Role of financial attitude and financial knowledge in resilience-building financial behaviour in a developing economy like India

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Rationale and motivation for the research

- COVID19 has exposed a large segment of population across world, especially in developing economies, to financial shocks. We wanted to understand whether higher financial knowledge and affirmative financial attitude could help individuals in better managing the financial shocks and building financial resilience. We also wanted to bring out associated policy implications.

- Given the increasing concern among various researchers and policymakers to understand the household financial behaviour, especially in the event of financial shock, this paper elucidates the potential role of **financial knowledge** and **financial attitude** in building financial resilience **under expenditure shock.**

- In India, a recent survey showed that a considerably large number of people are not in a position to meet their living expenses from income without borrowing during major expenditure shock (NCFE, 2019).

- Despite the same level of financial resources, the household financial decision-making could vary from household to household, based on the level of financial knowledge and financial attitude.

Status of Financial Literacy in India

National Centre for Financial Education (NCFE) Report (2019) on Financial Literacy and Financial Inclusion in India

- Financial Literacy and Inclusion Survey was conducted in 2018-19 (Average Indian financial literacy score was found to be ~13)

DISTRIBUTION OF RESPONDENTS QUALIFYING BY SCORES FOR COMPONENTS OF FINANCIAL LITERACY	% of Respondents Qualifying for			
	Financial Attitude	Financial Behaviour	Financial Knowledge	Financial Literacy
	>=3 points	>= 6 points	>= 6 points	>= 15 points
	5 points	9 points	8 points	22 points
Central	88%	51%	41%	21%
East	92%	52%	31%	20%
North	91%	53%	56%	32%
NorthEast	84%	47%	56%	33%
South	88%	52%	64%	30%
West	85%	61%	52%	37%
All-India	89%	53%	49%	27%

Figure 2. Financial Literacy Score
(Source: Adopted from NCFE report (2019) on financial literacy)

2. Literature Review

Description	Researcher(s)
1. Concept of financial resilience	
Financial resilience and vulnerability are two sides of the same coin	Jacobsen et al. (2009)
Economic vulnerability or ‘Financial fragility’ often relates to ‘coping capacity’	(Brown & Taylor, 2008; Jappelli, Pagano, and di Maggio, 2013)
Perceived ability’ to cover emergency expenditures	(Vandone, Bacchiocchi, and Anderloni, 2011).
Respondent’s ability to come up with $2,000 in 30 days.	Lusardi et. al. 2011
Ability of an individual to come up with 1/20 GNI per capita (in local currency) within the next month	Demirguc-Kunt et al. (2018)
Ability to cover a $2,000 emergency expense within 30 days, sense of indebtedness and possession of precautionary savings	Deevy et al. (2021)

Literature Review (Contd.....1)

Description	Researcher(s)
2. Measuring financial resilience with financial knowledge	
Consumers with sound financial knowledge are expected to act in a financially responsible manner	(Hilgert et. al. 2003; Perry & Morris, 2005; Lusardi, 2017).
A strong financial knowledge can help to achieve one's financial goals in life	(Agarwalla et. al., 2013).
A growing strand of literature reveals a positive relationship between financial knowledge and behaviour	(Hilgert et al., 2003; Potrich et al., 2016; Yong et al., 2018).

Literature Review (Contd.....2)

Description	Researcher(s)
3. Measuring financial resilience with financial attitude	
Proper financial attitude also decides the actual financial behaviour of a person	(Yong et al., 2018).
A positive relationship between attitude and behaviour	(Tesser and Shaffer, 1990; Glasman and Albarracin, 2006).
Individual’s need for precautionary saving for future is largely driven by their risk aversion attitude	Funfgeld and Wang (2017)
A recent study found that individuals, with a tendency to save money for the future, are more likely to indulge in trading activity post COVID-19 crisis.	Talwar et. al (2021)

What are the research gaps?

