Accepted Manuscript

Long memory or structural breaks: Some evidence for African stock markets

Geoffrey Ngene, Kenneth A. Tah, Ali F. Darrat

PII: S1058-3300(16)30061-1
DOI: doi: 10.1016/j.rfe.2017.06.003
Reference: REVFIN 411

To appear in: *Review of Financial Economics*

Received date: 20 May 2016
Revised date: 29 May 2017
Accepted date: 12 June 2017

Please cite this article as: Geoffrey Ngene, Kenneth A. Tah, Ali F. Darrat , Long memory or structural breaks: Some evidence for African stock markets, *Review of Financial Economics* (2017), doi: 10.1016/j.rfe.2017.06.003

Long Memory or Structural Breaks: Some Evidence for African Stock Markets

Geoffrey Ngene [a*], Kenneth A. Tah[b], Ali F. Darrat [c]

[a] *Stetson School of Business and Economics, Mercer University, Macon, GA, 31207*
[b] *Stetson School of Business and Economics, Mercer University, Macon, GA, 31207*
[c] *College of Business, Louisiana Tech University, Ruston, LA , 71272*

Abstract

This study explores two main issues. One: How do the exchange rate and inflation rate impact long term dependency structure of weekly returns of seven African stock markets? Two: What is the long term dependency structure of stock returns and variance in the absence and in the presence of structural breaks? The sample period is 06-2002 through 02-2014. The returns are de-thinned to account for illiquidity of stock returns. The study implements sequential multiple structural breaks test to identify structural breaks. Three semi-parametric tests and three parametric methods are then implemented to test for the long memory behavior of raw returns and break-adjusted returns. The long memory estimates decline monotonically in magnitude or in statistical significance as returns are adjusted for exchange rate and then inflation rate. There is evidence of multiple structural shifts whose break dates correspond to major domestic or global events. Without structural breaks, the results indicate the existence of long memory components in returns and variance. Using the break-adjusted returns, the long memory evidence in returns and variance weakens in magnitude and/ or statistical significance or just dissipates in some ASMs. The absence of long memory using break-adjusted returns suggests that long memory may be an artifact of short memory encountering breaks in some ASMs. Caution is therefore warranted when interpreting long memory inferences in the presence of structural breaks and making policy recommendations. Our evidence is useful to investors, fund managers and policy makers.

Keywords: Long memory; Market efficiency; Stock returns; African markets; Structural Breaks

JEL Classifications: G12, G14, G15

* *Corresponding author*: Email: ngene_gm@mercer.edu; phone: (478) 301-2719.