

Contents lists available at [ScienceDirect](#)

Finance Research Letters

journal homepage: www.elsevier.com/locate/frl

African stock markets convergence: Regional and global analysis

Gideon Boako^{a,b}, Paul Alagidede^{a,*}^a Wits Business School, University of the Witwatersrand 2 St Davids Place, Parktown, Johannesburg 2193, South Africa^b School of Business, Garden City University College, Ghana

ARTICLE INFO

Article history:

Received 30 January 2016

Revised 19 April 2016

Accepted 5 May 2016

Available online 10 May 2016

JEL classification codes:

G10

G11

G15

Keywords:

African stock markets

Convergence

Regional and global integration

ABSTRACT

This letter examines the convergence of Africa's equity markets within the income convergence thesis. The results indicate partial deterministic convergence of Africa's equity markets both globally and regionally. The findings contribute to extant literature by addressing the puzzle on whether or not emerging equity markets should still be considered as a separate asset class or a unit bucket of assets with those in the developed world.

© 2016 Elsevier Inc. All rights reserved.

1. Introduction

In the last three decades efforts by various African governments and organizations/agencies have been pursued to attain economic and financial integration. These efforts have been greatly pursued along with changes in the financial structure and institutions on account of liberalization, innovation and globalization (Asongu, 2013). Africa's economic integration has been snail-paced, yet some recordable gains have been made in the development of regional infrastructure and near elimination of intra-regional trade barriers (Mougani, 2014). However, because domestic financial markets remain heterogeneous despite integration and globalization, adopting a set of common rules among countries may not necessarily signify economic/financial convergence over time (Asongu, 2013). Going forward, it is cautioned that for Africa not to suffer similar fate that appears to hamper the Eurozone's economic integration agenda, steps ought to be taken to ensure higher levels of financial sector convergence (Litse and Mupotola, 2014).

The beckoning question however, is: are there real evidences of financial markets convergence in Africa? What is the balance between regional and global/international convergence of Africa's equity markets? This letter examines regional and global convergence of Africa's nascent financial markets within the neoclassical income convergence hypothesis.

Financial markets convergence in the framework of this study can be defined (in the context of price-based measures – see Kawai and Motonishi (2005)) as the harmonization and deepening of financial links through market structures to ensure an integrated financial system.¹ Such convergence of Africa's nascent markets are needful to foster higher economic

* Corresponding author.

E-mail address: paul.alagidede@wits.ac.za (P. Alagidede).¹ The markets price harmonization process should however not be seen as the case of economic convergence criteria with a set of predetermined objectives.

development through increased market liquidity and lower cost of capital; enhance informational efficiency; overcome diseconomies; and to condense the potential for arbitrage profits.

This study differs from earlier studies on convergence that apply the income convergence hypothesis (ICH) to stock markets (see for example, Kim et al., 2006; Brada et al., 2005; Fung, 2009; and Narayan et al., 2011). Although Fung (2009) and Narayan et al., (2011) and Asongu (2013) examine financial markets convergence, none of them considers the convergence of stock market indices. To the best of our knowledge, studies on stock markets convergence (including those cited above) have employed the panel data technique. However, as noted by Benard and Durlauf (1996) and King and Ramlogan-Dobson, (2015), applying the ICH to cross-sectional and panel data has many shortfalls.² This is true since the two approaches assume that all markets are in transition to steady-state equilibrium in the entire sample period. Moreover, they are only able to test the hypothesis that all markets in the sample are converging against the alternative that none is converging, thereby excluding the possibility that some are converging while others are not (King and Ramlogan-Dobson, 2015). Our approach of using time series analysis to test for stock market convergence is therefore robust to existing related studies. The key strengths of this approach are that (i) it is able to analyze convergence on country-by-country basis and accommodate differences in their makeshift dynamics; and (ii) it has the strength to distinguish between several forms of convergence – see King and Ramlogan-Dobson (2015).

1.1. The 'market convergence hypothesis' (MCH)

Inspired by Solow (1956)'s neoclassical growth model, the income convergence hypothesis (ICH) has seen several applications in growth empirics (example, Benard and Durlauf, 1996; Brada et al., 2005; Fung, 2009; King and Ramlogan-Dobson, 2015). The ICH believes in the gradual tendencies for international differences in per capita income to diminish over time. Principally, two main concerns arise in the application of the ICH on growth related studies (see Narayan et al., 2011): whether or not low growth economies converge to high growth economies; and the speed of convergence.

In this letter, we rely on the convergence hypothesis in the equity market framework to estimate the convergence of African stocks globally and regionally. We term this the "market convergence hypothesis" (MCH).

Following King and Ramlogan-Dobson (2015), we specify a model to relate stock indices in Africa, corresponding regional indices, and that of global markets (be it stocks or commodities). For this, the log difference of the index series of an African country's stock (i) and that of a particular region or global market (j) is computed as:

$$yd = \ln S_i - \ln E_j \quad (1)$$

where S =stock in Africa, and E =regional or global market (and E can be stock or commodity price/index).

If yd is observed to be integrated of order one - $I(1)$ or possess unit roots, it will be considered that there is no convergence between the two indices paths. This would mean a random walk process with no stable and systematic linkage between the two markets. On the other hand, a yd integrated of order zero - $I(0)$ would mean that shocks to yd do not persist perpetually making the index differential between the two markets (Africa and regional/global) follow a stochastic trend asymptotically. This long-run mean reversion of the series could be construed as some evidence of convergence between the two markets.³

The nature or form of convergence is dependent on the characteristics of the deterministic trend of yd . If the long-run equilibrium index path of i and j follow the same trend, the convergence between the two can be described as *absolute*. In this case, the forecasts of yd will approach zero as the forecast horizon inches infinity (Benard and Durlauf, 1996). Thus:

$$\lim_{q \rightarrow \infty} E(yd_{t+q} | \Omega_t) = 0 \quad (2)$$

where Ω_t is the information set at time t .

Eq. (2) renders yd zero-mean stationary. A non-zero mean-stationary process of yd yields a *deterministic convergence* (Li and Papell, 1999). In this case, the prices of the two markets are said to be in a steady-state, however, structural differences between them denote a persistent difference between their price paths (King and Ramlogan-Dobson, 2015).

2. Data and preliminary analysis

We use daily data spanning the period 3rd January, 2003 to 29th December, 2014 for eight (8) African stock markets; Morgan Stanley Capital International index (MSCI), which is comprised of developed world markets (hereafter referred to as MSCI developed markets index: (MSCI-DW)); MSCI emerging markets (MSCI-EM) index; and Bloomberg Commodities (BCOM) index for the analysis. Additionally, we aggregate all African equity markets with available and reliable data during the sample period into four regional markets namely, East Africa, West Africa, Southern Africa, and North Africa. Each regional data is constructed based on market or value-weighted average prices from individual markets indices within a specific geographic distribution. In doing so the valued-weighted regional index used for the estimation with each individual African market excludes that market to avoid the problem of upward bias or idiosyncratic market shocks in the regional

² It is worthwhile to note however that some panel unit root tests such as the Fisher combined p -value tests show robustness – see Neaime (2015). Despite this, we execute a unit root test in the time series framework due to the added advantages outlined in this paper.

³ See also Neaime (2015) on mean reversion of stock markets.

Download English Version:

<https://daneshyari.com/en/article/5069375>

Download Persian Version:

<https://daneshyari.com/article/5069375>

[Daneshyari.com](https://daneshyari.com)