- Past studies are abundant in finding the role of financial literacy in financial resilience-building behaviour (Lysons et. al, 2020; Lusardi et al. 2020; Klapper & Lusardi, 2020)
- To our knowledge, hardly any significant past studies explicate the impact of financial literacy *components* such as financial attitude and financial knowledge in managing financial resilience.
- In terms of another component of financial literacy, financial behaviour, it is observed that financially literate individuals are savvier in their behaviour when it comes to saving and investment decisions during the period of economic shock (Clark, Lusardi, and Mitchell, 2020).
- Two important questions arise:
  - Does higher knowledge of financial concepts and risks better equip someone for a financial emergency?
  - Does financial attitude have any impact on financial resilience building behaviour?

3. Research Methodology

Sample Data

- Data were collated under the project named *"India Assessment of Financial Capability 2018"* sponsored by Investor Education and Protection Fund Authority in India (IEPFA), Ministry of Corporate Affairs, Government of India.
- The project was executed by the Indian Institute of Corporate Affairs (IICA) and had covered 11,234 individuals, largely from 20 tier-II cities across 20 major states in India.
- The questionnaire used in the survey was prepared based on OECD/INFE toolkit on measuring financial literacy and financial inclusion (OECD, 2018).
- As all the surveyed households responded fully to the questionnaire, therefore a complete sample of 11,234 individuals was considered for the analysis.

