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Agricultural Market Integration in Tanzania: An Analysis of Select Maize Markets

CLAUDE MAEDA¹, JOHN MDUMA¹, KHAMALDIN DAUD MUTABAZI², STEFAN SIEBER³

¹*University of Dar es Salaam, Dept. of Economics, Tanzania*

²*Sokoine University of Agriculture, Dept. of Agric. Economics & Agribusiness, Tanzania*

³*Leibniz Centre for Agricultural Landscape Research (ZALF), Inst. of Socio-Economics, Germany*

Abstract

Tanzania government has been sceptical on agricultural market liberalisation arguing markets are not sufficiently integrated, hence intervening from time to time. This paper evaluates spatial market integration of maize, a major food crop and important cash crop in the country. Being a main staple, its market integration not only is important for income and poverty alleviation for about 70 percent of Tanzanians who depend on agriculture but also for countrywide food security. Standard spatial equilibrium framework of Enke-Samuelson-Takayama-Judge (ESTJ) was employed to study sets of monthly price data covering 30 years (1983 – 2013). Dodoma and Morogoro regions markets (deficit and surplus regions respectively) were analysed for extent and degree of integration. Correlation coefficients of market prices of maize, tests for non-stationarity of residuals and persistence profile characteristics results are presented. Findings are mixed, there are high correlation coefficients of prices but there are not sufficient to conclude that these markets are integrated, prompting use of Gonzalo – Granger (GG) model which assumes system is driven by single common factor of prices. Use of Augmented Dickey Fuller (ADF) tests to check robustness of the price movement relations rejected non-stationarity of the residuals for maize prices in Dodoma and Morogoro markets. Possible long-run relationship among regional set of prices are sorted according to eigen values from which cointegrating vectors are derived to build a persistence profile. Generally, extent of integration studied is not sufficient to elicit essential condition for efficient trade. Despite the robustness of the method applied in this paper, the number of observations seems insufficient for econometric requirements in this kind of studies. Also, government intervention might not be as necessary, if it is required then timing is of high importance.

Keywords: Enke-Samuelson-Takayama-Judge framework, maize, market integration, Tanzania