NEW FORMS OF INTEGRATION IN EMERGING AFRICA

A Policy Workshop organized by the OECD Development Centre at the Graduate Institute of International Studies - Geneva
Friday, 13 October 2000

Laws, Institutions and Capital Markets Integration

by

Keith Jefferis
Deputy Governor
Bank of Botswana

and

Kennedy Mbekeani
Senior Research Fellow
Botswana Institute for Development Policy Analysis (BIDPA)

I. INTRODUCTION

The increasing prominence of stock markets in developing countries – emerging markets – is one of the most striking features of international financial development over the past two decades. Although the most important emerging markets are in Latin America and Asia, recent years have seen a number of new stock markets in Africa – indeed, it seems that no programme of financial sector reform in Africa is complete unless it includes the establishment of a new stock market or the rehabilitation of an old one. The establishment of stock markets is generally seen as beneficial, for a variety of reasons including their ability to attract inward portfolio investment, boost domestic savings, and improving the pricing and availability of capital for domestic investment. More generally, stock markets are seen as enhancing the operations of the domestic financial system in general and the capital market in particular (Jefferis, 1995; Kenny and Moss, 1998). The establishment and development of stock markets have also been prompted by privatisation programmes, whereby shares in previously state-owned enterprises have been offered for sale to domestic and, sometimes, foreign investors.

Despite the growth of African stock markets, however, most of them remain small, illiquid and, in financial terms, inefficient. As a result their broader economic impact has so far been limited. It has been suggested that one way of overcoming these limitations is to encourage regional stock exchanges, or at least much stronger collaboration between national stock exchanges on a regional basis. There have been some initiatives in this direction, the most prominent being the establishment of a West African regional stock exchange in Abidjan in 1998. There have also been discussions regarding regional stock exchanges or integration of national exchanges in East Africa, Central Africa and Southern Africa. However, progress in these initiatives has been slow, often reflecting the differing technical, legal and institutional standards governing markets in different countries as well as broader economic restrictions such as exchange controls.

This paper reviews the development of stock exchanges in Africa, and moves towards regional capital market integration, with a particular focus on Southern Africa. Besides providing an overview of recent and current developments, it identifies constraints to further regional capital market integration and suggests the types of reforms that would help to move such integration forward. To put the stock exchange in a corporate finance perspective the paper also discusses the capital structure of African companies.

The paper is organised as follows: Section 2 provides an overview of stock exchanges in Africa. Section 3 discusses moves towards regional integration amongst African stock exchanges. Sections 4 outlines the legal, technical and institutional environment. Section 5 looks at the impact of privatisation on stock exchange development. Sections 6 provide conclusions.

II. STOCK EXCHANGES IN AFRICA: AN OVERVIEW

II.1 The Markets

At the end of 1998 there were fourteen formal stock markets in Africa monitored by the International Finance Corporation (IFC) (see Table 1). These can usefully be divided into four categories:

i. South Africa, which dominates other African stock markets in terms of both size and sophistication.

ii. A group of medium sized markets, many of which have been established for a long time (e.g., Egypt, Nigeria, Zimbabwe).

iii. Small new markets that have shown rapid growth (e.g., Botswana, Mauritius, Ghana).

iv. Small new markets that have yet to take off (e.g., Swaziland, Zambia).

With the exception of South Africa, African stock markets are extremely small by world standards. Together, the thirteen markets apart from South Africa accounted for only 0.2 per cent of world stock market capitalisation at the end of 1998, and 2.9 per cent of emerging market capitalisation. In contrast, South Africa – which accounts for 75 per cent of African stock market capitalisation – is quite large by world standards. With a capitalisation of US$171 billion at the end of 1998, South Africa was then the third largest emerging market (after Taiwan and China), and the 17th largest equity market in the world. All African markets (including South Africa) tend to lack liquidity, however, and therefore when ranked by turnover rather than market capitalisation their relative position is diminished. Five of the African markets are included in the IFC's Global Emerging Market Index (IFCG) (South Africa, Egypt, Nigeria, Zimbabwe, and Morocco) although, apart from South Africa, they have very small weights in the IFCG index.

Although most African stock markets are relatively small, many have grown rapidly in recent years, and there have been very rapid increases in capitalisation and turnover over the past decade. Turnover, for instance, increased at an average annual rate of 29 per cent (measured in US$ terms) between 1989 and 1998, compared to only 12 per cent a year for emerging markets as a whole. At the same time, many of these markets have performed well in terms of returns for investors. Although in many cases also they have also been characterised by high levels of volatility, these markets tend to exhibit relatively low correlations with other stock markets internationally.

A number of factors have contributed to the expansion and growth of African stock markets. Many countries have been undergoing economic reform programmes that have involved a reduction in the role of the state in the economy and a strengthening of the role of the private sector. This has been accompanied by a greater role for market forces in price determination and the allocation of both real and financial resources. Financial sector reforms have often included the establishment of new

stock markets, or improving the environment in which existing stock markets operate. Furthermore, privatisation programmes in several countries have involved the listing of shares in formerly nationalised firms, which are often very large in relation to the size of national economies, thus providing a supply of new shares and a further boost to stock market development.

