

The State of African Stock Markets

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<p>Abstract:</p> <p>The paper looks at the state of African stock markets during and after the global economic crisis of 2008. The research focuses on the market performance of 15 African stock exchanges from 2007-2012. The size and liquidity of stock markets in the African region is discussed in this thesis. In addition, it compares the performances of a few indexes in the emerging and developed markets to that of African indexes. Data is gathered from individual stock markets as well as notable institutions such as World Federation of Exchanges (WFE), African Stock Exchange Association (ASEA) available in ASEA Yearbooks, World Bank etc. In assessing the size and liquidity of the various markets, the researcher uses the market capitalization, number of listed companies, turnover ratio etc. For the stock return assessment, the researcher adopts the use of annualized stock returns. Risk-adjusted performance is ascertained through the analysis of a Sharpe ratio. The findings of this thesis have it that although African stock markets have increased in number, they generally remain small in size and illiquid with the exception of South African stock market (JSE). Nonetheless, they yield remarkable returns. Volatility still remains an issue of African stocks although they are often as volatile as that of some emerging markets. African stock markets account for a meager percentage of the world market capitalization when compared to developed markets such as US and EU Area. But investments in the African equity markets seem to yield good returns despite the perception about the region's risk and volatility levels. African stock indices, under particular periods of investments, compared to both emerging and developed market indexes are also recording positive returns. Both S&P and MSCI African indices seem to be performing well on the global market.</p>	
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1 INTRODUCTION

1.1 Background to the Study

The rising consciousness of investors about equity markets around the globe serves as a drive for researchers to probe into the performances of world equity markets without any exception. With time, figures have shown an indication of a surge in world stock markets with emerging markets accounting for significant amount of this rise. Elsewhere in Africa, new stock markets have as well been established. The history about the expansion of African stocks goes beyond just a numerical addition; it marks a development in stock markets across the African region. ‘Stock market development has been central to the domestic financial liberalization programs of most African countries’ (Yartey and Adjasi, 2007, p.3). In the period before 1989, Africa could only boast of five stock markets in sub-Saharan region and three stock markets in the Northern region. Presently, there are 29 stock exchanges as a representation of 38 countries’ capital market. This reflects an image of willingness to develop and ultimately bridge the gap between Africa and the rest of the world. To a larger extent, the motive (political) behind the creation of stock exchanges in Africa was in efforts of national resources mobilization, ‘notably as part of privatisation programmes which concerns an important sector of public enterprises, besides attracting foreign investors’ (African Union, 2008).

Reasons for the rapid development of African stock markets have been an interesting issue in recent times. As the second most populous continent with lots of natural resources, African stocks are ticked of their future economic potentials in Africa’s economy. Quite a number of studies and research have been conducted on the scope and rate of African stock market development viz-a-viz the quantum of investment the region attracts. Other researchers also focused on testing the Efficient Market Hypothesis (EMH) on African stock markets (Mlambo and Biekpe, 2007; Nwosa and Oseni, 2011). Although most of them assigned weak-form efficiency to African stock markets, some researchers are of the belief that this continues to change over time (Jefferis and Smith, 2005). ‘While the weak-form market efficiency of the major developed and emerging stock markets of Latin America, Europe and Asia have been the focus of prior studies

(Claessens et al., 1995; Fifield et al., 2005), the weak-form hypothesis has received little attention from researchers in Africa' (Ntim et al., 2011).

The state of African stock markets in totality brings forth questions about how the markets hold up in terms of the gaps in their functional and operational efficiencies. As arguments established by some studies on African stock exchanges, a contentious case of informational inefficiency could be one besetting issue for the continent's stock markets whereas question arising from flow of liquidity is another. These clearly spell out the difference between stock markets in Africa and those in the developed countries. It is however noteworthy that the disparity between the various renowned and developed stock markets and that of Africa signifies a challenge for the financial base of the continent. Attempts to up its efforts to reach the standards of such stock markets could be seen as a case of clear-cut emulation of the Western markets which is of positive effects to the African stock markets.

Facts and figures gathered in early 2013 have it that by region, North and Latin America bourses obtained the largest share of 43.2 percent of the total global stock market capitalization whereas Asia-Pacific followed with 30.6 percent. Europe, Africa and the Middle East had a total of 26.14 percent (WFE, 2013). On the whole, African stock markets cannot boast of a very significant share of the world market capitalization but 'many African markets offered dramatic returns to investors over time' (Massa and Billmeier, 2009). And since 1995, there has been at least one African stock exchange on the world top ten best performing stock markets. This is seen as a reflection of the efforts on the advancement of stock exchanges in the African region; may as well be a motivation for both local and foreign investors to consider investing in African stocks.

The emergence of African stock markets has raised concerns about the integration of African stocks as a financial hub with the power of attracting international investors to Africa. Researchers have found out that regionalization as a means of consolidating African stocks is the right opportunity to promote the 'financial globalization of Africa' (Senbet and Otchere, 2008). It is heart-lifting to discover that most African stock markets are considering regionalization as a viable option. With the Bourse Régionale des Valeurs Mobilières SA (BRVM) being a leading example, the West, East and Southern African exchanges are gearing their efforts towards regionalization.

In the wake of initial studies on the performances of African stock markets, this thesis sets to look at the general development and performance of African stocks on the world market during and after the Global Economic Meltdown of 2008.

1.2 Aim of the Study

The general aim of the research is to evaluate the performance African stock exchanges on the world market after the global recession with emphasis on selected African stock markets. As well, conclusion is made based on the findings.

1.3 Research Questions

The study seeks to provide answers to the following developed research questions:

1. What is the size of the African stock market as a whole?
2. What are the risks of stock investment in the African region?
3. What are the returns on stock investment in the region over time given the risks involved?
4. Are the African stock markets in general liquid or illiquid?
5. How do African stock markets currently fare in comparison to the emerging and developed stock markets?

1.4 Significance of Study

Mostly due to the rareness of specific data, only a countable number of studies have been performed on African securities. However, the awareness of public about transparency and right to information seems to influence the flow of information although it is still not up to the standards in the developed countries. Therefore there is a need to have an in-depth assessment of the performance of the sharply rising African stock exchanges.

Academically, the study aims at looking at the issue in a broader perspective; collecting and analyzing significant information and data on the focused topic so as to make room

for further or future references and generalization of the findings. This paper attempts to offer an overview of the development and performance of African stock markets over time. Both practical and theoretical research may benefit from the study as it is set to measure and analyze current data obtained. This study also supplements the limited pool of current literature available on African stock markets. It further aims at obtaining results with objectivity and a sense of scholarly exactitude and is available to add-ons by other researchers should the need arise.

In addition, this study may serve as a guide for both local and foreign investors who have intentions of investing in the African stock markets.

1.5 Description of Data and Methodology

The study focused mostly on the collection of secondary data for analysis. To a large extent, the study relied on data and statistics compiled by the African Stock Exchange Association (ASEA) available in ASEA Yearbooks. Academic research publications from notable institutions such as the International Monetary Fund (IMF), World Federation of Exchange (WFE), World-Bank, etc. were considered as well. There were also a few studies on African stock markets that provided guideline to the accomplishment of the core objective of this study. Where needed information and data were inaccessible, efforts were made to reach professionals in the various African stock markets to obtain the needed information. The researcher did not limit information gathering to any specific technique; desk research was however the most used in this study.

Although the study heavily relied on reviewing available literature to provide insight and guidelines to the set objectives, it followed a quantitative approach of research methodology where data collected over a specific period of time were organized and analyzed in light of the set objectives. The methodology allowed the systematic investigation of the subject of the study through a statistical method. Presentations of findings were done in graphical forms with the addition of analytical interpretation. Tabulation of relevant data done through an excel database for the easy comprehension of the reader were also considered in this research. This was used to show for instance the market capitalization of the various stock markets, turnovers etc.

Risks of the stock markets were analyzed by calculating the performance of the markets after adjusted-risk. The researcher used the Sharpe ratio for this performance indicator. The ratio was based on the mean stock returns and mean risk free rates of return for a specified period of time, for countries which data is easily available. In analyzing the returns on stocks for African stock markets, methods such as annualized index returns, turnover ratio and annual percentage returns to African equity markets were considered. The turnover ratio is a method of measuring the market's total trading activities relative to the stock market size. It is seen as a rough method of measuring the liquidity of stock markets. The researcher also aimed at analyzing the link between of African stock markets and the economic development of respective countries. This was done by looking at a market indicator like market capitalization as a percentage of GDP. A general comparison of mean, annualized percentage growth of total African stock markets against that of emerging and developed markets was also established in this study.

1.6 Limitations

Data collection was hindered by the lack of readily available data and information on some of the African stock exchanges. To add to this, the unwillingness of professionals in the field to discuss matters relating to African stock markets with the researcher also slowed down the expected progress and results of this study. The researcher at some points had to make use of not-so-current information and data. The results nonetheless are justifiable under any rigorous review. Access to some international database was also restricted due to lack of subscription.

1.7 Conceptual Definitions of Terms

Stock: It is a claim of stake or ownership in a company's assets often represented by a security.

Stock Exchange/ Equity Market: A market where the sale and purchase of securities take place. African stock exchanges represent the individual national stock exchange discussed in this study.

Stock Market Integration: The amalgamation and synchronization of various stock markets mostly found within a common geographical region.

Stock Performance: It succinctly refers to how stocks fare under their respective markets given the risks and returns of the markets.

Market Capitalization: It is the monetary value of a company's total shares. It is calculated by multiplying the total outstanding shares of the company by the share price.

Turnover ratio: It is the ratio of total value of traded shares in a particular period to the market capitalization for the same period of time.

