

Full Length Research Paper

Theoretical issues on the African stock markets and portfolio performance

Odhiambo Odera

Department of Business Management, Masinde Muliro University of Science and Technology, P.O.Box 190-50100
Kakamega, Kenya. E-mail: oodera@yahoo.com.

Accepted 31 January, 2012

The study discusses the theoretical issues surrounding the African stock markets and portfolio performance. It examines the issues underpinning the perception of market inefficiency in African stock markets. It has been proposed that the solution to problems faced by African stock markets is to integrate their stock exchanges by merging the stock exchanges. The study adopted an exploratory research design, so as to gather preliminary information and help explore theoretical issues surrounding the African stock markets and portfolio performance.

Key words: Africa, stock markets, regional integration, portfolio performance.

INTRODUCTION

Magnusson and Wydick (2002) contended that the stock market is expected to accelerate economic growth by providing a boost to domestic savings and increasing the quantity and the quality of investment. Stock markets therefore are able to positively influence economic growth through encouraging savings amongst individuals and providing avenues for firm financing. Liquid stock markets could improve the allocation of capital and enhancing prospects for long-term growth. However, the theory is ambiguous about the exact impacts of greater stock market liquidity on economic growth. By reducing the need for precautionary savings, increased stock market liquidity may have an adverse effect on the rate of economic growth.

Critics also point out that the actual operation of the pricing and takeover mechanism in well functioning stock markets lead to short term and lower rates of long term investment. It also generates perverse incentives, rewarding managers for their success in financial engineering rather than creating new wealth through organic growth (Singh, 1997). This is because prices react very quickly to a variety of information influencing expectations on financial markets. Therefore, prices on the stock market tend to be highly volatile and enable profits within short periods. Moreover, because the stock market undervalues long-term investment, managers are not encouraged to undertake long-term investments since their activities are judged by the performance of a

company's financial assets, which may harm long run prospects of companies (Binswanger, 1999). Therefore, a large inefficient firm has a higher chance of survival than a small relatively efficient firm. These problems are further magnified in developing countries especially sub-Saharan African economies with their weaker regulatory institutions and greater macroeconomic volatility. The higher degree of price volatility on stock markets in developing countries reduces the efficiency of the price signals in allocating investment resources. These serious limitations of the stock market have led many analysts to question the importance of the system in promoting economic growth in African countries.

Magnusson and Wydick (2002) used data from the eight largest African stock markets to test whether these markets meet the criterion of weak-form stock market efficiency with returns characterised by a random walk and then compared the results with similar tests on emerging stock markets in south-east Asia and Latin America. The results do not show that African countries can pass the high efficiency as the US markets but that they compare favourably to some Latin American and Asian markets.

According to Kenny and Moss (1998), the number of stock markets in African countries has doubled over the last 7 years. Although these markets remain small and illiquid, they are growing rapidly and will become an increasingly important part of many African economies.

They evaluated the common economic criticisms of African stock markets and the political pitfalls involved in their operation and concluded that the positive economic effects of bourses on African economies are far larger than any negative effects, and argue that the political costs can be mitigated while political benefits can also be gained.

Jefferis and Smith (2005) classified and discussed the principal characteristics of formal African stock markets. They found that the Johannesburg stock market was weak form efficient, and three stock markets become weak form efficient towards the end of their study period, these were Egypt and Morocco from 1999 and Nigeria from early 2001. These contrast with the Kenya and Zimbabwe stock markets which show no tendency towards weak form efficiency and the Mauritius market which displays a slow tendency to eliminate inefficiency. Their study related weak form efficiency to stock market turnover, capitalisation and institutional characteristics of markets.

Smith et al. (2002) identified four categories of formal stock market in Africa as South Africa, medium-sized markets, small new markets which have experienced rapid growth, and small new markets which have yet to take off. Enisan and Olufisayo (2009) examined the long run and causal relationship between stock market development and economic growth for seven countries in sub-Saharan Africa. They found that the stock market development is cointegrated with economic growth in Egypt and South Africa suggesting that stock market development has a significant positive long run impact on economic growth. Based on these results, Enisan and Olufisayo argued that stock markets could help promote growth in Africa. However, to achieve this goal, African stock markets need to be further developed through appropriate regulatory and macroeconomic policies.

