

Energy-related financial literacy and bounded rationality in appliance replacement attitudes: evidence from Nepal

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ONLINE APPENDIX

Table A1. Basic dwelling-related attributes

Attribute		Percentage (%)	N#
Town	<i>Urlabari</i>	45.44	2029
	<i>Itahari</i>	20.85	
	<i>Duhabi</i>	15.62	
	<i>Dharan</i>	14.39	
	<i>Biratnagar</i>	3.20	
	<i>Other</i>	0.49	
Dwelling type	<i>House</i>	97.48	1982
	<i>Apartment/Flat</i>	2.52	
Ownership	<i>Owned</i>	95.20	1981
	<i>Rented</i>	4.80	

#Sample excluding missing values from a total of 2,042 observations. The median dwelling size is around 1,047 sq.ft and the median monthly rent for respondents who live in a rented residence is Rs. 3,000. The most frequent response to the question on total number of bedrooms and living rooms is 4.

Table A2. Basic sociodemographic attributes for the regression sample of Table 6

Attribute		Percentage (%)	N#
Gender	<i>Male</i>	55.12	1386
	<i>Female</i>	44.88	
Marital Status	<i>Married</i>	91.32	1386
	<i>Single</i>	7.67	
	<i>Divorced</i>	1.01	
Type of household	<i>Joint</i>	82.11	1386
	<i>Nuclear</i>	17.60	
	<i>Sharing apartment with friends</i>	0.29	
Education	<i>Below high school</i>	67.89	1386
	<i>Secondary school (class 10/12)</i>	28.35	
	<i>University</i>	3.75	
Spouse's education	<i>Below high school</i>	73.29	1386
	<i>Secondary (class 10/12)</i>	24.33	
	<i>University</i>	2.38	
Monthly household income	<i>Less than 20,000</i>	70.49	1386
	<i>20,000 - 50,000</i>	25.69	
	<i>More than 50,000</i>	3.82	
Regular foreign remittance	<i>Yes</i>	25.62	1386
	<i>No</i>	74.38	

Table A3. Basic dwelling-related attributes for the regression sample of Table 6

Attribute		Percentage (%)	N#
Town	<i>Urlabari</i>	50.07	1386
	<i>Itahari</i>	25.76	
	<i>Duhabi</i>	18.83	
	<i>Dharan</i>	2.60	
	<i>Biratnagar</i>	2.16	
	<i>Other</i>	0.58	
Dwelling type	<i>House</i>	98.10	1386
	<i>Apartment/Flat</i>	1.90	
Ownership	<i>Owned</i>	96.32	1386
	<i>Rented</i>	3.68	

Table A4. The survey questions related to energy-related knowledge and financial skills

Identifier	Question description
Energy costs of a rice-cooker	How much does it cost: Cooking rice for 4 people with an electric rice-cooker, per cycle.
Energy costs of a ceiling fan	How much does it cost: Running a ceiling fan for 1 hour.
Energy costs of a TV	How much does it cost: Running a TV for 1 hour.
Energy costs of a refrigerator	How much does it cost: Running a fridge for 1 day.
Compare: Incandescent bulb vs. LED	Which of the two consumes more electricity: An incandescent bulb for 1 hour vs. an LED bulb for 1 hour?
Savings: Incandescent bulb vs. LED	How much is the energy savings from using an LED bulb compared to a regular incandescent bulb.
Simple interest	Assume that you have Rs 10,000 in a savings bank account which gives a 7% annual interest. How much would be the amount after 5 years if you left the money to grow? (Choices: more than 10,700 / exact 10,700 / less than 10,700 / DNK)
Inflation	If the savings account interest rate is 7% and the rate of inflation is 8%, how much would you be able to buy with the money account after 1 year? (Choices: less than today / same as today / more than today / DNK)
Compound interest	Imagine that you have Rs 1,000 in a savings bank account with 10% annual interest rate. How much money would be there in the account after 2 years? (Choices: 1,100 / 1,110 / 1,200 / 1,210 / DNK)
Lifetime cost comparison	<p>Suppose you own your home. Your fridge breaks down and you need to replace it. You can choose between two alternatives that are identical in terms of design, capacity and quality of the cooling system.</p> <p>Fridge A sells for Rs 8,000 and has an electricity consumption of 300 KWH per year.</p> <p>Fridge B sells for Rs 12,000 and has an electricity consumption of 280 KWH per year.</p> <p>Assume the average cost of electricity is Rs 10 per KWH, each of the two fridge models have a lifespan of 15 years and that you would get a return of 0 percent from any alternative investment of your money.</p> <p>Which choice of purchase minimizes the total costs of the fridge over its lifespan?</p>

Note: The actual survey was conducted in the local *Nepali* language. The purpose of the above translated version is mainly to give readers a basic idea of the kind of information the questions intended to capture.