2 LITERATURE REVIEW

This chapter provides reviewed literature relevant to the study. It particularly aims at probing into the pool of literatures available on African stocks in relation to the established objectives of the study. For the sake of easy comprehension, it is necessary to segment this literature review into various parts;

2.1 Brief History on the Development and Trend of African Stock Markets

Following information on the history and development of African Stock Markets, it is difficult to overlook the fact that African Stock Markets have shown a collective sign of rapid maturity and development over time. Started with just 8 stock exchanges in the whole of Africa prior to 1987, the number of stock exchanges burgeoned to 29 by the year 2012 representing 38 nations' capital markets (Moin, 2007; ASEA, 2012). With Seychelles Stock Exchange and Egyptian Exchange as the latest and oldest African Stock Markets established in 2012 and 1883 respectively, it would be an erroneous expression to conclude that African Stock Exchanges has not seen substantial development overtime. Below is the list of various African Stock Markets and their dates of establishment.

Table 1: List of African Stock Exchanges

Economy	Exchange	Location	Found- ed
West African Regional Stock Exchange	Bourse Régionale des Valeurs Mobilières*	Abidjan (Côte d'Ivoire)	1998
Algeria	Algiers Stock Exchange	Algiers	1997
Botswana	Botswana Stock Exchange*	Gaborone	1989
Cameroon	Douala Stock Exchange*	Douala	2001
Egypt	Egyptian Exchange*	Cai-	1883

		ro, Alexandria	
Cape Verde	Bolsa de Valores de Cabo Verde*	Mindelo	2005
Ghana	Ghana Stock Exchange*	Accra	1990
Kenya	Nairobi Stock Exchange*	Nairobi	1954
Libya	Libyan Stock Market*	Tripoli	2007
Malawi	Malawi Stock Exchange*	Blantyre	1995
Mauritius	Stock Exchange of Mauritius*	Port Louis	1988
Morocco	Casablanca Stock Exchange*	Casablanca	1929
Mozambique	Bolsa de Valores de Moçambique*	Maputo	1999
Namibia	Namibia Stock Exchange*	Windhoek	1992
Nigeria	Abuja Securities and Commodities Exchange	Abuja	1998
	Nigerian Stock Exchange*	Lagos	1960
Rwanda	Rwanda Stock Exchange	Kigali	2008
Seychelles	Seychelles Stock Exchange*	Victoria	2012
South Africa	Johannesburg Stock Exchange*	Johannesburg	1887
Sudan	Khartoum Stock Exchange*	Khartoum	1994
Swaziland	Swaziland Stock Exchange*	Mbabane	1990
Tanzania	Dar es Salaam Stock Exchange*	Dar es Salaam	1998

Tunisia	Bourse des Valeurs Mobilières de Tunis*	Tunis	1969
Uganda	Uganda Securities Exchange*	Kampala	1997
Zambia	Agricultural Commodities Exchange of Zambia	Lusaka	2007
	Lusaka Stock Exchange*	Lusaka	1994
Zimbabwe	Zimbabwe Stock Exchange*	Harare	1993

(*) members of African Securities Exchanges Association, ASEA

Source: Wikipedia, http://en.wikipedia.org/wiki/List_of_African_stock_exchanges

It is important to note that there has been a decline in the number of stock markets openings although it reached its peak in the 1990s. Smith et al. (2002) simply categorizes African stock markets into four groups based on their stage of development:

- (1) South Africa which is larger, more developed in terms of regulatory framework and more advanced in terms of technical infrastructure than its counterparts;
- (2) Medium-sized markets which have been established for a long time (e.g. Egypt, Nigeria and Morocco);
- (3) Small-sized new market which have grown rapidly (e.g. Ghana Mauritius and Botswana); and
- (4) Small-sized markets that are still at an early stage of development (e.g. Swaziland, Zambia and Malawi).

The above categorization by Smith et al. (2002) provides an insight to the extent of growth of the various African stock markets but on the other hand, some of the stock markets have currently transcended their categories into another given the time and stock activities that have taken place with time. It is often documented that the apparent substantial increase in stock markets in Africa can be attributed to the extensive financial sector reforms undertaken by a number of African countries (Kenny and Moss, 1998). These financial reforms provide a platform for revamping dormant financial sectors in some of the African countries. They included the liberalization of their financial

sectors, privatization of state-owned enterprises, the improvement of the investment climate, introduction of a more robust regulatory framework and improvements in the basic infrastructure for capital market operations. (De la Torre and Schmukler, 2005).

However, as Yartey and Adjasi (2007) put it, ‘the rapid development of stock markets in Africa does not mean that even the most advanced African stock markets are mature’. Maturity here denotes market capitalization in close comparison to market capitalization of other developed stock markets. It is relevant to note that albeit African stock markets have increased in numbers over the past years, it is still considered to be small ‘by world standards and of limited local interest’ (Tolikas, 2007). The South African Stock Exchange is seen to control a lion’s share of the total market capitalization of African stock markets. The Johannesburg Securities Exchange (JSE) in South Africa has about 90 percent of the combined market capitalization of the entire continent (Yartey and Adjasi, 2007). This is followed by other giant African stock exchanges such as Nigeria, Egypt and Zimbabwe. This is not to disregard the fact that other African stock markets have been performing superbly on the world table. For instance, in 2004 the Ghana Stock Exchange was honored as the best stock market with the performance of 144 percent end-of-year return in USD terms compared with 30 percent return by Morgan Stanley Capital International Global Index (Mensah at al., 2012).

2.2 Stock Market and Economic Growth

There is an increasing realization by researchers of the correlation between stock market and economic development of countries. As records have it, there are currently quite a number of literatures outlining the significant correlation between stock market development and economic growth of countries. The linkage obtains its significance from the observation gathered from the activities of stock market on a developed economy. As Senbet and Otchere (2008) explains, ‘this linkage is explained by the role of a well-functioning stock market system in lowering the costs of mobilizing financial resources and in ensuring that these resources are allocated efficiently in the sense of being channeled to their highly valued use’. Evidence in the Eastern Asia countries during the 70s and 80s has it that there was a rapid growth in their macroeconomic indicators as stock market capitalization soared in the East Asian countries. In the same period, some Latin

American countries experienced a slow-down in economic growth and as expected, their stock markets responded negatively. In other study, Ali and Ahmed (2008) showed the relationship between the stock price and the economic growth in their study of KSE-100 index. The data used range from year 1971 to 2006. In conclusion, they established a direct and relevant correlation between the stock price and economic growth.

With emphasis on the economic development of Africa, it can be argued that the emergence of stock markets in the region has an effectual impact on the economic growth of African countries. As stated earlier in this paper, the initial motive behind establishment of stock markets in African countries has been to liberalize the financial sector which in turn stirs a positive and more appreciated operation of the sector. Yartey and Adjasi (2007) dedicated a whole section to immensely discuss the contribution of stock markets in the financing of corporate growth in Africa as an important function of national economic growth. Without going in-depth on this, it is conclusive that ‘corporate financing patterns in certain African countries suggest that stock markets are an important source of finance (Yartey and Adjasi, 2007). A typical example is seen in Ghana where within the period of 1995-2002, the about 12 percent of total asset growth of listed companies were financed by the stock market (Yartey and Adjasi, 2007).

In an examination of an economy wide-effect of stock markets, three stock market indicators need to be considered: turnover ratio, market capitalization relative to GDP and shares traded relative to GDP. These relevant indicators are further expatiated in this study given the data gathered.

2.3 Risks of African Stock Markets

Investments risks are present everywhere even where the markets are most developed and efficient. Likewise, investments in African stock markets as emerging markets are stringed with a couple of risks. As noted, a function of stock market is to provide a function means of risk diversification. ‘However, there are risk factors that are beyond the control of these markets, which largely stem from instabilities in the economic systems as well as political systems’ (Senbet and Otchere, 2008). The following represent the risks researchers perceive of African stock markets based on evidence;

a. Macroeconomic and Political Instability

Investment is a forward-looking activity based on investors' expectations regarding future returns and the confidence that they can place on these returns (Brada et al., 2006). These expectations from investors are contoured by specific factors such as the macroeconomic and political wellness of the country in which they invest. Africa has been plagued with political instability and fluctuations in the macroeconomic indicators. Although issues are getting calmer by the day, some rational investors are still skeptic about investing in African stocks. There have been a considerable number of literatures that study the relationship and effect of macroeconomic and political instability on stock markets. Kutan and Perez (2002) established a significant relationship between Columbia's socio-political instability and the stock market prices. Stock market volatility due to political instability has been established in studies such as Han and Wei, 1996; Bittlingmayer, 1998; Aggarwal, Inclan, and Leal, 1999 etc. Till date, there has not been an agreement on the exact relationship between macroeconomic stability and stock market development. But what is generally known is that investors are attracted to countries with convincing macroeconomic indicators and this affects Africa's ability to pull international investors. This however is gradually changing.

b. Currency Fluctuation

Endemic to most African states is the high volatility in currency exchange. As researched by Senbet and Otchere (2006), it is evident that currency depreciation has had quite a negative effect on the performance of African stock markets. Granger et al. (2000) found a bivariate causality on whether currency depreciation informed lower stock prices or whether declining stock prices led to depreciating currencies during the Asian Crisis of 1997. In most research works on currency fluctuations, there seem to be a form of significant relationship between currency fluctuation and stock market prices.

3 RESULTS AND DISCUSSION

3.1 Introduction

This chapter follows an analysis of the major 15 African stock exchanges which forms a representation of about 68% of the total number of African Stock Exchanges registered under ASEA. Due importance is also given to a few of the active stock exchanges as their contribution to the totality of African stock exchange is voluminous: Nigeria Stock Exchange, Casablanca Stock Exchange, Johannesburg Stock Exchange, Bourse de Tunis, Zimbabwe Stock Exchange, Nairobi Stock Exchange, Ghana Stock Exchange and Egyptian Exchange. They constitute a staggering 90% of stock exchange activities in the African region (Capital Market Authority, 2010). Hence, their importance could not be overlooked. Data presentation and analysis is segmented into various themes guided by the research questions and aims.

3.2 Size of Market

This section deals with data to help ascertain the actual size of the African stock markets after the world economic turmoil. The following sections look at the various stock markets capitalization, number of listed companies as well as the markets capitalization as a percentage of each country's GDP. These indicators serve as an insightful way of finding out the actual size of African stock markets.