This process has been accompanied by increased attention from international investors. Their interest reflects the growing size of African markets, along with the potential for high returns accompanied by the diversification benefits resulting from low correlations with other markets. At the same time many of the barriers to entry that have previously restricted the participation of foreign investors in many African markets are being progressively eased. One 1993 report noted the following problems facing foreign investors:

> Most African countries with a stock market lack a freely convertible currency, and the margin between official and market exchange rates can be as high as 30 per cent. Except for South African firms, one brokerage house in Zimbabwe, and a new research concern in Ghana, none of Africa's investment houses write research reports. Similarly, there appears to be a four- to five-month lag on earnings reporting, and timely news on listed companies is hard to come by. Many companies do not publish their income statements or balance sheets on a regular basis, as the generally inactive stock markets don't seem to require them. Finally, very few banks meet the minimal capitalisation requirements for custodial banks outlined by the SEC, so there is much delay in seeking suitable custody and settlement arrangements (Morgan Stanley, 1993:14).

Since that time there have been some improvements: many countries have liberalised exchange controls on both current and capital account, making entry and exit easier, and direct restrictions on foreign ownership of shares have also been relaxed, although most of the markets considered here do still retain some such controls.

The lack of liquidity remains a serious problem for African markets, however. Even the most liquid of the markets considered here – South Africa, with a turnover ratio of 30 per cent - fares poorly by world standards. The ten most liquid markets in the world in 1998 all had turnover ratios in excess of 100 per cent, and all of the African markets except South Africa had liquidity below the global median (27 per cent). Lack of liquidity can stem from both sides of the market. On the supply side, many shares in listed companies are held by controlling interests – often foreign parent companies – leaving relatively small proportions of shares available for public trading. This can have implications on the demand side, especially in small markets, where local and foreign institutional investors know that "the costs of trading in and out of African equities are high and that positions once sold may not be easily re-established" (Flemings, 1997:2).

Below we provide more information on individual African stock markets.

South Africa: the Johannesburg Stock Exchange was established in the 19th century in order to raise finance for emerging gold mining ventures. Although very large in terms of capitalisation, liquidity remains low due to the domination of share ownership by six large conglomerates linked either to mining companies or financial holding companies. This concentration of ownership is partly a result of strict exchange controls on the capital account, which restricted South African firms from exporting capital and left them with little choice but to take over other domestic firms. The JSE has benefited from substantial inflows of foreign portfolio investment since the ending of apartheid and the lifting of sanctions in 1994. There are no restrictions on the ownership of shares by foreigners, although prior to March 1995 transactions had to be carried out using the "financial rand", a dual exchange rate which applied to capital transactions. Since the abolition of the dual exchange rate regime, foreign investors have not been subject to any exchange control regulations, although domestic investors remain restricted in their ability to export capital. The domination of the JSE by the conglomerates has declined since 1994, as a result of inflows of foreign capital and various affirmative action/black empowerment deals.

The JSE moved to a screen based electronic trading system (JET) in 1996. It operates as part of a relatively sophisticated financial sector characterised by a wide range of financial institutions, markets, and information flows which in many respects is more representative of a developed than a developing country. However, there have been some concerns about insider trading given the prevalence of suspicious share price movements prior to major announcements.

Egypt: the stock exchange is comprised of two exchanges, Cairo and Alexandria. Both exchanges are governed by the same board of directors and share the same trading, clearing and settlement systems. Egyptian stock exchange is the second largest in Africa by both capitalisation and turnover, and is also the oldest in the continent, pre-dating the JSE by four years. The Alexandria Stock Exchange was established in 1888 and Cairo in 1903. For much of its existence however its role has been stifled by excessive bureaucracy and regulation, and a large proportion of the listed shares have been illiquid. Nevertheless, recent moves towards deregulation and privatisation have given the market a boost. However, the potential efficiency of the market is constrained by a daily 5 per cent stock price fluctuation limit.

Morocco: Like Egypt, Morocco has a relatively old stock exchange (the Casablanca Stock Exchange) that has been inactive for long periods. It is the third oldest stock exchange in Africa, it was established in 1929. The exchange is relatively modern as a result of reform in 1993. It has electronic trading system. Again, deregulation and privatisation have boosted the market in recent years. Although there are no restrictions on foreign ownership, foreign participation in the market is low. This is partly a result of exchange control restrictions on domestic investors who have few domestic or foreign investment alternatives to the stock exchange. Like Egypt, Morocco has been included in the IFC Investible (IFCI) Index since February 1997, and this is likely to boost foreign participation in the market. The low level of foreign participation did, however, help to insulate the market from the spillover effects of global emerging market crises in 1997 and 1998.

Zimbabwe: another long-established market (established in 1896), characterised as "a dozy club with two members" (Cazenove, 1997:44) prior to the advent of Zimbabwe's IMF-inspired Economic Structural Adjustment Programme (ESAP) in 1991. The most important boost to the market came with the opening of the exchange to foreign investors in May 1993, along with a major relaxation of exchange controls. Nevertheless, foreign ownership is still restricted, with individual foreign investors limited to 10 per cent of a company's shares, and foreign investors collectively to 40 per cent. Continued economic and political problems, and inconsistent implementation of structural adjustment and economic reform policies have, however, made the market highly volatile, especially for foreign investors. For instance, the (US dollar-based) IFC total return index recorded a gain of 143 per cent in 1993, 66 per cent in 1996, and falls of more than 50 per cent in 1997 and 1998. The falls were attributed to high interest rates which attracted investors to the higher yielding money market.

