Trapped or Moving Up? The Dynamics of Poverty in the United States

This research investigates poverty dynamics in America, distinguishing between persistent and temporary poverty. Traditional poverty analyses in the United States primarily offer a snapshot of poverty at a given time, failing to account for its long-term persistence. This study seeks to address this gap by exploring the structural factors that contribute to the enduring nature of poverty. We hypothesize that some individuals experience temporary poverty due to short-term setbacks, while others remain trapped in poverty due to systemic barriers. To differentiate these conditions, we propose an asset-based approach to poverty measurement, which enables a more precise identification of households likely to escape poverty over the long term versus those entrenched in it.

Capital endowments are critical in determining an individual's structural position in society and their ability to avoid or escape poverty (Barrett et al., 2006). A capital-based approach helps distinguish between persistent and temporary poverty by examining whether individuals possess sufficient capital endowments to generate incomes above the poverty line. Those in persistent poverty lack the necessary assets to escape, while those in temporary poverty experience short-term setbacks but have the resources to recover (Barrett & McPeak, 2006). This distinction is crucial, as chronic poverty contributes to a more polarized society where certain groups remain vulnerable and disadvantaged (Carter & Barrett, 2006; Barrett & Carter, 2013).

Recognizing these distinctions is vital for effective policy design, as different forms of poverty require tailored interventions. Persistent poverty necessitates strategies that help individuals surpass critical capital thresholds, where substantial short-term investments may yield long-term benefits. In contrast, temporary poverty can often be mitigated through targeted income support policies that assist individuals in rebounding from economic shocks (Naschold, 2013). By refining poverty measurement methods, we can better align policies with the specific needs of affected households.

The Rural Wealth Framework, developed by scholars affiliated with the Rural Policy Research Institute (RUPRI), offers a novel perspective on poverty by emphasizing wealth and asset ownership rather than just income. This framework considers various forms of capital—including natural, cultural, human, intellectual, social, political, built, and financial—which collectively shape an individual's economic prospects. Building on the work of Barrett et al. (2006) and Carter & Barrett (2006), we argue that an individual's capital endowments determine their structural position in society and their ability to escape poverty. Those in persistent poverty lack sufficient capital to generate sustainable income, while those in temporary poverty have adequate assets but suffer from short-term economic shocks. This distinction is crucial for policy design, as different strategies are

needed to address the unique challenges of each poverty type. Policies targeting persistent poverty should aim to help individuals surpass critical capital thresholds, while policies for temporary poverty should provide financial support that allows individuals to recover from economic downturns.

To explore these distinctions, this research employs an asset-based framework articulated by Pender et al. (2014), which considers the interaction between place-based and people-based assets. Using the concept of Fisherian income, this framework measures wealth investments and their long-term returns. Our study aims to provide key policy insights for tackling persistent poverty by examining the role of capital accumulation and asset productivity in shaping poverty dynamics and recovery probabilities. Specifically, we aim to inform safety net policies that protect critical assets and policies that help the persistently poor build wealth and resilience.

The research objective will be addressed in three key steps. First, we will construct an asset index based on various capital endowments expected to influence household well-being. This index will enable us to measure structural and stochastic poverty levels in rural and urban areas. Aggregating assets into a single index is essential because the non-parametric techniques employed in the third step require a bivariate relationship between regressors. Second, we will identify and compare the characteristics of households experiencing structural versus stochastic poverty. Third, we will investigate the presence of asset thresholds that households must surpass to escape structural poverty.

To construct the asset index, we follow the approach of Adato et al. (2006) by defining the relationship between assets and income through a polynomial expansion model:

$$L_{it} = \sum \beta_j(A_{it})A_{ijt} + e_{it}$$

where L_{it} is the scaled income of household *i* in period *t* and is measured as the ratio of household income to the poverty threshold; A_{ijt} is the endowment of asset *j* owned by household *i* in time *t*; A_{it} is the total amount of assets the household owns; and e_{it} is the time and household-specific error term. The coefficient from the regression β_j represents the marginal contribution to income of the *j* different capitals (e.g., financial, human, built, social) possessed by the household. Using estimates of β_j, the asset index for a household (Λ_{it}) is defined as:

$$\Lambda_{it} = \sum \hat{\beta}_j(A_{it})A_{ijt}$$

This asset index provides a comprehensive measure of household capital endowments. Households with an asset index below one are classified as structurally poor, while those with sufficient assets but temporary income deficiencies are considered stochastically poor. This approach allows for a more accurate representation of rural livelihoods than traditional poverty metrics based solely on income.

To validate the asset index, we will employ transition matrices and Theil's U-statistic (Liverpool-Tasie & Winter-Nelson, 2011). If the asset index effectively captures the structural causes of poverty, capital poverty transition matrices should exhibit lower mobility than income poverty matrices. The Theil's U-statistic will assess the predictive power of the asset index.

In the second step, we will examine the distinguishing characteristics of structurally and stochastically poor households by estimating two probit regression models. The dependent variable for structural poverty will be the asset index, while stochastic poverty will be modeled using a binary variable indicating whether a household is income-poor but has an asset index greater than or equal to one. Explanatory variables will include demographic characteristics (e.g., age, race, education, marital status), household composition (e.g., presence of children, number of adults), and location-based factors (e.g., rural residency, local unemployment rate, state fixed effects).

The third step will explore poverty dynamics by assessing whether households currently in structural poverty are accumulating assets or trapped at a low equilibrium. If poverty traps exist, an asset threshold must be surpassed for a household to transition out of poverty. Additionally, the ability of households to recover from economic shocks may depend on whether a shock pushes them below this threshold (Carter & Barrett, 2006). To investigate this, we will estimate the relationship between current and baseline asset levels using non-parametric techniques such as locally weighted scatterplot smoothing (LOWESS) and local polynomial regression with Epanechnikov kernel weights. Parametric methods will be employed to control for household and community characteristics influencing asset accumulation. Identifying asset thresholds is critical for policy design—households well below the threshold require substantial resource infusions, while those just above the threshold may need only temporary support during economic downturns.

This research aims to offer valuable policy insights by distinguishing between persistent and temporary poverty, enabling more effective and targeted interventions. By adopting an asset-based framework, we contribute to a more comprehensive understanding of rural poverty and provide empirical evidence to guide policy strategies that foster long-term economic resilience and upward mobility in rural America.