3.2.1 Stock Market Capitalization

The concept of market capitalization is very common in stock market analysis to denote the measurement of the total value of a market with consideration of the total value of shares. It is a representation of an estimate of a market's value based on perceived futures as well as its economic and monetary situations. The table below displays data for the calculation of the total capitalization for the various African markets within a specific period of time.

Table 2: African Stock Exchanges Capitalization (USD-bn)

	2007	2008	2009	2010	2011	2012	%Change 2008-2009	%Change 2009-2010
Botswana*	5.44	41.76	56.14	67.5	54.7	53.03	34.43%	20.24%
Egypt	139.32	85.9	91.08	84.1	51.69	60.1	6.03%	-7.66%
Ghana	12.74	14	11.15	13.68	28.52	30.46	-20.36%	22.69%
Kenya	13.61	10.98	10.97	14.48	10.34	15.9	-0.09%	32.00%
Malawi*	1.29	13.1	8.03	8.48	16.37	10.57	-38.70%	5.60%
Morocco (Bourse de Casablanca)	76.02	65.66	64.74	69.29	60.19	52.8	-1.40%	7.03%
Namibia*	1.74	78.98	141.49	173.44	137.86	144.15	79.15%	22.58%
Nigeria	105.65	72.8	47.75	66.2	43.06	57.77	-34.41%	38.64%
South Africa	836.34	476.84	793.07	981.44	845.58	998.34	66.32%	23.75%
Sudan (Khartoum)	5.18	4.17	2.6	2.56	3.3	2.2	-37.65%	-1.54%
Tanzania (Dar Es Salaam)	2.79	3.8	3.83	3.37	7.39	8.4	0.79%	-12.01%
Tunisia (Bourse de Tunis)	4.4	6.3	9.28	10.63	9.64	8.89	47.30%	14.55%
Uganda	3.53	3.1	3.75	5.51	4.12	5.88	20.97%	46.93%
Zambia (Lusaka)	4.83	4.1	5.27	6.3	9.41	9.4	28.54%	19.54%
Zimbabwe**	NA	NA	3.81	3.88	3.69	3.96	NA	1.84%
Total (Af15)	1212.88	881.49	1252.96	1510.86	1285.86	1461.85		
Average							10.78%	15.61%
WFE Total Mcap	60,855	32684	47763	54884	47401	55,000		
% of Af15 to WFE	1.99%	2.70%	2.62%	2.75%	2.71%	2.66%		

Source: Data from ASEA; Author's calculation

*2007 values for Botswana, Malawi and Namibia include market capitalization for domestic companies only.

**Zimbabwe's values for 2007 and 2008 were unattainable because of the Zimbabwean crisis.

After a sharp decline in the world equity market capitalization in 2008 due to the global financial crisis, there was an attempt of recovery in 2010 at a value of 54.88 trillion USD which subsequently grew to 55 trillion USD by the end of 2012. A closer look at the percentages accounted by African stock markets (Af15) reveal that during the peak of the crisis, African stock markets registered a meager but impressive 2.7%; an increase of 0.71%. This then slightly increased to 2.75% in 2010 when the world was on the verge of recovery. This presents a bit of justification to say that the impact of the global financial crisis was not devastating on the stock market operations in Africa. During 2008-2009 as the table shows, most African markets experienced a rise in their market capitalization with the exception of a few such as Ghana, Kenya, Malawi, Morocco, Nigeria and Sudan. Namibia registered the highest percentage increase of 79.15% and was followed by South Africa registering about 66.32%. Namibia's rising capitali-

zation figures can be attributed to the fact that the Namibian stock exchange mostly constitutes dual listed JSE shares, with Anglo American accounting for about 36% of the total market capitalization. The sudden jump in Ghana's capitalization from year 2010 was as a result of the introduction of Tullow Oil. Tullow Oil now currently accounts for about 59% of the entire Ghana stock market capitalization, tailed by Anglo Gold Ashanti, which accounts for about 27.7% (Imara, 2012). As an anticipated sixth largest exporter of crude oil in Africa, there is an expectation of growth on the Ghana stock market with time. Dangote Cement PLC remains the most capitalized stock in the Nigerian stock market. On the average, Af15 saw a positive figure of 10.78% (2008-2009) during the global financial crisis which then rose to 15.61% (2009-2010) during the recovery period.

3.2.2 Number of Listed Companies (Domestic)

This indicator shows the fluctuations in the total amount of companies whose shares are quoted on the stock exchange and traded publicly. It is important in determining the changes in the number of listed companies over a period of time. This helps in formulating a comprehensive analysis of the size and growth of the specific exchanges discussed in this paper. Below is a compilation of the number of listed companies for the various stock exchanges over a particular length of time.

Table 3: Number of Listed Companies (Domestic)

	2008	2009	2010	2011	2012	%Change 2009-2010	%Change 2011-2012
Botswana	31	31	32	37	39	3.23%	5.41%
Egypt	373	306	211	213	235	-31.05%	10.33%
Ghana	35	35	35	34	34	0.00%	0.00%
Kenya	56	55	55	58	60	0.00%	3.45%
Malawi	15	15	15	14	14	0.00%	0.00%
Morocco (Bourse de Casablanca)	77	76	74	76	77	-2.63%	1.32%
Namibia	29	33	33	32	33	0.00%	3.13%
Nigeria	213	216	217	198	194	0.46%	-2.02%
South Africa	425	410	407	406	400	-0.73%	-1.48%
Sudan (Khartoum)	NA	53	55	56	59	3.77%	5.36%
Tanzania (Dar Es Salaam)	14	15	15	17	17	0.00%	0.00%
Tunisia (Bourse de Tunis)	50	52	56	57	59	7.69%	3.51%
Uganda	10	11	13	14	15	18.18%	7.14%
Zambia (Lusaka)	20	20	20	20	20	0.00%	0.00%
Zimbabwe	78	78	79	78	79	1.28%	1.28%
Total (Af15)	1426	1406	1317	1310	1335	-6.33%	1.91%
Average	101.86	93.73	87.8	87.33	89		
WFE Total	45846	45358	45172	45953	46332	-0.41%	0.82%
% of Af15 to WFE	3.11%	3.10%	2.92%	2.85%	2.88%		

Source: Data from ASEA; World Bank; Author's calculation

The World Federation of Exchanges (WFE) reported a decline of 488 in the total number of listed companies within the crisis period of 2008 and 2009. There was a further decrease of 0.22% in 2010. Paying close attention to the values accounted by Af15, it is noticed that there was a steady decline in the percentages of Af15 to WFE from 2008 to 2011. A 0.03% increase was however registered in 2012. The main reasons for decline in the number of listings for African stock markets are low liquidity and cost of listing and administrative fees. Data during the recovery period indicate that both Af15 and WFE recorded negative percentages of -6.33% and -0.44% respectively (Changes in 2009 and 2010). Changes from 2011 to 2012 nonetheless were positive as Af15 registered a 1.91 percentage change whereas WFE made a change of 0.82%. This is a clear indication of a gradual pickup from the ravaging claws of the recent financial crisis. Looking at the averages obtained by Af15, it is noticed that the averages from year 2010 to 2012 do not sway much from each other although there was a brazen indication of

gradual ascension. It can be explained by the steady trust of investors in the African stock markets after the world economic recession.

South Africa, Egypt and Nigeria continue to top the table as the three stock exchanges with highest numbers of listed companies. It is of no doubt that Grant Thornton's "Emerging Markets Opportunity Index: high growth economies" recently ranked South Africa as the best emerging economy in Africa, positioned above Nigeria in relation to potential investment countries (IBR Report, 2012).

3.2.3 Market Capitalization as a Percentage of GDP

As an investment ratio, the market capitalization as a percentage of GDP is used to determine the extent to which a particular market is undervalued or overvalued. It is calculated as the country's market capitalization divided by the market GDP and then multiplied by 100 (Investopedia, 2013). The outcome of this calculation is the share of the country's GDP that is accounted for by the stock market trading. Usually, a market with value greater than 100% is explained as an overvalued market, whereas a market with value of around 50% is translated as market undervaluation (Investopedia, 2013).

Table 4: Market Capitalization as a Percentage of GDP

	2007	2008	2009	2010	2011	2012	Mean
Botswana	37.1%	40.7%	29.8%	30.0%	25.1%	23.8%	31.1%
Egypt	85.8%	45.6%	48.1%	40.5%	22.7%	22.5%	44.2%
Ghana	96.0%	109.0%	73.7%	44.9%	120.4%	99.7%	90.6%
Kenya	49.3%	31.8%	36.6%	48.3%	34.5%	42.1%	40.4%
Malawi	48.7%	44.8%	38.4%	37.0%	31.0%	20.0%	36.6%
Morocco (Bourse de Casablanca)	95.3%	79.3%	69.8%	76.2%	60.6%	54.8%	72.7%
Namibia	21.8%	12.8%	17.8%	21.9%	11.0%	11.8%	16.2%
Nigeria	28.0%	18.0%	31.0%	24.6%	17.4%	21.8%	23.5%
South Africa	280.4%	179.9%	248.2%	174.9%	130.2%	159.3%	195.5%
Sudan (Khartoum)	8.4%	6.8%	5.1%	4.0%	4.7%	4.0%	5.5%
Tanzania (Dar Es Salaam)	15.1%	21.7%	16.0%	15.3%	30.2%	33.0%	21.9%
Tunisia (Bourse de Tunis)	14.5%	16.3%	22.9%	24.1%	22.5%	19.3%	19.9%
Uganda	25.7%	21.3%	20.9%	30.2%	22.5%	35.0%	25.9%
Zambia (Lusaka)	54.6%	37.8%	48.0%	48.1%	63.5%	52.8%	50.8%
Zimbabwe	NA	62.4%	154.4%	52.3%	41.6%	42.8%	70.7%
Af15 Mean	61.5%	48.6%	57.4%	44.8%	42.5%	42.9%	49.7%

Source: Data from ASEA; World Bank; Author's calculation

Clearly from the table above, it is deduced that only a few exchanges have their mean (2007-2012) to be close to 100% or above 100% which signifies overvaluation of those markets. South Africa leads the value table with a mean of 195.5%, and then followed by Ghana with 90.6%. Zimbabwe's 70.7% was due to the hyperinflation suffered by their economy in the recent past. It is interesting to note that Nigeria's value is not high although the country's stock market could boast of a good capitalization value. To address this, the country is currently trying to rebase its GDP to \$375 billion thereby increasing the size of its economy by 40%. Ghana had undergone the same exercise in 2010 which grew its economy by almost 60%. Rebasings is a method used by governments periodically to validate GDP figures to reflect the new structural changes in the economy. It is 'the process of replacing present price structure (base year) to compile volume measures of GDP with a new (more recent) base year' (DLM Research, 2013). It is also observed that the mean for Af15 lingered around 40% giving it an accumulated mean of 49.7%. This, when rounded up to 50%, compares to the historical average of USA which translates undervaluation. It is important to note that the size of African stock exchanges has been gradually growing from about 17% in 1991 to above 40% in 2012.

