Aggregate Supply Response of Some Livestock Commodities in Algeria: Cointegration- Vector Error Correction Model Approach

Authors : Amine M. Benmehaia, Amine Oulmane

Abstract : The supply response of agricultural commodities to changes in price incentives is an important issue for the success of any policy reform in the agricultural sector. This study aims to quantify the responsiveness of producers of some livestock commodities to price incentives in Algerian context. Time series analysis is used on annual data for a period of 52 years (1966-2018). Both co-integration and vector error correction model (VECM) are used through the Nerlove model of partial adjustment. The study attempts to determine the long-run and short-run relationships along with the magnitudes of disequilibria in the selected commodities. Results show that the short-run price elasticities are low in cow and sheep meat sectors (8.7 and 8% respectively), while their respective long-run elasticities are 16.5 and 10.5, whereas eggs and milk have very high short-run price elasticities (82 and 90% respectively) with long-run elasticities of 40 and 46 respectively. The error correction coefficient, reflecting the speed of adjustment towards the long-run equilibrium, is statistically significant and have the expected negative sign. Its estimates are 12.7 for cow meat, 33.5 for sheep meat, 46.7 for eggs and 8.4 for milk. It seems that cow meat and milk producers have a weak feedback of about 12.7% and 8.4% respectively of the previous year's disequilibrium from the long-run price elasticity, whereas sheep meat and eggs producers adjust to correct long run disequilibrium with a high speed of adjustment (33.5% and 46.7 % respectively). The implication of this is that much more in-depth research is needed to identify those factors that affect agricultural supply and to describe the effect of factors that shift supply in response to price incentives. This could provide valuable information for government in the use of appropriate policy measures.

Keywords : Algeria, cointegration, livestock, supply response, vector error correction model
Conference Title : ICAE 2021 : International Conference on Agricultural Economics
Conference Location : Istanbul, Türkiye
Conference Dates : January 28-29, 2021