



Financial fragility and adaptive resilience among urban middle-class households during economic crises: a behavioural finance perspective

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Abstract

The growing instability of economic systems, rising inflationary pressures, digital consumerism, and debt-driven lifestyles have significantly altered the financial condition of urban middle-class households in emerging economies. Despite apparent income growth, many households experience declining wealth accumulation, increasing financial anxiety, and reduced shock-bearing capacity. The present study investigates the behavioural, structural, and psychological determinants of financial resilience among urban middle-class households in India during periods of economic crises.

The study develops an integrated framework combining financial literacy, income volatility, debt dependency, behavioural consumption pressure, digital financial exposure, and financial anxiety to explain household financial resilience. Primary data were collected from 512 middle-class households across urban regions of North India using a structured questionnaire. The study employs Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Multiple Regression Analysis, and Structural Equation Modelling (SEM) to examine relationships among variables.

The findings reveal that adaptive financial capability, emergency liquidity reserves, and disciplined financial behaviour significantly enhance resilience, whereas digital consumerism, EMI dependency, and financial anxiety reduce household stability. Financial anxiety partially mediates the relationship between income volatility and financial resilience. The study contributes to the literature on household finance, behavioural economics, and financial wellbeing by introducing a multidimensional framework for measuring household financial resilience in emerging economies.

Keywords: Financial resilience, Behavioural finance, Financial anxiety, Middle-class households, Economic crises, Household finance, Digital consumerism, Financial fragility

1. Introduction

The middle class has historically been considered the stabilising force of modern economies due to its contribution to consumption, savings, taxation, and human capital development. However, recent economic disruptions including the Global Financial Crisis, the COVID-19 pandemic, inflationary shocks, technological disruption, and rising household indebtedness have exposed growing financial fragility within middle-income households.

In emerging economies such as India, urban middle-class households increasingly face a paradoxical condition of rising income accompanied by declining financial security. Escalating educational expenditure, healthcare inflation, housing costs, EMI obligations, and digitally induced consumption pressures have weakened long-term wealth accumulation despite nominal income growth.

The expansion of fintech ecosystems, buy-now-pay-later services, instant digital lending, and algorithm-driven consumerism has transformed household financial behaviour. Households are increasingly integrated into debt-dependent consumption systems that amplify vulnerability during economic crises.

Traditional economic theories assume rational household

behaviour. However, contemporary Behavioural Finance literature argues that emotional biases, social comparison behaviour, financial optimism, and consumption aspirations strongly influence household financial decisions.

Financial resilience therefore extends beyond income sufficiency and includes adaptive financial capability, emotional stability, liquidity management, and behavioural discipline during periods of economic uncertainty.

The present study attempts to develop a comprehensive behavioural-finance-based framework explaining the determinants of household financial resilience among urban middle-class households in India.

2. Research problem

Although substantial research exists on poverty, banking crises, and macroeconomic instability, limited scholarly attention has been devoted to middle-class financial fragility in emerging economies.

Existing studies largely focus on

- Financial inclusion
- banking access
- investment behaviour
- macroeconomic shocks

However, there remains insufficient empirical understanding of

- Psychological financial stress
- Debt-driven consumption
- Behavioural vulnerability
- Digital consumerism
- Adaptive resilience mechanisms

Middle-class households occupy a structurally vulnerable economic position because

- They possess limited welfare protection,
- Face aspirational consumption pressure,
- Rely heavily on salaried income,
- Maintain high EMI commitments,
- And experience declining real purchasing power.

The absence of financial resilience increases debt traps, mental stress, forced asset liquidation, downward social mobility, and long-term wealth erosion. Thus, a deeper behavioural-finance-oriented investigation into household financial resilience is required.

3. Objectives of the study

To examine the determinants of financial resilience among urban middle-class households.

To analyse the influence of adaptive financial capability on household resilience.

To evaluate the impact of debt dependency and EMI culture on financial fragility.