An amalgamation of the three discussed indicators gives us an insight into the size and growth trends of the various African stock markets. It can be therefore deduced that African stock markets had the tendency of withstanding the turbulent recent economic turmoil as proven by the data gathered during and after the crisis. Although they account for a small proportion of the total world stock markets capitalization, African stock markets have grown significantly considering their percentages to the WFE values for the listed years. It can only be assumed that its contribution to the total size of the world stock markets is understated since it is a region with a potential to expand its stock operations rapidly when given the needed support and attention. It is also noted that the instability in the GDP rates of some African countries due to political instabilities in the past causes a distortion in some of the values of capitalization as a percentage of GDP. A typical example is Zimbabwe where in 2009 it recorded a value of 154.4% due to the Zimbabwean political crisis which had a devastating effect of its economy. In years 2008, 2010, 2011, and 2012, African stock markets in general were undervalued which should make investors cast their prying eyes on most of the African exchanges.

The total calculated mean of African stock markets indicates that African stock markets collectively are undervalued.

3.3 Liquidity of African Stocks

The extent of liquidity or illiquidity of a market is very pertinent to investors in analyzing the operational function of the market. It is not surprising that African markets with the exception of South African market, are by so far the thinnest and smallest in relation to capitalization size and number of listed companies. Albeit Africa has seen a remarkable increase in stock market number, its accumulated capitalization is still in pale comparison to that of emerging and developed markets. In this section, the values traded for the markets are tabled and analyzed in ascertaining the general liquidity. More so, the turnover ratios of each stock market are assessed in order to measure the operational efficiency of the markets geared towards the ease of trading.

3.3.1 Value Traded

This indicator shows the value of shares traded in the year. It is arrived at by finding the product of the total number of shares traded within a specific time by the market value of the shares. Unlike the value traded, the volume traded looks specifically at the number of shares traded within a given period of time. Value traded is a strong indicator of the liquidity of a stock market. It is used to measure the stock market transactions relative to the stock market size. A high stock traded value is an indication of a highly liquid market. Below is the tabulation of the stock traded values of the selected African stock markets.

Table 5: Value Traded (2008-2012) Mil-USD

		2008	2009	2010	2011	2012
Botswana		155.10	114.50	149.52	133.97	135.60
Egypt		96,056.03	81,707.25	55,360.55	24,571.44	23,402.70
Ghana		316.69	51.88	102.92	269.01	54.36
Kenya		1,254.97	503.36	1,369	917.58	1,085
Malawi		59,701	20,310	12.40	53.35	16.18
Morocco (Bourse de Casablanca)		12,478.50	7,045.94	9,778.72	5,980.91	5,832.53
Namibia		1,085.49	1,081.69	1,019.68	448.52	494.51
Nigeria		18,285.71	4,654.80	5,290.74	4,181.92	4,231.65
South Africa		395,235.21	377,868.63	451,762.16	402,299.57	408,628.96
Sudan (Khartoum)		281.61	164.71	903.85	956.20	698.53
Tanzania (Dar Es Salaam)		20.61	25.71	25.49	35.02	32.38
Tunisia (Bourse de Tunis)		1,610.05	1,377.05	1,826.39	1,048.20	1,253.08
Uganda		46.27	10.39	18.15	17.50	9.94
Zambia (Lusaka)		161.72	875.01	196.04	149.10	68.32
Zimbabwe		NA	NA	391.57	477.52	448.20
Total (Af15)		586,688.96	495,790.92	528,207.47	441,539.81	446,391.87
WFE Total		88,446,000	62,002,000	63,090,000	63,000,000	49,000,000
Percentage of Af15 to WFE		0.66%	0.80%	0.84%	0.70%	0.91%

Source: Data from ASEA and WFE; Author's calculation

Clearly from the data display above, African stock markets account for a very small portion of the WFE total value traded for the specified years. It is also obvious that South African stock market accounts for the largest percentage to the total accumulated stock trading value for Af15. This is followed by Egypt and Nigeria. The decline in value traded in the Egyptian stock exchange is attributed to the political turmoil disturbing the country. With regards to Nigeria, the banking sector remained the most active in 2011 despite the decline in value traded recorded in that year. Investors lost their investments in nationalized banks when the banking reform took place in the same year. There has been however a consistent growth in the proportion of Af15 to WFE total from 2008 to 2010. Both values for Af15 and WFE saw a huge decline possibly due to lack of investor confidence in the market during the 2008 crisis. African stocks managed to put up a rather good percentage change of 0.21 in 2012 as compared to the figure in 2011.

3.3.2 Turnover Ratio

A stock market's turnover ratio is simply a measure of how frequent stock exchanges hands. It is use to tell how well stocks are quickly turned into revenues. A low turnover ratio is an indication to potential investors that the stock price is unaffected by any sudden and high purchases of the stock due to the abundance of the stock. A high turnover ratio suggests to the investor that an increase in purchases would have a considerable effect on the stock due to the few numbers available. Although a higher ratio implies higher demand for stocks, it also suggests higher brokerage fees or transaction costs which, if uncontrolled, could minimize returns (Investopedia, 2013). Therefore, potential investors tend to consider stocks with low turnover ratios. The turnover ratio of a stock market is the result of the value traded divided by the market capitalization.

Table 6: Turnover Ratio (%)

		2008	2009	2010	2011	2012	Average
Botswana		3.9	2.7	3.7	3.3	2.71	3.262
Egypt		70.3	49.9	42.9	34	34.09	46.238
Ghana		2.1	0.0046	0.0075	2.49	0.0018	0.92078
Kenya		11.42	4.59	9.45	8.87	6.82	8.23
Malawi		3.337	1.33	0.9	3.15	1.57	2.0574
Morocco (Bourse de Casablanca)		19	10.88	14.11	9.94	9.03	12.592
Namibia		1.37	0.76	0.59	0.32	0.34	0.676
Nigeria		25	10	9.91	9.71	7.32	12.388
South Africa		71.84	46.25	43.26	46.25	40.93	49.706
Sudan (Khartoum)		5.1	4.59	9.45	8.87	9.5	7.502
Tanzania (Dar Es Salaam)		0.7	1	0.76	0.47	0.39	0.664
Tunisia (Bourse de Tunis)		23.06	14.02	17.18	10.87	14.1	15.846
Zambia (Lusaka)		3	0.9	3.11	1.59	0.73	1.866
Zimbabwe	NA		10.76	10.08	12.94	11.31	11.27
Africa mean		18.47	11.26	11.81	10.91	9.92	12.37

Source: Data from ASEA; Author's calculation

African stock markets registered an overall mean turnover ratio of 12.37% for the period 2008-2012 which is a strong indication of potentially investable market. Throughout the period, only a few African markets posted averages higher than the overall mean for all African stock markets. These included South Africa (49.7%), Egypt (46.2%), Tunisia

(15.8%), Morocco (12.6%) and Nigeria (12.39%). It is likely that transaction cost is high in the stated markets. The rest, nonetheless, certainly proved to be catchy and investable stock markets. Tanzania proved to be the market with the least turnover ratio of 0.66% followed by the Ghana Stock Exchange which registered a turnover ratio of 0.92%. Namibia's decline of value traded figures in 2011 and 2012 relative to its rising market capitalization had an effect on its calculated average figure for the entire period in the table.

The high turnover ratio posted by some African stock markets could be explained by the tendency of families and strategic investors to control a large portion of the stocks in those markets. Hence, there is a lower free float of shares in those markets. A survey on the Nairobi Stock Exchange buttressed this point as over 70% of the free float shares were controlled by only 20% of the total number of investors. The 20% constituted of corporate shareholders including foreign companies and HNW individual shareholders. On the other hand, the low turnover ratio experienced by most of the African stock markets could be attributed to 'strong trading interests from institutional investors' (Capital Market Authority, 2010).

A close-up analysis of the above explained measures of liquidity proved that African stock markets are indeed small in values. The conclusion was that apart from South Africa stock exchange, African stock markets are low in liquidity. Despite the rapid development in African stock markets, more needs to be done to ensure enough liquidity in order to attract more investors. Reasons for the low liquidity in African markets include low demonstration of primary market activities. Low liquidity in for instance Ghana Stock Exchange could be attributed to the fact that only a few shareholders control a larger portion of the market. Ashanti Goldfields control almost about 90% of trading in the GSE. Safari Ltd. in Kenya also account for about 65% of the market's turnover. It was also observed that decrease in volume does not necessarily mean decrease in value. This was seen in 2010 when the total volume recorded declined to 0.22 trillion but the value traded for that year increased to USD 528,207 million.

3.4 Returns on Stocks

Every investor seeks for the trend of returns on stock indices before considering an investment into that specific stock. In this section, a display of data on the annual index returns on the various African markets is analyzed. As well, the annualized growth in capitalization of the various markets is probed into. A critical analysis of these indices would allow a panoramic view of the returns on African stock markets.

3.4.1 Annualized Index Returns

The annualized index return looks at the returns on each index at the end of the fourth quarter for a particular period of years. Under this section, a collection of data on the yearly closing points on the various stocks is put into analysis. Calculating the percentage change in these figures would hopefully help provide enough explanation to the trend of returns on the indexes. As equity based index, it assumes an accurate explanation of an index's performance over a given period of time. This certainly is used to tell whether a particular market gained or lost in given a time period.