Nigeria: the original Nigerian Stock Exchange was established in 1960. The Lagos Stock Exchange (Nigeria) as been primarily a forum for trading government bonds rather than equities throughout most of its existence, but has shown some signs of life since 1996. Equity trading has been constrained by restrictions on foreign ownership, and long-standing political and economic problems, and liquidity has been extremely low. However, despite the inconsistent implementation of economic reform programmes, privatisation has been quite widespread and this has helped the stock market. Nevertheless the market is effectively closed to foreign investors and is driven by domestic sentiment. The Lagos Exchange is an affiliate member of the Federation of International Stock Exchanges (FIBV).

Kenya: the Nairobi Stock Exchange was established in 1954. The Kenyan market has had a very similar history to that of Zimbabwe, with an upsurge in activity since 1993 due to economic reform, privatisation, and relaxation of restrictions on foreign investors and of exchange controls. This resulted in a market capitalisation increasing from US$1.7 billion at the end of 1996 to US$2.24 billion at end May 197. At the same time the reform programme has been inconsistent and political problems remain, leading to market volatility, especially in dollar terms.

Mauritius: the Stock Exchange of Mauritius (SEM) has developed rapidly in a short period of time, from its establishment with 5 companies in 1989 to 40 listed companies by 1998. The listed companies cover a wide range of economic activities, including manufacturing, tourism, sugar and finance. Another 80 companies are traded on the Over-The Counter (OTC) market. Although the market remains small and not all that liquid, it is helped by the absence of restrictions on foreign ownership, and foreign investors play an active role in the market. Major reforms have taken place: An electronic clearing and settlement system was established in 1997. In 1998 a Central Depository System was implemented win which all listed companies are registered. This system allows delivery versus payment on a T+5 day rotating basis. The exchange has been promoted from the status of corresponding Exchange to that of affiliate securities markets within the FIBV.

Botswana: the Botswana stock market was established in 1989 with 5 listed companies and became the Botswana Stock Exchange in 1995. The Exchange had

grown to 14 listed companies by 1998. The listed companies are concentrated in finance and services, with little representation from manufacturing and none from the mining sector on which the economy depends. Foreign portfolio investors are limited to 10 per cent individually and 55 per cent collectively of company stocks, and play an important role in the market. Despite the small number of stocks and only one broker (two since early 1998), the market is more liquid than some larger African markets.

Cote D'Ivoire: The BRVM (Bourse Regional des Valeurs Mobilieres) was established in September 1998 as the world's first regional stock exchange. It links eight French-speaking countries in West Africa - Benin, Burkina Faso, Cote D'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo, which are all members of the West African Economic and Monetary Union (UMOEA). The exchange was based on the existing Abidjan Stock Exchange. Initially all of the 35 quoted companies were from Cote D'Ivoire, but these were supplemented by the listing of a Senegalese company late in 1998. The establishment of the exchange was led by the UMOEA central bank, the BCEAO, and member governments. The market is however highly illiquid, a situation that is compounded by regulations restricting daily price movements to 7.5 per cent.

Tunisia: the Tunis Stock Exchange dates back to 1969, but has only become active since the mid-1990s under the impact of privatisation and regulatory reforms. These reforms have removed limits on daily price changes and opened up the market to foreign investors. In 1998 a new share index weighted by market capitalisation was introduced. The existing Tunis index of 33 stocks is characterised by a lack of liquidity.

Zambia: the Lusaka Stock Exchange was established in 1994 with assistance from the International Finance Corporation (IFC). The market is small in terms of turnover and capitalisation. Most listings have resulted from Zambia's privatisation process, which offers potential for further listings and market development as privatisation proceeds. There are no restrictions on foreign investment, but uncertainties over the privatisation process and broader economic developments have deterred significant foreign investment.

Namibia: the Namibian Stock Exchange was established in 1992, and began with dual listings of companies quoted on the Johannesburg Stock Exchange that also did business in Namibia. Since then, a number of local companies have also been listed. The exchange is relatively advanced in terms of trading technology, and since 1998 it has been using the JSE's electronic trading system. Nevertheless the market remains small in terms of trading and turnover, with low liquidity.

Ghana: the Ghana Stock Exchange opened in 1990. It is dominated by Ashanti Goldfields, which is also listed in London, Toronto, New York and Zimbabwe, and which accounts for two-thirds of total market capitalisation. Besides Ashanti, firms in the manufacturing and beverage sectors are important on the exchange.

Uganda: the Uganda Securities Exchange was established in 1997 and opened to trading in January 1998. It is run under the jurisdiction of the Capital markets Authority which reports to the Central Bank of Uganda. Four companies from the

privatisation programme are expected to list (Uganda Commercial Bank, Uganda Grain Milling ltd, National Insurance Company and Uganda Consolidated Properties.

Tanzania: the Dar es Salaam Stock Exchange was opened in 1998 with one listed company (Tanzania Oxygen Ltd). Foreign investors are currently barred from trading and this hampered the development of the exchange.

Mozambique: the stock exchange started operating in October 1999 with the support of the Lisbon Stock exchange and the World Bank. The development of the exchange may be hampered by lack of necessary physical infrastructure and legislation for trading. Company listings re expected to be encouraged by the Government's intended disposal of its remaining shares in privatised companies.

Other small markets include the **Swaziland Stock Market,** established in 1990. The **Malawi Stock Exchange** was opened in 1996 with a modest listing. More companies are expected to list from the Government's privatisation programme. In Sudan, the **Khartoum Stock Exchange** started trading in 1995. The exchange operates on the basis of the directives of Islamic Sharia Law.

