

RICE PRICE VOLATILITY AND ITS DETERMINANTS IN SRI LANKA

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Large and unpredictable fluctuations in paddy and rice prices in recent years in Sri Lanka have created instability in the rice market causing farmer and consumer unrest. This study was initiated to analyse the rice price volatility at farmgate, wholesale, and retail levels using monthly prices from 1998 to 2021. The log standard deviation, normal coefficient and corrected coefficient of variation were the basis for computing price volatility. The multiple regression analysis was used to identify the determinants influencing price volatility and the ARCH-GARCH model was used to detect volatility clusters. The farmgate paddy price (0.085) was relatively volatile than the wholesale (0.065) and retail prices (0.047) of rice. Coefficients of regression related to paddy production, rice imports, guaranteed price of paddy, and maximum retail price have no relationship with price volatility ($p > 0.05$). The ARCH-GARCH model confirmed the clustering of the price volatility and the current price volatility depends on the previous price volatility. The summation of coefficients of the ARCH and GRCH effects was close to one for wholesale and more than one for producer and retail markets. The study concludes high price volatility at producer, wholesale, and retail markets; where the highest at the producer level, volatility clustering, persistence of volatility for a longer period, and no impact of price stabilization policies on volatility. Instead of continuation of conventional policies, IT-based innovative policies such as blockchain technology and internet marketing are recommended to mitigate price volatility. On-farm storage and popularization of the existing warehouse financing receipt programme can be used to reduce price volatility at the farm level by discouraging distress sales. Further research is required to identify the major determinants of price volatility capturing variables such as the political dimension and market transaction cost.

Keywords: ARCH-GARCH model, Persistence of volatility, Volatility clusters