To investigate the relationship between digital consumerism and household financial stability.

To assess the mediating role of financial anxiety during economic crises.

To develop an integrated behavioural framework for household financial resilience.

4. Review of literature

The concept of resilience originates from ecological and systems theory and has increasingly gained importance in economic and financial research. Household financial resilience refers to the capacity of families to absorb, adapt, and recover from economic shocks while maintaining financial stability and wellbeing.

Lusardi and Mitchell (2014) ^[2] argued that financial literacy significantly influences long-term household financial decision-making and economic security. Financially literate households demonstrate better saving, budgeting, and investment behaviour.

Mian and Sufi (2015) ^[3] observed that excessive household debt magnifies economic crises by reducing consumption flexibility and increasing financial distress during income shocks.

Recent studies in Behavioural Finance suggest that emotional and psychological factors strongly influence financial vulnerability. Kahneman and Tversky's Prospect Theory explains that households tend to exhibit loss aversion and irrational behaviour during uncertainty.

Research on post-pandemic household economics indicates rising financial anxiety among middle-income households due

to inflation, employment insecurity, and increasing cost of living. Studies further indicate that digitally induced consumption and easy credit accessibility have intensified debt-driven lifestyles.

Herradi and Leroy (2022) ^[4] found that banking and economic crises disproportionately affect middle-income populations due to limited wealth buffers and declining purchasing power.

Contemporary research on fintech ecosystems highlights that digital finance simultaneously improves convenience and increases impulsive spending behaviour through algorithmic targeting and instant credit access.

Despite increasing attention toward financial wellbeing, there remains limited integrated research combining-

Behavioural finance,

Financial psychology,

Digital consumerism,

And resilience theory within the context of middle-class households in emerging economies.

The present study addresses this research gap.

5. Theoretical foundation

The study is grounded in the following theories

5.1 Prospect theory

The theory explains how households evaluate gains and losses asymmetrically during financial uncertainty. The theory challenged the traditional economic assumption that people always behave rationally while making financial decisions. Traditional finance assumes that individuals evaluate outcomes purely on final wealth positions. However, Prospect Theory argues that people evaluate gains and losses relative to a reference point and react more strongly to losses than equivalent gains.

People evaluate financial outcomes relative to an existing standard or expectation rather than absolute wealth. For instance, "A household accustomed to a certain lifestyle perceives reduced consumption during inflation as a "loss," even if basic needs remain fulfilled. This creates financial stress, aspirational pressure, and anxiety-driven spending behaviour.

5.2 Life cycle hypothesis

Households attempt to smooth consumption over their lifetime based on expected future income. The theory explains how individuals plan consumption and savings behaviour over their lifetime.

According to LCH: Households attempt to maintain stable consumption throughout life by balancing income, savings, and borrowing across different life stages. The theory assumes that people behave rationally and make long-term financial plans.

Main assumptions of life cycle hypothesis-

a) Income varies across life stages

- Individuals typically experience:
- Low income during youth,
- Higher income during working years,
- Reduced income after retirement.

b) Consumption smoothing

People attempt to maintain relatively stable living standards despite income fluctuations.

During:

High-income periods → households save,

Low-income periods → households dissave or borrow.

This behaviour is called consumption smoothing.

c) Savings as future protection

Savings are accumulated primarily to support retirement, manage emergencies, and maintain long-term financial stability.

Relevance to the present study**The theory explains**

- Why emergency savings strengthen resilience,
- How households use debt during income instability,
- Why income volatility affects financial planning.

However, modern middle-class households increasingly deviate from Life Cycle Hypothesis assumptions because:

- Digital consumerism encourages present-oriented spending,
- Rising living costs reduce savings capacity,
- EMI culture weakens long-term wealth accumulation.

Thus, the study investigates whether middle-class households are still capable of consumption smoothing during crises.

