

Factors Affecting Farmer's Financial Literacy: Insights from West Bengal, India

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Abstract

The article intends to evaluate the Financial Literacy (FL) of farmers and its determinants in the context of West Bengal, India. Data on 672 farmers were gathered from Financial Inclusion Insight database (5th round). Appropriate statistical tools and techniques were used to address the objectives of the study. Results showed that the level of FL of the farmers of West Bengal was poor. Farmer's FL score in West Bengal was noticed to be only 39.75%. The mean FL score of farmers from the agriculturally advanced districts (43.20%) was found to be greater as compared to the farmers from the agriculturally backward districts (36.29%). Assessment of the determinants of such FL suggests that gender, educational attainment, financial inclusion, and agricultural prosperity of the district significantly explain the FL level of farmers of West Bengal.

Keywords: Financial Literacy, Farmers, Financial Inclusion, West Bengal, India

Introduction:

Money management has become extremely challenging in the current knowledge economy due to the growing complexity and presence of a vast array of financial products, especially for poor people (Garg and Singh,2018).Financial Literacy (FL) amongst individuals is essential for accomplishing and maintaining financial well-being(Shim et al.,2009; Philippas and Avdoulas,2020). Individuals must acquire adequate financial skills to increase their capacity to make critical financial decisions effectively. FL encompasses obtaining, analyzing, and using financial information to make the appropriate economic decisions such as financial planning, debt management, wealth creation, etc(Lusardi and Mitchell,2014;Maji and Laha,2022a).FL enables people to manage their money effectively (Sundarasan et al.,2016), undertake the right investment choices (Krische,2019), encourage saving behavior (Gaisina and Kaidarova,2017), and benefit from newly launched financial products. Individuals with higher FL can minimize financial risk through portfolio diversification (Abreu and Mendes,2010).With comprehension of fundamental economic concepts such as compounding, inflation, risk diversification etc., individuals can handle personal finance in a befitting manner (Lusardi and Mitchell,2014;Hossain and Maji,2021). Individuals with higher FL can better perceive the value of information which increases their capacity for thinking rationally.Adequate FL empowers individuals to save money for retirement (Sekita,2011; Van Rooij.,2011) as well as set aside money for emergency purposes (Fan and Zhang,2021). Wachira and Kihiu (2012) noticed that households with greater FL are more likely to look for information on financial services that are appropriate for their requirements. Financially literate households with higher cognitive ability can manage day-to-day financial matters effectively. FL is also expected to significantly reduce the poverty of individuals in society as a whole (Koomson et al.,2022).

Remund(2010) defines FL as “the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being”.Similarly, Lusardi (2008a) defines, FL as the “knowledge of basic financial concepts, such as the working of interest compounding, the difference between nominal and real values, and the basics of risk

diversification". People's capacity for saving, investing, planning, managing, and budgeting are just a few of the variables that gets positively influenced by their level of FL (Tokar Asaad,2015; Grohmann,2018). FL is positively linked with timely repayment of credit-card bills (Norvilitis,2006; Mottola,2013) and refinance of mortgages with declining interest rates (Hogarth and Hilgert,2002). Individuals with higher FL can earn a higher return from their investments (Jappelli and Padula,2013) and less prone to utilize the high cost financial services. The level of FL of an individual can be measured through how well he/she can manage their resources over the course of their lives. Because of its significance, the issue of FL has been able to draw the attention of a variety of stakeholders, including researchers, governments, financial marketers, employers, bankers, and other organizations (Maji and Laha,2023a). Its importance has grown as a result of the changing political, economic, and demographic factors, dynamism of the complex financial system and the newly emerging financial services vis-a-vis products. Globalization and the development of digital technology have amplified the intricacy and accessibility of different financial products (Prasad et al.,2018;Maji and Laha,2022b). Individuals now a day have to assume increased responsibility of their financial choices, such as saving and investing for furthering education, children's education, and retirement. A considerable percentage of the wealth gap may be explained by FL (Lusardi and Mitchell,2014). Adequate FL can help individuals with lower incomes to improve their overall financial condition (Boisclair et al.,2017). People who lack adequate FL are expected to make wrong estimation of their actual retirement needs. Increasing financial and health knowledge are important steps in lowering older people's economic vulnerability (Lusardi,2008). High societal costs might also emerge from the paucity of financial knowledge. Above all, FL plays a pivotal part in achieving sustainable financial inclusion in the economy as a whole.

