## The Integration of Regional Rice Markets in the Philippines

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## **Abstract**

The study examined the extent, pattern, and degree of the vertical and spatial integration of regional rice markets in the Philippines by using dynamic time series data of monthly rice prices at three levels: farm gate, whole sale, and retail in nine (9) regions from January 1990 to March 2014. A number of econometric techniques were employed to empirically test the integration of pair markets, and determine whether the law of one price holds across geographically separated markets and marketing levels.

Results showed the stable trend of rice prices over time and a steady increase of national production volume and rice demand for the period 1990-2014. On Philippine rice regional market performance, price transmission within and between markets were efficient. For vertical integrating relationship, bidirectional price transmission was observed in most of the market levels in the nine selected regions, except in Cagayan Valley where farmers and wholesalers did not depend on price information from retailers. Market levels were well integrated with a good speed of adjustment and notable magnitude of price transmission. Spatial integration across regional markets emphasized the critical role of the two price leaders, Metro Manila of NCR in the North and Cebu city of Central Visayas in the South of Philippines, with regard to price updating and leads among other rice regional markets in the country. All the remaining markets observed close price transmission relationship with these two trading centers as well as other nearby market partners in the rice trade flows. Further studies with additional information such as transfer costs and policy implementation are necessary to enhance the market integration and arbitrage efficiency of the rice industry in the Philippines.

Keywords: market integration, price transmission, error correction model, Philippine rice markets