Table 7: Yearly Closing Points on Stocks (Annual Returns)

		2008	2009	2010	2011	2012	%Change 2008-2009	%Change 2009-2010	%Change 2011-2012
Botswana	Domestic (DCI)	7,035.50	7,241.89	6,412.90	6,931.96	7,510.25	2.9%	-11.4%	8.3%
Egypt	EGX 30 Index	4,596.49	6,208.77	6,968.12	3,586.55	5,417.59	35.1%	12.2%	51.1%
Ghana	GSE All Share Index	10,431.64	5,572.34	7,369.21	969.03	1,199.72	-46.6%	32.2%	23.8%
Kenya	NSE 20 Share Index	3,521.18	3,247.44	4,432.60	3,205.02	4,133.02	-7.8%	36.5%	29.0%
Malawi	MASI	6,091.15	5,154.95	4953.09	5,027.27	6015.51	-15.4%	-3.9%	19.7%
Morocco (Bourse de Casablanca)	MASI	10,984.29	10,443.81	12113.52	11005.1	9359.12	-4.9%	16.0%	-15.0%
Namibia	NSX Overall Index	556.26	771.91	873.29	838.24	983.79	38.8%	13.1%	17.4%
Nigeria	NSE All Share Index	31,450.78	26,927.65	24,770.52	20,730.63	27866.51	-14.4%	-8.0%	34.4%
South Africa	JSE All Share Index	21,348.45	27,666.45	32,118.89	31,985.67	39,250.24	29.6%	16.1%	22.7%
Tanzania (Dar Es Salaam)	DSEI	1,239.93	1,192.37	1,163.89	1,303.23	1,485.63	-3.8%	-2.4%	14.0%
Tunisia (Bourse de Tunis)	TUNINDEX	2,892.40	4,291.72	5,112.52	4,722.25	4,580.58	48.4%	19.1%	-3.0%
Uganda	USE All Share Index	779.25	732.53	1,188.07	864.45	1203.42	-6.0%	62.2%	39.2%
Zimbabwe	ZII	NA	151.99	151.27	145.86	152.4	NA	-0.5%	4.5%
Average							4.7%	13.9%	18.9%

Source: Various Stock Markets, Author's Calculation

**In 2011, Ghana Stock Exchange introduced the GSE Composite Index as a replacement to the GSE All Share Index. Its base value is 1000 points.*

All the indices above are total return indices representing the various African stock markets. It is necessary to note that the collection of data for this section has not been easy given the fact that most of the stock markets demand subscription before an access to historical data is granted. The researcher however was successful in the accumulation of data for the countries listed under Af15 with the exception of Zambia and Sudan where data was practically unavailable. Table 7 provides a display of the closing points of specific indices under the various stock markets. These points cover the years 2008 to 2012. As a representation of USD, the Ghana Stock Market recorded the biggest drop of -46.6% during the economic crisis period whereas TUNINDEX of Tunisia recorded the highest percentage increase of 48.4%. It is also noticed that most of the stocks (7 stocks) registered a percentage decrease with the same period which could possibly be explained to be as a result of the effect of the economic crisis. Nonetheless, trading began to look ravishing after 2009 which saw a positive performance from almost all the stocks with the exception of Botswana's DCI, Malawi's MASI, Nigeria's NSE ASI, Tanzania's DSEI and Zimbabwe's ZII. With Uganda's outstanding performance, the total average for Af15 in that period rose to 13.9%, an increase of 195.75% from the mean recorded in 2008-2009. The African indices continue to do well as their mean value advances by the year.

Table 8: Return on Stocks for Different Periods

Market Index	1-Month Return	6-Month Return	1-Year Return	3-Year Return
Botswana Stock Exchange	3.20%	-1.40%	4.20%	-9.20%
Dar es Salaam Stock Exchange	4.00%	10.50%	12.50%	34.40%
Ghana Stock Exchange	0.80%	4.20%	68.90%	N/A
Johannesburg Stock Exchange	8.50%	-1.00%	-5.30%	-2.10%
Lusaka Stock Exchange	1.50%	14.30%	24.10%	44.30%
Malawi Stock Exchange	6.10%	78.60%	51.70%	N/A
Nairobi Securities Exchange	7.70%	7.50%	44.10%	26.50%
Namibian Stock Exchange	4.30%	0.80%	3.80%	36.40%
Nigerian Stock Exchange	1.80%	7.00%	38.50%	56.50%
Stock Exchange of Mauritius	2.50%	2.80%	14.20%	12.90%
Uganda Securities Exchange	6.20%	5.80%	40.50%	25.70%
Zimbabwe Stock Exchange	10.10%	8.80%	37.00%	46.00%
S&P 500	3.00%	7.20%	16.70%	46.90%
Af15 (mean)	4.73%	11.49%	27.85%	27.14%

Source: InvestingInAfrica, 2013

The above table was calculated using the recent values of each exchange as of September, 2013 based on monthly data. The same indices mentioned in table 7 were used in the table above. Table 7 was used to show the percentage returns on the various indices during and after the economic crisis. Table 8 however shows return on the various indices for different time spans; 1 month, 6 months, 1 year and 3 years returns. Malawi and Ghana stocks continue to give out the best when it comes to returns. Malawi was adjudged the best performing stock market with regards to returns earlier this year. One could tell that most African stocks outperformed the S&P 500 index with only a few with recorded negative growth on returns. A closer look at the year to date returns indicates that Malawi Stock Exchange had the highest value of 62.1% with Johannesburg Stock Exchange recording the least growth on return.

3.4.2 A Discussion on the Historical Volatility of African Stocks

It would be educative to add a few notes on the volatility of returns of the African stock markets. It is patent from numerous researches that volatility is much concerned with

returns as potential investors pay close attention the trend of stock returns before making any reasonable investment. Volatility is simply considered as the measure extent to which stock returns deviates from the mean or average return. Simply put, the higher the volatility, the riskier the investment on the security. . Also, potential investors often look at the volatility figures in order to adequately make a valid risk assessment of the market in which they intend to invest

A traditional method of calculating the volatility is the standard deviation method. This method concentrates on the square root of the mean squared deviation of the data from its average. In as much as this method is considered the simplest, its elaboration and result analysis seem a bit too convoluted. Hence, the method has been criticized for lack of accuracy (Tofallis, 2011). There is a surrounding ambiguity about its absolute accuracy in measuring risks of stock investments. There seem to be a strong relationship between volatility and stock market performance according to numerous researches. Where volatility plummets, market performance rises and where market volatility increases, there is a corresponding drop in market performance. A recent report by Crestmont Research (2013) on S&P 500 proves the afore-mentioned assertion. The Capital Asset Pricing Model (CAPM) theorizes a direct relationship between volatility and stock returns. Empirical tests on CAPM, however, have begun to show mixed results on the correlation between volatility and stock market returns as quite a number of researches proved that the relationship can flatter than what the theory holds (Fama and MacBeth, 1973; Haugen and Heins, 1975; Ang et al., 2006; Clarke et al., 2010; and Baker et al., 2011). CAPM remains a significant theory in modern times despite the criticisms.

The trend of volatility in African securities is mostly contoured by the illiquidity of the markets, operational inefficiency and relative small size as discussed earlier in this paper. Potential Investors' fear about African market volatility has served as a hurdle for investment in the region for years now. It is true that sometimes the return distribution of African stock markets widely vary over time which indeed does not inappropriate the conception of potential investors. Nevertheless, volatility analysis of monthly returns proves that African stock markets are regularly just as volatile as other emerging stock exchanges. For instance, emerging markets like China, Brazil and India recorded higher volatility values than most African stock markets between year 2006 and 2011.

An analysis of the monthly return volatility of African stocks by Senbet (2009) showed the impact of the global financial crisis on the trend of volatility of some selected African stock markets. As figure 5 shows, the general trends of these markets indicate a steady decline in the volatility values but as expected, the values ascended sharply during the 2008 crisis. This goes a well in explaining a quite stable or increasing stability in the African markets during the pre-crisis period. It is evident that in 2008, the values recorded far deviate from their mean. Figure 5 below gives a visualization of the trend of monthly return volatility on African stock markets from 1998 to 2008.

