



WP/07/209

IMF Working Paper

Stock Market Development in Sub-Saharan Africa: Critical Issues and Challenges

*Charles Amo Yartey and Charles Komla
Adjasi*

IMF Working Paper

African Department

Stock Market Development in Sub-Saharan Africa: Critical Issues and Challenges

Prepared by Charles Amo Yartey and Charles Komla Adjasi¹

Authorized for distribution by George Tsibouris

August 2007

Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

This paper examines the economic importance of stock markets in Africa. It discusses policy options for promoting the development of the stock market in Africa. The results of the paper show that the stock markets have contributed to the financing of the growth of large corporations in certain African countries. An econometric investigation of the impact of stock markets on growth in selected African countries, however, finds inconclusive evidence even though stock market value traded seem to be positively and significantly associated with growth. African stock exchanges now face the challenge of integration and need better technical and institutional development to address the problem of low liquidity. Preconditions for successful regional approaches include the harmonization of legislations such as bankruptcy and accounting laws and a liberalized trade regime. Robust electronic trading systems and central depository systems will be important. Further domestic financial liberalization such as steps to improve the legal and accounting framework, private sector credit evaluation capabilities, and public sector regulatory oversight would also be beneficial.

Keywords: Stock markets, corporate finance, economic growth, sub-Saharan Africa

JEL Classification Numbers: G28, G30, G32, O55

Author's E-Mail Address: Cyartey@imf.org

¹ Charles Ajasi is an Assistant Professor of Finance at the University of Ghana Business School. He was a Visiting Scholar at the IMF Institute when this paper was written. A summary of the main findings of the paper appeared as a box in the May 2006 Sub-Saharan Africa Regional Economic Outlook. We would like to thank Ajit Singh, Nicholas Biekpe, Anne Marie Gulde, Paulo Drummond, and Catherine Patillo for comments on earlier drafts of the paper. The usual caveat for responsibility still applies.

Contents	Page
I. Introduction	3
II. Stock Market and Economic Growth: Theoretical and Analytical Issues	4
III. Stock Market Development in Sub Saharan Africa:Trends and Characteristics	6
IV. The Stock Market and the Financing of Corporate Growth in Africa	10
V. Stock Markets and Economic Growth: The Macro Channel	13
VI. What Determines Stock Market Development in Africa?	16
A. Macroeconomic Stability	16
B. Banking Sector Development.....	16
C. Institutional Quality.....	17
D. Shareholder Protection.....	17
VII. Promoting Stock Market Development in Africa.....	18
A. Automation.....	18
B. Demutualization	19
C. Regional Integration.....	21
D. Promote Institutional Investors	24
E. Strengthen Regulation and Supervision	24
F. Attract Capital Flows and Encourage Foreign Participation	25
G. Strengthen Education	26
VIII. Summary and Conclusion	27
References.....	29
 Tables	
1. Indicators of African Stock Markets, 2004.....	7
2. Institutional & Infrastructural development indicators.....	9
3. Financing of Corporate Growth in Selected African Countries.....	11
4. Model Results	15
 Boxes	
1. Financing Corporate Growth in Ghana: The Role of the Stock Market.....	12
2. An African Regional Exchange—The BRVM	21
3. Progress on African Stock Exchange Developments.....	23

I. INTRODUCTION

This paper examines the economic importance and the future of African stock markets. It seeks to shed light on the controversial link between stock market and economic growth—from both corporate finance and macroeconomic perspectives. It also discusses policy options for promoting the development of the stock market in Africa.

Over the past few decades, the world stock markets have surged, and emerging markets have accounted for a large amount of this boom. In Africa, new stock markets have been established in Ghana, Malawi, Swaziland, Uganda, and Zambia. Prior to 1989 there were just five stock markets in sub-Saharan Africa and three in North Africa. Today there are 19 stock exchanges. Stock market development has been central to the domestic financial liberalization programs of most African countries. It seems any program of financial liberalization in Africa is incomplete without the establishment and development of stock markets.

The drive towards the establishment of stock markets in African countries during the last few decades may be linked to other important developments in the global economy. The financial markets of many advanced countries have undergone tremendous changes and become increasingly integrated. These changes have resulted from the operation of a number of interrelated factors (Cosh, Hughes, and Singh, 1992):

- the progressive deregulation of financial markets both internally and externally in leading economies;
- the internationalization of these markets;
- the introduction of a number of financial products allowing riskier and bigger financial investments; and
- the emergence and the increasing role of new actors in the financial markets particularly, institutional investors.

These developments in the financial systems of advanced countries have led them to seek liberalization in the international trade and exchange of services in world trade negotiations. The establishment of stock markets in African countries and the liberalization of capital accounts can be seen as parts of this global liberalization trend.

The establishment of stock markets in Africa is expected to boost domestic savings and increase the quantity and quality of investment. More generally, stock markets are seen as enhancing the operations of the domestic financial system in general and the capital market in particular (Kenny and Moss, 1998). Critics, however, argue that the stock market might not perform efficiently in developing countries and that it may not be feasible for all African markets to promote stock markets given the huge costs and the poor financial structures (Singh, 1999).

The large amount of academic and policy interest shown over the past decade in promoting stock market development in African countries raises a number of policy questions. What benefits does a country gain from having a stock market? Are they playing an important role in allocating capital to industry? What is the relationship between stock market development and economic growth? What determines stock market development? How do you make the stock market more functional to African countries? These are the types of questions addressed in this paper.

The rest of the paper is structured as follows. The theoretical underpinnings of stock markets and growth are discussed in the next section. Section III is an empirical study on the trends and characteristics of African stock markets. The role of stock markets in financing corporate growth is examined in Section IV. Section V analyzes the effect of stock markets on economic growth in Africa. The determinants of stock market development in Africa are examined in Section VI. Section VII discusses policy options for promoting stock market development in Africa. Section VIII presents the summary and conclusions of the paper.

II. STOCK MARKET AND ECONOMIC GROWTH: THEORETICAL AND ANALYTICAL ISSUES

In principle, 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 (Singh, 1997). The stock market is expected to encourage savings by providing individuals with an additional financial instrument that may better meet their risk preferences and liquidity needs. Better savings mobilization may increase the savings rate (Levine and Zervos, 1998). Stock markets also provide an avenue for growing companies to raise capital at lower cost. In addition, companies in countries with developed stock markets are less dependent on bank financing, which can reduce the risk of a credit crunch. Stock markets therefore are able to positively influence economic growth through encouraging savings amongst individuals and providing avenues for firm financing.

The stock market is supposed to ensure through the takeover mechanism that past investments are also most efficiently used. Theoretically, the threat of takeover is expected to provide management with an incentive to maximize firm value. The presumption is that, if management does not maximize firm value, another economic agent may take control of the firm, replace management and reap the gains from the more efficient firm. Thus, a free market in corporate control, by providing financial discipline, is expected to provide the best guarantee of efficiency in the use of assets. Similarly, the ability to effect changes in the management of listed companies is expected to ensure that managerial resources are used efficiently (Kumar, 1984).

Efficient stock markets may also reduce the costs of information. They may do so through the generation and dissemination of firm specific information that efficient stock prices reveal. Stock markets are efficient if prices incorporate all available information. Reducing

the costs of acquiring information is expected to facilitate and improve the acquisition of information about investment opportunities and thereby improves resource allocation. Stock prices determined in exchanges and other publicly available information may help investor make better investment decisions and thereby ensure better allocation of funds among corporations and as a result a higher rate of economic growth.

Stock market liquidity is expected to reduce the downside risk and costs of investing in projects that do not pay off for a long time. With a liquid market, the initial investors do not lose access to their savings for the duration of the investment project because they can easily, quickly, and cheaply, sell their stake in the company (Bencivenga and Smith, 1991). Thus, more liquid stock markets could ease investment in long term, potentially more profitable projects, thereby improving the allocation of capital and enhancing prospects for long-term growth. It is important to point out, however, that, 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 of the stock market argue that, stock market prices do not accurately reflect the underlying fundamentals when speculative bubbles emerge in the market (Binswanger, 1999). In such situations, prices on the stock market are not simply determined by discounting the expected future cash flows, which according to the efficient market hypothesis should reflect all currently available information about fundamentals. Under this condition, the stock market develops its own speculative growth dynamics, which may be guided by irrational behavior. This irrationality is expected to adversely affect the real sector of the economy as it is in danger of becoming the by-product of a casino.