Empirical model

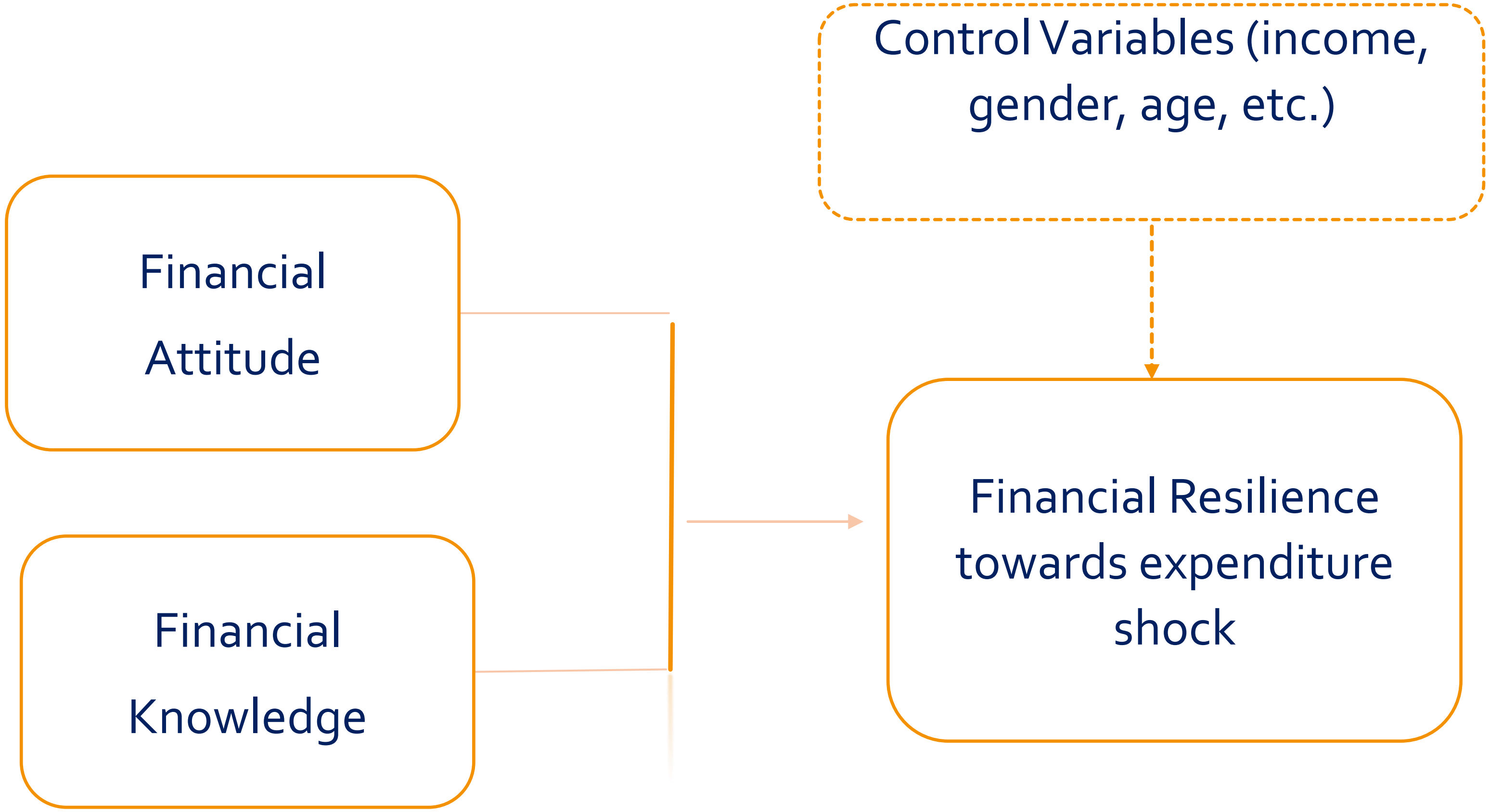


Figure. Relationship between independent variables (financial attitude and financial knowledge) with the dependent variable (financial resilience towards expenditure shock)

Regression model

$$\Pr(Yexp) = f(FK, FA, Xi\ , \varepsilon i\ ) \ldots\ldots\ldots\ldots(1)$$

Where, $\Pr(Yexp)$ is the probability function estimating financial resilience toward expenditure shock of the ith respondent, FK is financial knowledge score, FA is a financial attitude score, Xi a vector of individual characteristics (control variables) and εi is the error term

- This study, first investigates how various socioeconomic factors, taken as control variables, are related to financial resilience towards expenditure shock (Model 1).
- Subsequently, the impact of financial knowledge and financial attitude on financial resilience was estimated (Model 2 and 3 respectively).
- Later, the combined effect of financial knowledge and attitude, along with control variables, are measured as in Model 4

Measurement of variables

- Financial resilience towards expenditure shock was estimated using OECD (2018) toolkit question QF4 (expense shock) "*If you, personally, faced a major expense today – equivalent to your monthly income, would you be able to pay it without borrowing the money or asking family or friends to help? or if necessary, if you do not currently have an income, please think of an unexpected expense equivalent to the amount of money you typically spend in a month?*" (Refer Page no. 34 of OECD (2018) toolkit for measuring financial literacy & financial inclusion)
- Based on OECD/INFE (2018) toolkit for measuring financial literacy, which describes and measures financial literacy and its various components, we compute scores for financial attitude and financial knowledge. As per this toolkit, the maximum score for financial knowledge and financial attitude is 7 and 5, respectively.
- To assess, the level of financial knowledge, questions related to the time value of money, interest, inflation, risk, and return, and diversification were asked. (Higher score implies stronger financial knowledge)
- Financial attitude score was calculated based on three parameters, i.e., spending, saving, and financial planning. The responses were marked on a 5-point Likert scale, which ranges from "1-strongly disagree" to "5-strongly agree". (Lower score implies better financial attitude)

Table 2. Sample descriptive

Characteristics of sample	Percentage (%)
Age	
18-28 years	24.60
29-39 years	29.84
40-50 years	19.16
51-61 years	23.33
62 years & above	3.07
Gender	
Male	73.85
Female	26.15
Education	
Illiterate	2.54
School up to 4th / Literate but no formal education	2.85
School 5th – 9th	16.12
SSC and HSC	31.62
Some College but not Graduate	15.85
Graduate/ Post Graduate	26.36
Graduate/ Post Graduate Professional	4.66
Income	
Up to Rs.50,000	12.58
Rs.50,000 to Rs.1 lakh	20.02
Rs.1 lakh to Rs.2 lakhs	22.16
Rs.2 lakhs to Rs.5 lakhs	23.73
Rs.5 lakhs to Rs.10 lakhs	16.44
Rs.10 lakhs and above	5.06
Marital status	
Single	20.94
Married	76.99
Widowed	1.26
Employment Status (% of total	
Employed	42.96
Don’t Know	10.23
Not employed	42.13
Not applicable	2.06
Refused	2.63
Living relationship (% of total	
Entirely alone	3.51
With partner/spouse	65.61
With parents	13.65
With children under age 18	6.60
With children aged 18 or over	6.21
With other adult – relatives	3.13
With other adults – not related	0.39
With friends, colleagues or students	0.81
Refused to answer	0.08
Financial resilience (% of total	
(Towards expenditure shock)	
Yes	48.16
No	51.84

