Linking Financial Management Practices To Financial Literacy: Evidence From Turkey

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Abstract- Financial literacy emphasizes the ability of understanding financial conditions, practices, rules and norms to make informed financial decisions. Advocates heralded the need for increased financial literacy as means to improve financial preparedness and financial decision-making processes since low levels of financial literacy is an international phenomenon in developed and developing countries. Using data from a major state university in Turkey, this study examines the importance of financial literacy on four financial management practices -saving, non-investment borrowing, comparing financial services before buying and following financial trends- in a single model. The regression analysis results showed that all explanatory variables were related to financial literacy except the non-investment borrowing. The findings highlight the importance of financial literacy as an input for financial success and desired financial outcomes. Future research directions and limitations were discussed.

Keywords- Financial literacy, financial management practices, non-investment borrowing

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1. INTRODUCTION

The interest in financial knowledge has increased rapidly by years and financial literacy has become a basic living skill and lifetime responsibility for consumers [1]. After the financial crises (i.e., 2001, 2008) revealing the lack of financial literacy of consumers all over the world, financial literacy has been increasingly recognized as a combination of awareness, knowledge, skill, attitude and behavior necessary for making desired financial decisions and improving financial satisfaction [2].

Financial literacy simply can be defined as knowledge in finance that is needed for a basic understanding of personal financial arrangements [3]. The ability of understanding financial conditions, practices, rules and norms is needed to perform tasks related to many activities associated with money and includes control over credit using, budgeting, purchasing insurance and investment [4]. This ability is essential to contribute more efficient allocation of financial resources and financial stability at both the micro and macro level of the financial system [5].

This paper aims to examine the relationships between financial literacy and household financial practices in a single model using data from a major state university in Turkey. The study captured four types of financial practices to explore the patterns of household financial practices, such as saving, non-investment borrowing, comparing financial services before buying, and following financial trends at the market. To sum it up all, the research questions of interest in the study are presented below:

1-What is the relationship between financial literacy and saving?

2-What is the relationship between financial literacy and non-investment borrowing?

3-What is the relationship between financial literacy and comparing financial services before buying?

4-What is the relationship between financial literacy and following financial trends at the market?

2. BACKROUND

Consistent with the notion that financial literacy is a key component of financial satisfaction and financial well-being [6], [7], [8], [9], [10], [11], [12], [13], numerous studies has been conducted to explore the relationships between financial literacy and engaging in desirable financial management practices (e.g., [2] [14], [15], [16], [17].

Saving is known as one of the most common financial management practices generally described as setting aside some amount of money before paying for expenses [18]. Sharp [19] reported that financial knowledge is strongly associated with getting indebted and longer-period savings. By examining saving and investment behaviors, Capuano and Ramsay [20] found that consumers with higher financial knowledge tend to save and invest more than those with insufficient financial knowledge. According to the International Monetary Fund (IMF) Report for Turkey [21] there is a decline in Turkey's private saving rate by years that the fast decreases in years following the crisis in 2001. The report suggests that the gradual decline in saving is related to the bank credits that become more available for the large segment of households. Hogart, Beverly, and Hilgert's [22] study reported that there are two common indicators that households are overburdened by debt: Having a debt payment to income ratio greater than 40%, and being substantially late with credit card payments. So, this is not surprise that attention has been increasingly devoted to find the ways to protect consumers from their own financial illiteracy and poor financial choices [23].

Poor financial knowledge causes positive attitudes toward credit using and increases the households' debt [24]. Defining the lack of knowledge in terms of borrowing as debt literacy, Lusardi and Tufano [25] reported that consumers with low debt literacy are more likely to engage in high-cost methods of borrowing. In another study, Lusardi and Mitchel [23] suggest that high-cost borrowing have rapidly increased over time with negative effects for financially illiterate consumers. The relationships between financial literacy and borrowing behaviors are also confirmed by other studies. Accordingly, Disney and Gatherhood [26] found that households with low financial literacy use higher cost credits that constitute higher debt payments. Allgood and Walstad [27] documented that financial literacy predicts borrowing behaviors that the cost of ignorance is found to be high in their study. Gathergood's [28] study also showed that consumers with poor financial literacy are more likely to experience over-indebtedness.

Financial literacy helps and empowers consumers to utilize their knowledge to choose the most beneficial financial services or products to make better investment choices [29]. The growing variety and complexity of financial products and services in the market is making it harder for consumers to compare and evaluate the costs and benefits of the services and products to make a choice before buying them [2] [30], [31]. The research by FSA (2006) showed that a financially capable person compares financial products and services from multiple providers, does not just rely on the information that financial institutions provide, compares the features and prices of the products and services before making a choice, seeks advice from an appropriate professional adviser or actively shops around before buying, and reads terms and conditions in detail.

