Co-integration approach to the estimation of demand equation for Malaysian rice sector

Abstract

Government policy at achieving self-sufficiency and food security in rice must anchor on understanding structural relationships exist among the major variables in demand side of rice sector. This is because a result-oriented policy decision and implementation depend on the adopted inferences from valid demand elasticities. The validity of estimated coefficients pre-supposes time series data are stationary. Test statistics, like T-test, X2-test and F-test, on which basis inferences are made, depend on this assumption. Some earlier empirical findings about rice demand behaviour might have suffered spurious regression problem with skeptical inferences because the time series data used did not take cognizance of unit root problems.Hence, this study attempted estimating demand equation by co-integration method. Time series data (1980- 2012) were collected and analyzed using Auto Regressive Distributed Lag (ARDL). For valid inference, estimated coefficients were subjected to necessary diagnostic and unit root tests. The results show that wheat remains a substitute to rice in consumption both in short run and long run. In relation to income per capita, rice can be considered as normal good in the short run; but inferior good in the long run. Rice consumption per capita was inelastic in relation to its price.

Keyword: Rice demand; Co-integration; Valid inference