Description of variables with codes

Variable	Description of variables with codes
Financial resilience (Expenditure shock)	Fr_Exp=1 if the respondent said ‘yes’ on question related to ability to cope with the expenditure shock, 0 otherwise
Age	Five different categories: (a.18-28 years, b. 29-39 years, c. 40-50 years, d. 51-61 years *and* e.62 years *and* above)
Income category	Two categories: (i) Income category-1: up to and equals to INR 1 lakh and (ii) Income category-2
Education	EducD1=1 if the respondent can read and write (up to 4th standard and above) and 0 otherwise (illiterate)
Employment Status	Employment Stat=1 if a respondent is employed, 0 otherwise.
Gender	Gender=1 if a respondent is male, 0 otherwise
Marital Status	Marital Stat=1 if a respondent is married, 0 otherwise
Living Alone	Living=1 if a respondent is living alone, 0 otherwise
Financial Knowledge	FKnow=Dummy equals to 1 if answer at least five out of seven correctly; 0 otherwise
Financial attitude	FA1=Dummy equals to 1 if score is more than three out of five; 0 otherwise.

(Source: Author’s Compilation)

Robustness of the model

1) Cronbach's alpha test – used for checking the reliability of likert scale of financial attitude. The outcome of this test indicates a reasonable degree of reliability of the scale (α value was greater than acceptable threshold of 0.5).

2) multi-collinearity, Pearson correlations were assessed. There are no issues of multicollinearity in the model as the coefficient values of selected variables are lesser than 0.8 thresholds (Midi, Sarkar, and Rana, 2010; Kim, 2019).

3) Test for Variance inflation factor (VIF) shows no multi-collinearity among the explanatory variables (VIF< 10 cut-off value as suggested by Baum, 2006).

4) Heteroscedasticity-robust standard errors were used to address any potential consequences of heteroscedasticity (Stock *et al.*, 2007).

4. Results & Discussions

Table. marginal values are represented as an outcome of probit regression.

VARIABLES	Model 1	Model 2	Model 3	Model 4
Annual Income	0.0666***	0.0391***	0.0679***	0.0403***
	(0.0100)	(0.0100)	(0.01000)	(0.0100)
Age				
Age (29-39 years)	0.0154	0.0190	0.0137	0.0173
	(0.0148)	(0.0146)	(0.0148)	(0.0146)
Age (40-50 years)	0.0188	0.0205	0.0168	0.0185
	(0.0167)	(0.0164)	(0.0167)	(0.0164)
Age (51-61 years)	0.0171	0.0188	0.0158	0.0175
	(0.0162)	(0.0160)	(0.0162)	(0.0160)
Age (62 years & above)	0.0426	0.0469	0.0432	0.0474
	(0.0297)	(0.0292)	(0.0297)	(0.0292)
Gender	-0.00571	-0.00623	-0.00526	-0.00582
	(0.0108)	(0.0107)	(0.0108)	(0.0106)
Education	-0.00696	-0.00126	-0.00933	-0.00371
	(0.0301)	(0.0296)	(0.0300)	(0.0295)
Marital status	-0.0197	-0.0201	-0.0195	-0.0199
	(0.0143)	(0.0141)	(0.0143)	(0.0141)
Employment status	0.00325	0.00480	0.00297	0.00452
	(0.00952)	(0.00938)	(0.00951)	(0.00937)
Living Alone	-0.0440*	-0.0516**	-0.0449*	-0.0523**
	(0.0264)	(0.0260)	(0.0264)	(0.0260)
Financial knowledge		0.0531***		0.0530***
		(0.00285)		(0.00284)
Financial attitude			-0.0208***	-0.0203***
			(0.00380)	(0.00374)

Note(s): Dependent variable: Financial resilience towards expenditure shock (a binary variable taking value "1" if the respondent has said 'yes' on the question related to the ability to cope up under the expenditure shock, 0 otherwise), Marginal effects are presented as an outcome of probit regression, Standard errors are presented in parentheses, Observations- 11,234, standard error in parentheses, *** p<0.01, ** p<0.05, * p<0.1

Results & Discussions……(Contd.)