3. METHOD

3.1. Participants and Procedure

The current study used data from the Financial Literacy Survey conducted in 2011 at a major state university in Turkey. The population of the current employees of the university was N= 7331 and all university employees (academic and administrative staff) were eligible to

ISSN 2229-5518

participate in the study. Using simple random sampling, the study population resulted in n= 611. However, the data collection yielded n= 587 complete surveys after removing the respondents with missing data. The respondents who selected “I find this question difficult to answer” as an answer were also removed from the study. Finally, the study sample resulted in n= 508 participants with valid responses.

3.2. Instrumentation

The study data were collected using a modified version of the Financial Literacy Survey Questionnaire developed by the World Bank [32]. The questionnaire based on the questions concerning financial literacy, financial management practices, financial decision-making, investment preferences, income and debt levels, information-seeking practices, and demographics. Of particular interest of this study, the questions assessing financial literacy and financial management practices including saving, borrowing, comparing financial services before buying, and following financial trends were selected.

3.3. Dependent Variable

Financial *Literacy*

Financial literacy was assessed by 10 multiple choice questions in Financial Literacy Survey Questionnaire including knowledge about saving, investment, credit using, borrowing, and general financial management. The average score of financial literacy was 5.12 with 2.38 standard deviation. The scores above the average were described as high financial literacy while the scores below the average were defined as low financial literacy for the regression analysis.

3.4. Independent Variables

Financial Management Practices

Independent variables of the study included four financial management practices: saving, borrowing, comparing financial services before buying, and following financial trends. These variables contribute to planning ahead, spending less than income, staying informed about the market, and using credit wisely strands of financial literacy.

Saving

The respondents’ saving behavior was examined by asking, “How often during the last year you (your family) had any money unspent from previous earnings before the next moment for new revenues arrived? Among the 508 participants, more than half of the respondents indicated that during the last year, they saved sometimes (62.4%), 24.8% of them reported never and the slightly higher than one-tenth (12.8%) indicated that they managed to save always during the last year. The group who never saved was the reference category.

Non-investment Borrowing

One question related to non-investment borrowing was asked to the respondents. In particular, respondents were asked, “By excluding any loans for purchase of an apartment, house or car secured on property out of your entire debt amount, do you (your family) have (has) any debts now? More than half of the respondents reported having debt (56.7%) while the remainder had no debt (43.3%). Having debt was the reference category.

Comparing Financial Services

The participants’ buying behavior of financial services was assessed by one question: “How often do you compare the terms and conditions for provision of financial services by various companies before you buy such a service?” About half of the participants indicate that they sometimes compare financial services before buying (49.6%) while 40.9% of them compare always. The remainder (9.4%) reported that they never compare financial services before buying. This group represented the reference category.

Following Financial Trends

The respondents were asked about what financial trends they follow to manage their finances. Given out of the seven financial trends consisting of changes in the property market, changes of quotations and indices in the capital market, changes of interest rates on deposits, changes of interest rates on credits, changes in the inflation rate, changes in the level of public pensions, benefits and tax exemptions, and price fluctuations for oil, gold, metals, etc., the respondents were asked to mark all of the financial trends they follow. The majority of the respondents (63.6%) reported that they follow the changes in the level of public pensions, benefits and tax exemptions. About half of them (46.0%) stated following price fluctuations for oil, gold, metals, etc. More than one-third of the participants indicated the changes in the property market (33.7%), changes of interest rates on credits (36.8%), and changes in the inflation rate (38.9%). About one-tenth of the respondents (11.6%) reported that they do not follow any financial trends. The average number of the financial trends that the participants follow was 2.49 meaning that they follow at least two financial trends in the market.

3.5. Data Analysis

The present study used the logistic regression analysis that is typically used when dependent variable is dichotomous and independent variables are either continuous or categorical [33]. Since the dependent variable is dichotomous (i.e., low financial literacy and high financial literacy), binary logistic regression was used in this study. Low financial literacy was coded as “0” while high financial literacy was coded as “1”. Independent variables in the analysis were saving, borrowing, comparing financial services before buying, and following financial trends. All independent variables were categorical except following financial trends.