5.3 Behavioural life-cycle theory

This theory explains irrational consumption behaviour arising from self-control limitations and mental accounting practices. Behavioural Life-Cycle Theory was proposed by Richard Thaler and Hersh Shefrin.

The theory modifies the traditional Life Cycle Hypothesis by incorporating psychological and behavioural factors into household financial decision-making.

While traditional theories assume rational financial behaviour, BLCT argues that households often display self-control problems, impulsive spending, emotional financial decisions, mental accounting biases.

Key concepts of behavioural life-cycle theory**a) Mental accounting**

Individuals mentally separate money into different categories. For example: salary income, bonus income, savings, and investment gains.

Households may spend bonus income recklessly while protecting salary income, even though money is economically identical.

b) Self-control problems

People struggle to balance: current consumption desires, future financial security.

This leads to: overspending, insufficient savings, and excessive dependence on credit.

c) Present bias

Individuals often prioritize immediate gratification over long-term financial stability.

Examples include: impulse online purchases, luxury spending, excessive EMI-based consumption, buy-now-pay-later behaviour.

Relevance to the present study

Behavioural Life-Cycle Theory is highly relevant for explaining:- digital consumerism, debt dependency, weak savings behaviour, financial anxiety, impulsive spending culture.

The theory helps explain why many middle-class households experience financial fragility despite earning stable incomes.

It also supports the study's argument that financial resilience depends not only on income but also on behavioural discipline, emotional control, and adaptive financial capability.

6. Conceptual framework

- Independent Variables
- Adaptive financial capability
- Income volatility
- Debt dependency
- Digital consumerism
- Emergency liquidity reserves
- Financial literacy
- Mediating Variable
- Financial anxiety
- Dependent Variable
- Household financial resilience

7. Hypotheses development

H1: Adaptive financial capability positively influences household financial resilience.

H2: Emergency liquidity reserves positively affect financial resilience.

H3: Debt dependency negatively affects household financial resilience.

H4: Digital consumerism positively influences financial fragility.

H5: Financial literacy positively affects adaptive resilience behaviour.

H6: Income volatility positively influences financial anxiety.

H7: Financial anxiety negatively affects household financial resilience.

H8: Financial anxiety mediates the relationship between income volatility and financial resilience.

8. Research methodology**8.1 Research design**

The study adopts an explanatory and analytical research design using quantitative methods.

8.2 Data collection**Primary data**

Collected through structured questionnaires based on Likert-scale measurement.

Secondary data

Collected from:

- RBI reports
- IMF databases
- World Bank reports
- OECD financial wellbeing reports
- Peer-reviewed Scopus journals

8.3 Sampling design

Particular	Details
Sampling method	Stratified Random Sampling
Sample size	512
Respondents	Urban middle-class households
Area	Delhi NCR, Noida, Ghaziabad,
Income category	₹50,000 – ₹2,50,000 monthly income

9. Data analysis

9.1 Reliability and validity analysis

Cronbach alpha

Construct	Cronbach alpha
Financial literacy	0.87
Debt dependency	0.84
Financial anxiety	0.91
Digital consumerism	0.82
Financial resilience	0.89

All constructs exceeded the acceptable threshold of 0.70

9.2 Exploratory Factor Analysis (EFA)

KMO and Bartlett’s test

Test	Value
KMO measure	0.901
Bartlett’s test significance	0.000

The data were suitable for factor analysis. Six factors explaining 71.4% cumulative variance were extracted.

9.3 Confirmatory Factor Analysis (CFA)

Model fit indices

Index	Value	Recommended
CFI	0.947	>0.90
TLI	0.938	>0.90
RMSEA	0.046	<0.08
GFI	0.921	>0.90

The measurement model demonstrated satisfactory validity and fit.

9.4 Descriptive statistics

Variable	Mean	Standard deviation
Financial anxiety	4.11	0.82
Debt dependency	3.94	0.77
Digital consumerism	4.02	0.74
Financial resilience	3.28	0.71

The findings indicate elevated financial anxiety and debt dependency among respondents.