- Using the data, the marginal effects of financial knowledge and financial attitude in managing financial shock have been examined.
- It has been noted that individuals with sound financial knowledge would be in a better position to manage their finances, especially in the situation of financial shock. Better management of finance could be an important contributor to resilience-building financial behaviour.
- Financial attitude statistically significant in affecting the financial resilience towards the expenditure shock.
- Though financial knowledge may acquaint one with financial alternatives, but the right attitude is warranted for translating knowledge for decision making.

5.Policy Implications

Policy Implications

Considering the large significance of financial knowledge towards financial resilience, the government should emphasize upon targeted financial education programs as indicated hereafter (*How*, *What* and *for Whom*)

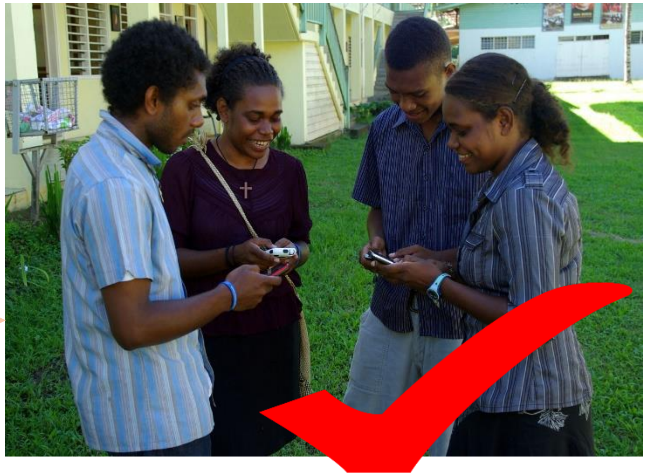
How to do it?????

1. It is important for these financial education programmes to focus **more on "doing" aspects rather than just "classroom teaching/studying"** aspects. "Doing" aspect could be actually carrying out digital transfer of small amount of fund amongst the group members.

Illustration

Encourage digital financial transaction by **providing incentives, prizes, cashback**, etc.

Very recent scheme of **PM Svanidhi Yojana** has recently come out with incentivization of digital financial transaction made by street vendors of India. If the street vendors make repayments of their PM Svanidhi Yojana loan through digital means, they get back a part of the interest chargeable on their loan!



<u>What</u> - Redesign Financial education content for making it more responsive to needs of different age groups

Children: the content should include various quizzes, games and budget simulators.

***Young adults**:* they can be given short presentation & notes on basic concepts on finance & banking.

Senior citizen: they can be educated on insurance and retirement schemes

(OUR MODEL)

(Illustrating implementation of a programme of financial education in India)

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Operationalize the strategy of popularizing digital financial transaction in rural areas

1. Emphasis on the rural regions for penetration of financial transaction

Identification of Gram Panchayat and enrollment of Panch/Member of GP with the help of DMs in respective district

Online training of the beneficiaries through Industry & academic experts

2. Sensitization of the stakeholders – decision makers – in the rural regions of India

Collaboration with different ministries and agencies for building capacity and skill

- MoRD
- Ministry of Panchayati Raj
- MEIT
- NPCI
- MoF

3. Mainstreaming the programme using network of low cost trainers like

- Bank Mitra
- Bank Sakhi
- NRLM/SRLM
- Asha and Anganwadi workers

4. Empowerment of women – as SRLM women bank sakhi get involved

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Conclusion

- Financial knowledge can enable one to make **'right' or 'wrong' financial choices** related to investments in financial instruments, insurance, spending, and lending.
- However, studying **financial knowledge *alone*** would not help us to understand **the complex human behaviour towards financial resilience-building behaviour**.
- As our paper shows, in addition to adequate financial knowledge, appropriate **financial attitude** plays a crucial role in determining **financial resilience-building behaviour**.