EFFICIENCY DRIVE

Take responsibility

The investment community keeps watch as African stock markets continually reform to promote capital deepening. But, asks DR CHIPO MLAMBO, how effective are these reforms? Her doctoral research throws light on the current levels of efficiency and frequency of trades on these markets.

DESPITE THE INCREASING NUMBER of stock markets in Africa – currently standing at 21 – the perception that they are inefficient has prevailed. This opinion was, unfortunately, confirmed in recent research* conducted at the USB. Of the ten stock markets studied, only Namibia, Kenya and Zimbabwe were found to be weakly efficient.

The study also revealed that stocks on African markets are infrequently (thinly) traded. This is a big problem, especially in Namibia and Botswana. At first glance, this is rather surprising, since these are the two markets with significant dual-listed stocks on the Johannesburg Stock Exchange (JSE). One possible explanation, however, could be that the dual-listed stocks trade more on the JSE than they do on the local markets.

Theory suggests that stock prices behave in a random manner. This means that stock prices act like a drunken man staggering down the street with no clear indication of where he is going. If this is the case, then the random walk model should not be outperformed by any other model in forecasting future stock prices. This was empirically tested using seventeen indices from the sampled African stock markets. Except for Botswana's Foreign Companies Index and the All Companies Index, the random walk model was worse than alternative models in forecasting future stock prices. What does this tell us? Stock prices on the African markets are not "drunken" after all. They exhibit some patterns, which may be nonlinear, but nonetheless, present.

The efficient market hypothesis (EMH) suggests no exploitable patterns in stock prices. Even so, anomalies – deviations from the norm – have been found to exist. One anomaly, the size effect, suggests that investing in small firms would result in returns higher than investing in large firms. Another anomaly, price-earnings (P/E) effect, suggests that buying stocks with low P/E ratios would result in higher returns than buying stocks with high P/E ratios. The size and P/E effects found in this study were mostly the opposite of those documented in the literature. Instead of the usual small-firm premium, a large-firm premium was mostly observed, and the portfolios of firms with high P/E ratios were found to be the ones giving the highest returns on African stock markets.

Another irregularity to the EMH is the existence of seasonal patterns. For example, it has been found on other markets that buying stocks on a Monday and selling on a Friday can result in higher returns than buying and selling on random days. Seasonal effects were thus investigated on African stock markets using indices returns. The findings were compared to those of South Africa's JSE, other emerging

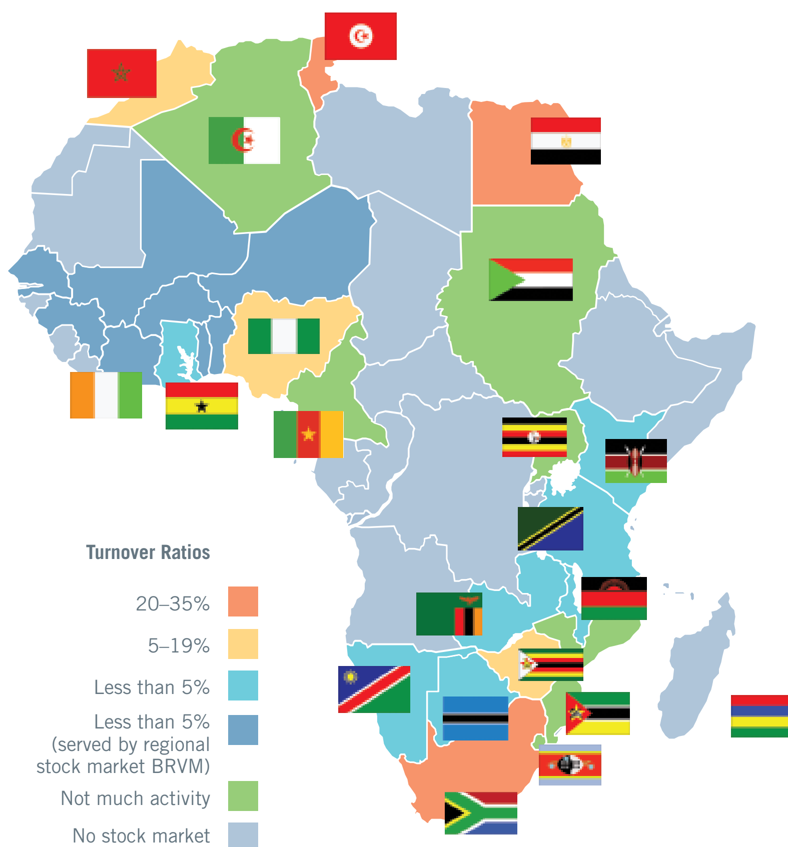
African stock market efficiency: The facts