Agriculture is one of the major economic activities amongst the people in India. The majority of the rural population (more than 50% of the workforce) in India depends on agriculture as a primary source of occupation (GOI,2021). Agricultural sector is important to any economy as it ensures food security and generates huge employment opportunities (Cervantes-Godoy and Dewbre,2010; Beckman and Countryman,2021; Manida and Nedumaran,2020). More than 18% of the GDP comes from the agricultural sector in India (GOI,2021). However, wellbeing of the farmers to a great extent depends upon their FL. Farmers with low FL are

contemplated to borrow from informal sources at interest rates which is much higher than the market rate of interest, end up not using this borrowed money skilfully and ultimately falling into indebtedness (Gaurav and Singh,2012; Datta et al.,2018). FL positively influences crop insurance adoption by farmers (Biswal and Bahinipati,2022).FL significantly augments the financial return to the farmer (Mwambia,2014).In this prelude, the article tries to highlight the FL of farmers of West Bengal (India) and its determinants.

Brief Review of Literature:

Although there are scanty studies in this direction, the review of the available research studies are briefly presented in this section. Ravikumar et al., (2013) noticed that age, years of schooling, agricultural experience, farm income and land ownership, positively affected the FL of jasmine farmers in India. Twumasiet al., (2021) found that age, economic condition, gender and risk aptitude significantly determine the farmers' FL of Ghana. Widhiyaanto et al. (2018) highlights that education and training in financial affairs were positively associated with the FL of the Indonesian farmers, on the contrary, age and distance to the capital were adversely implicating the FL of the farmers. Safitri (2021) noticed that years of schooling significantly increased the FL of Indonesian farmers. Similarly, Akoto et al. (2017) also suggests that age, education, and regional variation were significantly affecting the FL of coca farmers of Ghana. Gaurav and Singh (2012) revealed that age, agricultural land ownership and years of schooling were noticed to significantly increase the cognitive ability of the cotton farmers. In addition, numerical ability, higher education, risk aptitude, and agricultural land ownership significantly step up debt literacy among the Indian cotton farmers (Gaurav and Singh,2012). In the same line, Aggarwal et al. (2014) showed that years of schooling, income, and land holding size were the significant antecedents of the FL of farmers in Punjab in India. Maji and Laha (2023a) noticed the prevalence of poor FL amongst Indian farmers. Marital condition, economic status, education, gender and farm ownership were noticed to be significantly increasing the FL of the Indian farmers (Maji and Laha, 2023a). Paukmongkol(2017) tried to determine the financial knowledge, financial behavior, and financial attitude among the Thai farmers and found moderate level of FL among Thai farmers. Sanglay et al. (2021) also showed that age, income, and educational attainments were noticed to be positively associated FL of the rice farmers of Philippines.

A careful review of the existing literature advocates that very few empirical studies on the FL of farmers are available in the world including India. Existing studies in Indian context are region and agricultural commodities specific. Moreover, there are no studies on the FL of the farmers in the backdrop of West Bengal. Thus, taking into account the lack of studies in the extant literature and the ever-increasing substance of the topic of FL among the farmers, the present study will endeavour to unveil the state of FL amongst the farmers in West Bengal, India. Efforts will also be made to unfold the different factors affecting such FL.

Data Sources and Methodology:

For achieving the objectives of the study, secondary data on FL, socio-economic and demographic characteristics of the farmers of West Bengal were collected from the Financial Inclusion Insight database. The present study uses data from 5th round of 2017. In 5th round survey in India, 47132 individuals were surveyed out of which 11081 and 672 were farmers in India and West Bengal respectively. Therefore, the study used data on 672 farmers from West Bengal to attain the objectives of the study.

For deeper insights, the districts of West Bengal were clustered into two categories such as agriculturally advanced districts and agriculturally backward districts. Such clustering was made on the basis of total paddy yield of each of the districts as per the last available district level yield. The data on district level paddy yield was collected from the last agricultural survey carried out in 2016 by the Government of West Bengal which closely matches with the FL related data of 2017 used in the study¹. FL of the farmers was ascertained using Big 5 FL questions on numerical ability, compounding, inflation, and risk diversification as proposed by Lusardi and Mitchell (2008). Use of the Big 5 questions in assessing the FL is very popular amongst the researchers across the globe. Each farmer gets one mark for each of the right answers to the Big 5 FL questionnaire. Thus, the range of FL score lies between 0 (all wrong) and 5 (all correct). Farmers scoring up to 40% were denoted as a farmer with poor FL, respondent scoring 60% were denoted as a farmer with moderate FL, and farmers scoring 80% or above were designated as farmers possessing a high FL.