It is important to note that besides trading corporate equities, most African stock exchanges also trade government debt (bonds), which are often important contributors to overall turnover. However, corporate bonds do not tend to be widely issued or traded (outside of South Africa), as this instrument has not been widely used for the raising of corporate finance.

II.2 Market Efficiency

There have been few studies of the efficiency of African stock markets. However the few that have been carried out conclude, not surprisingly, that most markets are inefficient (in a financial sense, meaning that stock prices do not reflect all available information, and that prices are not therefore being appropriately priced at their equilibrium values).

A variety of empirical tests can be used to assess market efficiency. Jefferis & Okeahalam (1999a) apply unit root tests to market indices to assess the efficiency of the stock markets in South Africa, Botswana and Zimbabwe over the period 1989-96, and find that the South African and Zimbabwean markets were efficient during this period, although Botswana was not, at least during the early part of the period. However the unit root test of market efficiency is not a powerful one, and subsequent analysis using different tests provides contrasting results. Jefferis & Okeahalam (1999b) use an event study of the same three markets to test the response of individual stock prices to information announcements, by evaluating the speed and efficiency with which information is incorporated into market prices. This finds that the Botswana and Zimbabwe markets are inefficient, while the Johannesburg Stock Exchange is weak form efficient. This corresponds with the findings of Smith, Jefferis & Ryoo (1999), who test whether eight African stock markets follow a random walk using multiple variance ratio tests. Of the eight markets (South Africa, Egypt, Kenya, Morocco, Nigeria, Zimbabwe, Botswana and Mauritius), only South Africa is found to follow a random walk and therefore to be weak form efficient.

The lack of market efficiency can be attributed to various factors, of which lack of liquidity and lack of institutional maturity would appear to be the most important. While the JSE is not particularly liquid by global standards, it is more liquid than most other African markets, and in addition benefits from the trading of its shares on major international markets where they are cross-listed. It is also the only African market that approximates a developed market in size, and availability of information and analysis.

II.3 Relationship to Global Markets

It is also apparent that linkages between African markets and developed country markets are weak. The strength of short term relationships between markets can be assessed by correlations of market returns. Except for South Africa, correlations between African markets and the US and UK markets are very low (see Table 1). Longer term relationships can be assessed through cointegration analysis. Using this approach, Jefferis and Okeahalam (1999a) find very little evidence of long term relationships between three Southern African markets (South Africa, Botswana and Zimbabwe) and either the US and UK markets or emerging markets in Latin America and Asia. Taking a different approach, Harvey (1999) finds that the Asian financial crisis of 1997 and the Russian/Latin American crisis of 1998 had little impact on African stock markets, despite the widespread contagion impact of these crises on stock markets generally.

The relatively low level of integration of African stock markets - excluding South Africa - into the global financial system is due to a wide range of factors. As noted above, markets are relatively illiquid, and hence prices often do not respond to company or broader economic and financial developments in the way that they would in larger more liquid markets, simply because there is insufficient trade. Most markets are too small and/or illiquid to attract significant inflows of foreign investment, which again acts as an isolating factor with respect to international markets. There is sometimes concern about company listing standards as well as information disclosure requirements and corporate governance. As a result, foreign investors can be wary of African markets and/or require a risk premium, in the form of higher expected returns, if they are to invest - a requirement that is even more stringent in countries that do not have a stable macroeconomic environment. Finally, many African countries still maintain restrictions on foreign ownership of listed shares and/or exchange controls that restrict capital inflows and outflows. Despite these drawbacks, there is some foreign interest. Low correlations with developed markets mean that African markets can offer substantial portfolio diversification benefits to international investors. Furthermore, African markets have at times offered high returns, although often associated with high levels of return volatility, especially when measured in US dollar terms.

II.4 Capital Structure of African Companies

The financial sectors of African economies tend to be quite underdeveloped in relation to both developed countries and many developing countries, with regard to the range of financial instruments, institutions and markets available. Only South Africa really stands comparison with the more advanced developing countries. Financial systems tend to be "bank-dominated", with commercial banks (whether state or privately owned) by far the most important providers of finance. Two results stem from this structural characteristic. First, the availability of risk-friendly financial instruments is highly constrained, with limited availability of equity finance, venture capital, or derivatives. Second, companies in most African countries face a limited range of choices with regard to their corporate financial structures.

Large African firms in particular are often heavily geared, with high debt-asset ratios. This reflects both incentives and availability of finance. Bankruptcy costs (a deterrent to debt financing) are often relatively low, because courts are not well developed thus making it difficult for creditors to recover bad debts; thus firms face an incentive to use debt finance. A similar incentive results from the tax shield. Typically debt interest is tax-deductible, whereas dividend payments to equity owners are not. Hence, in countries with high corporate profit tax rates (again, typical of African economies), there is tax incentive to structure finance as debt rather than equity.

The opposite extreme applies to small and medium sized firms, who often have very low debt to asset ratios. Banks are typically reluctant to offer loans to small or new firms, perceiving them as high risk, a situation which largely reflects a lack of information. The severity of such information problems leads to more credit rationing for the smaller companies. Smaller firms are unable to obtain the necessary funding or are excessively paralysed by the problem of incomplete information in the sense that not only are they unable to get cheap funding, but they often find it difficult to get any funds at all. Small and medium sized firms are often heavily reliant on internally-generated funds (retained earnings) for equity finance, which can constrain their ability to expand rapidly even when profit opportunities are available. Another result is that such firms may also be forced to deal with informal financial structures.