Critics further argue that stock market liquidity may negatively influence corporate governance because very liquid stock market may encourage investor myopia. Since investors can easily sell their shares, more liquid stock markets may weaken investors' commitment and incentive to exert corporate control. In other words, instant stock market liquidity may discourage investors from having long-term commitment with firms whose shares they own and therefore create potential corporate governance problem with serious ramifications for economic growth (Bhide, 1994).

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). In addition, empirical evidence shows that the takeover mechanism does not perform a disciplinary function and that competitive selection in the market for corporate control takes place much more on the basis of size rather than performance (Singh, 1971). 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.

III. STOCK MARKET DEVELOPMENT IN SUB SAHARAN AFRICA: TRENDS AND CHARACTERISTICS

There has been a considerable development in the African capital markets since the early 1990s. Prior to 1989, there were just five stock markets in sub-Saharan Africa and three in North Africa. Today there are 19 stock exchanges ranging from starts ups like Uganda and Mozambique stock exchanges to the Nigeria and Johannesburg stock exchanges.² With the exception of South Africa, most African stock markets doubled their market capitalization between 1992 and 2002. Total market capitalization for African markets increased from US\$113,423 million to US\$ 244,672 million between 1992 and 2002.

The rapid development of stock markets in Africa does not mean that even the most advanced African stock markets are mature. In most of these stock markets, trading occurs in only a few stocks which account for a considerable part of the total market capitalization. Beyond these actively traded shares, there are serious informational and disclosure deficiencies for other stocks. Further, supervision by regulatory authorities is often far from adequate. The less developed of the stock markets suffer from a far wider range of such deficits.

² The Botswana Stock Exchange, The Ghana Stock Exchange, The Cairo and Alexandria Stock Exchange (Egypt), the Douala Stock Exchange (Cameroun), The BRVM-Bourse Régionale des Valeurs Mobilières-The West African Regional Bourse (Cote d'Ivoire) and comprising of eight French speaking West African countries, Nairobi Stock Exchange (Kenya), Namibian Stock Exchange, The Stock Exchange Mauritius, Casablanca Stock Exchange (Morocco), Maputo Stock Exchange (Mozambique), Johannesburg Securities Exchange (South Africa), Khartoum Stock Exchange (Sudan), Swaziland Exchange, Tanzanian Stock Exchange, Tunis Stock Exchange (Tunisia), Uganda Stock Exchange, Lusaka Stock Exchange (Zambia) and Zimbabwe Exchange.

Indicators of stock market development (Table 1) show that African markets are small with few listed companies and low market capitalization. Egypt, Nigeria, South Africa and Zimbabwe are the exceptions with listed companies of 792, 207, 403 and 79 respectively. The average number of listed companies on sub-Saharan African markets excluding South Africa is 39 compared with 113, with the inclusion of Egypt and South Africa. Market capitalization as a percentage of GDP is as low as 1.4 in Uganda. The Johannesburg Securities Exchange in South Africa has about 90 percent of the combined market capitalization of the entire continent. Excluding South Africa and Zimbabwe the average market capitalization is about 27 percent of GDP. This is in contrast with other emerging markets like Malaysia with a capitalization ratio of about 161 percent.

African stock markets suffer from the problem of low liquidity. Liquidity as measured by the turnover ratio is as low as 0.02 percent in Swaziland compared with about 29 percent in Mexico. Low liquidity means that it will be harder to support a local market with its own trading system, market analysis, brokers, and the like because the business volume would simply be too low.

Despite the problems of small size and low liquidity, African stock markets continue to perform remarkably well in terms of return on investment. The Ghana Stock Exchange was adjudged as the world's best-performing market at end of 2004 with a year return of 144 percent in US dollar terms compared with 30 percent return by Morgan Stanley Capital International Global Index (Databank Group, 2004). Within the continent itself five other bourses—Uganda, Kenya, Egypt, Mauritius and Nigeria apart from Ghana—were amongst the best performers in the year.

Table 1. Indicators of Stock Market Development in Africa, 2004

	Number of Listed Companies	Market Capitalization (percent of GDP)	Value Traded (percent of GDP)	Turnover (percent)
Botswana	18	29.4	0.6	2.1
Egypt	792	51.3	7.5	17.1
Cote d'Ivoire (BRVM)	39	13.6	0.3	2.5
Ghana	29	30.7	0.8	3.2
Kenya	47	24.9	2.1	8.0
Malawi	8	9	1.0	11.1
Mauritius	41	39.3	1.6	4.4
Namibia	13	8.1	0.3	4.7
Nigeria	207	20.1	2.3	13.9
South Africa	403	214.1	76.5	45.0
Swaziland	6	9.3	0.0	0.0
Tanzania	6	6.2	0.2	2.5
Uganda	5	1.4	0.0	0.2
Zambia	11	8.0	0.1	1.1
Zimbabwe	79	87.9	14.0	3.9
<i>Average Africa</i>	<i>113.6</i>	<i>36.9</i>	<i>7.2</i>	<i>8.0</i>
<i>Average SSA*</i>	<i>39.2</i>	<i>22.1</i>	<i>1.8</i>	<i>4.4</i>
Malaysia	962	161.3	50.8	33.4
Mexico	152	25.4	6.3	29.1
Thailand	465	70.6	66.7	93.8

Source: World Bank, World Development Indicators and authors' calculations.

*Excluding South Africa

Institutional and infrastructural indicators in selected African stock markets are shown in Table 2. In all, eleven indicators (existence of a market regulator, a governing law, nature of clearing and settlement, settlement cycle, existence of an international custodian, foreign participation, exchange control, nature of trading systems, existence of a central depository, number of trading days, and accounting and auditing reporting system) are considered.

Table 2 Institutional & Infrastructural development indicators

	Market regulator	Gov. Law	Clearing & Settlement	Settlement cycle	International custodian	Foreign participation	Exchange control	Trading system	Central depository	Trading days	Reporting system
Algeria	✓	✓	Electronic	4	None	✓	None	Electronic	None	1	Local S
Botswana	✓	✓	Manual	5	✓	✓	None	Manual	None	5	Local S
BRVM	✓	✓	Manual	5***	✓	✓	None	Electronic	None***	3	Local S
Egypt	✓	None	Manual***	4	✓	✓	None	Electronic	✓	5	Intern. S
Ghana	✓	✓	Manual	5	✓	None*	None	Manual	None	5*	Local S
Kenya	✓	✓	Manual	5	✓	None*	None	Manual	None	5	Intern. S
Malawi	✓	✓	Manual	7	None	None	None	Manual	None	5	Intern. S
Mauritius	✓	✓	Electronic	3	✓	✓	None	Electronic	✓	5	Intern. S
Morocco	✓	None	Manual	3	✓	✓	None	Electronic	✓	5	Intern. S
Namibia	None	None	Manual**	5**	None	None	None	Electronic	None**	5	Local S
Nigeria	✓	✓	Electronic	3	✓	✓	None	Electronic	✓	5	Intern. S
South Africa	✓	✓	Electronic	5**	✓	✓	None	Electronic	✓	5	Local S
Swaziland	✓	✓	Manual	5	✓	✓	✓	Manual	None	5	Intern. S
Tanzania	✓	✓	Electronic	5	None	None	None	Manual	✓	3	Intern. S
Tunisia	✓	None	Electronic	5	None	None	None	Electronic	✓	5	Local S
Uganda	✓	None	Manual	5	None	✓	✓	Manual	None	2	Intern. S
Zambia	✓	✓	Electronic	3	✓	✓	✓	Manual	✓	5	Local S
Zimbabwe	✓	✓	Manual	7	✓	None*	None	Manual	None	5	Intern. S

✓ denotes the existence of related indicator. Local S: local accounting and auditing reporting system. Intern. S: international accounting and auditing reporting system. Source UNDP African Stock Markets Handbook, 2003

*Ghana exchange started daily trading in 2006. Ghana, Kenya and Zimbabwe now allow some level of foreign participation

**Namibia and South Africa now use a common depository system SAFICAS and this has enabled the move to standard T+3 settlement cycle

*** BRVM and Egypt now have electronic system

The indicators show that the main institutional and infrastructural bottleneck on African stock markets is the use of slow manual systems. Even though markets are gradually adopting electronic systems, there are still substantial African stock markets which trade manually and use manual clearing and settlement. Similarly, most markets do not have central depository systems, whilst some markets still have restricted foreign participation. Such bottlenecks slow down trading and induce inactivity.