¹The advanced districts were Burdwan, South 24 Parganas, Purba Medinipur, Paschim Medinipur, Bankura, Murshidabad, and Birbhum., and the remaining of the districts were classified as backward districts. Districts with above average yield of paddy were classified as advance districts and vice-versa.

Basic statistical techniques including the frequency distribution and measures of central tendency were used for data analysis. The existence of statistically notable disparity in the FL in terms of their socioeconomic and demographic characteristics was investigated using the F-test and the t-test. In order to investigate into the determinants of FL among the farmers, Ordinary Least Square (OLS) method was used. The empirical model used in the study is presented below.

$$\begin{aligned} \text{FINANCIAL LITERACY SCORE}_i &= \alpha_0 + \alpha_1 \times \text{FEMALE} + \alpha_2 \times \text{FARMWORKER} + \alpha_3 \times \text{FAMILY SIZE} + \alpha_4 \\ &\times \text{AGE 25 - 34} + \alpha_5 \times \text{AGE 35 - 44} + \alpha_6 \times \text{AGE 45 - 54} + \alpha_7 \times \text{AGE 54} \\ &- \text{OVER} + \alpha_8 \times \text{FINANCIAL EXCLUSION} + \alpha_9 \times \text{ABOVE POVERTY LINE} \\ &+ \alpha_{10} \times \text{ADVANCED DISTRICT} + \alpha_{11} \times \text{PRIMARY EDUCATION} + \alpha_{12} \\ &\times \text{SECONDARY EDUCATION} + \alpha_{13} \times \text{HIGHER EDUCATION} + \alpha_{14} \\ &\times \text{MARRIED} + \epsilon_i \end{aligned}$$

α_0 is the intercept, α_i are the regression co-efficients and ϵ_i is the error term.

FEMALE is a dummy variable where female is denoted as 1 else 0.

FARMWORKER is a dummy variable where farm worker is denoted as 1 else 0.

FAMILY SIZE indicates the number of family member of the farmer respondent.

AGE 25 - 34, *AGE 35 - 44*, *AGE 45 - 54*, *AGE 54 - OVER* are different age group dummy variables (for example if a farmer is 30 years old then corresponding “AGE 25 - 34” variable will be denoted as 1 else 0)

MARRIED is a dummy variable, if farmer married is denoted as 1, else 0.

FINANCIAL EXCLUSION is a dummy variable, if the respondent does not have a bank account is denoted as 1 else 0.

ABOVE POVERTY LINE is a dummy variable, if the respondent belongs to above poverty line strata is denoted as 1 else 0.

ADVANCED DISTRICT is a dummy variable, if the respondent belongs to agriculturally developed district is denoted as 1 else 0.

PRIMARY EDUCATION, *SECONDARY EDUCATION*, *HIGHER EDUCATION* are educational attainment dummy variables (for example if the respondent is primary educated then corresponding “PRIMARY EDUCATION” variable will be denoted as 1 else 0)

Analysis and Findings:

FL among Farmers in West Bengal:

Table 1

FL level among farmers in West Bengal

FL Levels	West Bengal	Districts	
		Advanced	Backward
Low	61.46%	59.58%	63.92%
Medium	13.84%	12.07%	16.15%
High	24.70%	28.35%	19.93%
Average FL Score	39.75%	43.20%	36.29%
Source: Author's own calculation			

Extant literature suggests that the FL amongst the people across the globe is noticed to be poor. The majority of the farmers (61.46%) in West Bengal also exhibited a poor FL in line with the FL trend across the world. 13.84% of the farmers have given three correct answers against the Big 5 FL questions, exhibiting moderate FL. 24.70% of the farmers were denoted as farmers with high FL as they could give four or more right responses. The average FL score of the farmers in West Bengal was 39.75% implying low level of FL. Table 1, exhibit that 63.92%, 16.15% and 19.93% of farmers in the backward districts have poor, medium and high FL levels respectively. In the case of the agriculturally advanced districts, 59.58% of the farmers possessed low level of FL. 12.07% and 28.35% of the farmers possessed medium and high FL levels respectively. The mean FL scores of the farmers pertaining to the agriculturally advanced and backward districts were noted to be 43.20% and 36.29%, respectively.

