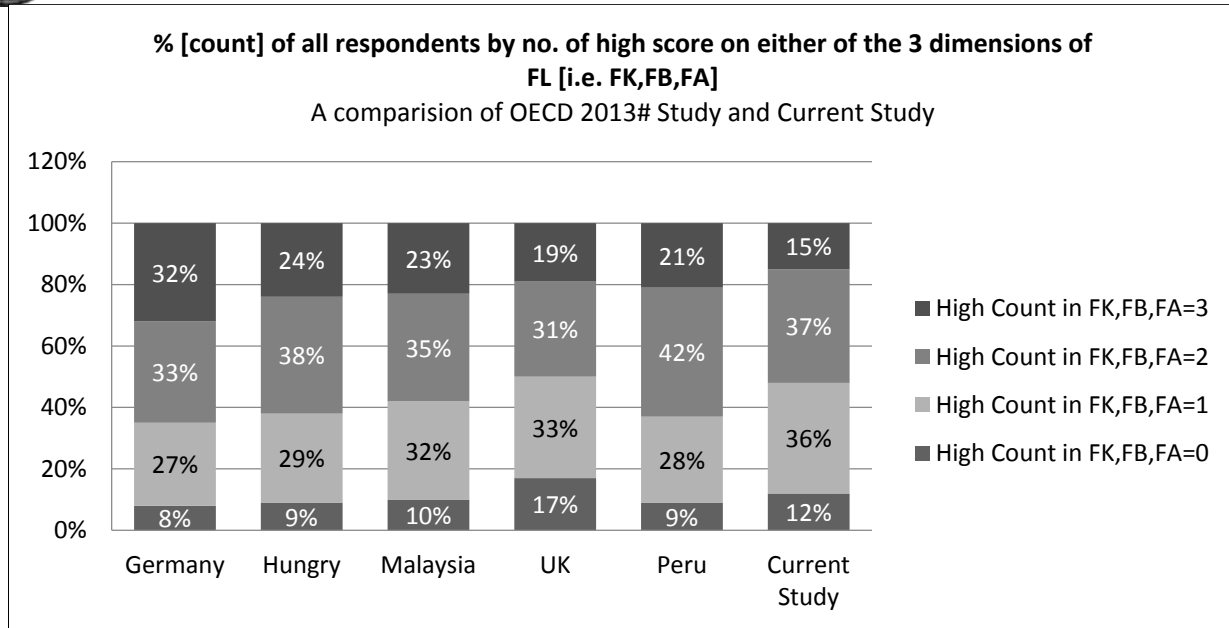
Table 1: [ANOVA- Result- by Gender] (Post Hoc)

Tests of Between-Subjects Effects

Dependent Variable: FL_Score , Factor: Gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	27.258[a]	1	27.258	2.925	.088	.008
Intercept	52161.932	1	52161.932	5598.106	.000	.937
QDi[*]	27.258	1	27.258	2.925	**.088**	.008
Error	3503.486	376	9.318			
Total	80907.778	378				
Corrected Total	3530.744	377				

a. R Squared = .008 (Adjusted R Squared = .005), [*]QDi=GENDER

Table 2: [ANOVA- Result- by Marital Status] (Post Hoc)

Tests of Between-Subjects Effects

Dependent Variable: FL_Score , Factor: Marital Status

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	57.651[a]	2	28.826	3.112	.046	.016
Intercept	13170.657	1	13170.657	1422.075	.000	.791
QD1[*]	57.651	2	28.826	3.112	**.046**	.016
Error	3473.093	375	9.262			
Total	80907.778	378				
Corrected Total	3530.744	377				

a. R Squared = .016 (Adjusted R Squared = .011), [*] QD1=MARITAL STATUS

Table 3: [ANOVA- Result- by Age] (Post Hoc)

Tests of Between-Subjects Effects

Dependent Variable: FL_Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	102.918[a]	2	51.459	5.630	.004	.029
Intercept	63212.247	1	63212.247	6915.344	.000	.949
QD3[*]	102.918	2	51.459	5.630	**.004**	.029
Error	3427.826	375	9.141			
Total	80907.778	378				
Corrected Total	3530.744	377				

a. R Squared = .029 (Adjusted R Squared = .024), [*]QD3=AGE

Table 4: [ANOVA- Result- by Education] (Post Hoc)

Tests of Between-Subjects Effects

Dependent Variable: FL_Score , Factor: Education

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	61.116ᵃ	3	20.372	2.196	.088	.017
Intercept	60281.996	1	60281.996	6497.949	.000	.946
QD4*	61.116	3	20.372	2.196	**.088**	.017
Error	3469.628	374	9.277			
Total	80907.778	378				
Corrected Total	3530.744	377				

a. R Squared = .017 (Adjusted R Squared = .009), *QD4=EDUCATION

Table 5 : [ANOVA- Result- by Income] (Post Hoc)

Tests of Between-Subjects Effects

Dependent Variable: FL_Score: Factor :Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	63.308ᵃ	1	63.308	6.865	.009	.018
Intercept	18846.161	1	18846.161	2043.630	.000	.845
QD7*	63.308	1	63.308	6.865	**.009**	.018
Error	3467.436	376	9.222			
Total	80907.778	378				
Corrected Total	3530.744	377				

a. R Squared = .018 (Adjusted R Squared = .015), *QD7= INCOME