IV. THE STOCK MARKET AND THE FINANCING OF CORPORATE GROWTH IN AFRICA

Having looked at the trends and characteristics of stock markets in Africa, this section examines the contributions of the stock markets to the financing of corporate growth in Africa. In particular, we examine whether large African corporations have made significant use of the stock market to finance their growth. As pointed out by Mayer (1988), there are two sources of information for studying aggregate corporate financing patterns in different countries. The first is national flow of funds statement that record flows between different sectors of an economy and between domestic and overseas residents. The second source is company accounts that are constructed on an individual firm basis but are often aggregated or extrapolated to industry or economy levels.

Both sources have their advantages as well as limitations.³ Theoretically, flow of funds statistics provide a comprehensive coverage of transactions between sectors because they cover all sectors in the economy, and are collected in ways, which are largely comparable between countries. The problem with flow of funds data is that it captures only flows of funds from one economic sector to another and thereby eliminates entirely intra-sectoral flows. Company accounts are only available for a sample, often quite small, proportion of a country's corporate sector. However, the data that are employed in company accounts are usually more reliable than flow of funds. More specifically, flows of funds are constructed from a variety of different sources that are rarely consistent. As a result, statistical adjustments are required to reconcile entries. A fundamental distinction between flow of funds statistics and company accounts is that flow of funds only relates to domestic activities while company accounts are constructed on a worldwide basis including foreign subsidiaries.⁴

³ See Corbett and Jenkinson (1994) for a comparative discussion of using flow of funds and company accounts.

⁴ Singh and Hamid (1992) undertook the first study on corporate financing patterns in developing countries. The Singh and Hamid methodology measures equity finance as a residual from the accounting identity which makes the growth of external finance, the latter being decomposed into total debt and equity. The growth of internal finance is measured by retained profits from the profit and loss accounts and the growth of total debt is proxied by the growth of total liabilities.

The analysis of the paper shows that the stock markets have contributed to the financing of the growth of large corporation in certain African countries. Corporate financing patterns in certain African countries suggest that stock markets are an important source of finance. In Ghana, the stock market financed about 12 percent of total asset growth of listed companies between 1995-2002. In South Africa, liabilities accounted for 61 percent of total financing and retained earnings and external equity financed 21 and 18 percent respectively of total assets growth between 1996 and 2000 (Glen and Singh, 2003). In Zimbabwe, external finance contributed 75.4 percent of total funds and internal finance provided the remaining 25 percent between 1990-1999. Equity financing was the most important source of long term finance at 7.8 percent. Long term bank loans and bonds were each a very minor component of total external financing (Mutenheri and Green, 2003). In Mauritius, the stock market financed about 9 percent of total asset growth with retained earnings and external debt contributing 30 and 61 percent respectively to the financing of total asset growth between 1992-1999 (Lalchand, 2001). In all four countries, the stock markets were for these companies the single most important source of long term external finance.

Table 3. Financing of Corporate Growth in Selected African Countries
(Mean Values, in percent)

Country	Retentions	External Finance	External Equity	Total Debt
Korea ¹	23.10	76.90	31.20	43.30
India ¹	25.30	74.70	14.60	51
Malaysia ¹	13.30	86.70	9.60	70.80
Thailand ¹	5.70	94.30	16.10	80.60
Ghana ²	22.50	77.50	12.20	48.40
Mauritus ³	30	70	9	61
South Africa ⁴	21	79	18	61
Zimbabwe ⁵	24.60	75.40	7.80	67.60

Notes:

¹ Singh and Weisse (2002) for the period 1992-1996.

² Median values for external equity and total debt.

³ Lalchand (2001) for the period 1992-1999

⁴ Glen and Singh (2003) for the period 1996-2000

⁵ Mutenheri and Green (2003) for the period 1990-1999

Globally, Glen and Singh (2003) find that liabilities accounted for 49 percent of total financing over the period 1996 to 2000. Of the remaining 51 percent, internal equity represented 29 percent, with external equity representing 22 percent. Glen and Singh (2003) also found substantial differences in the pattern across advanced and developing countries and across individual countries. They find that the use of liabilities to finance growth was much lower in emerging market group, with that lower level offset by higher levels of both internal and external equity.

Box 1. Financing Corporate Growth in Ghana: The Role of the Stock Market

We examine how listed corporations in Ghana finance their growth and to what extent do they rely on external finance relative to internal finance. As companies expand through the acquisition of assets they have choices to make in how that growth is financed. Past earnings can be retained as a source of internal finance or be paid to shareholders as dividends. External sources of finance include both the issuance of new equity (external equity) and various debts instruments (external debt).

Using the growth in the balance sheet over the period 1995 to 2002 as the sample period, the financing of the growth in total assets is divided into these three categories expressed as a percentage of change in total assets for the period. The means of these three ratios should sum to 100 percent.

The result shows that the stock market is the most important source of long term external finance. Between 1995 and 2002 the average quoted Ghanaian firm finances 11.45 percent of growth of total assets from internal sources. External debt, however, finances 47.86 percent of growth of total assets and new issues of equity finances 40.69 percent of growth in total assets.⁵ Our examination of the debt maturity (short term debt relative to total debt) shows that about 84 percent of total debt is short term.

This result may be subject to measurement biases resulting from high inflation and the use of an indirect method of measuring the equity finance variable (Singh, 1995). One potential effect of the residual estimation of the equity financing variable is that it is likely to have an upward bias due to the fact that revaluations and reserves may get included in the equity variable (Singh, 1995). We investigate whether, in the case of Ghana, the indirect method introduced any significant bias. We computed the contribution of new equity finance as:

$$\text{External finance of growth (equity)} = \frac{\sum_{p+1}^m (\Delta \text{Equity})}{\sum_{p+1}^m (\Delta \text{TotalAssets})}$$

Following Whittington, Saporta and Singh (1997), in this alternative method, the equity finance variable is measured independently while the internal finance variable is made the residual.

The result of the direct method shows that the contribution of equity to total assets growth for the median listed Ghanaian firm has reduced to 12.20. Internal finance is now the second most important source of finance after total liabilities. A comparison with the indirect method shows that the indirect method overstated the contribution of equity to total assets growth by 20.85 percentage points (33.05-12.20).

Source: Staff estimates

⁵ It is important to emphasize that in interpreting these financing ratios it is the relative amount of capital being raised from the various sources that should be considered.

How does the corporate financing patterns in Ghana, Mauritius, South Africa, and Zimbabwe compare with other emerging market countries? Our results show that corporate financing patterns in these countries are broadly similar to the pattern observed for other emerging market countries:

- In Ghana, Mauritius, South Africa, and Zimbabwe, listed corporations rely much less on external finance to finance asset growth than corporations in other emerging markets. The average external finance ratio is 77.5 percent in Ghana, 70 percent in Mauritius, 79 percent in South Africa, and 75.4 percent in Zimbabwe. Other emerging markets like Korea, India, Malaysia, and Thailand have a higher reliance on external finance. In Thailand, for instance, corporations rely almost entirely (94.3 percent) on external finance to finance assets growth.
- New equity issues are surprisingly a significant source of finance for quoted African corporations. It ranges from 7.8 percent in Zimbabwe to about 19 percent in South Africa. The median value for Ghanaian corporations is 12 percent. The contribution of equity finance to total asset growth is broadly similar to the pattern we observe for other emerging markets. The corresponding figures for other emerging markets are 31.2 percent in Korea, 14.6 percent in India, 9.6 percent in Malaysia, and 16.1 percent in Thailand.