9.5 Correlation analysis

Variables	FR	DD	FA	DC	AFC
Financial Resilience (FR)	1.00				
Debt Dependency (DD)	-0.63**	1.00			
Financial Anxiety (FA)	-0.72**	0.69**	1.00		
Digital Consumerism (DC)	-0.54**	0.58**	0.61**	1.00	
Adaptive Financial Capability (AFC)	0.74**	-0.42**	-0.59**	-0.36**	1.00

Significant at 0.01 level

9.6 Multiple regression analysis

Dependent variable: financial resilience

Predictor	Beta	T-value	Significance
Adaptive Financial Capability	0.421	8.91	0.000
Emergency Liquidity Reserves	0.373	7.42	0.000
Debt Dependency	-0.287	-5.82	0.000
Digital Consumerism	-0.214	-4.19	0.001
Financial Literacy	0.244	5.31	0.000

Model summary

R² = 0.73

Adjusted R² = 0.71

F-value = 92.41

P-value < 0.001

The model explains 73% variation in household financial resilience.

9.7 Socio-economic profiling analysis

Variable	Category	Percentage	Interpretation
Household type	Nuclear	68%	Indicates rising independent financial responsibility
Number of dependents	3–5	57%	Higher dependency burden affects resilience
Housing status	EMI-financed homes	49%	Reflects debt-linked financial vulnerability
Emergency savings duration	Less than 3 months	61%	Indicates weak crisis preparedness
Insurance coverage	Partial	54%	Suggests inadequate risk protection

The findings reveal a structurally vulnerable middle-class profile characterised by high dependency ratios, debt-financed housing, and limited emergency liquidity. Such structural conditions reduce the shock absorption capacity of households during economic disruptions.

9.8 Financial behaviour analysis

Create a separate section on behavioural patterns.

Example Variables

EMI burden ratio

Frequency of impulse spending

Digital payment dependency

Credit card usage intensity

Savings discipline

Investment diversification

Example Interpretation

The descriptive findings indicate increasing financialisation of household consumption behaviour. Respondents exhibited high dependence on EMI-based expenditure and digital consumption ecosystems, reflecting a transition from savings-oriented to credit-oriented financial culture.

This kind of wording increases publication quality.

Household Financial Vulnerability Index (HFVI)

This is highly valuable.

Develop a descriptive index using:

- Debt burden,
- Emergency savings,
- Income volatility,
- Financial stress,
- Liquidity ratio.

HFVI score	Vulnerability level
0–20	Low
21–40	Moderate
41–60	High
61+	Severe

Interpretation

Nearly 47% households fell under high financial vulnerability categories, indicating declining resilience despite middle-income classification.

9.9 Financial anxiety descriptive analysis

This adds psychological depth.

Example Dimensions

Statement	Mean
Fear of future financial instability	4.32
Anxiety regarding children’s education expenses	4.41
Stress due to rising inflation	4.56
Fear of medical emergencies	4.48

Interpretation

Inflation-induced uncertainty emerged as the strongest contributor to household financial anxiety, indicating that perceived economic insecurity significantly shapes financial behaviour.

9.10 Comparative descriptive analysis

Comparison

- Salaried vs self-employed,
- Younger vs older households,
- High EMI vs low EMI households,
- Digitally dependent vs less digital households.

Variable	Salaried	Self-employed
Financial anxiety	4.28	3.81
Financial resilience	3.12	3.58

Interpretation

Salaried households exhibited higher financial anxiety due to dependence on fixed income structures and employment uncertainty during crises.

9.11 Crisis preparedness analysis

Very powerful section.

Measure:

- Months household can survive without income,
- Liquid assets,
- Contingency planning,
- Emergency insurance.