METHODS

The study adopted an exploratory research design so as to explore the pertinent theoretical issues surrounding the African stock markets and portfolio performance. Exploratory research was used to gather preliminary information so as to help define problems, suggest hypotheses and to help determine the best research design, data collection method and sample selection methods. The study relied on reviewing available literature and the results of the study can provide significant insight into the problems facing African stock markets and portfolio performance. For example, Piesse and Hearn (2005) suggested that the appropriate method of examining volatility transmission between African stock market indices is the EGARCH model suggested by Nelson (1991), because it allows a more flexible dynamic lag structure and does not require symmetry. Domestic macroeconomic influences commonly found within emerging market countries, such as extreme variations in exchange rates and high inflation, can have significant effects on stock price indices (Choudry, 2001).

Econometric techniques have also been used extensively to examine the relationship between macroeconomic phenomena and securities market integration (Maysami and Koh, 2000; Phylaktis, 1999; Huang et al., 2000). Kelly and Mavrotas (2002) used econometric methods such as the panel unit root test

(Dickey and Fuller, 1979) and cointegration tests to enable them determine the long run structure of savings in a dynamic setting, avoiding the well known problems involved in using static cointegration testing, and the problems of the sensitivity of cointegration tests to low-powered stationarity tests involved in time series analysis. Most importantly, these innovative panel data techniques allow for heterogeneity in coefficients and dynamics across countries, and allow testing directly for the existence of long run equilibrium saving functions.

Hearn and Piesse (2002) tested the hypothesis of market integration using a cointegration approach. Markets that are found to be integrated are then tested for evidence of Granger causality through an error correction mechanism. Results obtained using VAR modelling techniques are compared to those using an ARDL model. While results lend support to existing trade, macroeconomic and developmental linkages and effects between and within the countries, there are some evidence for the presence of a regional factor common to African emerging markets that explains causality from Namibia to South Africa.

PERFORMANCE AND CHARACTERISTICS OF AFRICAN STOCK MARKETS

African stock markets have rapidly evolved over the last decade resulting in considerable development of the African capital markets (Piesse and Hearn, 2005). Prior to 1989, there were just five stock markets in sub-Saharan Africa and three in North Africa. Today, there exist nineteen stock exchanges in Africa (Yartey and Adjasi, 2007). Total market capitalization for African stock markets increased from US\$113,423 million to US\$244,672 million between 1992 and 2002.

This rapid development of stock markets in Africa does mean that even the most advanced African stock markets are mature. For example, Vitali and Mollah (2011) investigated the weak-form of market efficiency in Africa by testing the random walk hypothesis (RWH) on the daily price indices of Egypt, Kenya, Mauritius, Morocco, Nigeria, South Africa and Tunisia over the period of 1999 to 2009. The empirical results reject the RWH for all stock markets indices over the whole sample period with the exception of South Africa over the second sub-period (2007 to 2009). Hence, only South Africa may be regarded as a weak-form efficient market. Rejection of the RWH in the African stock markets indicates that stock prices do not fully reflect all historical information. These markets should therefore undergo technological and regulatory modernization in order to improve informational efficiency.

In most of these markets, trading only occurs in only a few stocks which account for a considerable part of the total market capitalization. There also exist serious informational and disclosure deficiencies for other stocks. Supervision and monitoring by regulatory authorities is often far from adequate. According to Mlambo and Biekpe (2007), some of the African stock markets were established on the background of poor regulatory and legislative frameworks. This, among other things, explains why some of these markets lack the capacity to deal with capital market dynamics. Legislations to prevent

insider trading are either inadequate or non-existent, and where they exist, enforcement is often poor. The inadequacy of insider trading laws on African stock markets has enhanced the perception that these markets are not efficient. However, IMF (2003) found that in a number of African countries, significant progress has been made, for instance through strengthening the regulatory and institutional framework governing private investment (Ghana, Mali, Mauritius, Mozambique, Tanzania and Uganda) and fiscal capacity building (Burkina Faso, Mali and Tanzania). However, much remains to be done; with institutions generally deeply rooted in a country's history and culture, domestic ownership is critical to ensure that reforms are tailored to meet specific regional conditions and circumstances.