What do these results imply for the issue of stock market development in African countries? The results suggest that the stock market has played a great role in financing the growth of large African corporation and that stock market development has been important. However, the shortcomings inherent in a stock market based system require us to examine whether the economies as whole have benefited through, for example, greater savings and investment, or increased investment productivity. There is very little systematic evidence on this issue for African countries.

V. STOCK MARKETS AND ECONOMIC GROWTH: THE MACRO CHANNEL

The results from the previous section suggest that large corporations in Africa have made considerable use of the stock market to finance their growth. In this section, we examine the larger-economy wide positive effect of stock market development in Africa. Stock market development has assumed a developmental role in global economics and finance following the impact stock markets have exerted in corporate finance and economic activity. For instance, due to their liquidity, stock markets enable firms acquire much needed capital quickly, hence facilitating capital allocation, investment and growth. Stock markets also help to reduce investment risk due to the ease with which equities are traded. Stock market activity is thus rapidly playing an important role in helping to determine the level of economic activities in most economies.

We examine if stock markets have economy-wide effects on sub-Saharan African economies. We look at the effect of stock markets on economic growth through three stock market indicators—market capitalization relative to GDP, value of shares traded relative to GDP, and the turnover ratio (value traded/market capitalization). The modeling and estimation follows the framework of Levine and Zervos (1998). The essential issue is to estimate the model in a manner dynamic enough, but at the same time removing all country-specific and time effects which may be correlated with the explanatory variables, hence introducing errors and biases. In this regard, the study adopts the Arellano and Bond (1991) Difference Generalized Method of Moments dynamic instrumental variable modeling approach, where the lagged values of the dependent variable (growth) and differences of the independent variables are suitably used as a valid instrument to control for this bias and the obvious endogeneity between lagged growth values and lagged errors.

The data is an unbalanced panel of 14 African countries. The stock market indicators are obtained from Reuters Services and Emerging Stock Markets Fact Book and the macroeconomic indicators are from the International Financial Statistics of the IMF. Since some of the stock market indicators (for example, the capitalization ratio) are ratios of stocks and flows, there is a stock-flow problem, with regards to the timing of their computation. The stock-flow problem is dealt with according to Beck, Demirgüç-Kunt and Levine (1999).⁶ The macroeconomic variables include GDP, investment (gross domestic fixed capital formation as a proxy) and trade openness (sum of exports and imports relative to GDP).

From the literature an increase in stock market activity should increase economic growth through liquidity injection, savings mobilization and equity financing for firms. Thus, we expect a priori that an increase in market capitalization ratio, turnover ratio or value of shares traded ratio should increase economic growth. The other control variables for GDP growth are investment (Gross Capital Formation), trade openness and initial income. Again as per growth literature it is expected that trade openness and investment is positively correlated with growth. The three stock market indicators enter the model separately in order to determine which indicator is the best channel through which stock markets influence growth. This is in tune with Filer, Hanousek and Campos (1999) and Bekaert et al (2004) who have

⁶Stock variables are measured at the end of period and flow variables defined relative to a period. GDP is a flow variable whilst market capitalization is a stock variable. Thus, there is a stock-flow problem with the capitalization ratio. We use the following approach to address this problem. Stock market capitalization (SM) is calculated as follows:

$$SM = 0.5 * \left[\frac{\frac{SM_t}{CPI_t} + \frac{SM_{t-1}}{CPI_{t-1}}}{\frac{GDP}{CPI_t}} \right]$$

CPI_t = Consumer price index in year t

variously noted the relevance of turnover ratio and value traded over market capitalization. The results show that stock markets influence economic growth significantly through the value of shares traded ratio.

Table 4. Model Results

Difference GMM Estimation

Dependant Variable Growth	Equation 1	Equation 2	Equation 3
Lagged growth	0.0652 {0.049}	0.0757 {0.012}	0.0790 {0.012}
Investment	0.0256 {0.022}	0.0227 {0.056}	0.0269 {0.021}
Trade	-0.0072 {0.685}	-0.0031 {0.884}	-0.0064 {0.760}
Market Size	-0.0386 {0.581}		
Value of Shares Traded		0.0379 {0.082}	
Turnover Ratio			-0.0037 {0.769}
Constant	-0.0008 {0.291}	-0.001 {0.076}	-0.0037 {0.768}
Observations	189	183	181
Sargan	0.89	0.81	0.82
AR(1)	0.06	0.10	0.08
AR(2)	0.56	0.66	0.53

Note:

All regressions include a constant.

Probability values of significance levels are in curly parenthesis.

Sargan test (probability values for significance levels)

AR tests (probability values for significance levels)

Sargan test confirms validity of instruments and a robust Diff GMM,

AR tests indicate the absence of second-order serial correlations

The results from the regression model are interesting. In Equation 1 (Table 4), which uses the ratio of market capitalization to GDP as the stock market development indicator, stock market development does not have a significant effect on economic growth. The most significant variables here are lagged growth and investment which positively influence growth. In Equation 2, however, stock market development plays a significantly positive role in economic growth alongside investment and past growth levels. The stock market development indicator used here is the total value of shares traded relative to GDP, which is indicative of liquidity on the stock markets. An increase in stock market activity via higher liquidity augments GDP growth significantly by a substantial 3.7 percentage points. In the case of the third equation, stock markets (turnover ratio) do not significantly affect economic growth, even though a significant effect of turnover ratio on economic growth would also reaffirm the effect of stock markets in growth due to the absence of a price effect in this indicator. The robustness and validity of the Difference GMM estimation is checked via the Sargan and serial correlation tests.

From the empirical analysis, the significant stock market driver of economic growth in Africa is the ratio of value of shares traded to GDP. It is important to note that the ratio of value traded relative to GDP is an indicator of the activity and liquidity of the stock market. Hence improvements in trading of shares (in the number of shares traded, frequency and efficiency in trading) or liquidity on African stock markets will on the whole boost economic growth by 3.7 percentage points. The adoption of electronic trading systems and the encouragement of new listings could boost this liquidity on African stock exchanges. It must also be added, however, that the inclusion of South Africa in this group could have led to a heavy bias towards this result. Nonetheless, this finding is suggestive of where policy should be directed with regards to stock markets in Africa.

VI. WHAT DETERMINES STOCK MARKET DEVELOPMENT IN AFRICA?

The previous section has provided enough evidence to make a convincing case that stock market development at least creates the enabling environment for a successful economic growth. The policy question, therefore, is what determines stock market development? The literature suggests that sound macroeconomic environment, well developed banking sector, transparent and accountable institutions, and shareholder protection are necessary preconditions for the efficient functioning of stock markets in Africa.

A. Macroeconomic Stability

A stable macroeconomic environment is crucial for the development of the stock market. Macroeconomic volatility worsens the problem of informational asymmetries and becomes a source of vulnerability to the financial system. Low and predictable rates of inflation are more likely to contribute to stock market development and economic growth.⁷ Both domestic and foreign investors will be unwilling to invest in the stock market where there are expectations of high inflation. Garcia and Liu (1999) finds that sound macroeconomic environments and sufficiently high income levels—GDP per capita, domestic savings, and domestic investments—are important determinants of stock market development in emerging markets.

