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Spatial Price Transmission and Market Integration Between Fresh Tomato Markets in Ghana: Any Benefits from Trade Liberalisation?

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Abstract

Spatial price transmission or market integration measures the degree to which geographically separated markets share long-run market information on homogeneous commodities. One very contentious issue in Ghana is the concern about the implications of trade liberalisation for spatial price transmission and integration of local tomato markets. Despite insufficient empirical evidence on how Ghana's tomato markets performed following trade liberalisation, prevailing public opinion blames perennially volatile and uncompetitive prices of tomato on the importation of tomato products into Ghana. To verify this opinion and contribute to the policy debate, we analyse monthly prices from four tomato markets to determine price transmission between them under a high tariffs and a low tariffs period following trade liberalisation in Ghana. We employ two variants of the threshold autoregressive (TAR) model for the analysis. Results from the standard TAR model reveal that the speeds of price transmission in each of the two periods under study are high, averaging about 49 % and 45 % in the high tariffs and reduced tariffs periods respectively. Using an extended TAR model which estimates speeds of price adjustment as time-varying parameters, we discover that price adjustment speeds are more rapid; averaging about 65 % under the high- and about 70 % under the reduced tariffs periods respectively. Our empirical evidence is therefore mixed, with results from the first model implying deterioration in the rate of price transmission, while those from the second model suggest an improvement in price transmission between tomato markets following trade liberalisation in Ghana. It appears the underlying factors responsible for price transmission and market integration in Ghana did not deteriorate over the period of trade liberalisation and there is no compelling evidence to suggest that trade liberalisation is responsible for the price volatility and marketing problem of fresh tomato in Ghana. Extensions to this study should consider the role of factors like seasonality, market power, road barriers, storage and processing on price transmission. Further research along these lines will improve our understanding of the problem and develop more nuanced policy recommendations for the sustainable management of the resources used for tomato production.

Keywords: Market integration, price adjustment, price transmission, trade liberalisation