To the extent that lending to the corporate sector is perceived as high risk by the banks, the situation may be compounded by alternative investment opportunities for banks in the form of government securities. Especially in high inflation environments, banks may prefer to hold high return, low risk government stock such as treasury bills rather than venture into corporate lending.

It is apparent that the establishment of stock exchanges could significantly change the capital structure of African companies, if they can be established in such a way that makes them widely accessible. Capital-constrained small and medium sized companies could benefit from the new source of finance that becomes available, while larger companies could find it attractive to reduce their gearing.

III. MOVES TOWARDS REGIONAL INTEGRATION AMONGST STOCK EXCHANGES

As African stock markets have become larger and more widespread over the past decade, there have also been preliminary moves towards regional integration amongst these exchanges. This reflects both the needs of the exchanges themselves and the broader process of regional integration. The latter, however, has generally started with trade liberalisation and integration, whereas regional integration amongst stock markets, being part of capital market integration, has generally progressed more slowly.

III.1 Constraints to Regional Integration of Stock Exchanges

As noted above, most African stock exchanges (that is, apart from South Africa) are small and illiquid. This acts as a major constraint to attracting inflows of foreign capital (portfolio investment), which is one of the major objectives of establishing a stock exchange.

These small and illiquid exchanges face a range of problems in attracting inward investment. First, the range of shares on offer is limited, and the size of potential deals is often small. These characteristics may reflect a small number of listed companies, the small size (capitalisation) of many listed companies, or the restricted availability (free float) of shares even when the number or size of companies listed is larger. Hence many markets cannot offer large enough parcels of shares or a diversified enough range of shares to be of interest to international investors, who generally have quite large minimum holding and dealing sizes.

The need for large sizes of deals reflects the fact that there are economies of scale in share dealing: various institutional factors, such as dealing with laws and regulations, dealing with local agents (stockbrokers); carrying out research; setting up custody arrangements, all have a cost and unit costs are lower if they can be spread over a larger number or value of trades. More generally, the existence of different national legal, taxation and institutional regimes makes dealing with Africa difficult and costly for international investors, hence reducing potential returns and thus constraining capital flows.

A second problem of small exchanges is that making cross-comparisons within sectors and across companies is difficult if there are few stocks and if not all economic sectors are represented; hence the relative performance of different companies is difficult to establish.

A third problem is that of pricing: the illiquidity of exchanges means that the pricing process is not well developed. This leads to mispricing and a lack of efficiency, which in turn means that capital is not properly priced, so that “disciplinary” role of stock markets (rewarding good performers and punishing bad ones) may not work fully. Furthermore risk is not properly priced, and stock markets may not therefore fulfil their potential as a means of allocating capital.

Another problem is poor telecommunication and computer technologies within many African countries, with a great diversity in the levels of automation and of the systems applied. The poor telecommunications and computer technologies are a constraint to any effort to facilitate cross-border transfer of funds, as well as cross-border trading and settlement that are key to facilitating regional integration of stock exchanges.

Finally, exchange controls in many countries prevent the cross-border movement of capital that is essential for regional stock market integration. The problems created by exchange controls can be illustrated by way of example. Perhaps the simplest form of stock market integration is the cross-listing of shares on national stock exchanges in different countries. With capital mobility and a liquid trading environment, the price of the share should be the same (measured in terms of a common currency) in each country. However, Ashanti Goldfields shares listed on the Zimbabwe Stock Exchange trade at a discount to the same shares listed on other stock exchanges, such as Ghana London and New York. This is because Zimbabwe's exchange controls restrict the movement of locally-listed shares across share registers in different markets and do not allow the free flow of capital from the sale or purchase of Ashanti shares between Zimbabwe residents and non-residents. Hence the Zimbabwe listing of Ashanti shares is segmented from the rest of the world and its price in Harare does not reflect the share's international price movements. Thus, due to exchange controls, there is no integrated market in these shares.

A deeper form of regional stock market integration would involve investors in different countries being able to freely buy and sell shares on a regional (as opposed to national) stock market. For instance, if a hypothetical SADC stock market was located in Gaborone, Botswana, an investor in Mozambique should be able to buy a share in a Zimbabwean company listed on the SADC exchange, using a broker located in Mozambique, Zimbabwe, Botswana or indeed any other SADC country. For this to happen, there has to be unrestricted flow of capital between the participating countries, at least for this type of transaction. Only two regional groupings – the CFA zone in Francophone central and west Africa, and the Common (Rand) Monetary Area in Southern Africa, presently meet the requirement of full capital mobility (although some individual countries, such as Botswana, Zambia and Mauritius have individually abolished exchange controls and thus have no restrictions on capital mobility).

III.2 Advantages of Regional Integration

African stock exchanges share various characteristics which underlie the importance of the proposal for regional integration. The exchanges are small in size (in terms of market capitalisation measured as a percentage of GDP) and generally illiquid. The low level of deepening reflects the lack of small- and medium sized companies that are suitable for listing and trading.

