

PAST TREND AND A FORECAST OF FUTURE WHEAT CONSUMPTION IN SRI LANKA

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This study determined the past trend in wheat consumption and the most appropriate model for forecasting wheat consumption in Sri Lanka. Data on domestic wheat consumption over a period of fifty five years, 1960 to 2014 was used and trends in five different periods (1960 - 2014, 1970 - 2014, 1980 - 2014, 1990 - 2014, and 2000 - 2014) were analyzed separately. According to analysis of the period from 1960 to 2014, recorded the wheat consumption had rapidly declined in few years (1964 - 1965, 1966 - 1967, and 1979 - 1980) and had increased in few years (1963 - 1964, 1965 - 1966, and 1991 - 1992). The wheat consumption had gradually increased in few periods (1967 - 1971, 1974 - 1977, and 2000 - 2007). Different periods were used to reduce prediction errors. Therefore, the best period out of many tested periods was chosen. For each period considered, four functions (Simple linear, double-log, right-sided semi log and left-sided semi log) were estimated using ordinary least square (OLS) technique. Both t-statistics and F-ratios of the models representing the periods 1960 - 2014, 1970 - 2014, and 1980 - 2014 were significant ($p < 0.05$) in four equations while those models representing periods 1990 - 2014 and 2000 - 2014 were not significant. The adjusted R^2 varied from 1 to 78%. Based on the statistical and econometric criteria right-sided semi log equation was the best fit for 1960 - 2014 period, and simple linear equation was the best fit for 1970 - 2014 period, double-log equation was the best fit for 1980 - 2014, 1990 - 2014, and 2000 - 2014 periods. When best fit equations were subjected to further econometric analysis using Theil's inequality coefficient, the double-log equation for the period 2000 - 2014 (adjusted $R^2 = 0.35$) had the least value (0.175) and it was selected as lead time series to forecast future wheat consumption. The forecasted future wheat requirements based on the double-log equation for the period 2000 - 2014 are 876,800 MT, 885,000 MT, 891,900 MT, and 897,700 MT in 2020, 2025, 2030, and 2035 respectively.

Keywords: Forecast, Trends, Wheat consumption