Socio-Economic and Demographic Characteristics and FL of the Farmers:

Assessment of the demographic data reveals that the most (78.22%) of the respondents were male, implying high participation of males in agricultural activity in West Bengal. The FL score of male farmers was 44.65% and the same of the female farmers was 23.77% which implies the prevalence of strong gender gap in FL amongst the farmers in West Bengal. Most of the farmers (86.76%) in the sample were married. The FL score of married farmers was 41.20% in contrast with the mean FL of 33.70% of farmers other than married farmers. 80.36% of the farmers were noticed to be farm workers, and balance was farm owners. The farm workers scored merely 37.77% whereas farm owners could score 50.15%. Such a difference in their FL score was found to be statistically notable.

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Table 2

Demographic and Socio-Economic Attribute wise Variation in FL amongst the Farmers

Criteria	Attributes	Percentage	Average FL score	t / F Statistic
Gender	Male	78.72%	44.65%	t value: 6.7405 p-value: 0.000
	Female	21.28%	23.77%	
Age cohort	15-24	9.08%	36.39%	F Value: 0.33 p-value: 0.8589
	25-34	19.94%	41.04%	
	35-44	24.55%	41.81%	
	45-54	21.43%	40.13%	
	55-over	25%	39.40%	
Marital status	Married	86.76%	41.20%	t value: -1.944 p-value: 0.0522
	Others	13.24%	33.70%	
Farmer status	Farm Owner	19.64%	50.15%	t value: -3.7935 p-value: 0.0002
	Farm worker	80.36%	37.77%	
Education	No formal education	41.07%	32.31%	F Value:12.55 p-value: 0.000
	Primary education	45.09%	42.77%	
	Secondary education	11.76%	53.92%	
	Higher education	2.08%	62.85%	
Financial condition	APL	4.61%	45.16%	t value: 0.8321 p-value: 0.4057
	BPL	95.39%	39.96%	
Financial Inclusion	Financial included	83.48%	41.88%	t value: -2.9037 p-value: 0.0038
	Financial excluded	16.52%	31.71%	
Agricultural	Advanced	56.70%	43.20%	t value: -12.007

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yield	district			p-value: 0.0088
	Backward district	43.30%	36.28%	
Source: Author's own calculation				

95.39% of the sample farmers were found to be falling under below poverty line category with a FL score of only 39.96%. The average FL score of above poverty line farmers was noticed to be 45.16%. However, such a difference in FL score amongst the APL and BPL farmers was not noticed to be statistically notable. In the context of this study, people from various age groups were found to be equally engaged in agricultural activity in West Bengal. Of the total, 9.05% were from the age group of 15 and 24 (exhibiting average FL score of 36.39%), 19.94% from the age group of 25 and 34 (exhibiting average FL score of 41.04%), 25.55% were from the age group of 35 and 44 (exhibiting average FL score of 41.81%), 21.43% were from the age group of 45 and 54 (exhibiting average FL score of 40.13%), and the remaining 25% were from the age group of 55 and above (exhibiting average FL score of 39.40%). The differences in FL score amongst various age cohorts were also not statistically significant. The analysis of the data showed that 41.07% of the farmers have no formal educational background, 45.09% have primary educational background, 11.76% have secondary educational background, and only 2.08% have a higher education. The average FL score of farmers with no education, primary level education, secondary level education and higher education were 32.31%, 42.77%, 53.92% and 62.85% respectively. The difference in FL as per educational attainments was statistically notable at 1% level.

Factors affecting FL of Farmers in West Bengal:

Table 3

Determinants of FL among the Farmers in West Bengal

Variables	Coefficient	t-value	p-value
Female	-16.72	-5.18	0.000
Farm worker	-5.17	-1.57	0.117
Family size	.0795	0.82	0.410

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Age cohort			
25-34	1.6592	0.31	0.754
35-44	2.4751	0.46	0.645
45-54	-.29105	-.05	0.958
55-over	.08075	0.15	0.884
Married	4.2955	1.05	0.293
Education			
Primary	7.3464	2.53	0.012
Secondary	16.2055	3.66	0.000
higher	26.6534	2.90	0.004
Advanced district	4.3867	1.70	0.090
Above Poverty Line	-.13096	-0.02	0.983
Financially Excluded	-7.9432	-2.27	0.023
Constant	36.029	4.49	0.000
LR χ^2	0.1207	P value	0.000
Source: Author's own calculation			

