Measuring Farm Profitability and the Allocative Role of Land Rental Markets in Vietnam

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ABSTRACT

This paper examines the measurement of farm profitability and the allocative efficiency of land rental markets (LRMs) using field-level disaggregate data from 1,174 rice-farming households in Vietnam's Mekong Delta. While theoretical frameworks suggest that LRMs improve resource allocation by shifting land to more productive cultivators, empirical tracking of actual net financial returns remains limited due to the widespread reliance on output-based proxies and severe selection bias.

To overcome these measurement challenges, this study models the financial returns to land-scale adjustments using an Endogenous Switching Regression (ESR) framework estimated via full-information maximum likelihood (FIML). This approach accounts for both observable resource endowments and unobservable characteristics (e.g., risk tolerance and management capacity) that drive simultaneous self-selection into rental markets and regime-specific profitability outcomes. The model is identified using two market-friction proxies as exclusion restrictions: local market thickness (the commune leave-one-out share of renters) and search costs (limited information on potential lessors).

The empirical results document significant latent gains in annual net returns per hectare, revealing that conventional descriptive metrics understate market potential. For households currently renting in land, the Average Treatment Effect on the Treated (ATT) is an estimated increase of 5.86 million VND/ha/year (a 17.53% increase) relative to the counterfactual non-renting state. Notably, the Average Treatment Effect on the Untreated (ATU) reveals that non-participating households stand

to gain even more—7.89 million VND/ha/year (a 21.11% increase)—if entry barriers were removed.

Further decompose of regime-specific profitability drivers shows that the net returns of active renters are highly elastic to institutional variables like extension service access, whereas non-renters' productivity metrics are severely constrained by localized factors such as plot-to-homestead distance and outstanding bank debt. Collectively, these findings demonstrate that evaluating agricultural well-being and productivity requires accounting for transaction frictions, liquidity barriers, and information constraints, as a mechanical expansion of land area does not automatically translate into realized profitability without access to complementary financial and technical resources.

Keywords: Endogenous switching regression, Rice profitability, Land rental markets, Land policy, Market frictions, Rice farming, Vietnam.

JEL codes: Q15, Q12, Q18, O12, C34

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