Regional integration of stock exchanges is essentially seen as a means of overcoming the size and liquidity problems of existing exchanges, much more quickly than if these problems were to be overcome by the organic growth of national exchanges. It is also a means of reducing the costs of investing in Africa for

international investors. Improving liquidity will help to improve the efficiency of the pricing process, and increasing the range of stocks will help portfolio diversification, and thus improve the risk-return trade-off for both national, regional and international investors. There is also evidence that increased liquidity can help to enhance the beneficial impact of stock markets on the broader financial and economic development process (Levine and Zervos, 1996).

It is also part of broader process of capital market liberalisation, allowing savings resources to be allocated more efficiently to competing investment opportunities, with savings less restricted to national capital markets and hence an increase in cross-border capital flows. Cross-border capital flows in an integrated regional market will widen trading (by increasing the number of companies) and thereby reducing risk. In all African stock exchanges there is a concentration of trading in a few companies, reflecting the vulnerability of markets.

Regional integration can also contribute towards a general upgrading of standards, if the process is associated with a convergence on high common standards within a region. These can include standards on accounting rules; corporate reporting and disclosure; listing requirements; protection of minorities; insider trading rules; custody and depository arrangements; take-overs and mergers, etc.), and are discussed in more detail below. It is increasingly recognised that stock exchanges can play an important role in raising general standards of corporate reporting, accounting and regulation, especially through the listing requirements that they impose (Levine, 1998). By adopting common regional standards, regionally integrating stock exchanges can spur higher standards on both a regional and national basis, and thus contribute to higher economic growth.

An example of potential gains from regional collaboration in market microstructure issues relates to record keeping and settlement systems. Many financial markets around the world are moving to paperless or “dematerialised” systems with computer-based record systems of share ownership (and of other financial instruments, such as government bonds). Because such systems do not rely on the physical delivery of scrip prior to transfer of ownership, the settlement of trades can be significantly speeded up. Transactions costs can also be reduced due to the efficiency of computer-based record keeping relative to paper-based systems. However, such systems require a central depository, which can be an expensive undertaking, especially given the level of financial guarantees or sureties that would be required to assure foreign investors in particular of the soundness of such a system. While it is technically possible for small countries to undertake such an initiative, it may be financially unrealistic. Given the economies of scale involved, it is likely to be much more feasible on a regional basis, for instance with smaller markets collaborating to set up a joint system, or making use of a system operated by a larger market, such as South Africa.

III.3 Movements towards regional integration

Although regional integration amongst African stock exchanges is still at an early stages, there has nevertheless been some progress. The first stage of integration is cross-listing of stocks, whereby a single stock is listed on more than one exchange. If this is associated with open registers (whereby stocks can be moved from one country's register to another without restriction), this will lead to a common pricing of the stock on the different exchanges, with the price determined by trading on both exchanges[1]. Cross-listings are assisted by the adoption of common listing standards across exchanges. This course has been pursued by SADC stock exchanges, which are in the process of adopting common rules and requirements for listings as the first step towards regional integration. This initiative is being promoted by the SADC Stock Exchange Committee (SADSEC), whose members are Botswana, Lesotho, Mauritius, Namibia, South Africa, Zambia and Zimbabwe.

The first fully-fledged regional stock exchange (as opposed to cooperation or cross-listings between separate national exchanges) is the Bourse Regional des Valeurs Mobilières (BRVM), established in Abidjan in 1998 on the basis of the old Côte D'Ivoire exchange. The establishment of this regional exchange is clearly facilitated by the fact that the member countries share a common currency (the CFA franc) and thus have no restrictions on capital movements between themselves. Discussions have also taken place on regional integration of stock exchanges n East Africa (Kenya, Uganda and Tanzania). With more general moves towards reviving regional cooperation in East Africa, some observers believed that the Nairobi Stock Exchange, which dates back to 1954 and which has relaxed rules on foreign ownership of shares in recent years, should have been developed as the market for all listed companies in the region. Instead, Tanzania and Uganda decided to open their own stock exchanges, although the number of listings has so far been very low, due partly to slow progress with privatisation programmes and restrictions on foreign ownership. There are currently discussions on facilitating cross-listings.

In central Africa, the UDEAC members Cameroon, CAR, Chad, Congo (Brazzaville), Equatorial Guinea and Gabon have had discussions on a regional exchange. In a parallel with the West African situation, these countries already share a currency (the CFA franc) and a central bank, but unlike West Africa do not have an existing exchange that can form the basis for a regional market.

IV. THE LEGAL, TECHNICAL AND INSTITUTIONAL ENVIRONMENT

It has been noted above that stock markets play an important role in open economies by facilitating intermediation between savers and investors. Well-functioning financial markets, along with well-designed institutions and regulatory systems, foster

---

[1] In the case of closed registers, prices may differ across exchanges. An example is Zimbabwe, which has closed registers for cross-listed stocks, and the price of an Ashanti Goldfields share bought in Harare will not necessarily be the same as one bought in Accra, London or New York, because a share bought in Harare cannot be sold on those exchanges.

economic development through private initiative. The linkage between finance and economic development is of great interest to Africa, since it suggests an indirect linkage between financial sector development and poverty alleviation, along with employment creation. There is empirical evidence strongly suggesting that well-functioning capital markets promote long-run economic growth (see, Bekaert and Harvey (1996) and Levine and Zervos (1996). It is therefore important that stock markets be well organised and regulated.