Table 3 presents the outcome of the OLS to unfold the antecedents of such FL amongst the farmers. Existing scholarship suggests that there exists sharp gender-gap in FL across all occupation across all economies. The sign of the variable female was found to be negative but statistically notable in the estimation. The result clearly indicates that there is a significant gender divide in FL among farmers in West Bengal in line with the existing theoretical conviction (Lusardi et al.,2010; Lusardi and Mitchell,2014; Agarwalla et al., 2015; Hasler and Lusardi 2017; Hossain and Maji,2021). Women lag far behind in financial planning than man which in turn make them less ready for retirement (Lusardi and Mitchell,2008). Women have lower FL levels as well as lower financial confidence (Bucher-Koenen et al., 2016). Women are reported to struggle more than males to complete financial calculations, and they also lack awareness of basic concepts in finance and thereby have poor knowledge, obstructing them from making appropriate financial choices and decisions (Sekita, 2011). Arora (2016) noticed the poor awareness about financial planning tools among women. Traditionally held role that male are in charge of making financial decisions may be one of

the reasons of such gender divide especially in developing economies like India and especially in case of poor households (Hsu,2016).

Agricultural advancement favourably affects the FL of the farmers. Maji and Laha (2023a) noticed that farmers from agriculturally productive Indian states have higher FL rate as compared to farmers from agriculturally backward states. Normally, farmers from the agriculturally developed area have higher education and skill and their income opportunity is also higher which leads to increased FL. Regional variation in the FL scores were also noticed by Fornero and Monticone (2011), Beckmann (2013), Bumcrot et al. (2013). Farmers belonging to the agriculturally advanced districts exhibited greater FL in this study which conforms to the findings of Maji and Laha (2023a).

Education perhaps is believed to be most significant predictors of FL. The coefficient associated with three educational attainment related variables were found to be positive, gradually stepping up with increasing educational attainments and statistically notable at 1% significance level. This result is consistent with Lusardi and Mitchell (2014); Lusardi et al. (2010), Atkinson and Messy (2012), Scheresberg (2013), Brown and Graf (2013) and Maji and Laha (2023a). Education significantly increases the cognitive ability, which directly has a favourable impact on the FL levels. Education also affects FL positively through income effect (Maji and Laha, 2023b). Stopler and Walter, (2017) also noticed that the majority of people with the highest educational level achieve high FL scores.

The outcome of the study exhibits that financially included farmers have greater FL than the financially excluded farmers which is consistent with outcome of the study carried out by Atkinson and Messy (2012). Maji and Laha (2022a) noticed that the FL rate of financially included farmers was greater than that of financially excluded farmers. Choi (2009) suggested that even after adjusting for the demographic and socioeconomic characteristics of students, owning a bank account significantly increase the FL. Clark et al., (2018) in an experimental study on adolescent girls in Ghana and discovered that saving money account in a bank significantly improved their economic behaviour. Such increase in FL due to financial inclusion occurs mainly because of the experiential learning by participating in the banking and financial activities. Visiting the bank branches, ATMs, interactions with banking correspondents, engaging into banking activities enables the farmers to improve their FL

thorough practical learning. Rest of the variables were not found to be statistically notable in the study.

Conclusion and Policy Suggestions:

The pertinence of FL in clinching individual financial wellbeing is well documented in the extant scholarship. FL plays an instrumental part in promoting financial resilience amongst the individuals. Such micro impact also leads macro transformations in long run. Financially resilient individuals make the financial system financially resilient. The role of agricultural sector to the economy in aggregate is extremely important as this sector ensures food security in an economy and creates huge employment opportunity directly or indirectly. However, the growth and sustenance of this sector also depends on the financial health of persons engaged in this primary sector apart from other factors. On the other hand financial health and wellbeing of farmers is often conditioned upon their FL. In this context and considering the gap in the extant literature, this article strives to explore the FL and its determinants of the farmers in India with special reference to West Bengal. The outcome of the study revealed that the level of FL of the farmers of West Bengal was poor. However, the FL of the farmers of the agriculturally advanced districts (in terms of yield) was found to be greater as compared to the farmers from the agriculturally backward districts. Evaluation of the determinants suggests that gender, educational attainment, financial inclusion and agricultural prosperity of the district significantly explain the FL level of farmers in West Bengal.