Stock market	No of trading days in study period*	No of stocks studied	Median days not traded (proportion)	Inefficient stocks (proportion)
Botswana	1035	12	73%	50%
BRVM**	687	24	65%	54%
Egypt	1 342	54	18%	54%
Ghana	753	20	70%	80%
Kenya	1 366	40	53%	30%
Mauritius	1 197	9	29%	100%
Morocco	1 349	36	49%	47%
Namibia	1 341	15	87%	7%
Tunisia	1 250	35	32%	43%
Zimbabwe	1 353	39	49%	36%

* Periods of study ranged from Jan 1997 to Dec 2002. Only days when the market was open for trading were considered.

** *Bourse Régionale des Valeurs Mobilières* – West African Regional Stock Exchange

markets and the developed markets of the United States of America, Australia and New Zealand. Seasonal effects were observed on some, but not all, African stock markets. In most cases the patterns found were contrary to those documented in the literature and those observed on the stock markets used as points of reference. For example, the *Bourse Régionale des Valeurs Mobilières* (BRVM) indices exhibited a reversed *December decline – January rise* pattern. These patterns, contrary to those on other markets, suggest opportunities for portfolio diversification. The question is: Why are investors sitting on the sidelines and not diversifying into Africa?



What can be done and by whom?

One factor inhibiting investors from making inroads into Africa is the unfavourable environment in which African stock markets operate. African stock markets are marred by operational, regulatory, institutional, and technological inefficiencies. Only African governments can play a major role in improving the stock market environment.

Besides South Africa's JSE, which accounts for 80% of the total market capitalisation, most African stock markets are rather small in terms of market capitalisation and number of listed stocks. This leaves investors with very few stocks to pick from, and low activity results. The problem can easily be solved by integrating African stock markets into a regional stock exchange. The reason why no progress has been made in this regard again points at African governments as the culprit. This is because most stock markets in Africa have been formed to act as symbols of national pride. This is unfortunate since Africa would benefit from the improved liquidity and efficiency that is likely to come with such integration. Of great importance would be the ability of these markets to attract foreign portfolio investments to the continent.

Whereas the Internet has played a major role in advancing stock market development in developed countries, the same cannot be said for Africa. Foreign participation on African stock markets is limited by restrictive regulations and lack of online up-to-date local information on the Internet. In some African countries key infrastucture items for Internet accessibility, such as a home telephone and computer, are considered a luxury. In order to improve liquidity and the efficiency of our markets, there is a need to relax restrictions on foreign participation, make local content available on the Internet, and encourage Internet accessibility by local residents. When information is freely and globally available, profit opportunities would be arbitraged away, thus promoting the pricing efficiency of African stock markets. The responsibility again lies with our governments.

There is something that the African stock markets themselves can do. They can increase the trading hours and ensure the timely release of public information. They can replicate the real-time Stock Exchange News Service (SENS) launched by the JSE in 1997 and make it a requirement that all listed stocks disseminate any corporate news or price-sensitive information on SENS prior to using any other media or outlet. The JSE's automated 'JET' trading system gives warning when company-specific, price-sensitive information is about to be released on SENS, so that investors can reconsider their share dealings. A well-coordinated information dissemination system would substantially improve investor participation and thus drive the markets towards efficiency. ❑

*__Dr Chipo Mlambo__'s (pictured) PhD thesis is entitled *The efficiency of African stock markets: A comparative analysis.* After graduating through the USB in 2005, she was appointed as lecturer in Business Statistics, Business Forecasting, and Development Finance at the school. She holds MSc and BScHons degrees in Economics from the Universities of Oslo and Zimbabwe, respectively. She has published papers in the *Investment Analysts Journal*, the *African Finance Journal*, the *South African Journal of Business Management*, and *Research in Accounting in Emerging Economies.*