B. Banking Sector Development

The development of the banking sector is important for stock market development in Africa. At the early stages of its establishment the stock market is a complement rather than substitute for the banking sector. Developing the financial intermediary sector can promote

⁷It must be noted that the conduct of macroeconomic policies not only affects but may also be affected by the condition of the financial system. For example, if non-performing loans represent a greater proportion of banking assets, the central bank may find it very difficult to tighten monetary policy.

stock market development. Many East Asian countries are successful examples. Support services from the banking system contribute significantly to the development of the stock market. Consequently, liquid inter-bank markets, largely supported by an efficient banking system, are important for the development of the stock market. Conversely a weak-banking system can constrain the development of the stock market. On the empirical front, Demirguc-Kunt and Levine (1996) found that most stock market indicators are highly correlated with banking sector development. Countries with well-developed stock markets tend to have well-developed financial intermediaries. Yartey (2007b) finds that a percentage point increase banking sector development increases stock market development in Africa by 0.59 percentage point controlling for macroeconomic stability, economic development and the quality of legal and political institutions.

C. Institutional Quality

Institutional quality is important for stock market development because efficient and accountable institutions tend broaden appeal and confidence in equity investment. Equity investment thus becomes gradually more attractive as political risk is resolved over time. Therefore, the development of good quality institutions can affect the attractiveness of equity investment and lead to stock market development. Yartey (2007a) finds good quality institutions such as law and order, democratic accountability, bureaucratic quality as important determinants of stock market development in Africa because they reduce political risk and enhance the viability of external finance. Bekaert (1995) provides evidence that higher levels of political risk are related to higher degrees of market segmentation and consequently low level of stock market development. Erb et al (1996a) show that expected returns are related to the magnitude of political risk. They find that in both developing and developed countries, the lower the level of political risk, the lower is required returns. The evidence in the literature suggests that political risk is a priced factor for which investors are rewarded and that it strongly affects the local cost of equity, which may have important implications for stock market development.⁸

D. Shareholder Protection

Another key determinant of stock market development is the level of shareholder protection in publicly traded companies, as stipulated in securities or company laws (Shleifer and Vishny, 1997). Stock market development is more likely in countries with strong shareholder protection because investors do not fear expropriation as much. In addition, ownership in such markets can be relatively dispersed, which provides liquidity to the market. La Porta et al (1999) provide evidence for the importance of minority rights protection by using

⁸De Santis and Imrohorglu (1997) report that emerging financial markets exhibit a conditional probability of large price changes than developed stock markets. There may be a role for political risk in explaining this difference in magnitude, as policy changes tend to have a large systemic effect.

indicators of the quality of shareholder protection as written in laws. They demonstrate that the quality of shareholder protection is correlated with the capitalization and liquidity of stock markets in 49 countries around the world. Laporta et al (1997) find that countries with lower quality of legal rules and law enforcement have smaller and narrower capital markets and that the listed firms on their stock markets are characterized by more concentrated ownership. Demirguc-Kunt and Maksimovic (1998) show that firms in countries with high ratings for the effectiveness of their legal systems are able to grow faster by relying more on external finance.

VII. PROMOTING STOCK MARKET DEVELOPMENT IN AFRICA

The results from the previous sections 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. How do you make the stock market more beneficial to African countries? 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 foreign investors, and educational programs. Most of these propositions involve substantial benefits as well as cost outlays. This section looks at the future of African stock markets by examining policy options for promoting stock market development in Africa.

A. Automation

Automation is also expected to help reduce the costs and inefficiencies in African stock markets and increase trading activity and liquidity.⁹ Automation helps to speed up operations and activities of exchanges and reduces cost associated with manual systems. In addition, automation makes it easier to extend trading days and hours due to less cumbersome procedures. Automated trading also eliminates the need for trade intermediation since investors can log onto systems to monitor markets and also trade on markets, thus bypassing the use of brokers.

Automation of the trading system usually either precedes or is preceded by the adoption of a central depository system (CDS). Under the CDS system, there is total elimination of risks such as the loss, mutilation and theft of certificates associated with holding and trading of paper-based securities of investors. CDS systems also reduce errors and delays associated with paper-base

⁹ Automation involves the implementation of computerized and electronic systems for trading, clearing and settlement purposes. In automated exchanges, the placement and matching of buy and sell orders are computerized and not constrained by location.

Automation is an expensive venture and has huge budgetary implications for African governments. This might explain why most African stock markets have found it difficult to fully automate their systems.¹⁰ However, with the proliferation of electronic communication networks (ECNs) and alternative trading systems (ATS), the cost of automation is gradually reducing.

Other African stock exchanges can adopt the Namibian model whereby the NSX of Namibia uses the trading system of the JSE of South Africa. The markets could also adopt the CDS systems in similar manners. Admittedly the operational procedures of such an approach are likely to be difficult in the absence of currency convertibility issues and harmonized financial systems.

Automation is particularly important if African stock exchanges aim at integration. Without automation the much touted benefits of regional stock market integration is likely to be lost.

B. Demutualization

Demutualization can be defined as a change in the legal status, structure and governance of an exchange from a non-profit, protected interest one to a profit oriented.¹¹ The process of demutualization involves a change in ownership structure and a change in legal and organization form. With regards to the ownership structure, members' seats are monetized and values assigned per seat. Members then either keep or sell shares. Ownership restrictions are placed (for example, 5-10 percent non-controlling stakes) on individuals and groups to prevent potential takeovers by other exchanges. The legal and organizational change normally entails the exchange becoming a typical profit making company with limited liabilities and abiding by company laws.

Demutualization started gaining popularity in the 1990s, due to a number of factors. These include competition among exchanges, need for increased capital, need for good corporate governance in exchanges and the urge to open up ownership of exchanges to public investors (Pirrong, 2000). Between 1999 and 2003, the number of demutualized and public exchanges in the world increased from 10 to 25 (IOSCO, 2005).

¹⁰ So far the only African stock exchanges with automated and Central Depository Systems are the Algiers Stock Exchange, Bourse Régionale des Valeurs Mobilières (BRVM), the Cairo and Alexandria Stock Exchange (CASE), Stock Exchange Mauritius, Namibia Stock Exchange (NSX), Nigeria Stock Exchange, Johannesburg Securities Exchange (JSE), Tunis Stock Exchange and the Lusaka Stock Exchange.

¹¹ The process can be defined as a change in legal status of the exchange from a mutual association with one vote per member (and possibly consensus-based decision making) into a company limited by shares with one vote per share (Akhtar, 2002).

Demutualization is expected to solve mutual structure problems by opening up trading rights, admitting new trading partners, and broadening ownership such that the public can invest in exchanges. The absence of these in mutual exchanges tends to breed poor governance structures. In a mutualized exchange, traders and brokers enjoy monopoly power through exclusive rights and access to trading systems, resulting in a protection of vested interests for traders. In a demutualized exchange there is a vote per share and once incentives for equity stakes to nonmembers exists there is separation of powers. Decision making is on ownership structure not trades intermediation. Thus, demutualization induces better corporate governance systems. In addition, undue governmental influence in mutual exchanges in Africa is likely to be absent in demutualized exchanges since appointment of government officials become unnecessary due to the fact that a demutualized exchange is a private company.

Demutualization also increases access to services of the exchange and removes excessive investment costs for fund holders. For instance, brokers usually package non-trade related fees (research, computer systems and IPO access) into institutional traditional commissions often known as “soft commissions” or “bundled commissions” and pass on to clients. With demutualization, fund holders can directly access such information without the use of brokers. Finally, it is also argued that demutualization instills efficiency and better structures in exchanges and results in commercial gains for exchanges (Ryden, 1995).

A major problem with demutualization is that of conflict of interest and regulatory oversight. Exchanges tend to shy away from taking enforcement actions against their own customers who are a source of income. There is a potential commercialization of services; data and trade information that traditionally is offered freely is now sold. Listing standards and oversight can be compromised by the exchange concerned. To solve these problems self-listing arrangements can be implemented.¹²

For mutual African stock exchanges, potential conflict of interest could pose huge problems, since current regulatory structures are still undergoing restructuring to meet international standards. In many African countries, the establishment of formal stock exchanges preceded the creation of formal independent securities regulators. However, it could also be argued that perhaps being a private venture, demutualized exchanges could speed up the formation of strong regulatory systems in Africa.