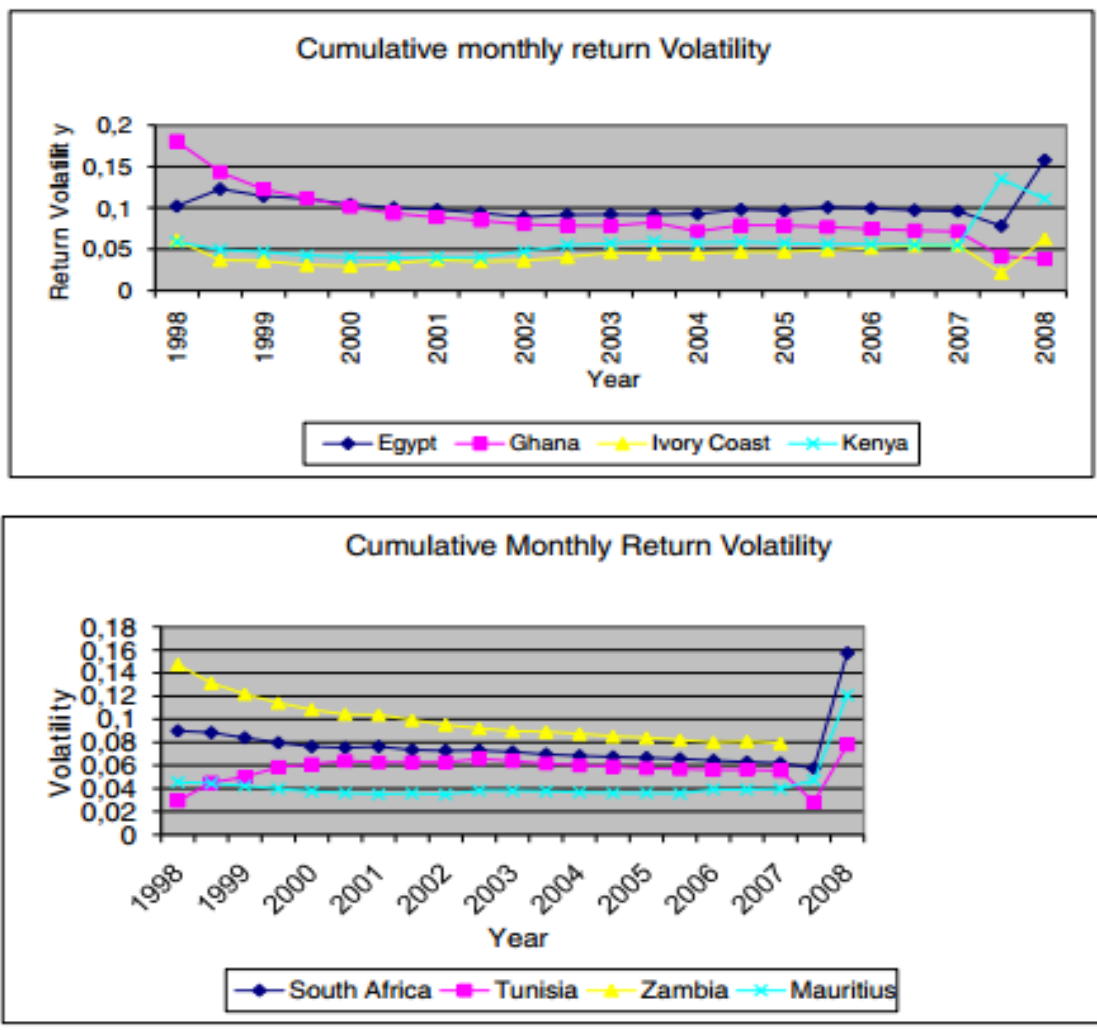


Figure 1: Cumulative Monthly Return Volatility (1998-2008)

Source: Senbet and Otchere, 2009

3.4.3 Risk-Adjusted Performance: The Sharpe Ratio

Developed by William F. Sharpe in 1966, the Sharpe ratio is a risk adjusted measure of a portfolio's performance over a period of time. Sharpe ratio is popularly known for its simplicity. It basically shows investors the excess return they get in holding riskier stocks in a particular period. The ratio also helps in comparing performances of portfolios or investments. When comparing investments with equal level of risks, the one with a higher Sharpe ratio is considered the better. Therefore, the higher the ratio, the better the investment given the level of risks involved. The ratio is calculated using the formula:

$$S(x) = \frac{R(x) - R(f)}{StDev(x)};$$

Where $R(x)$ is the return on investment, $R(f)$ is the risk free rate and $StDev(x)$ is the standard deviation of the risky investment under consideration. Note that the risk free rate of the various stock markets in this calculation is derived from the government treasury bill of each country.

Table 9: Annualized Sharpe Ratio (2007-2012)

Index	Volatility	Annualized Sharpe Ratio
FTSE JSE Namibia Local Index	5.20%	0.85
MSCI South Africa Index Fund	9.10%	0.13
MSCI Mauritius Index	9.90%	0.26
Tanzania All Share Index	3.50%	-0.01
MSCI Nigeria Index	12.00%	-0.33
Uganda SE All Share Index	9.30%	-0.32
MSCI Kenya Index	11.10%	-0.24
Lusaka All Share Index	9.30%	0.25
MSCI Botswana Index	5.20%	-0.16
S&P 500 Index	5.70%	-0.19

Source: Table adopted from InvestingInAfrica; Data from MCSI

In the notion of high African investment risks, an estimation of the risk-adjusted return is important for the consideration of potential investors. From the table above, the volatility is a representation of the monthly standard deviation of each of the listed indexes

for period 2007 - 2012. It is used to measure how far returns deviate from the mean return. It is a general indicator for risk measurement. It is noticed that MSCI Nigeria recorded the highest deviation of 12%. This high value could be attributed to the withdrawal of foreign investment due to the global recession or possibly the various politically motivated conflicts linked with local economy. Although characterized by illiquidity and small capitalization size, it is noticed that most of the African stocks with the exception of Nigeria, Kenya and Uganda outperformed the S&P 500 Index. Namibia is considered to have the highest Sharpe ratio value which makes it a very good place to invest your money given the expected amount of risks involved. Generally, values for African markets look appealing even after adjusting it with risk measures.

In a different study, Allen et al. (2011) presented their results based on the computation of the Sharpe ratio for African stock markets. The data collected ranged from 1998-2008. Thus, it would be more comprehensive to add a thing or two about the past Sharpe ratios of African stock markets as an attempt to expand on this section of the thesis. Allen et al. (2011) presented their result as follows:

Table 10: Mean Return and Sharpe Ratio (1998-2008)

Region	Country	Mean return (%)	Sharpe measure
Eastern Africa	Kenya	7.88	-0.01
	Tanzania	21.26	2.47
	Uganda	-25.07	-3.31
	<i>Average</i>	1.36	-0.28
Northern Africa	Egypt	37.04	0.39
	Morocco	11.35	0.16
	Tunisia	20.26	0.42
	<i>Average</i>	22.88	0.32
Southern Africa	Botswana	25.83	0.49
	Mauritius	13.41	0.25
	Malawi	47.73	0.33
	Namibia	8.8	-0.02
	South Africa	17.4	0.31
	Swaziland	10.24	0.2
	Zambia	36.56	0.33
	<i>Average</i>	22.85	0.27
Western Africa	Cote d'Ivoire	8.73	0.14
	Ghana	36.97	0.27
	Nigeria	24.48	0.31
	<i>Average</i>	23.39	0.24

Source: Allen et al. (2011)

Allen et al. (2011) provided an extensive insight on the Sharpe ratio of the various African stock markets by segmenting them regionally. In an attempt to compare the two tables (tables 9 and 10), table 9 provides very recent information about the Sharpe ratios of the various African indices whereas table 10 gives pretty old information about the Sharpe ratios of the African stock markets. It is observed that African stocks had better ratios within the period 1998-2008 than recently. For good returns and investments worth their risks, a potential investor could turn to the markets in the Northern Africa which comprises of Egypt, Morocco and Tunisia. The stock markets in Western Africa seemed to yield the best return considering regional performances. Apart from a few stock markets, the overall Sharpe performance of African stock markets was quite remarkable during the ten year period. Compared to Table 9, it could be deduced that there has been a slump in the ratios of a considerable number of the stock markets such as Nigeria, Kenya, Botswana etc. although the figures still look good in some situations.

3.5 Comparing African Stock Markets to the Developed Markets

Stories about the rapid growth of emerging capital markets are the main news on our screens nowadays. Emerging and developed markets are topical in our money based global economy. However, little attention is paid to the performance of African stocks viz-a-viz the performance of other emerging and developed markets. It is interesting how the investors are hopeful for good returns on long term investment in emerging markets. More intriguing is the highly competitive and sometimes overpowering performance of the emerging market over developed markets in last few years. African markets are also on the verge of rapid expansion and gaining public interest especially in international or foreign investors. This background sets a good opportunity to analyze the performances of these three mentioned markets.

This section categorically compares and discusses performances of the emerging and developed markets to that of African stock markets. Performance indicators discussed earlier in this paper are compared to that of EU countries and other developed regions. The author also discussed data emanating from investment giants such as Standard & Poor (S&P) and Morgan Stanley Capital International (MSCI). Information and analysis

of data are based on the data provided by the two institutions. The reader should be aware that any past performance of an index is no justification for its future performance.

Table 11: Sizes of Markets

	Market Capitalization		Number of Listed Companies	
	2006	2012	2006	2012
Africa and Middle East	2%	3%	5%	5%
Europe (Main Stock Exchanges)	25%	18%	22%	19%
Americas	42%	39%	23%	21%
China and Hong Kong	6%	12%	6%	9%
Asia (Other)	9%	13%	29%	30%
	Market Capitalization (% of GDP)			
	2008	2012		
Africa	49%	43%		
EU Area	38%	52%		
US	82%	119%		

Source: WFE, Nomura Institute, Author's Calculation

2006 and 2012 are good years for assessing the before and after impact of the financial recession on stock markets around the globe. The Americas as noticed in table 11 accounted for the largest part of the world markets capitalization (42%) whereas Africa and Middle East accounted for a meager 2%. Again as explained earlier in this paper, the huge difference could be attributed to the operational efficiency of the stock markets in those two regions. Most likely due to the economic issues of the European zone, figures for the main European exchanges dropped from 25% in 2006 to 18% in 2012. Meanwhile, the percentage accounted by Africa and Middle East went up by 1%. Although still a meager value, it was an impressive increase since most of the developed markets were registering a decline. The main European stock exchanges examined in the above calculation were London Stock Exchange, Deutsche Börse, NYSE Euronext (Europe), Borsa Italiana, BME Spanish Exchange and SIX Swiss Exchange.

Looking at the number of listings, the story is almost the same with the market capitalization, only that in this case Africa and Middle East stabilized their value at 5% of the total world listing. Europe and Americas registered a decrease of 3% and 2% respective-

ly. The market capitalization to GDP ratio shows that there is a low sense of valuation in the African region regarding its stock markets both before and after the global recession. Important to note is the EU Area figure in 2008 where it is even below that of Africa's mean. The US figure of 119% indicates a continuous rise in the valuation of its capital markets with rising numbers of IPOs.

