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Nonlinearity and asymmetric vertical transmission in U.S. fresh vegetable prices

Edmund M. Tavernier

Associate Professor in the Department of Agricultural, Food and Resource Economics, Rutgers University, 55 Dudley Road New Brunswick, NJ 08901-8520, USA.

Email: Etavernier@aesop.rutgers.edu.

Benjamin M. Onyango

Assistant Professor, in the Department of Agriculture, Missouri State University, Springfield, MO.

Ferdous Hossain

Currently at American Express and formerly an Assistant Professor in the Department of Agricultural, Food and Resource Economics, Rutgers University, New Brunswick, N.J.

Abstract

The presence of nonlinearity, threshold behavior and cointegration under asymmetric adjustment are investigated in the vertical transmission of shocks between farm and retail prices for vegetable products in the U.S. Empirical results confirm the presence of nonlinearity and threshold behavior in the adjustment processes of farm and retail prices. Retail and farm prices are found to be cointegrated, implying long-run equilibrium relation between the two prices. However, for four of the five products included in this study, price transmissions are characterized by asymmetric adjustments. While retail prices adjust quickly in response to shocks that reduce the farm-retail spread below a certain threshold, it hardly responds to shocks that widen the spread. Farm prices are mostly unresponsive to retail market movements. Causation runs from farm to retail prices.

Keywords: vegetable prices; vertical linkage; non-linearity; asymmetric adjustment; cointegration.