¹²For instance, in Singapore, the Singapore Stock Exchange SGX (holding company), the SGX-ST (Singapore Stock Exchange Security Trading) and the monetary authority have a regulatory arrangement whereby SGX-ST is the frontline regulator for firms listed on the SGX and the SGX itself is subject to the same rules applicable to other firms, the Monetary Authority is the overall overseer.

The policy of demutualization should not be of immediate concern to most African exchanges. The reason is that most African exchanges have barely existed for three decades, and are grappling with teething issues of poor infrastructure and illiquidity. Demutualization would, therefore, be more relevant in the medium to long term when the teething issues have been properly managed. Indeed demutualization should be the step after Africans have consolidated gains on improving liquidity problems and strengthening cooperation. For now other African markets can study the JSE to learn from their current experiences as a demutualized exchange. Admittedly the JSE case poses a challenge for advocacy for a regional exchange for SADC. This is because a regional exchange in the SADC in the near future is expected to be demutualized given the current stance of the JSE.

C. Regional Integration

Another proposed solution to problems faced by African stock markets is to integrate stock exchanges. Merging stock exchanges (the extreme form of integration) results in volumes multiplying with potentially the same overhead costs (Claessens, Klingebiel and Schmukler, 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. Proponents of this proposition argue that a well integrated regional stock exchange in Africa 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.

Box 2. An African Regional Exchange-The BRVM

The only regional exchange in Africa, BRVM in Cote d'Ivoire consists of eight French speaking West African countries of the West African Economic and Monetary Union (WAEMU)¹³ The BRVM was opened in 1998 and has branches in each WAEMU country. Although the bourse is majority owned by the private sector, the member states own 13.4 percent of the capital. Trading on the BVRM is computerized with satellite links. Brokers and agents can transmit orders and consult and edit quotation results to the central site in Abidjan whilst sitting in workstations in their offices or desks located in national branch offices. The exchange has 15 brokerage firms. Trading takes place on three days of the week and all orders are filled at a price set at a fixing once a day. Trades are cleared and settled at the Depositaire Central/Banque de Reglement SA. The problem with the BRVM is that the exchange is dominated by Ivorian companies. Corporations in the remaining member countries have not fully embraced the exchange.

Source: Asea (2004)

¹³ Benin, Burkina Faso, Cote d'Ivoire, Guinea Bissau, Mali, Niger Senegal and Togo

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. Integrated markets harness 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.

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) reports that Botswana officials were uncomfortable with South Africa's virtual African exchange proposal due to the fear of capital flight towards JSE.

Box 3. Progress on Stock Market Integration in Africa

A number of initiatives have been undertaken to integrate African stock exchanges. In the Southern African Development Community (SADC), the Committee of SADC Stock Exchanges (COSSE) set up a strategy aimed at developing an integrated real-time network of securities markets within the region. The strategy required that each national exchange automated its trading of instruments through a single and accessible regional system. It also encouraged the harmonization of listing rules across the region. As at 2000, all SADC exchanges had harmonized listing requirements in accordance with the JSE system. The Johannesburg Securities Exchange (JSE) and the Namibian Stock Exchange (NSX) have also advanced further in harmonizing systems. The NSX uses the trading and settlement systems of the JSE. The two exchanges are also linked on the regulatory side, the NSX rules and requirements are based on that of the JSE. Liberalization of exchange controls in SADC within the 1990s promulgated dual listings of companies. Within SADC, majority of the shares listed on Namibia Stock Exchange (NSX) also have primary listings on the JSE.

A number of Memorandum of Understandings (MoUs) on collaborative program has also been signed amongst African exchanges. Outside of the SADC, the JSE has signed MoUs with Egypt, Ghana, Kenya, Nigeria and Uganda. The Nairobi Stock Exchange has similarly signed MoUs outside the eastern and southern African regions, with Nigeria and Ghana. South Africa has also proposed a virtual African exchange for the trading of large African companies and begun discussions with exchanges in Ghana, Namibia, Zambia and Zimbabwe on that in 2003. This system is to enable qualifying companies to simultaneously list on all member exchanges rather than result in an integrated single exchange.

In East Africa, the East African Member states Securities Regulatory Authority set up under the Memorandum of Understanding between Kenya, Tanzania and Uganda seeks to promote integration amongst East African exchanges. Kenya appears to be playing the anchoring role with the biggest market. The Nairobi Stock Exchange and the Kenya Capital Markets Authority are together fostering the promotion of a regional exchange, by first harmonizing rules and regulations. Already, the Ugandan Securities Exchange has harmonized its listing rules with that of the Nairobi Stock Exchange.

Source: Irving (2005).

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 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 WAEMU in the case of the BRVM preclude such problems. This is also a reason why the 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 (Box 1) can teach us a number of lessons on stock market integration in Africa (Asea, 2004). 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.

D. Promote Institutional Investors

The involvement of institutional investors in African exchanges must be pursued vigorously. Institutional investors often are at the forefront in promoting efficient market practices and financial innovation. They typically favor greater transparency and market integrity in both primary and secondary markets, seek lower transaction cost, and encourage efficient trading and settlement facilities. Pension Funds, insurance houses and other institutional investors can therefore act as a countervailing force to commercial and investment banks as well as other market intermediaries, forcing them to be more competitive and efficient. Indeed African exchanges stand to gain from increasing the involvement of institutional investors on stock exchanges.

E. Strengthen Regulation and Supervision

Regulation and supervision of the financial system play a great role in determining both its stability and the extent of services provided. Regulation and supervision are typically aimed at the protection of investors from the potentially opportunistic behavior of insiders. Investor protection helps solve agency problems and information asymmetry arising from inside

information.¹⁴ This helps in making optimal decisions, increasing access to external finance and resulting in productive investment and eventually higher firm growth (La Porta, Lopez-de-Silanes and Shleifer, 2003). There is the need for a well structured and clear rule of law, within an efficient judicial system, which allows for contract repudiation and expropriation risk in this regard.

Regular disclosure, transparency and enforcement form an integral part of regulation and supervision. Important disclosure requirements include relevant information with regards to transactions, accounting and the identity of ultimate beneficial owners. They must be nonetheless simple and supportive of the legal and accounting framework (Friedman and Grose, 2006). Similarly enforcement procedures need not be long, cumbersome and expensive. Enforcement essentially requires compliance and the ability to prosecute. The presence of a securities regulator is important in this regard to ensure enforcement. Such enforcement can also be complimented by effective private laws on contracts and dispute resolutions (Lopez-de-Silanes, 2004). The presence of strong corporate governance mechanisms also help boost investor confidence in regulatory issues.

Strict ethical and conduct of business rules could be developed for members of African stock exchanges. Rules must follow international best practices but at the same time reflect local structures and needs. Emerging African markets should also implement rules that are “necessary” rather than what would be “nice” (Friedman and Grose, 2006). In Africa though, there are laws and rules for regulation and supervision. The real challenge is the shortage of experienced supervisors and the absence of a strong tradition favoring compliance with the rules and discouraging regulatory forbearance (Vittas, 1998).

F. Attract Capital Flows and Encourage Foreign Participation

Private capitals flows—foreign direct investment, remittances and portfolio investment and are an important for stock market development. Even though capital flows to Africa have been increasing recently, they are still at very low levels. In particular, portfolio investment accounts for a minor share of capital flows to Africa with a meager share of 0.15 percent of the total capital flows to Africa in 2003 (excluding South Africa). On the other hand, portfolio flows dominate the total capital flows to South Africa increasing liquidity on the JSE.

African countries need to do more to attract capital flows especially portfolio flows. Sustained economic growth, quality public institutions and infrastructure, trade liberalization, and efficient capital markets are important for attracting capital flows (Asiedu, 2006). An

¹⁴ Regulation is the set of rules imposed by the authorities on the actions of participants in financial markets. Supervision is the manner in which the authorities verify and enforce compliance with the requirements of the regulatory framework.

enabling business climate with low costs of doing business, property rights, effective regulations and legal institutions, and some capital account liberalization are important.

