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SPATIAL PRICE TRANSMISSION IN MAJOR
EAST AFRICAN
HORTICULTURAL MARKETS

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Abstract

The objective of this study is to assess the integration of horticultural markets in East Africa. The analysis is conducted using monthly wholesale prices of fresh tomatoes and fresh onions. Four representative markets (two in Tanzania and two in Kenya) are selected for the analysis. These markets are analyzed in pairs using the bivariate Joe-Clayton copula (BB7). This copula involves two parameters, which control the degree of overall dependence of price shocks as well as the strength of dependence at the extremes of their joint distribution. The overall dependence is assessed by the Kendall's *tau*, which is calculated from a number of concordant and discordant pairs of observations. Information about dependence at the lower and the higher ranks is obtained by measuring the upper and the lower tail dependence coefficients. These coefficients give the probability that a price shock in one market will be above (below) a high (a low) quantile if a price shock in another market is also above (below) a high (a low) quantile. When considered together, the overall strength of co-movement and co-movement at the extremes provide information about the degree of market integration. Empirical results of this study suggest that the investigated markets are generally not very well integrated. The overall dependence of price shocks between different pairs of markets varies from low to medium. The pattern of dependence of these price shocks also appears to be predominantly asymmetric.

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List of Important Abbreviations

ACP	Africa, Caribbean and Pacific
AfDB	African Development Bank
ASHS	American Society for Horticultural Science
COMTRADE	Commodity Trade Statistics Database
EAC	East African Community
EU	European Union
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FPEAK	Fresh Produce Exporters Association of Kenya
GDP	Gross Domestic Product
HODECT	Horticultural Development Council of Tanzania
HORTEXA	Horticultural Exporters Association of Uganda
ICT	Information and Communications Technology
ISHS	International Society for Horticultural Science
JICA	Japan International Cooperation Agency
KNBS	Kenya National Bureau of Statistics
MT	Metric Tons
NBS	National Bureau of Statistics
SADC	Southern African Development Community
TAHA	Tanzania Horticultural Association
UAE	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNdata	United Nations Statistical Database
USA	United States of America
USAID	United States Agency for International Development
WB	World Bank
WTO	World Trade Organization