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Behavioural heterogeneity, inequality, and household resilience to shocks: Evidence from Vietnam

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Abstract

Growing evidence suggests that observed heterogeneity in shock responses cannot be explained by income and asset positions alone. Behavioural preferences and socially embedded perceptions of relative status systematically mediate households' risk-taking, investment decisions, and recovery trajectories, with important implications for the transmission and persistence of shocks. This paper examines how risk preferences and perceived relative well-being interact with initial wealth and ethnic status to shape household resilience to idiosyncratic and covariate shocks in rural Vietnam.

This study draws on three waves of the Vietnam sub-sample of the Thailand–Vietnam Socio-Economic Panel (TVSEP). The panel structure allows for the identification of welfare dynamics surrounding shock events while controlling for time-invariant unobserved heterogeneity, following established approaches in applied vulnerability research.

Household fixed-effects models are employed to estimate the causal impact of shocks on welfare outcomes, allowing for heterogeneous effects across behavioural traits and ethnic groups. To capture complex non-linearities and interaction effects that are difficult to model parametrically, an Artificial Neural Network (ANN) is used to map initial household conditions to long-term resilience outcomes, such as recovery to pre-shock consumption levels. Explainability techniques (SHAP values) are applied to extract interpretable evidence on thresholds, complementarities, and risk amplification mechanisms, in line with recent applications of machine learning in applied economics. The findings provide evidence that behavioural heterogeneity materially conditions shock transmission and persistence at the household level, particularly among ethnic minority households, reinforcing concerns about inequality dynamics. It suggests that uniform social protection instruments may be less effective in environments characterised by strong behavioural and structural heterogeneity. These insights underscore the importance of early, targeted, and behaviourally informed policy interventions to prevent temporary shocks from translating into persistent welfare losses, with direct relevance for central banks and policy institutions concerned with financial resilience, inequality, and the effectiveness of stabilisation frameworks.

Keywords: ANN, behavioural vulnerability, poverty persistence, shock heterogeneity

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