Capital account restrictions still hold in a number of African countries. Such restrictions also limit the capabilities of exchanges to explore cross-border investments. There is the fear that capital account liberalization for these countries could also expose such economies to potential huge capital flights and financial crises. However, it has been argued that such problems depend on the nature of capital that comes in (Henry, 2000). Debt based capital flows could cause crises if there is bad news and creditors rush in to obtain their funds. Equity or bond based capital flows however have the risk shared, with high payouts during good times and little or nothing during bad times. Therefore, lifting capital account restrictions to attract portfolio investment would benefit African stock markets tremendously. Off course capital account liberalization should be preceded by trade liberalization and domestic financial liberalization to minimize financial market risks.

The problem with portfolio capital is that they are normally targeted at large and growing markets. This makes further argument for de-fragmentation of African. Attracting portfolio capital flows into stock markets goes hand in hand with opening up markets for foreign investor participation. Apart from the injection of fresh capital, opening up markets to foreign participants help to increase trading and liquidity of markets. Increasingly African markets are opening up to foreign participation with little or no ceilings on foreign ownership of shares. A few markets still have some foreign participation restrictions. For instance, foreign ownership of shares cannot exceed 40% in stock markets in Kenya and Zimbabwe and 74% in the Ghana.

G. Strengthen Education

Increasing public knowledge about the functioning of the stock market could promote the development of the stock market in Africa. Knowledge about stock market activity can be improved through regular and intensive education programs. Educating the public about the role of the stock market can help increase the investor based and improve the liquidity of the stock market. There is often very little or no education on the role of stock markets in African economies. Being new financial systems in most of Sub-Saharan Africa, stock markets would not appeal automatically to economic agents. Education about stock markets must be at the firm and individual level. At the firm level, it is important to allay the fears of firms by educating them strongly and regularly on the benefits of listing. Firms in Africa have an array of reasons why they would not list on stock markets. Apart from the lack of knowledge about how stock markets work, there are other reasons such as high listing requirements and fear of losing control over family businesses. A study on the Ghana Stock Exchange (Yartey, 2005) revealed that 33 percent of firms surveyed were unwilling to list on the stock exchange because of fear of losing control. At the individual level, African markets could tap into potentially large amounts of financial wealth which exists outside of the financial system, by pursuing vigorous and consistent educational campaigns about stock markets at various

levels of society. Such educational drives are already in existence in a number of stock markets in Africa. In South Africa, the JSE/Liberty Life Investment Challenge which introduces the youth to dynamic games in economics and finance and its application to investing and trading on the JSE has been running for three decades now.

VIII. SUMMARY AND CONCLUSION

Over the past few decades, the world stock markets have surged, and emerging markets have accounted for a large amount of this boom. In Africa, new stock markets have been established in Ghana, Malawi, Swaziland, Uganda, and Zambia. The rapid development of stock markets in Africa does not mean that even the most advanced African stock markets are mature. In most stock markets, trading occurs in only a few stocks which account for a considerable part of the total market capitalization. In addition, the market suffers from the problem of low liquidity. Low liquidity means that it will be harder to support a local market with its own trading system, market analysis, brokers, and the like because the business volume would simply be too low.

The analysis in this paper shows that the stock market has been a surprisingly important source of finance for funding the growth of large corporations in some African countries. In Ghana, the stock market financed about 12 percent of total assets growth of listed companies between 1995 and 2002. In South Africa, new equity issues accounted for 18 percent of total assets growth between 1996 and 2000. External debt contributed 61 percent of total financing, and retained earnings financed the remaining 21 percent. In Zimbabwe, equity finance contributed 8 percent to the funding of listed corporations between 1990 and 1999. In all of these countries, the stock market is the most important source of long term external finance.

Thus, the stock market has made important contributions to corporate growth in Africa in the recent period. However, the shortcomings inherent in a stock market based system require us to examine whether the economy as whole has benefited through, for example, greater aggregate savings and investment or increased productivity of investment. There is little systematic evidence on this issue for African countries. We provide some econometric evidence, however, that through the value of shares traded, the stock market is positively associated with economic growth in Africa. This result might however also be because of the dominance of the price effect.¹⁵

¹⁵ Since financial markets are forward looking, both the value traded ratio and stock price movements affect the capitalization ratio. If financial markets anticipate large corporate profits, stock prices will rise today. This price increase would affect the value of stock price transactions and therefore raise both the value traded ratio and the capitalization ratio.

What determines stock market development? Recent empirical research has identified macroeconomic stability, robust economic growth, well developed banking sector, and good quality institutions as important for stock market development. Garcia and Liu (1999) found income level, banking sector development, domestic savings and investment, and stock market liquidity as important determinants of stock market development in emerging markets. Yartey (2007b) finds that a percentage point increase in financial intermediary sector development increases stock market development in Africa by 0.597 percentage points controlling for macroeconomic stability, the level of economic development, and the quality of legal and political institutions. He also finds good quality institutions such as law and order, democratic accountability and limited corruption as important determinants of stock market development because they reduce political risk and enhance the viability of external finance.

Looking ahead, African stock exchanges face a number of challenges before they could enter a new phase of rapid growth. The first is the challenge of stock market integration. Many analysts have argued for the regionalization of stock markets in Africa as a way of addressing the problem of low liquidity. Preconditions for successful regional approaches include harmonization of legislations such as bankruptcy and accounting laws and a liberalized trade regime. The second is the challenge of demutualization to solve the governance and profitability problems. Demutualization would be more relevant after African stock markets have consolidated gains on technological and regulatory reforms. The third and most critical issue is the need to eliminate existing impediments to institutional development. These include a wider dissemination of information on these markets, the implementation of robust electronic trading systems, and the adoption of central depository systems. In addition, sound legal and accounting framework, private sector credit evaluation capabilities, and public sector regulatory oversight should all be strengthened.

REFERENCES

- Adjasi, K. Charles and Nicholas Biekpe, 2006, "Stock Market Development and Economic Growth: The Case of Selected African Countries," *African Development Review*, Vol.18 (1) pp. 144-161
- Akhtar, Shamshad, 2002 "Demutualization of Asian Stock Exchanges-Critical Issues and Challenges," in Shamshad Akhtar ed. *Demutualization of Stock Exchanges, Solutions and Case Studies*, Manila: Asian Development Bank
- Arellano, Manuel and Stephen. Bond, 1991 "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations," *Review of Economic Studies*, Vol. 58. pp. 277-97.
- Asea, Patrick, 2003 "Promoting Regional Financial Market Integration," *Presented at the African Capital Markets Development Workshop*, Johannesburg, South Africa, October 27.
- Asiedu, Elizabeth, 2006 "Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability," *The World Economy*, Vol. 21(1) pp. 63-77
- Beck, Thorsten, Asli Demirguc-Kunt, and Ross Levine, 1999, "A New Database on Financial Development and Structure," *World Bank Working Paper 2146*, Washington: The World Bank
- Bekaert, Gaert, 1996, Market Integration and Investment Barriers in Emerging Equity Markets," *The World Bank Economic Review*, Vol. 9, pp. 75-107
- Bekaert, Geert, Campbell Harvey and Christian Lundblad, 2001, "Emerging Equity Markets and Economic Development," *Journal of Development Economics*, Vol. 66, pp. 465-504.
- _____, 2004, "Does Financial Liberalization Spur Growth?" *Journal of Financial Economics* Article in Press.
- Bhide, Amar, 1993, "The Hidden Costs of Stock Market Liquidity," *Journal of Financial Economics*, Vol. 34, pp.31-51.
- Binswanger, Mathias, 1999, *Stock Markets, Speculative Bubbles and Economic Growth*, Cheltenham: Edward Elgar Publishing.