Considering the outcome of the study, Government (both Central and State) should constantly evaluate and focus on improvements to FL amongst farmers in rural areas in order to boost the region's viability and contribute to our nation's long-term economic growth. The Government as well as RBI should take active steps so that the financially excluded population comes under a formal financial system and banks must continuously organize various financial training workshops for the farmers in rural areas. National Centre for Financial Education² is playing crucial role in this direction. However, it needs to strengthen and broaden its outreach to the remotest places in order to improve the FL of the marginalized sections of the society including farmers across India.

References:

² A Not for Profit Company created by Reserve Bank of India, Securities and Exchange Board of India, Insurance Regulatory and Development Authority of India and Pension Fund Regulatory and Development Authority, under Financial Stability and Development Council (FSDC), Ministry of Finance, Government of India.

Abreu, M., & Mendes, V. (2010). Financial literacy and portfoliodiversification. *Quantitative Finance*, 10(5), 515-528.

Agarwal, S., Driscoll, J. C., Gabaix, X., & Laibson, D. (2009). The age of reason: Financial decisions over the life cycle and implications for regulation. *Brookings papers on Economic activity*, 2009(2), 51-117.

Aggarwal, N., Gupta, M., & Singh, S. (2014). Financial Literacy among farmers: Empirical evidence from Punjab. *Pacific Business Review International*, 6(7), 36-42.

Agarwal, S., Amromin, G., Ben-David, I., Chomsisengphet, S., & Evanoff, D. D. (2015). Financial literacy and financial planning: Evidence from India. *Journal of Housing Economics*, 27, 4-21.

Akoto, G. O., Appiah, K. O., & Turkson, J. K. (2017). Financial literacy of cocoa farmers in Ghana. *International Journal of Accounting and Finance*, 7(1), 11-30.

Arora, A. (2016). Assessment of financial literacy among working Indian women. *Business Analyst*, 36(2), 219-237.

Atkinson, A., & Messy, F. A. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study (accessed 25th December 2022).

Beckmann, E. (2013). Financial literacy and household savings in Romania. *Numeracy*, 6(2), 1-24.

Beckman, J., & Countryman, A. M. (2021). The importance of agriculture in the economy: impacts from COVID-19. *American journal of Agricultural Economics*, 103(5), 1595-1611.

Biswal, D., & Bahinipati, C. S. (2022). Why are farmers not insuring crops against risks in India? A Review. *Progress in Disaster Science*, 15, 1-8.

Bucher-Koenen, T., Alessie, R., Lusardi, A., & Van Rooij, M. (2016). Women, confidence, and financial literacy. *European Investment Bank*. available at <https://institute.eib.org/wp-content/uploads/2016/10/women-conf-lit.pdf>. (Accessed 5th January 2023)

Bumcrot, C. B., Lin, J., & Lusardi, A. (2011). The geography of financial literacy. *Numeracy*, 6(2), 1-16

Calvet, L. E., Campbell, J. Y., & Sodini, P. (2009). Measuring the financial sophistication of households. *American Economic Review*, 99(2), 393-98

Cervantes-Godoy, D., & Dewbre, J. (2010). Economic importance of agriculture for poverty reduction,(no23) available at <https://www.oecd.org/china/44804637.pdf>. (Accessed 5th January 2023)

Choi, L. (2009). *Financial education in San Francisco: A study of local practitioners, service gaps and promising practices* (No. 2009-08). Federal Reserve Bank of San Francisco.

An Open Access Fully Referred Peer-Reviewed Bi-annual Journal of IAA South Bengal Branch

(Available online at: www.iaasouthbengalbranch.org)

available at <https://www.frbsf.org/publications/community/wpapers/2009/wp2009-08.pdf> (accessed 10th October 2022).

Clark, S., Paul, M., Aryeetey, R., & Marquis, G. (2018). An assets-based approach to promoting girls' financial literacy, savings, and education. *Journal of Adolescence*, 68, 94-104.

Datta, S., Tiwari, A. K., & Shylajan, C. S. (2018). An empirical analysis of nature, magnitude and determinants of farmers' indebtedness in India. *International Journal of Social Economics*, 45(6), 888-908.

De Bassa Scheresberg, C. (2013). Financial literacy and financial behavior among young adults: Evidence and implications. *Numeracy*, 6(2), 1-21.