Yartey and Adjasi (2007) observed that the indicators of stock market development show that African markets are small with few listed companies and low market capitalization. The African stock markets suffer from the problem of low liquidity, which means that it is harder to support a local market with its own trading system, market analysis, brokers etc since the business volume will simply be too low. According to Kenny and Moss (1998), eight of the world's twelve most illiquid stock exchanges in 1995 were in Africa. They suggested that this extreme volatility is a result of the small size nature, lack of liquidity and, often, unstable political and economic environments.

According to Piesse and Hearn (2005), African stock markets have historically offered a limited, narrow range of products with the principle role of financial sector being the provision of the source of domestic funding to offset government budgetary deficits. The major disadvantage created was the crowding out of trading activity by government, leaving a low level of new capital to be raised through private enterprise. Common factors still inhibiting stock market development include the lack of legal protection for investors and creditors. Other constraints are that most African stock exchanges have limited trading hours and are closely synchronous with other regional markets. As such, there is little domestic stock market culture and awareness. Considerable evidence point to financial sector repression through capital controls making foreign investment and repatriation of funds and profits difficult (Jefferis, 1995). Trading in the majority of markets is overwhelmingly dominated by a handful of stocks, even if more securities are actually listed and bulk trading of a limited number of stocks in the smaller exchanges hinders activity on the domestic markets. Mlambo and Biekpe (2005) noted that due to the thin trading, investors may be forced to hold stocks even at a time when they want to close their positions or get out of the market. Their findings suggest that the contradictory evidence in the random walk tests of certain African stock markets could be partly a methodology problem especially in a thinly traded environment. But where they used individual stock

returns, the effect of thin trading on the results was relatively minimal.

THE CASE FOR REGIONAL INTEGRATION

Jefferis and Smith (2005) observed that the size of the market is important, in that the larger markets are efficient for some or all of the period examined, while the smaller markets are not. While there is nothing that can be done immediately to make markets larger, the results suggest that policies to grow stock markets are important. Such policies can include encouraging new listings by ensuring that listing requirements are prudent without being unnecessarily onerous, and encouraging the development of pension funds and other forms of institutional investors who will have a demand for listed equities. These will help not just to enlarge the securities segment of capital markets but to make that market more efficient, which would in turn encourage further listings and investment a virtuous circle. For some countries, however, small size will always be a problem, bearing in mind the small size of many African economies.

It has been proposed that the solution to problems faced by African stock markets was to integrate their stock exchanges and by merging stock exchanges (which is the extreme form of integration) could result in volumes multiplying with potentially the same overhead costs (Claessens et al., 2002). Merging African stock markets into a single regional exchange immediately is no doubt an ambitious and daunting task, given the associated institutional and financial cost complexities but it will be a powerful source and driver of capital flows to Africa. Such an exchange will also, if well structured, solve the current problems of illiquidity, small size and fragmentation (Yartey and Adjasi, 2007).

Integration is expected to solve the fragmentation problems of African stock exchanges since the number of national exchanges in an integrated market reduces. This promotes cost efficiency and improves liquidity and price discovery. Investors can execute orders without routing through brokers and there is only one payment of listing fees in an integrated exchange. It also harnesses a pool of economic and human capital, the economic and human capital skills of various markets are brought to play in one single market. The market thus benefits from a rich and diverse pool of skills. Integration fosters synergies in risk management. Risk management is spread thin across market segments, which prior to integration, were national exchanges. Integration reduces complexities, since all trading, operations clearing and settlement systems are harmonized. It also improves surveillance and risk management, by enabling access to information in all market segments (Yartey and Adjasi, 2007).

One problem that has hindered successful stock market integration is nationalistic politics. African governments

tend to view stock exchanges as national assets with pride just like national airlines (Moss, 2003). As a result, they are uncomfortable with transformations which lead to a reduction in the national touch. In addition, smaller economies tend to perceive the bigger economies as being domineering and fear that their exchanges will be overshadowed by the bigger exchanges with integration. These economies also fear that capital may be diverted away from them to the bigger economies with integration. For instance, Okeahalam (2001) reported that Botswana officials were uncomfortable with South Africa's virtual African exchange proposal due to the fear of capital flight towards Johannesburg Stock Exchange (JSE).