4. RESULTS

4.1. Demographic Characteristics of Participants

The current study consisted of 226 academic (44.5%) and 282 administrative staff (54.5%). The female and male participants were almost equal (female: 49%; male: 51%). The majority of the respondents (66.3%) had received a college degree. The mean household income of the participants was 3225.52 TL (Turkish Lira). The largest proportion of the sample was 25 to 34 years old (39.8%) while about one-third was 35-44 years old (32.9%). The average number of household members was 3.16. Table 1 provides further details about the demographics of sample.

Table 1 Demographic Characteristic of Participants

Variable		N	%	M	Sd.
Sex	Female	249	49.0		
	Male	259	51.0		
Age	18-24	39	7.7		
	25-34	202	39.8		
	35-44	167	32.9		
	45-59	87	17.1		
	60 and above	13	2.6		
Education	Less than high school	19	3.7		
	High school	70	13.8		
	Community college	82	16.1		
	College	337	66.3		
Job classification	Faculty	226	44.5		
	Administrative Staff	282	55.5		
Number of household member				3.16	1.29
Household income*				3225.52	1734.66
Total		508	100.0		

*Turkish Lira

4.2. Regression Analysis

Table 2 shows that the coefficients of independent variables (i.e., saving, non-investment borrowing, comparing financial services before buying, and following financial trends) which were not included in the model significantly were far from zero meaning adding one or more independent variables in the equation was expected to improve the predictive power of the model.

Table 2 Variables not in the equation

Step 0	Variables	Score	df	Sig.
	Saving (Never)	16.115	2	.000*
	Saving (Always)	4.946	1	.026**
	Saving (Sometimes)	3.273	1	.070
	Non-investment borrowing (Yes)	4.291	1	.038**
	Comparing financial services (Never)	15.334	2	.000*
	Comparing financial services (Always)	10.076	1	.002*
	Comparing financial services (Sometimes)	1.770	1	.183
	Following financial trends	29.723	1	.000*
	Overall Statistics	49.438	6	.000*

*P≤ 0.01, **P ≤ 0.05

The changes in -2 Log Likelihood (-2LL) value of the baseline model showed an improvement in model fit. When all independent variables entered the model, the constant reduced -2LL from 704.230 to -652.116. The Cox & Snell R2 and Nagelkerke R2 values were of the model were .097 for Cox & Snell R2 and .130 for Nagelkerke R2 suggesting that the model explains 13% of the variation in financial literacy.

The result of Hosmer and Lemeshow chi-square test was not significant (p>0.05) that shows the model fits better than the baseline model without independent variables. When the independent variables entered the model, the correct classification was increased from 50.2% to 62.4%. The table 3, Variables in the Equation, showed that saving, comparing financial services before buying, and following financial trends were significantly related to financial literacy (p<0.05) (Table 3).

Table 3 Variables in the equation

Step 1	B	S.E.	Wald	df	Sig.	Exp(B)
Saving (Never)			9.569	2	.008*	
Saving (Always)	.781	.340	5.261	1	.022**	2.183
Saving (Sometimes)	.676	.229	8.751	1	.003*	1.967
Non-investment borrowing (Yes)	-.190	.194	.959	1	.327	.827
Comparing financial services (Never)			7.122	2	.028**	
Comparing financial services (Always)	.878	.365	5.770	1	.016**	2.405
Comparing financial services (Sometimes)	.515	.358	2.068	1	.150	1.674
Following financial trends	.275	.060	20.882	1	.000*	1.317
Constant	-1.707	.406	17.688	1	.000*	.181

*P ≤ 0.01, **P ≤ 0.05

According to the table, saving had a highly significant overall effect on financial literacy (Wald=9.569, df=2, p<0.01). The participants who saved always (2.183) were two times better at financial literacy than those who never saved (the reference category). The overall effect of comparing financial services before buying on financial literacy had also significant (Wald=7.122, df=2, p<0.05). The participants' financial literacy score who compared always financial services before buying were more than two times (2.405) better than the others who never compared financial services before buying (the reference category). The effect of following financial trends was also significant and positive (Wald=20.882, df=1, p<0.01), indicating the more financial trends to follow, the better financial literacy score. Finally, non-investment borrowing had a negative but not significant association with financial literacy.

5. DISCUSSION

The present study examined the relationships between financial literacy and financial management practices such as saving, borrowing, comparing financial services before buying, and following financial trends at the market using a regression model. The model explained 13% of the variation in financial literacy.