Fan, L., & Zhang, L. (2021). The influence of financial education sources on emergency savings: The role of financial literacy. *Family and Consumer Sciences Research Journal*, 49(4), 344-361.

Fernandes, D., Lynch Jr, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861-1883.

Fong, J. H., Koh, B. S., Mitchell, O. S., & Rohwedder, S. (2021). Financial literacy and financial decision-making at older ages. *Pacific-Basin Finance Journal*, 65, 101481

Fornero, E., & Monticone, C. (2011). Financial literacy and pension plan participation in Italy. *Journal of Pension Economics & Finance*, 10(4), 547-564.

Gaisina, S., & Kaidarova, L. (2017). Financial literacy of rural population as a determinant of saving behavior in Kazakhstan. *Rural Sustainability Research*, 38(333), 32-42.

Garg, N., & Singh, S. (2018). Financial literacy among youth. *International Journal of social economics*, 45(1), 173-186.

Gaurav, S., & Singh, A. (2012). An inquiry into the financial literacy and cognitive ability of farmers: Evidence from rural India. *Oxford Development Studies*, 40(3), 358-380.

Government of India (2019), Economic Survey (2018-2019), available at <https://www.indiabudget.gov.in/economicsurvey/doc/eschapter/echap07.pdf> (accessed 5th October 2022).

Government of West Bengal (2016), Agricultural statistics (2014-2015), available at http://wbpspm.gov.in/SiteFiles/Publications/5_18052017112619.pdf (accessed 5th October 2022)

Grohmann, A. (2018). Financial literacy and financial behavior: Evidence from the emerging Asian middle class. *Pacific-Basin Finance Journal*, 48, 129-143.

Hasler, A., & Lusardi, A. (2017). The gender gap in financial literacy: A global perspective. *Global Financial Literacy Excellence Center, The George Washington*

University School of Business. Available at <https://gflec.org/wpcontent/uploads/2017/07/The-Gender-Gap-in-Financial-Literacy-A-Global-Perspective-Report.pdf>. (Accessed at 5th January 2023)

Hossain, M., & Maji, S.K. (2021). Antecedents of Financial Literacy: Evidences from West Bengal, India. *Business Insight: Journal of The Department of Commerce*, 8,15-36.

Huston, S. J. (2012). Financial literacy and the cost of borrowing. *International Journal of consumer studies*, 36(5), 566-572.

Jappelli, T., & Padula, M. (2013). Investment in financial literacy and saving decisions. *Journal of Banking & Finance*, 37(8), 2779-2792.

Jayanthi, M., & Rau, S. S. (2019). Determinants of rural household financial literacy: Evidence from south India. *Statistical Journal of the IAOS*, 35(2), 299-304.

Koomson, I., Ansong, D., Okumu, M., & Achulo, S. (2022). Effect of financial literacy on poverty reduction across Kenya, Tanzania, and Uganda. *Global Social Welfare*, 1-11

Krische, S. D. (2019). Investment experience, financial literacy, and investment-related judgments. *Contemporary Accounting Research*, 36(3), 1634-1668.

Klapper, L., Lusardi, A., & Van Oudheusden, P. (2015). Financial literacy around the world. *World Bank. Washington DC: World Bank*. Available at https://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf. (Accessed at 5th January 2023).

Lusardi, A. (2012). Financial literacy and financial decision-making in older adults. *Generations*, 36(2), 25-32.

Lusardi, A., Mitchell, O. S., & Curto, V. (2010). Financial literacy among the young. *Journal of consumer affairs*, 44(2), 358-380.

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of economic literature*, 52(1), 5-44.

Lusardi, A., & Mitchell, O. S. (2008). Planning and financial literacy: How do women fare? *American economic review*, 98(2), 413-17.

Lusardi, A. (2008). *Household saving behavior: The role of financial literacy, information, and financial education programs* (No. w13824). *National Bureau of Economic Research*, 1-44.

Manida, M., & Nedumaran, G. (2020). Agriculture in India: Information about Indian Agriculture & Its Importance. *Aegaeum Journal*, 8(3), 729-736

Maji, S. K., & Laha, A. (2023a). Financial literacy and its antecedents amongst the farmers: evidence from India. *Agricultural Finance Review*, 83(1), 124-143.