There are important preconditions for successful regional approaches such as the legal harmonization (trading laws and accounting standards) and a liberalized trade regime. Integration requires that there are harmonized legislation, rules, listings, trading days, settlement and reporting standards. This implies that for African stock markets to become integrated, the various national exchanges must adopt and/or harmonize their existing rules and systems. This can be potentially a long and arduous task for these exchanges. Even if trading rules and listing requirements are harmonized there is the issue of accounting and reporting standards. These standards tend to be based on national systems which in turn also depend on the colonial history of the countries. For instance, the Bourse Régionale des Valeurs Mobilières or the Regional Securities Exchange (BRVM) comprises of countries which adopted common standards following their common colonial past.

Integration cannot also be successful in the absence of automated systems. Integration requires investors and traders to be able to log on into trade from other stations and this requires that systems be automated. Currency convertibility is very important in an integrated exchange. An integrated exchange with a multiplicity of inconvertible currencies only compounds the administrative costs which integration itself seeks to remove. Here, the advantages of having existing monetary unions, like the Western African Economic and Monetary Union (WAEMU) in the case of the BRVM preclude such problems. This is also a reason why the Southern African Development Community (SADC) region is progressing quickly towards a regional stock exchange due to the convertibility of most of the regions currencies. Africa has many currencies, few of which are convertible within the continent. Indeed currency convertibility depends more on trade density between two countries and cannot be forced. This thus places hurdles on the way of regional exchange integration efforts.

The experience of BRVM can teach us a number of lessons on stock market integration in Africa (Asea, 2003). First, it can take a very long time to build a regionally integrated exchange. Second, the fact that a regionally integrated exchange is established does not mean that it will be used effectively or that it will integrate

the markets. The sustainability and success of any regional project must be very carefully assessed before the project is undertaken. Private sector participation, as opposed to just regulators, central banks and other public institutions normally has the best incentive to determine whether the expenditure on a particular integration scheme for market infrastructure is worthwhile.

But according to Piesse and Hearn (2005), regional market integration remains a viable approach to establishing functioning securities markets, assuming that there are sufficiently close institutional links. There has to be support for the benefits of integration, including more globally competitive markets and increasing liquidity levels, and from the African Stock Exchange Association (ASEA). Four principal regional bourses in Johannesburg, for the South African exchanges; Lagos, for West African region; Nairobi, for the East African exchanges and Cairo for Northern Africa were preparing the infrastructure to ensure integration by 2006. Reform of institutions includes harmonisation of tax regimes and trading rules, settlement and legal systems with rigorous monitoring and enforcement of regulations.

In the East Africa region, integrated trading floors and shared computerised networks and a central depository system were expected and listings requirements are common to the countries within SADC. The establishment of a common central depository for South Africa and Namibia, the African Financial Instruments Clearing and Settlement System (SAFICAS) and a shared trading system, Johannesburg Electronic Trading (JET), has ensured a standard G30 settlement cycle of trade date plus three working days (T + 3). This has increased liquidity between markets, although Namibia does have the highest number of cross-listed securities with South Africa, more than any SADC exchange.

Finally, a crucial issue to market integration is the reconciliation of trading systems. The common model is that of open outcry systems located on a physical exchange floor, with Namibia, South Africa, Zambia and Mauritius the major exceptions. Mauritius upgraded trading facilities to a computer based order-matching system in 2001. Zambia co-ordinates trading through an order matching, single price auction system, and developed the first central depository that was fully automated and compliant with all G30 recommendations, apart from those relating to securities lending and International Securities Identification Number (ISIN) codes (LuSE website, 2001).

Hearn and Piesse (2002) examined the extent of equity market integration using cointegration within the three dominant markets of Southern African Customs Union (SACU) that is South African, Botswana and Namibian. The financial and economic links, along with the integrated electronic trading link between the South African and Namibian exchanges, present a strong case for expected integration between the equity markets. Integrated trading platforms, as well as the infrastructure

needed to support community-wide access to efficient central depositories, has undoubtedly helped in the regional integration of the three Stock Exchanges studied. The extension of harmonisation of listings requirements, transparency, increased coordination, stronger financial regulation and supervision and other evidence of good governance to other countries of the region would be hugely beneficial to the efficiency and effectiveness of the other stock exchanges in Africa.