- Claessens Stijn, Daniela, Klingebiel and Sergio C. Schmukler, 2002, "Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centers," *World Bank Working Paper No. 2816*, Washington: The World Bank
- Corbett, Jenny and Tim Jenkinson, 1994, "The Financing of Industry, 1970-89: An International Comparison," *Journal of Japanese and International Economies*, Vol. 10, pp. 71-96
- Cosh, D. Andy, Alan Hughes, and Ajit Singh, 1992), "Openness, Financial Innovation, Changing Patterns of Ownership and the Changing Structure of Financial Markets," in Banuri, T. and Schor, J.B., (eds.), *Financial Openness and National Autonomy*, Oxford: Clarendon Press.
- Databank, 2004, "African Stock Markets Consolidate Gains," Databank Research, Accra: Databank.
- Demirguc-Kunt, Asli and Ross. Levine, 1996, "Stock Market Development and Financial Intermediaries: Stylized Facts," *The World Bank Economic Review*, Vol. 10 (2), pp. 291- 232.
- Demirguc-Kunt Asli and Vovislav Maksimovic, 1996, "Stock Market Development and Financing Choices of Firms," *The World Bank Economic Review* Vol. 10 (2) 341-69.
- De Santis Giorgio and Selahattin Imrohorglu, 1997, "Stock Returns and Volatility in Emerging Financial Markets," *Journal of International Money and Finance*, Vol. 16, pp. 561-579
- Erb B. Claude, Campbell R. Harvey, and Tadase E. Viskanta, 1996a, "Expected Returns and Volatility in 135 Countries," *Journal of Portfolio Management*, Spring, pp. 32-48
- Filer, K. Randall, Jan Hanousek and Nauro F. Campos, 1999, "Do Stock Markets Promote Growth?" The Center for Economic Research and Graduate Education (CERGE) Working Paper 267, Prague: Charles University
- Friedman, B. Felice and Claire Grose, 2006, "Promoting Access to Primary Equity Markets: A Legal and Regulatory Approach," *Policy Research Working Paper No. 3892* Washington: The World Bank
- Garcia, F. Valeriano and Lin Liu, 1999, "Macroeconomic Determinants of Stock Market Development," *Journal of Applied Economics*, Vol. 2 (1), pp. 29-59.

- Glen, Jack and Ajit Singh, 2003, "Capital Structures, Rates of Return and Financing Corporate Growth: Comparing Developed and Emerging Markets, 1994-2000," in Litan et al (eds), *The Future of Developed Capital Markets in Developing Countries*, Washington: Brookings Institution.
- Henry, B. Peter, 2000, "Do Stock Market Liberalizations Cause Investment Booms?" *Journal of Financial Economics*, Vol. 58(1-2) pp. 301-334
- IOSCO, 2005 "Exchange Demutualization in Emerging Markets," Emerging Markets Committee of the International Organization of Securities Commission IOSCO, April 2005
- International Monetary Fund, 2003, "International Financial Statistics" CD-ROM Version, Washington: International Monetary Fund
- Irving, Jacqueline, 2005 "Regional Integration of Stock Exchanges in Eastern and Southern Africa: Progress and Prospects," *IMF Working Paper WP/05/122*, Washington: International Monetary Fund.
- Kenny, Charles, and Todd D. Moss, 1998, "Stock Markets in Africa: Emerging Lions or White Elephants?" *World Development*, Vol. 26, pp. 829-43.
- Khan, Moshin. S. and Abdelhak S. Senhadji, 2000 "Financial Development and Economic Growth: An Overview," *IMF Working Paper WP/00/209*, Washington: International Monetary Fund
- Kumar, S. Mamohan, 1984, *Growth, Acquisition, and Investment*, Cambridge: Cambridge University Press.
- Lallchand, Jawaharlal., 2001, "Capital Markets Development in Sub-Saharan Africa: A Case Study of Mauritius," *PhD Thesis*, Cambridge: University of Cambridge.
- La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2003, "What Works in Securities Laws?" NBER Working Paper No. 9882, Boston: National Bureau of Economic Research
- Levine, Ross and Sara Zervos, 1996 "Stock Market Development and Long-Run Growth" *World Bank Economic Review*, Vol.10 (2) pp. 323-340.
- Levine, Ross and Sara Zervos, 1998, "Stock Markets Banks and Economic Growth"

- American Economic Review*, Vol. 88, pp. 537-58.
- Lopez-de-Silanes, Florencio, 2004 "A Survey of Securities Laws and Enforcement," *Policy Research Working Paper No. 3405*, Washington: The World Bank
- Mayer, Colin, 1988, "New Issues in Corporate Finance," *European Economic Review*, Vol. 32, pp.1167-1188.
- Moss, Todd, 2003 "*Adventure Capitalism: Globalization and the Political Economy of Stock Markets in Africa*," London: Palgrave Macmillan
- Mutenheri E., and Christopher, J. Green, 2003, "Financial Reform and Financing Decisions of Listed Firms in Zimbabwe," *Journal of African Business*, Vol. 4 (2), pp. 155-170.
- Okeahalam, Charles, C., 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, March 19-31
- Perotti, Enrico and Peter van Oijen, 1999, "Privatization, Political Risk and Stock Market Development in Emerging Economies University of Amsterdam. *CEPR Discussion Paper 2243*, London: Centre for Economic Policy Research.
- Pirrong, Craig 2000 "A Theory of Financial Exchange Organization," *Journal of Law and Economics* 43 pp. 437-471
- Ryden, Bengt, 1995, "The Reform of the Stockholm Stock Exchange," Stockholm Stock Exchange, November.
- Shleifer, Andrei and Robert W. Vishny 1986 "Large Shareholders and Corporate Control" *Journal of Political Economy*, Vol. pp. 94 461-88.
- Singh, Ajit, 1971, *Takeovers: Their Relevance to the Stock Market and the Theory of the Firm*, Cambridge: Cambridge University Press.
- Singh, Ajit, 1995, "Corporate Financing Patterns in Industrializing Economies: A Comparative International Study," *IFC Technical Paper*, No. 2 (Washington: International Finance Corporation).
- Singh, Ajit, 1997, "Financial Liberalization, Stock Markets, and Economic Development," *The Economic Journal*, Vol. 107, pp. 771-782.

- Singh, Ajit, 1999, "Should Africa Promote Stock Market Capitalism?" *Journal of International Development*, Vol.11 pp. 343-365
- Singh, Ajit and J. Hamid, 1992, "Corporate Financial Structures in Developing Countries," *IFC Technical Paper, No. 1*, Washington DC: International Finance Corporation.
- Singh Ajit and Bruce Weisse, 2002, "Corporate Governance, Competition, the new International Financial Architecture and Large Corporations in Emerging Markets," *CBR Working Paper No. 250*, Cambridge: ESRC Center for Business Research
- Steil, Benn, 2001, "Creating Securities Markets in Developing Countries: A New Approach for the Age of Automated Trading," *International Finance* 4(2) pp. 257-278
- Vittas, Dimitri, 1998, "Institutional Investors and Securities Markets: Which Comes First?" *World Bank Working paper 2032*, Washington: The World Bank.
- UNECA, 2006, Capital Flows and Development Financing in Africa, *Economic Report on Africa 2006*, Addis Ababa: United Nations Economic Commission for Africa.
- Whittington Geoffrey, Victoria Saporta, and Ajit Singh, 1997, "The Effect of Hyperinflation in Accounting Ratios: Financing Corporate Growth in Industrializing Countries," *IFC Technical Paper 3*, Washington: The World Bank.
- World Bank, 2004, World Development Indicators. World Bank, Washington.
- Yartey, Charles Amo, 2005, Stock Market Development, Corporate Finance and Economic Growth in Africa. *PhD Thesis*, Cambridge: Faculty of Economics.
- _____ 2006, "The Stock Market and the Financing of Corporate Growth in Africa: The case of Ghana," IMF Working Paper WP/06/201 International Monetary Fund Washington D.C
- _____ (2007), "The Institutional and Macroeconomic Determinants of Stock Market Development in Africa," in Okpara, John, ed., "*Management and Economic Development in Sub-Saharan Africa: Theoretical and Applied Perspectives*," London: Adonis and Abbey.
- _____ (2007b), "Well Developed Financial Intermediary Sector Promotes Stock Market Development: Evidence from Africa," *Journal of Emerging Market Finance Forthcoming*