Table A5. Measures of internal consistency

Components	Energy knowledge	Skills	Energy-related Financial Literacy
Cronbach's alpha	0.617	0.324	0.434
Observations	2042	2042	2042

Table A6. Marginal effects: determinants of energy-related financial literacy (ERFL)

Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
ERFL score	0	1	2	3	4	5	6	7	8	
Age	0.001 (0.002)	0.0002 (0.0005)	-0.0002 (0.0005)	-0.0006 (0.001)	-0.001 (0.002)	-0.002 (0.003)	-0.002 (0.004)	-0.003 (0.005)	-0.003 (0.005)	-0.003 (0.006)
Whether female	0.342*** (0.070)	0.064*** (0.016)	-0.070*** (0.017)	-0.174*** (0.037)	-0.322*** (0.067)	-0.488*** (0.100)	-0.603*** (0.122)	-0.713*** (0.146)	-0.713*** (0.146)	-0.867*** (0.179)
Whether a low income HH	-0.052 (0.085)	-0.010 (0.016)	0.011 (0.017)	0.026 (0.043)	0.049 (0.080)	0.074 (0.121)	0.091 (0.149)	0.108 (0.176)	0.108 (0.176)	0.131 (0.214)
Whether respondent has low level of education	0.180** (0.082)	0.033** (0.016)	-0.037** (0.017)	-0.091** (0.042)	-0.169** (0.077)	-0.256** (0.116)	-0.316** (0.144)	-0.373** (0.170)	-0.373** (0.170)	-0.454** (0.206)
Whether married	-0.071 (0.133)	-0.013 (0.025)	0.015 (0.028)	0.040 (0.068)	0.067 (0.126)	0.101 (0.190)	0.125 (0.235)	0.148 (0.278)	0.148 (0.278)	0.179 (0.338)
Number of people living in the residence	-0.005 (0.019)	-0.001 (0.004)	0.001 (0.004)	0.003 (0.010)	0.005 (0.018)	0.007 (0.027)	0.009 (0.033)	0.011 (0.039)	0.011 (0.039)	0.013 (0.048)
Capital stock	-0.102*** (0.030)	-0.019*** (0.006)	0.021*** (0.007)	0.052*** (0.015)	0.096*** (0.028)	0.145*** (0.042)	0.179*** (0.052)	0.212*** (0.061)	0.212*** (0.061)	0.257*** (0.074)
Whether house is owned	0.075 (0.187)	0.014 (0.035)	-0.015 (0.039)	-0.038 (0.095)	-0.070 (0.176)	-0.106 (0.267)	-0.131 (0.329)	-0.156 (0.390)	-0.156 (0.390)	-0.189 (0.474)
Number of rooms in the house	0.017 (0.023)	0.003 (0.004)	-0.004 (0.005)	-0.009 (0.012)	-0.016 (0.022)	-0.025 (0.033)	-0.030 (0.041)	-0.036 (0.049)	-0.036 (0.049)	-0.044 (0.059)
Whether live jointly with extended family	0.190** (0.094)	0.035** (0.018)	-0.039** (0.020)	-0.097** (0.048)	-0.179** (0.088)	-0.271** (0.134)	-0.334** (0.166)	-0.396** (0.197)	-0.396** (0.197)	-0.481** (0.238)
Observations	1386	1386	1386	1386	1386	1386	1386	1386	1386	1386

Notes: Dependent variable in the estimation of this model is the energy-related financial literacy score (sum of correct answers related to energy knowledge and computational skills). Ordered probit methodology is used for the estimation. Marginal effects are calculated in terms of percentage changes in the ERFL score per unit increase in the independent variables, and are calculated at means. The thresholds are all found to be significantly different from one another at the 1% level. We restrict the sample to those respondents in the age group 18-102, living in houses with less than 10 rooms and less than 12 people living in the household, in order to reduce noise in the regressions. Huber-White heteroscedasticity-consistent standard errors are reported in parentheses. ** and *** respectively denote significance at 5% and 1% levels.