PORTFOLIO PERFORMANCE

Aragon and Ferson (2007) defined portfolio performance at two broad levels; those that have investment ability if it generates returns that can be expected to exceed that of a benchmark. But a fund may dissipate its ability through trading costs or capture the rents to its ability through management fees. A fund that outperforms a benchmark is said to add value for investors.

According to Chan et al. (2009), an investor is usually concerned with how an individual portfolio performs. The research literature and industry practice offer up an array of benchmarks, including the stock index, and a logical case can be made for each of them. Therefore, the issue is the frequency of agreement across benchmarks with respect to over or under-performance. Chan et al. (2009) reported results when the methods were compared to abnormal returns over the portfolio's entire history. They calculated a portfolio's abnormal return over its full history by obtaining the difference between the geometric mean return on the portfolio and on the benchmark. They calculated all differences in abnormal returns across methods and counted the frequency of differences that exceed a certain threshold level out of the total possible comparisons. For all portfolios in the overall sample period, the methods agreed on the sign of abnormal returns. Given the emphasis on performance, a few quarters of poor results can sour relations between a money manager and clients. These results suggest that the choice of benchmarking procedure can make or break a money manager's reputation.

Traditional performance measures, strongly influenced by the Capital Asset Pricing Model of Sharpe (1964) were developed prior to 1990. Stutzer (2000) introduced the portfolio performance index which is based on the behavioural hypothesis that investors aim to minimize the probability that the excess returns over a given threshold will be negative. The omega ratio introduced by Keating and Shadwick (2002) was expressed as the ratio of the gains with respect to some threshold to the loss with respect to the same threshold. The drawbacks of these measures include; the ranking of portfolios based on most of these measures depends heavily on the choice of a threshold, almost all of these measures take into account only downside risk, the upside return potential is not appreciated and all these alternative performance measures lack any solid theoretical underpinning (like the

Sharpe ratio which is based on the expected utility theory, the cornerstone of the modern finance). Chen and Knez (1996) found that any admissible portfolio performance measure should satisfy four minimal conditions: it assigns zero performance to each reference portfolio and it is linear, continuous, and nontrivial; such an admissible measure exists if and only if the securities market obeys the law of one price; a positive admissible measure exists if and only if there is no arbitrage; it is shown that performance evaluation is generally quite arbitrary.

Ferson (2010) reviewed literature on investment performance evaluation and summarized the significant forces and contributions that have brought this field of research to its current state of knowledge while Aragon and Ferson (2007) provided a review of the methods for measuring portfolio performance and the evidence on the performance of professionally managed investment portfolios.

Dybvig et al. (2010) analysed the optimal contract for a portfolio manager who can exert effort to improve the quality of a private signal about future market prices. They assumed complete markets over states distinguished by asset payoffs and place no restrictions on the form of the contract. They showed that trading restrictions are essential because they prevent the manager from undoing the incentive effects of performance-based fees and provided conditions under which simple benchmarking emerges as optimal compensation. Additional incentives to take risk are necessary when information can be manipulated or else the manager will understate information to offset the benchmarking.

According to Mensah (2003), tests generally support weak-form efficiency (that is, past prices cannot be used to predict future prices). Few portfolio managers are able to beat the market and do not do so with any consistency. Aragon and Ferson (2007) discussed evidence from conditional performance evaluation such as survivorship which creates a number of potential problems affecting both the average levels of performance and the apparent persistence in performance. Persistent performance, if it exists, should be of practical interest to fund investors. One form of persistence is short-term continuation, or "momentum" in the funds relative returns. The presence of such momentum would suggest that investors could obtain better returns by purchasing those funds that have recently performed well, and by avoiding those that have recently performed poorly. Much of the empirical evidence on performance persistence for mutual funds suggests a positive relation between the future and past performance, and concentrate in the poorly performing funds. Poor performance may be persistent. Del Guercio and Tkac (2002) found that mutual fund investors pay more attention to simple measures of relative return than to more complex measures like alpha, in directing their new money flows.

