Grapes Price Dynamics and Its Statistical Properties: Evidence from Jaffna District, Sri Lanka

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Abstract

Grapes are important fruits which have several benefits. It contains essential vitamins-A, C, and B6. It is also medicine and ingredient in making wine. It plays an important role in the Jaffna district as well as in Sri Lanka. The aim of this study is to explore the stochastic behavior of the grapes price series during the period of 2007 to 2011. The data used in this study were collected from Jaffna vegetable markets Centre for the periods 2007 to 2011. Empirical results of this study shows that the price has increased with upward trend with fluctuations from RS. 180/kg in 2007 and Rs 300 in 2011. The volatility of the price series was (SD=41) high. Further, ADF test shows that the price series is a non-stationary series I(1), The mean growth for this sample period was 0.8 percent, though, little seasonal variation, , sample evidence does not support the positive growth. Simple hypothesis test shows that mean growth of the price is zero, not statistically significant. (p=0.17). The growth of the price series behave with leptokurtic distribution (k=9.05). It is not a normal distribution. Farmers faced uncertain situation. Price mechanism did not work freely. Kernel distribution shows that it is negatively skewed. Farmers have not gained much profit. The forecasting results of this study indicates that the Quadratic model predict the price series behavior better than the other models such as liner, exponential growth, Pearl-Reed-Logistic models. Forecasting for the future 5 months indicates that grapes price will increase in decreasing trend. Farmers need help from agrarian and marketing consultants to increase the profit margin of this product.

Key Words: Forecasting, price volatility, growth.

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