

**Abstract No: PO-50**

### **The effect of food commodity price fluctuation on inflation in Sri Lanka**

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In Sri Lanka, the intersection of inflation and food price fluctuations holds profound significance, affecting not only the nation's economic stability but also the daily lives of its citizens. While existing research has extensively focused on the impact of rice prices on inflation, no published studies have been found that specifically investigate the influence of fluctuations in vegetable and fish commodity prices on inflation. Hence, there is a research gap to have a comprehensive understanding about price fluctuation on inflation. Thus, the objectives of this research are to primarily consider the effect of price fluctuations in mostly consuming vegetable and fish commodities on inflation using suitable techniques. The study focuses on key commodities, including beetroot, cabbage, potato, and various fish types (Seer, Mullet, *Kelawalla*, and *Hurulla*). Monthly data from January 2014 to June 2022, sourced from the Central Bank of Sri Lanka and the Department of Census and Statistics, were utilized for the analysis, with no missing values. To measure inflation, the National Consumer Price Index (NCPI) was used. Since all the time series of monthly observations of fish and vegetable prices and NCPI were non-stationary, the first differencing of logarithm for all the series was used where it proved the stationary by both graphical and theoretical techniques. After investigating the lag structures for fish and vegetable models, the optimum and the better lags were found. The cointegration test for both models proved that there were correlations between several time series in the long run based on the optimal lag length. Hence, two Vector Error Correction (VEC) models were fitted for two groups of food commodity prices namely, Fish and Vegetables where VEC models are well-suited for examining the relationships between food commodity prices and inflation over time. Strong cointegration relationships were identified inside these two groups. According to the VEC Granger causality test, it was found that beetroot, cabbages and potatoes do Granger-cause in NCPI but cabbages and other selected fishes do not Granger-cause in NCPI. To study the impact on inflation, the impulse response function was used. It was found that price shocks of the *Hurulla* fish type have a significant positive impact on inflation than other fish types of Seer, Mullet, and *Kelawalla*. Beetroot price shocks have a significantly more positive impact on inflation than other vegetable types of potatoes, tomatoes, and cabbage. The model, which was fitted for fish prices, the percentage of forecasting errors for NCPI increases over time for each type of fish, according to the forecast error variance decompositions. In the model, which was fitted for vegetable prices, the percentage also increases with time, but it remains smaller compared to the fish. Sri Lanka needs effective strategies and policies to mitigate the challenges of unstable inflation, hence the understanding of price fluctuation on inflation empowers policymakers to craft targeted strategies to mitigate the impact of inflation on daily life.

**Keywords:** Inflation, Fish Price, Vegetable Price, Vector Error Correction model