SAVINGS AND THE REAL SECTOR OF THE AFRICAN ECONOMIES

According to Kelly and Mavrotas (2002), most African countries often lack an appropriate financial sector, which provides incentives for individuals to save and acts as an efficient intermediary to convert these savings into credit for borrowers. The financial liberalization experience of many African economies in recent years, although towards the right direction in many cases, seems to suggest that changing the financial structure of an economy is a complicated process which assumes a deep understanding of the entire set of interactions between financial sector reforms and the economy. Bandiera et al. (2000) argued that an ideal index of financial sector development should attempt to measure both the various aspects of the deregulatory and the institution-building process in financial sector development. Beck et al. (1999) suggested a wide variety of indicators that measure size, activity and efficiency of financial intermediaries and markets. Absolute size of the financial sector to gross domestic product (GDP) is a useful measure of financial depth, which represents the level of development of the financial sector.

Robinson (1998) suggested that corruption has become an issue of major economic significance in recent years which has led to a resurgence of interest in analysing the phenomenon and the diverse forms that it assumes in Africa with an expectation that democratisation and economic liberalisation offer potential routes to dealing with the problem. Gyimah-Brempong (2002) used panel data from African countries and a dynamic panel estimator to investigate the effects of corruption on economic growth and income distribution. Corruption was found to decrease economic growth directly and indirectly through decreased investment in physical capital. A unit increase in corruption reduces the growth rates of GDP and per capita income by between 0.75 and 0.9% points and between 0.39 and 0.41% points per year, respectively. The results also indicate that increased corruption is positively correlated with income inequality. The combined effect of decreased income growth and increased inequality suggests that corruption hurts the poor more than the rich in African countries.

Collier and Gunning (1999) observed that Africa has demographic characteristics which may predispose it to slow growth such as life expectancy has historically been low, with the population in a high-fertility, high infant-mortality equilibrium. With the advent of basic public health measures, population growth became very high. On one estimate, Africa's low life expectancy and high population growth account for almost all of Africa's slow growth (Bloom and Sachs, 1998). Low life expectancy and high fertility are consequences of low income as well as causes, so the estimates are likely to be biased upwards. Whether or not Africa's past demographic

characteristics have contributed to its slow growth, some African countries seem certain to go through a distinctive and disastrous demographic transition during the next two decades. As a result of acquired immune deficiency syndrome (AIDS), adult mortality rates will rise dramatically. In Africa, AIDS is a heterosexual disease and during the 1980s in parts of Africa it spread rapidly across the population before the risks became apparent, with up to 20 to 25% of adults now human immunodeficiency virus (HIV)-positive in some countries (World Bank, 1997). This human tragedy will have substantial economic effects during the next decade, especially since infection rates appear to be higher among the more educated, but it does not account for historically slow growth.

Ndikumana and Boyce (2002) investigated the determinants of capital flight from thirty sub-Saharan African countries, including twenty-four countries classified as severely indebted low-income countries, for the period of 1970 to 1996. The econometric analysis reveals that external borrowing is positively and significantly related to capital flight, suggesting that to a large extent capital flight is debt-fuelled. They estimate that for every dollar of external borrowing in the region, roughly 80% flowed back as capital flight in the same year. Capital flight also exhibits a high degree of persistence in the sense that past capital flight is correlated with current and future capital flight. The growth rate differential between the African country and its Organization for Economic Co-operation and Development (OECD) trading partners is negatively related to capital flight.

Iyoha and Oriakhi (2002) observed that while there is no consensus on a single cause of Africa's economic predicament, the currently identified factors include the continent's colonial legacy, its backward technology, export enclavism, extremely disadvantageous geography and climate, demography, social conditions, ethnic and tribal divisions, unfavourable initial conditions, deficient infrastructure, lack of financial depth, macroeconomic policy mistakes, hostile external environment, and dependence on primary commodity exportation.

Conclusion

Yartey and Adjasi (2007) discussed the results from the previous studies which show that African stock markets are small, illiquid, with infrastructural bottlenecks and weak regulatory institutions. Despite these problems, stock markets in Africa have helped in the financing of the growth of large corporations but there is little evidence of broader economic benefits. A number of propositions have been suggested to help develop stock markets in Africa. These range from the need to increase automation, demutualization of exchanges, regional integration of exchanges, promotion of institutional investors, regulatory and supervisory improvements,

involvement of foreigner investors, and educational programs. Most of these propositions involve substantial benefits as well as cost outlays.