The depth of the capital market infrastructure is judged on the basis of the efficiency with which the various functions are carried out. For instance, the mere creation of stock exchanges is inconsequential if the environment is hostile against opportunities for risk-sharing and liquidity provision and transformation. Economic theory indicates that the ability of stock markets to attract private capital depends on the institutional nature of the markets, which is a function of the regulatory structure under which the market functions, as well as the market's microstructure.[2] The importance of microstructure arises from the role it plays in each of four fundamental market attributes: liquidity, efficiency, trading costs and volatility. Even though the attributes are closely related each of the attributes is different and can be influenced by microstructure, the regulatory regime under which the market operates, as well as by the economic fundamentals which drive security prices.

Economic theory suggests that microstructure is one determinant of market liquidity. Liquidity, the ability to buy or sell both quickly and without substantially moving prices, is the key to market success. Both aspects of liquidity are important to market participants. The speed with which transactions are consummated depends on the number of market traders and microstructure. However, market structure imposes constraints on trades regardless of the number of potential traders. For example, in a number of African markets, the stock exchanges are open only during certain hours and days of the week (see Table 2). Even when open, some markets allow trades to occur only during periodic, rather than continuously throughout the day. By limiting the number of trading hours and the manner in which traders meet market microstructure has a direct impact on the liquidity. Empirical evidence has shown that liquid markets attract more market participants and has an impact on stock prices and the cost of raising capital in the market.

Trading costs include both the fixed costs associated with trade, such as taxes and commissions as well as the major cost that the market imposes. By adopting a microstructure that allows for competition among traders, or by assigning an individual market maker whose duty it is to ensure that trading is possible, microstructure can have a direct effect on trading costs and liquidity.

---

[2] Market microstructure theory investigates how securities are traded and the influence that trading systems have on market behaviour and success. Microstructure theory highlights the importance of stock market institutional features and trading mechanisms as important determinants of market behaviour. Madhavan (1993) develops a theoretical framework that compares different trading structures.

Microstructure has an important role to play in encouraging market efficiency, both through the information services that are provided to participants, as well as through the nature of the trading system itself. Markets are said to be efficient if they quickly and correctly incorporate information into prices. The availability of information reduces uncertainty and increases market interest, which leads back to liquidity. An important innovation in microstructure, automated trading systems, has taken place in recent years in a number of stock markets in Southern Africa. The innovation is a reflection of the importance of information and the trading system on market efficiency.

The discussion of stock market development in Africa is not taking place in a vacuum. Unprecedented well-meaning financial and regulatory reforms have accompanied recent enthusiasm for stock market development, and many countries have made attempts to put in place tax reforms that suspend, and even abolish, tax on capital gains for publicly listed shares, reduce dividend withholding tax rates, and mitigate the distortionary effects of multiple layers of taxation. There are also some serious attempts to reduce barriers to international capital flows in the form of elimination of rules that discriminate against foreign investors and adoption of legal reforms governing repatriation of return on capital.

However, there are still poor brokerage services and slow settlement and operational procedures (Table 2). Transaction costs in African markets are the highest in the world. Investors get charged for brokerage fees, stamp duty and, in some cases, special charges by regulatory bodies. There continue to be distortionary taxes in some markets, such as taxation of dividend in multiple layers, taxation of capital gains, withholding taxes, and other distortionary taxes against foreign capital (Table 2). More generally, genuine stock market development should be accompanied by credible regulatory regimes that promote, rather than inhibit, private initiative, whereby investors and savers build confidence in the financial systems.

From the review of African stock exchanges in section 2 above, it is apparent that, apart from the relatively long-established exchanges in North Africa, almost all of the remaining stock markets are in Anglophone Africa. Only one (the Abidjan exchange in Cote D'Ivoire) is in Francophone Africa. This raises the question of why there have been these two divergent paths of stock exchange development in different parts of Africa. Two possible explanations can be suggested. First, there are major differences between the English and French traditions in terms of corporate finance; the English tradition is much more equity-based, with stock markets playing a prominent role in the UK and the USA, as well as other countries sharing a similar background such as Canada, Australia, and South Africa. In South Africa, for instance, stock markets in London and Johannesburg were at the forefront of raising capital to finance the early exploration and development of gold and diamond mines. In contrast, French corporate structure tends to make more use of bank finance, in common with the mainstream European tradition, where equity markets play a relatively insignificant role.

A second, related, explanation is derived from the different legal and institutional structures of the Anglophone and francophone economies. Research elsewhere in the world (La Porta et al, 1996 and 1997) concludes that countries with an English

(common) law background tend to have relatively good investor protection, that is, legal rules covering the protection of corporate shareholders and creditors, with relatively good enforcement of those rules. By contrast, countries with a background of French civil law tend to have the worst legal protections of investors. These latter countries also have the least developed capital markets. The lack of protection for small and minority shareholders would obviously discourage investors from investing in companies with which they have no direct links, and as a result, "small diversified shareholders are unlikely to be important in countries that fail to protect their rights" (La Porta et al, 1996). Given that the fundamental purpose of stock markets is to enable firms to tap sources of finance provided by minority (i.e., non-controlling) shareholders, the lack of stock market development in the countries of Francophone Africa is consistent with the La Porta hypothesis that legal and institutional structures are of great importance in influencing the manner in which companies can access external finance.

Common legal backgrounds amongst countries in the Anglophone and francophone groups also suggest that efforts towards regional stock market integration are unlikely to be successful across these two groups (as achieving common legal standards would be very difficult) but could be much more successful given the common backgrounds of countries with each group. It also suggests that the Francophone countries could draw lessons from the English tradition if reforms are being considered that would encourage stock market development.

