

**Agricultural Response to Prices and Exchange Rate in Nigeria:
Application of Co-integration and Vector Error Correction Model
(VECM)**

Abiodun Elijah Obayelu¹ and A. Sheu Salau²

*¹Department of Agricultural Economics and Farm Management,
University of Agriculture Abeokuta (UNAAB), Ogun State Nigeria*

²International Food Policy Research Institute (IFPRI), Abuja, Nigeria

KEYWORDS Agricultural Production. Agricultural Export Price. Agricultural Food Price. Macroeconomic Variables. Nigeria

ABSTRACT The response of agriculture to changes in relative prices and exchange rates is an important factor in the success of any reform programme in agricultural sector of Nigeria. This study estimated the response of aggregate agricultural output to exchange rate and price movements of food and export crops in Nigeria using available time series data that span about 37 years from the Central Bank of Nigeria (CBN) Annual Reports. This study through the Augmented Dickey Fuller (ADF) and unit root test found that the variables used in the model are integrated of the same order. Using maximum likelihood estimation results also shows that the entire variables cointegrated. The results of the Vector Error Correction Model (VECM) for the estimation of short run adjustment of the variables toward their long run relationship showed a linear deterministic trend in the data and that food and export prices as well as the real exchange rate jointly explained 57% of the variation in the Nigeria aggregate agricultural output in the short run and 87% variation in the long run. Total agricultural output responds positively to increases in exchange rate and negatively to increases in food prices both in the short and long run. The significance of food crop prices and exchange rate at 5% and 1% respectively both in the short and long run suggest that changes in these variables are passed immediately to agricultural output.