

MARKET PRICE VOLATILITY OF PINEAPPLE IN SRI LANKA

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Price volatility in the pineapple market is a significant issue affecting export, processing and consumption. Understanding levels pattern of volatility is essential for policymakers to make informed decisions to uplift the pineapple crop enterprise. This study aimed to measure the price volatility in the domestic market at farmgate, wholesale and retail level using monthly price data from January 2005 to January 2023. The normal and adjusted coefficient of variation were employed to compute the level and trend in price volatility. The ARCH-GARCH model was selected as the best-fit model based on Akaike's Information Criterion, to test the presence of volatility and volatility clustering. Variance analysis indicated a sharp fluctuation in price volatility over time with a marked increase since 2020. The results showed a higher coefficient of variance (CV) for wholesale (0.59) and producer (0.58) compared to retail prices (0.51). This reflects a constant markup pricing policy adopted by wholesalers compared to the variable markup pricing policy practiced by retailers. Consequently, price volatility adversely affects the farmers. The ARCH-GARCH model confirmed the clustering of the price volatility ($p < 0.01$), and the current price volatility depends on the previous price volatility ($p < 0.01$). The summation of coefficients of the ARCH effect and GARCH effect exceeded one ($p < 0.01$) for all three markets indicating that the volatility shocks are long-lasting. Regression analysis revealed that pineapple export quantity ($p < 0.05$) has an impact on price volatility in domestic markets. The study concludes that price volatility persists in the pineapple market over extended periods. It suggests introducing blockchain technology to the pineapple value chain to reduce the risk of market price volatility through information symmetry.

Keywords: ARCH-GARCH model, Variance analysis, Volatility clusters, Volatility shocks