Jefferies and Smith (2005) suggests that regional stock markets may be a way forward, not just to benefit from economies of scale but also to improve pricing efficiency. In addition to policies aimed at increasing the size of stock markets, other institutional reforms can help to improve efficiency. These include innovations such as electronic trading systems, allowing free access to foreign investors (to improve liquidity), improving the dissemination of information relating to listed companies, improving the speed and efficiency of settlement, and changing the legal framework where necessary to ensure adherence to the best international standards. All of these developments will help to boost confidence in the market and encourage the additional trading activity that will support market efficiency. According to Magnusson and Wydick (2002) test results for weak-form efficiency in the emerging African stock markets compare favourably with those performed on other emerging stock markets.

Piesse and Hearn (2005) concluded that in a number of African countries, the emphasis on growth and development has shifted from a bank-based system to one that is dependent on capital markets as a source of finance for the business sector. This has resulted in the establishment of a number of new stock exchanges and the restructuring and reform of many of the existing ones. Although still highly illiquid, and with only a limited culture of participation by the business and investment community, many of these appear to be making progress. A major factor in the success of national stock markets is the provision of the necessary institutions to provide investor confidence.

According to Mensah (2003), African capital markets will not develop unless both issuers and investors believe that securities are fairly priced and the persistence of inefficiency means that investors are not using all information at their disposal in setting security prices, i.e. expectations are not "rational". African regulators are poorly resourced and as such they have poor market surveillance, limited analytical and investigative capacities. Mensah concludes that the majority of the African stock markets except for South African stock exchange, exhibit immature markets and market efficiency are low. Low market professionalism leads to market inefficiencies and low returns are realized to active management. Therefore, African stock markets need far more professionalism and better regulatory enforcement in order to improve stock market efficiency, without which market efficiency will remain elusive.

REFERENCES

- Asea P (2003). Promoting Regional Financial Market Integration" Presented at the African Capital Markets Development Workshop, Johannesburg, South Africa.
- Aragon GO, Ferson WE (2007). Portfolio Performance Evaluation, Foundations and Trends in Finance, 2(2): 83-190.
- Binswanger M (1999). Stock Markets, Speculative Bubbles and Economic Growth, Cheltenham: Edward Elgar Publishing.
- Bloom J, Sachs J (1998). Geography, Demography and Economic Growth in Africa." Brookings Papers in Economic Activity, 2: 207-295.
- Chan LKC, Dimmock SG, Lakonishok J (2009). Benchmarking money manager performance: Issues and evidence, Rev. Financ. Stud., 22(11): 4553-4599.
- Chen Z, Knez PJ (1996). Portfolio Performance Measurement: Theory and Applications, Rev. Financ. Stud., 9(2): 511-555.
- Choudry T (2001). Inflation and rates of return on stocks: evidence from high inflation countries, J. Int. Mark., Inst. Money, 11: 75-96.
- Claessens S, Klingebiel D, Schmukler SC (2002). Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centers," Washington: The World Bank, p. 2816.
- Collier P, Gunning WJ (1999). Why Has Africa Grown Slowly? J. Econ. Perspect., 3(13): 3-22.
- Del Guercio D, Tkac P (2002). The determinants of the flows of funds of managed portfolios: Mutual funds vs. pension funds, J. Finan. Quant. Anal., p. 37.
- Dickey DA, Fuller W (1979). Distribution of the Estimates for Autoregressive Time Series with a Unit Root." J. Am. Stat. Assoc., 431-74427.
- Dybvig PH, Farnsworth HK, Carpenter JN (2010). Portfolio Performance and Agency, Conserv. Lett., 23(1).
- Enisan AA, Olufisayo AO (2009). Stock market development and economic growth: Evidence from seven sub-Saharan African countries, J. Econ. Bus., 61(2).
- Ferson WE (2010). Investment Performance Evaluation, *CenFIS*, pp. 10-01.
- Gyimah-Brempong K (2002). Corruption, economic growth, and income inequality in Africa. *Econ. Gov.*, 3: 183-209.
- Hearn B, Piesse J (2002). Equity Market Integration versus Segmentation in Three Dominant Markets of the Southern African Customs Union: Cointegration and Causality Tests. *Appl. Econ.*, 14(1): 1711-1722.
- Huang BN, Yang CW, Hu J (2000). Causality and cointegration of stock markets among the United States, Japan, and the South China Growth Triangle. *Int. Rev. Financ. Anal.*, 9(3): 97-281.
- International Monetary Fund (2003). World Economic Outlook: Public Debt in Emerging Markets 1981-1984: Occasional paper.
- Iyoha MA, Oriakhi D (2002). Explaining African Economic Growth Performance: The Case of Nigeria www.gdnet.org/CMS
- Jefferis K (1995). The Botswana Share Market and Its Role in Financial and Economic Development, *World Dev.*, 4(23): 78-663.
- Jefferis K, Smith G (2005). The Changing Efficiency of African Stock Markets. *South Afr. J. Econ.*, 73(1): 54-67.
- Keating C, Shadwick WF (2002). A Universal Performance Measure; The Finance Development Centre London, www.isda.org/c_and_a/pdf/GammaPub.pdf
- Kelly R, Mavrotas G (2002). Savings and Financial Sector Development: Panel Cointegration Evidence from Africa. *World Inst. Develop. Econ. Res. Discussion Paper*. 2003/2012.
- Kenny CJ, Moss TJ (1998). Stock Markets in Africa: Emerging lions or white elephants? *World Dev.*, (26): 5.
- LuSE website (2001). www.luse.co.zm.
- Magnusson M, Wydick B (2002). How Efficient are Africa's Emerging Stock Markets? *J. Dev. Stud.*, 38(4): 141-156.
- Mensah S (2003). The Essentials of An Efficient Market and Implications for Investors, Firms and Regulators UNECA Workshop on African Capital Markets Development, Johannesburg, SA.
- Mlambo C, Biekpe N (2007). The efficient market hypothesis: Evidence from ten African stock markets. *Investment Anal. J.*, p. 66.
- Mlambo C, Biekpe N (2005). Thin Trading on African Stock Markets: Implications for Market Efficiency Testing". *Investment Analyst J.*, p. 61.
- Moss T (2003). Adventure Capitalism: Globalization and the Political Economy of Stock Markets in Africa," London: Palgrave Macmillan.
- Nelson D (1991). Conditional Heteroskedasticity in Asset Returns: A New Approach. *Econometrica*, (2)59: 70-347.
- Ndikumana L, Boyce JK (2002). Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries".