It is widely acknowledged that financial literacy helps and empowers consumers to make informed financial decisions. The study results showed that saving, as a principal management practice, is strongly related to financial literacy. In other words, consumers with higher financial literacy scores tend to save more than financially illiterate ones. The literature also supports the study findings that financial literacy constitutes saving. According to Lusardi [34], financial literacy provides information that necessary to make saving decisions. Therefore, low financial literacy limits the saving ability because of imposing lack of financial information for consumers [34]. Using a nationally representative dataset in the USA, Pak and Chatterjee [17] also found that households with higher than average financial literacy scores were less likely to have sufficient precautionary savings.

The current study results also showed that financially has a positive association with following financial trends at the market. It means that consumers with high financial literacy scores are more likely to engage in following multiple financial trends in the market. Several other studies have also found that the financially sophisticated households are more likely to participate in financial markets and tend to invest in stocks [35], [36], [37], [38].

Financial literacy is vital due to the growing diversity and complexity of financial products and services [39] since financially literate consumers are capable to compare information of different financial services and products, confident enough to resist assertive selling or seductive advertising [40]. Consisted with this, the current study found that financial literacy is significantly related to comparing financial services before buying. The increasing variety and complexity of financial products and services also make the financial institutions responsible along with the consumers regarding to ensure full disclosure of information about products and services. The product development manager of FedGroup, Michael Field, stressed that "Products should be simplified." in his interview with Gillian Jones at Financial Mail in April 30th, 2015. According to Field, this could help customers to get rid of confusions results from the complexity of products that have sometimes been artificially created by the industry. Michael Field also addressed the importance of financial literacy by pointing out the research results conducted by FedGroup. The study showed that local pension funds in which their clients had the option of making their own investments known as member choice had underperformed the market. They found two problems with these products. First, although the clients were paying for this expensive option, 70% of them never made a choice. Second, the clients were not equipped to make a decision that they often made bad choices. As an outcome of this result, they, has decided not to offer a choice to their clients [41].

There is also somewhat surprising result that borrowing, isolating the investment debts, was negatively but not significantly associated with financial literacy. This result can also be interpreted that financial literacy did not constitute an impediment for non-investment indebtedness in this study. Some research suggests that consumers might have non-investment debt out of necessity rather than by choice [42], [43]. In this case, such others factors as reasons of borrowing, deciding the amount of debt rather than getting indebted might gain importance regarding financial literacy. There is also research evidence stressing the dominance effect of behavioral characteristics of consumers over financial literacy at getting indebted [28], [44]. The study conducted by Gatherhood [28], identifying the links between financial literacy, behavioral characteristics and over-indebtedness, the effects of financial literacy and behavioral characteristics on over-indebtedness has been compared. Using survey data from a representative sample of UK households with consumer credit debts, the study results showed that the lack of self-control has a stronger role than financial illiteracy in explaining over-indebtedness [28]. Smilarly, Turnham's [44] study showed that even when consumers has the knowledge about budgeting and saving, they can fail to apply that knowledge to practice because of psychological factors, such as motivation and locus of control.

6. CONCLUSION

The current study examined the linkages between financial literacy and financial management practices in a single model focusing on four financial management practices-saving, non-investment borrowing, following financial trends, and comparing financial services before buying. The study findings, consisted with the literature, showed that saving, following financial trends, and comparing financial services before buying are related to financial literacy. Another study finding highlighted in the paper is that non-investment borrowing has not a significant association with financial literacy. This finding is somewhat surprising given the majority of previous research that highlights their conclusions on the relationship between financial literacy and borrowing behavior. Hence, further research would focus on consumers with better financial management skills but still having non-investment debts to get further insights about the reasons of borrowing that getting indebted is mostly either by choice or out of necessity. It should be also taken into consideration that the global economic world with encouraging consumers spending now instead of later, pumping credits more available for a large group of households, emphasizing consumption in every stage of life could be successful creating positive attitudes towards borrowing even for consumers with better financial management skills. Future studies could also use longitudinal research designs to track socioeconomic or demographic changes or unexpected life events of target households to better understand the circumstances of ending up with non-investment borrowing.

7. LIMITATIONS

The authors are aware of the limitations of current study. First, the sample was taken from the administrative and academic university employees. Thus, generalization to the entire country should be done with reservation. On the other hand, the results may have been more applicable to the middle-income class in Turkey regarding the sample characteristics and sample size. Second, in setting high and low financial literacy levels, we threated the average financial literacy score as a cut-off point shows that under the average was low while over the average was high financial literacy; other studies might use different assessment methods. Finally, due to the cross-sectional design nature of the study this study, we did not analyze the causality. Therefore, the study results and interpretations might have been affected by those limitations.

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