- Maji, S.K. and Laha, A. (2023b) . Role of financial and digital literacy in determining digital transaction behavior: evidence from student level survey in West Bengal (India), *International Journal of Business Envorment*,14(2),183–210
- Maji, S. K., &Laha, D. (2022a). State of Financial Literacy and Its Determinants: Evidence from Student Level Survey. *State of Financial Literacy and Its Determinants: Evidence from Student Level Survey* ,*Business Insight: Journal of The Department of Commerce*, 9,1-16.
- Maji, S. K., &Laha, A. (2022b). State of digital divide and its determinants: evidences from student level survey in West Bengal, India. *International Journal of BusinessEnvironment*, 13(4), 392-417.
- Maji, S. K., &Laha, A. (2021). The role of digital skill in mitigating digital divide: evidences from Asia-Pacific region. *Rajagiri Management Journal*,16(3),260-271.
- Mottola, G. R. (2013). In our best interest: Women, financial literacy, and credit card behavior. *Numeracy*, 6(2), 1-17.
- Mwambia, D. K. (2014). *The Effect of Financial Literacy on Financial Returns of Miraa Farmers in Meru County* (Doctoral dissertation, University of Nairobi). Available at http://erepository.uonbi.ac.ke/bitstream/handle/11295/74897/Mwambia_The%20effect%20of%20financial%20literacy%20on%20financial%20returns%20of%20miraa%20farmers%20in%20Meru%20county.pdf?sequence=4. (Accessed at 10th January 2023).
- Nitani, M., Riding, A., &Orser, B. (2020). Self-employment, gender, financial knowledge, and high-cost borrowing. *Journal of Small Business Management*, 58(4), 669-706.
- Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P. V., Young, P., & Kamas, M. M. (2006). Personality factors, money attitudes, financial knowledge, and credit-card debt in college students 1. *Journal of Applied Social psychology*, 36(6), 1395-1413.
- Paukmongkol, W. (2017). Financial literacy of the public in Prathumthani Province. *Journal of Humanities and Social Sciences ValayaAlongkorn*, 12(3), 311-323.
- Philippas, N. D., &Avdoulas, C. (2020). Financial literacy and financial well-being among generation-Z university students: Evidence from Greece. *The European Journal of Finance*, 26(4-5), 360-381.
- Prasad, H., Meghwal, D., &Dayama, V. (2018). Digital financial literacy: a study of households of Udaipur. *Journal of Business and Management*, 5, 23-32.
- Ravikumar, R., Sivakumar, S. D., Jawaharlal, M., & Theodore, R. (2013). Assessment of Farm Financial Literacy among Jasmine Growers in Tamil Nadu. *FROM THE EDITOR'S DESK*, 25(2), 67-75.
- Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of consumer affairs*, 44(2), 276-295.

Safitri, K. A. (2021). An Analysis of Indonesian Farmer's Financial Literacy. *Studies of Applied Economics*, 39(4),85-105.

Sekita, S. (2011). Financial literacy and retirement planning in Japan. *Journal of Pension Economics & Finance*, 10(4), 637-656.

Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, 30(6), 708-723.

Stolper, O. A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *Journal of Business economics*, 87(5), 581-643.

Sundarasan, S. D. D., Rahman, M. S., Othman, N. S., & Danaraj, J. (2016). Impact of financial literacy, financial socialization agents, and parental norms on money management. *Journal of Business Studies Quarterly*, 8(1), 137-153.

Tokar Asaad, C. (2015). Financial literacy and financial behavior: Assessing knowledge and confidence. *Financial Services Review*, 24(2),1-15.

Twumasi, M. A., Jiang, Y., Adhikari, S., Gyamfi, C. A., & Asare, I. (2021). Financial literacy and its determinants: the case of rural farm households in Ghana. *Agricultural Finance Review* ,82(4).642-656.

Van Rooij, M. C., Lusardi, A., & Alessie, R. J. (2011). Financial literacy and retirement planning in the Netherlands. *Journal of economic psychology*, 32(4), 593-608.

Wachira, I. M., & Kihiu, E. N. (2012). Impact of financial literacy on access to financial services in Kenya. *Department of Business studies*,1-45.

Widhiyanto, I., Nuryartono, N., Harianto, H., & Siregar, H. (2018). The analysis of farmers' financial literacy and its' impact on microcredit accessibility with interest subsidy on agricultural sector. *International Journal of Economics and Financial Issues*, 8(3), 148-157.

Willis, L. E. (2011). The financial education fallacy. *American Economic Review*, 101(3), 429-34.