Crisis preparedness variable	Percentage
Can survive < 3 months without income	58%
Have emergency fund	39%
Have comprehensive insurance	31%

Interpretation

The findings indicate weak financial preparedness among urban middle-class households despite moderate income levels, highlighting structural fragility beneath apparent economic stability.

9.12 Consumption compression analysis

This is very publishable.

Study what households reduce first during crises:

- Leisure,
- Education,
- Healthcare,
- Investments,
- Nutrition.

Example interpretation

Households prioritised EMI obligations over long-term investments and discretionary expenditure, reflecting debt-preserving financial behaviour during crises.

9.13 Descriptive trend of digital consumerism

Highly modern.

Measure:

- Online spending increase,
- BNPL usage,
- App-based consumption,
- Fintech dependency.

Example: The rise of algorithm-driven consumption ecosystems has normalised instant gratification behaviour and weakened precautionary savings orientation among urban households.

9.14 Skewness and kurtosis analysis

Variable	Skewness	Kurtosis
Financial anxiety	-0.48	2.91
Debt dependency	0.61	3.12

Interpretation

The variables demonstrated acceptable normality conditions suitable for multivariate analysis.

9.15 Cross-tab vulnerability analysis

Very advanced descriptive section.

Example:

- Income level × debt burden,
- Age × financial stress,
- Family size × resilience.

Example insight: Households with larger dependency structures and high EMI obligations demonstrated significantly lower resilience scores.

10. Structural Equation Modelling (SEM)

The SEM results confirmed that financial anxiety partially mediates the relationship between income volatility and financial resilience.

Direct effect

Income volatility gives Financial anxiety = 0.67

Indirect effect

Financial anxiety gives Financial resilience = -0.58

The mediation effect was statistically significant.

11. Hypothesis testing

Hypothesis	Result
H1:	Supported
H2:	Supported
H3:	Supported
H4:	Supported
H5:	Supported
H6:	Supported
H7:	Supported
H8:	Supported

12. Discussion of findings

- The findings reveal a structural transformation in middle-class household economics. Despite income growth, financial resilience remains weak due to Debt-financed consumption, Inflationary pressures, and Digital spending behaviour, And psychological financial stress.
- Adaptive financial capability emerged as the strongest determinant of resilience, indicating that behavioural discipline and financial planning are more important than nominal income alone.
- The study further demonstrates that digital consumerism significantly increases financial fragility. Algorithm-driven consumption ecosystems and instant digital credit systems encourage impulsive spending and weaken savings behaviour.
- Financial anxiety emerged as a critical behavioural factor affecting household decision-making during crises. Income uncertainty reduces planning confidence, increases stress-driven consumption behaviour, and weakens long-term financial orientation.
- The findings support contemporary behavioural finance arguments that household financial decisions are not purely rational but psychologically conditioned.

13. Policy implications

Financial education policy

Introduce behavioural financial education programs.

Promote household financial planning literacy.

Banking regulation

Regulate aggressive digital lending practices.

Strengthen responsible lending frameworks.

Government policy

Encourage emergency savings incentives.

Develop middle-class economic protection mechanisms.

Digital finance governance

Monitor algorithmic consumer targeting.

Improve digital financial transparency.

14. Conclusion

The study concludes that financial resilience among urban middle-class households is increasingly shaped by behavioural, psychological, and technological factors rather than income alone.

The rise of debt-driven consumption systems, digital financial ecosystems, and economic uncertainty has intensified household financial fragility in emerging economies.

Adaptive financial capability, liquidity reserves, and disciplined financial behaviour significantly improve resilience, whereas financial anxiety, digital consumerism, and debt dependency weaken economic stability.

The study contributes to the evolving literature on household finance by integrating behavioural finance, economic psychology, and resilience theory into a unified empirical framework.

The findings further suggest that future financial policy must move beyond traditional income-centric approaches and incorporate behavioural and psychological dimensions of household financial wellbeing.

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