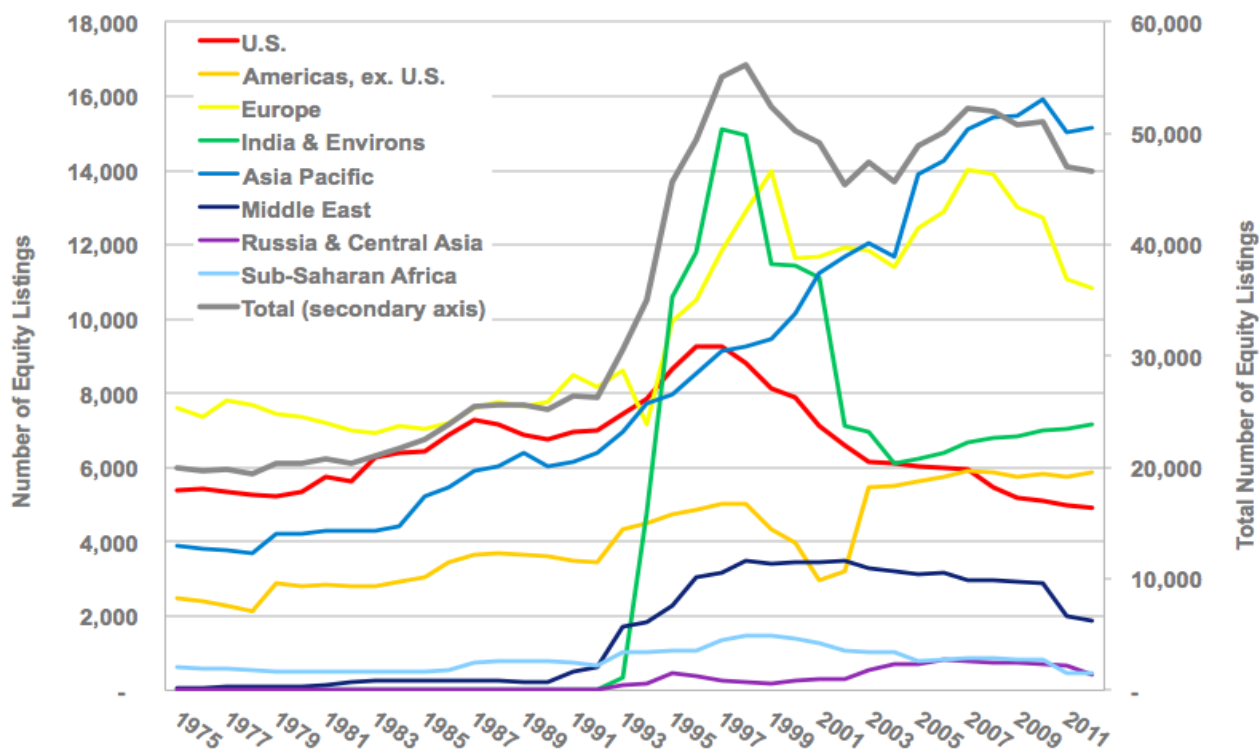


Figure 2: Trend of World Stock Markets Listings

Source: Voss, 2013

Table 12: Liquidity of Markets

	Value of Share Traded (% of GDP)		Value of Share Traded (% of Market Cap.)	
	2005	2012	2005	2012
Sub Saharan Africa	43.3%	36.7%	37.3%	47.2%
EU Area	73.1%	40.7%	120.5%	83.6%

Source: WorldBank

Table 12 shows the turnover values recorded as a percentage of GDP as well as percentage of market capitalization for both EU Area and Sub Saharan Africa. According to this data, Sub Saharan Africa consists of 12 developing African countries and EU Area comprises of 14 EU countries; the values presented are aggregated. Comparably, it is clear that African stock markets have to up their performance in order to be able to reach the standards of EU stock markets. As developed markets, the value of shares traded in the EU Area has been huge hence the value of 120.5% recorded in 2005. The drop recorded in 2012 by EU Area (83.6%) was due to fewer stocks traded during and after the global financial crisis although the value is increasing slowly. Investors are slowly gaining their confidence in the markets. Africa's ratio (% of market cap.) saw an increase to 47.2% in 2012 despite the global effects of the financial crisis on stock markets.

Table 13: Comparing Mean Return and Sharpe Ratio

	Pre Financial Crisis Period	
	Mean Return	Sharpe Ratio
Europe (2002-2008)	0.15%	0.07
US (2002-2008)	0.10%	0.05
Africa (1999-2008)	17.62%	0.14
	Post Financial Crisis Period	
	Sharpe Ratio	
Europe (2008-2011)	-0.03	
US (2008-2011)	-0.01	
Africa (2007-2011)	0.05	

Source: Allen (2011), Chan-Lau (2011), Author's calculation

Table 13 provides data about the mean return (%) and Sharpe ratios of three regions: US, Europe and Africa. Based on the calculations, it is clear that African stock markets yield good returns. African stock markets have been dwelling in double digits for a while now regarding returns (ranging from 15% in Mauritius to about 65% in Ghana in 2012). And what is intriguing is the fact that one can generate enough return from just

equities; no need for use of leveraging to create returns. A drop in Africa’s Sharpe ratio is observed in the post crisis period. This is mainly due to the performance of some African markets such as South Africa and Namibia who have their stocks tied internationally. They were the most hit African markets during the financial crisis period. Other African markets suffered indirectly from the crisis through foreign direct investments.

3.5.1 A Look at African Indices

Figure 3: S&P Pan Africa BMI and S&P 500



Source: S&P Indices, 2013

The S&P Pan Africa BMI consists of 313 stocks from 12 African emerging and frontier markets which are: Botswana, Cote d'Ivoire, Egypt, Ghana, Kenya, Mauritius, Morocco, Namibia, Nigeria, South Africa, Tunisia and Zambia. S&P 500 on the other hand is considered as ‘the best single gauge of large capitalization US equities’(S&P, 2013). A comparison of the two indexes gives the reader a wider understanding of Africa’s performance against a robust index like the S&P 500. Figure 6 above is a graphical visualization of the total return on both indexes over 5 years (2009-2013). Note that the data has been based at 100. Year 2009 saw a competition between the two indexes as the two

came as close as recording 82.41 for Pan Africa against 79.05 for S&P 500 and had ever since usurped S&P 500 till early 2013. Although the total return values between the two indexes have a huge disparity basically due to the sizes of their constituents, the percentage change in their 5 year annual returns is not that much. Both indexes have seen positive returns of 14.9% and 18.29% with Pan African BMI assigned the former. This is enough reason to explain the efficacy of African stocks amidst skepticisms about their volatility.



Figure 4: S&P Pan Africa BMI and S&P Emerging BMI

Source: S&P Indices, 2013

The S&P Emerging BMI constitutes of 2715 companies domiciled in emerging markets within the S&P Global BMI. The emerging markets include stocks from emerging economies such as Brazil, Russia, India and China (BRIC). The companies have each at least a capitalization of 100 million USD and a minimum per annum trading liquidity of 50 million USD. Obviously, an index with 2715 constituents is incomparable with one

with just 313 constituents. But the Pan African Index is really putting up a good fight against the Emerging BMI. It is noticed from the chart that whilst the emerging index recorded negative change of -1.99 in its 3 year annual returns, the pan Africa BMI was up by 1.10%. The mid to latter year of 2011 saw a more powerful African index which consistently rose over the emerging BMI. The total return for the 3 year annualized returns for the Emerging BMI and Pan Africa BMI are 381.08 and 229.24 respectively.

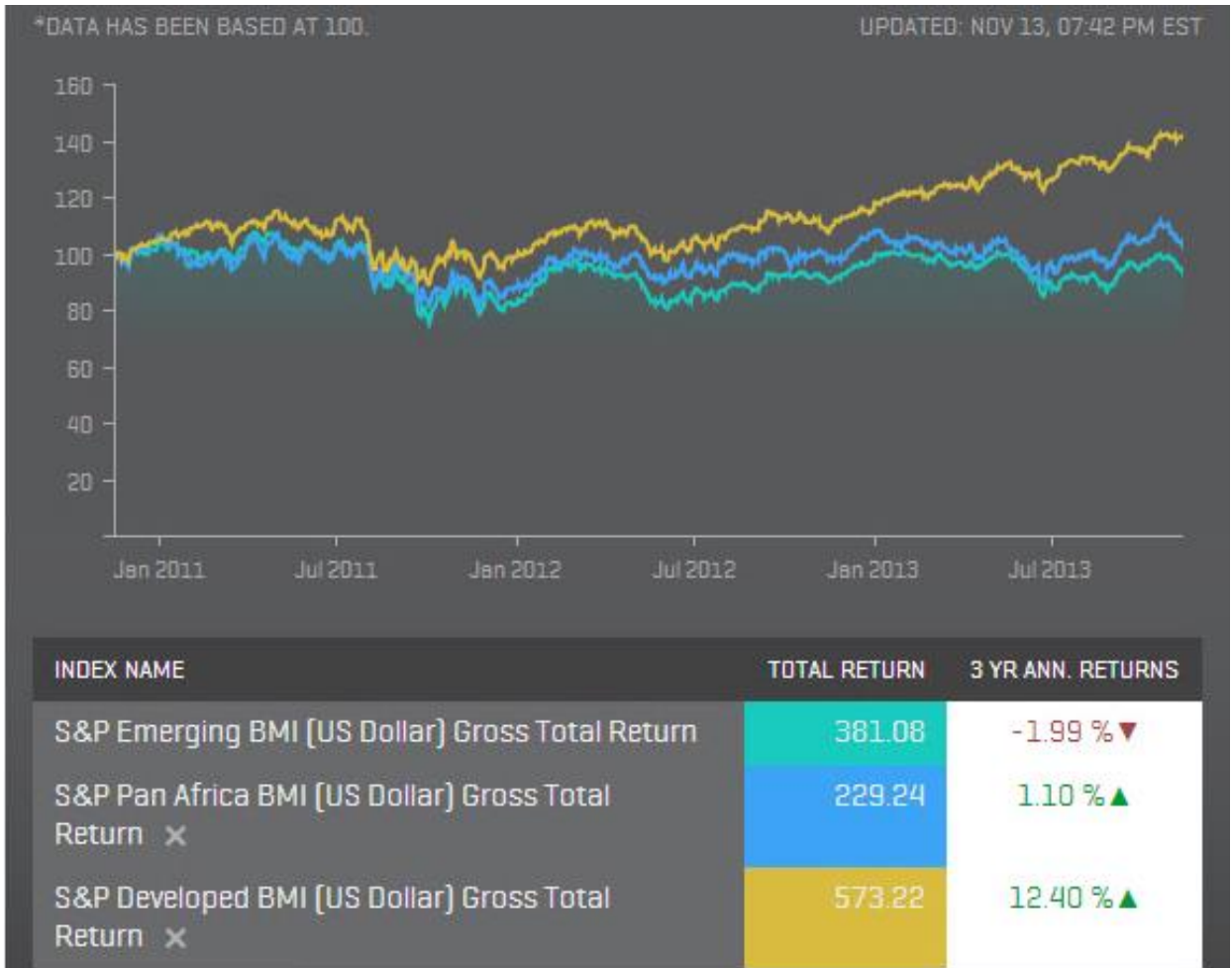


Figure 5: Pan Africa, Emerging and Developed

Source: S&P Indices, 2013

Figure 4 above gives a visual presentation of all the three discussed indexes earlier in this paper. It is vivid that Africa still needs some catching up to do although it has performed quite remarkably against the emerging markets. Nonetheless, the disparity between Africa and the developed markets is ridiculously huge albeit they both registered and are still registering positive values by the month. Emerging markets might be on the

verge of crushing as explained by some stock experts. This may be due to the surrounding fact that massive demonstrations in emerging economies such as Brazil, Egypt and Turkey is continuing to have a negative impact on investor sentiments. As well, the recent snail movement of China's growth could be another reason. This became more of a reality when investors decided to pull out about 40.3 billion USD from the bond and equity basket of emerging markets. It currently looks like African markets are seizing the opportunity to impress investors into considering investing hugely in their markets.