- Economics Department Working Paper Series.
ScholarWorks@UMass Amherst. p. 91.
- Maysami R, Koh T (2000). A vector error correction model of the Singapore stock market. *J. Int. Money Financ.*, 9: 6-79.
- Phylaktis K (1999). Capital Market integration in the Pacific Basin region: an impulse response analysis. *J. Int. Money Financ.*, 18: 87-267.
- Okeahalam CC (2001). Strategic Alliances and Mergers of Financial Exchanges: The Case of the SADC," presented at the Fourth Annual Conference of the Centre for the Study of African Economies, Oxford University.
- Piesse J, Hearn B (2005). Regional Integration of Equity Markets In Sub-Saharan Africa. *South Afr. J. Econ.*, 73(1): 36-53.
- Robinson M (1998). Corruption and development: An introduction. *Eur. J. Dev. Res.*, 10(1): 12-24.
- Singh A (1997). Financial Liberalization, Stock Markets, and Economic Development," *Econ. J.*, p. 107.
- Sharpe WF (1964). Capital Asset Prices - A Theory of Market Equilibrium Under Conditions of Risk". *J. Financ.*, 19(3): 425-442.
- Smith G, Jefferis K, Ryoo H (2002). African stock markets: multiple variance ratio tests of random walks. *Appl. Financ. Econom.* 12(7): 285.
- Stutzer M (2000). A Portfolio Performance Index. *Fin. Anal. J.*, 56(3): 52-61.
- Yartey CO, Adjasi CK (2007). Stock Market Development in Sub Saharan Africa: Critical Issues and Challenges. International Monetary Fund working paper, P. wp/07/209.
- Vitali F, Mollah S (2011). Stock Market Efficiency in Africa: Evidence from Random Walk Hypothesis; www.southwesternfinance.org/conf-2011/swfa.
- World Bank (1997). *Confronting Aids, Policy Research Report*. Oxford University Press.