Table 14: MSCI Developed Markets and African Markets

MSCI Index	MTD	1 Yr	3 Yr	5 Yr
EAFE + CANADA Growth	-0.670%	22.910%	4.440%	10.530%
EAFE Growth	-0.710%	25.130%	5.330%	10.730%
EAFE ex ISRAEL Growth	-0.720%	25.310%	5.430%	NA
EAFE ex UK Growth	-0.510%	26.680%	5.920%	10.270%
EASEA INDEX (EAFE ex JAPAN) Growth	-1.000%	21.420%	4.980%	11.920%
EMU Growth	-0.220%	29.520%	7.950%	10.540%
EUROPE & MIDDLE EAST Growth	-0.840%	24.260%	6.360%	NA
EUROPE Growth	-0.850%	24.530%	6.530%	12.020%
EUROPE ex UK Growth	-0.560%	27.030%	8.370%	12.010%
FAR EAST Growth	-0.140%	34.340%	5.500%	7.940%
KOKUSAI INDEX (WORLD ex JP) Growth	0.600%	26.670%	10.340%	15.480%
NORDIC COUNTRIES Growth	-0.660%	16.190%	4.630%	16.530%
NORTH AMERICA Growth	1.480%	29.740%	13.770%	17.740%
PACIFIC Growth	-0.480%	26.800%	3.430%	8.650%
PACIFIC ex JAPAN Growth	-1.800%	8.430%	-1.600%	13.400%
WORLD Growth	0.570%	27.810%	10.000%	14.570%
WORLD ex AUSTRALIA Growth	0.650%	28.660%	10.500%	14.680%
WORLD ex ISRAEL Growth	0.570%	27.890%	10.060%	NA
WORLD ex UK Growth	0.760%	28.630%	10.790%	14.810%
WORLD ex USA Growth	-0.670%	22.910%	4.440%	10.530%
Developed (mean)	-0.260%	25.243%	6.859%	12.491%
Africa (mean)	4.73%	27.85%	27.14%	13.79%

Source: Data from MSCI; Author's calculation

The MSCI Index for developed market consists of 24 countries spread across the Americas, Europe & Middle East and Pacific. Recently however, Greece has been dropped out from the developed markets to an emerging market due to the recent past strains on

its economy. To compare the two markets, a closer look at the MTD, 1 year, 3 years and 5 years is considered. Focusing on the MTD values for both developed and Africa, it is seen that none of the developed market indexes is comparable to the mean value for African stocks. As Africa recorded 4.73%, the best performance for the developed markets was 1.48% from the North American Index. Most of the developed market indexes recorded a negative change with the exception of a few. The 1 year total return met impressive figures from both markets; an average of 27.85% for African market and 25.24% for the indexes within the developed markets. It is worth mentioning that some of the indexes within the developed market have values above that of the African market. For the long term return (5yrs), Africa still performed better than the developed markets although the returns were close enough. African markets recorded a 13.79% and the average for developed markets was 12.49%.

Table 15: MSCI Emerging Markets and African Markets

MSCI Index	MTD	1 Yr	3 Yr	5 Yr
ANDEAN Growth	-5.140%	-16.240%	-10.860%	11.610%
EM (EMERGING MARKETS) Growth	-4.070%	3.470%	-2.570%	14.230%
EM ASIA Growth	-3.820%	5.360%	-0.490%	15.050%
EM EASTERN EUROPE Growth	-3.060%	16.590%	-3.220%	12.390%
EM EASTERN EUROPE ex RUSSIA Growth	-4.030%	17.800%	-8.680%	3.630%
EM EMEA Growth	-4.530%	6.090%	-3.160%	12.720%
EM EUROPE & MIDDLE EAST Growth	-3.730%	11.510%	-4.390%	11.320%
EM EUROPE Growth	-3.730%	11.510%	-4.390%	12.710%
EM LATIN AMERICA Growth	-4.420%	-4.130%	-7.950%	12.950%
EM LATIN AMERICA ex BRAZIL Growth	-3.710%	-7.380%	-4.090%	12.300%
Emerging (mean)	-4.024%	4.458%	-4.980%	11.891%
Africa (mean)	4.73%	27.85%	27.14%	13.79%

Source: Data from MSCI; Author's calculation

The MSCI Emerging Markets Index comprises of about 800 securities spread across 21 stock markets worldwide. Today, it represents a staggering 13% of the world market capitalization (MSCI, 2013). Countries from the Americas, Europe Middle East and Africa and Asia make up the index. It is important to note that South Africa is also included in the Emerging Market Index. Morocco however moves to the frontier market from the emerging market. South Africa is therefore the only African state present in the

emerging market index. From the table above, it is clear that the MSCI Emerging Market Index has not been performing as expected. None of the indexes within the emerging markets recorded a positive figure in the month to-date computation. The appalling performance is explained by the current economic and political issues bugging the emerging markets of late. The 1 and 5 years annualized total returns reported a positive outcome of 4.45% and 11.89% respectively. This is still incomparable to the values generated by the African markets in totality. African markets reported 27.14% and 13.79% for the periods 1 and 5 respectively.



Figure 6: MSCI FM Africa, AC Europe and AC Americas

Source: MSCI Indices, 2013

The index level used in this chart is the price. MSCI Frontier Market Africa (FM Africa) includes 7 African markets: Ghana, Botswana, Tunisia, Zimbabwe, Nigeria, Kenya and

Mauritius. The base value is 100. It is noted that the trend of FM Africa looked nice after a deep fall in latter 2011. It is also clear from the diagram that the price for FM Africa continues to soar above AC Europe and AC Americas. This provides a unique opportunity for investors to pounce on the African index. Figure 9 is supported by the numbers below:

Table 16: MSCI Standard (Price)

MSCI INDEX	DAY	MTD	3MTD	YTD	1Y	3Y	5Y	10Y
FMAFRICA	0.17%	-0.72%	8.65%	21.95%	32.32%	12.69%	2.32%	9.05%
AC AMERICAS	0.47%	1.92%	9.84%	22.35%	29.27%	11.99%	15.13%	5.85%
AC EUROPE	0.34%	-0.71%	10.95%	16.11%	25.97%	4.58%	10.29%	4.69%

Source: Data from MSCI

Comparably, the African index performed well against the Americas and Europe on the YTD, 1Y, 3Y and 10Y computed values. An investment in those periods would indubitably be rewarding compared to investment in other periods.

4 CONCLUSION

On the verge of development, African stock markets have received little attention from foreign investors as there is the perception that the region is characterized by high volatility and lower investment returns. This paper has however analyzed how the performance of African stock markets amidst the perception about the stocks in the region.

4.1 General Performance of African Stock Markets

Perhaps, one of the significant conclusions drawn out from this research is that African markets in general are still thin and illiquid although efforts are being done to ensure the growth of the market. The number of functioning stock markets has risen over time but turnover figures are not impressive due to the fact that most of the stock markets have just a few listed companies. Fact still remains that South Africa is most capitalized and developed of them all. The thinness and illiquidity of African stock markets serves as a big hurdle against the financial globalization of Africa. There have been positive talks about efforts to consolidate African markets through building regional cooperation such as the BVRM situated in Cote D'Ivoire. The essence of regionalization of African stock markets would be to aid in mobilizing financial resources in order to fund the regional firms. By so doing, the markets would also be injected with more liquidity. The returns on the various African stock markets are remarkable and attractive hence it is about time most international investors start investing heavily in the African markets.

As Mattes (2012) states, 'Volatility in African stock markets is affected by their relatively small size, inefficiency, lack of liquidity and relative isolation due to capital constraints and protectionism' (Mattes, 2012). Except for the year 2008 where volatility for African stock markets rose sharply, it is convincing to observe that volatility values are gradually plummeting over time although much has to be done to improve upon it. To note, African markets are somewhat as volatile as some emerging markets that receive a lot of attention from foreign investors. African equity markets are poised for growth and development leading to higher liquidity which in turn would attract more foreign investors.

4.2 Performance against Developed Markets

Unlike African stock markets, developed equity markets have large capitalization and a lot of listed companies. The total market capitalization for Africa relative to the total capitalization of world stock markets is not impressive. The growth is very slow considering the percentage difference over a period of time. Although Africa has seen a remarkable increase in stock market number, its accumulated capitalization is still in pale comparison to that of emerging and developed markets. Regardless the challenges facing African markets, it is deduced from this paper that African indices are putting up good returns compared to some indices in the developed market although the difference between the two markets is clear. Comparably, African stock markets would have to up their performance in order to be able to reach the standards of any developed market. It is also clear that developed markets have been usurped by the emerging markets in the recent times but are slowly regaining their position against the emerging markets. In conclusion, African equity markets have grown in number over the past years yet they lack the liquidity to effectively compete against the major developed markets. More needs to be done in order to improve upon their efficiency in order to attract more investors in the near future.

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