V. IMPACT OF PRIVATISATION ON STOCK EXCHANGE DEVELOPMENT

There is a symbolic link between privatisation and capital market development. A large privatisation program often has a dramatic effect on capital market development, adding greatly to the stock and variety of corporate assets available to the public. Privatisation has been used to accelerate the development of capital markets and to spread the ownership of companies in the stock market economies in Southern Africa.

Privatisation of state enterprises provides an excellent, and maybe the only means, to significantly expand the securities market rapidly in most African countries. Already in a number of African countries privatisation programs have resulted in expanded share ownership and trading in the securities market. In countries with new stock exchanges (Malawi, Zambia and Mozambique) privatisation of state owned companies has enhanced the depth of the existing markets – indeed, the flow of privatised companies has been integral to the very existence of these markets. Other markets (such as Uganda and Tanzania) have the expectation of similar gains.

Zambia's privatisation process led to an increase in the number of companies that listed in the stock exchange since its establishment. Zambia Sugar Plc public offer in late 1996 had shares that were a combination of those warehoused by the Zambian Privatisation Trust Fund and those owned by the Commonwealth Development Corporation being offered to international investors. The Zambian Breweries Plc also successfully raised over US$8.5 million to refinance a loan that had been secured to finance the acquisition of Northern Breweries Plc. Most of these listings have been

triggered by Zambia’s Privatisation process. Companies designated for future floatation of their government owned shares and listing on the Lusaka Stock Exchange include: ZAFFICO (Timber Planting and Processing); ZESCO (Power Generation); ZAMTEL (Telecommunications); ZAMEFA (Manufacturing); ZNCB (Banking); ZSIC (Insurance); BP (Petroleum); AGIP (Petroleum); National Milling (Agricultural Processing); Mpongwe Development (Agriculture); Lever Brothers (Consumer Products); ZAAMOX (Industrial Gases).

Though the stock exchange of Mozambique has been established recently and faces potential listing problems, the state intends to have some of its holdings in privatised companies distributed to the public in order to broaden ownership and raise capital to find the budget deficit. Besides the announcement by Cervejas de Mozambique (CDM) which is Mozambique’s leading brewery to list, there are other companies in which the government holds shares which are expected to follow. The government retains up to 20 per cent of the share capital in about 900 companies that have been privatised. Other companies that have been privatised include the county’s largest cement, plastics, milling, soap, cooking oil and clothing manufacture companies.

Many examples show clearly that privatisation can contribute directly to the development of capital markets, and that these markets can facilitate the implementation of the privatisation process and, thereby, increase economic growth and social well being. For example, privatising the social security system and allowing private pension funds to invest in shares, including those of privatised state owned enterprises, were major factors in linking the diffusion of ownership and expansion of the capital markets in Chile, and increasingly, elsewhere in Latin America. In Argentina privatisation allowed the capital market to gain more dynamics due to the fact that companies such as Telecom and Telefonica were established in the stock exchange. The listing of privatised companies also makes their shares more liquid and hence more valuable, thus encouraging individual investors to participate in privatisation offerings. Although the examples mentioned are largely from non-African countries, the mutually beneficial and supportive links between privatisation and capital market development are clearly as relevant in Africa as they are elsewhere.

VI. CONCLUSION

A number of conclusions can be drawn from the foregoing discussion, relating to the process of stock market development in Africa and that of capital market integration. First, the successful establishment and growth of stock exchanges in Africa is both dependent upon and a contributor to the process of financial reform and liberalisation. For a stock market to function there have to be minimal direct controls on the flows and pricing of capital, while at the same time a stock exchange can help to develop the effectiveness of financial markets and the allocation of finance within an economy. Second, the development of stock markets is affected by legal and institutional structures, as well as the availability of technology and information. These affect transactions costs, which are an important determinant of the level of trade and liquidity, risk, and the accessibility of the market, especially to small investors. There are also important issues relating to investor protection (legal environment and the quality of law enforcement) that influence the extent of stock market development. Third, African stock markets (except for the Johannesburg Stock Exchange) are small by international standards, in terms of number of listed companies, market capitalisation, and volume of trade. They are also illiquid, in that large trades may not be possible without triggering excessive price movements. Fourth, the above characteristics cause at least some African stock markets to be of limited interest to foreign investors, due to their small size, lack of suitable stock, high transactions and information costs and lack of legal or institutional investor protection arrangements.

These characteristics indicate that there may be some gains available through the integration of African markets. In particular, regionally integrated markets (whether through linked national markets or separate regional markets) offers the potential to achieve higher, uniform standards, to improve technology and access to information, and to reduce transactions costs and benefit from economies of scale. While there remain numerous obstacles to such integration, including different national legal and institutional environments, and economic barriers such as exchange controls, there are also significant potential gains. However, achieving this objective will require coordinated efforts by participating countries, to ensure that the necessary common, high standards of regulation and supervision are achieved, as well as the necessary infrastructural development. It is also likely that integration will be easier to achieve amongst countries with common legal backgrounds, such as within Anglophone or francophone groupings, than between countries with highly divergent legal traditions.

Table 1. **African Stock Markets, 1998**
(ranked by turnover)

	Capitalisation (US$ million)	Turnover (US$ million)	Turnover ratio	No. of stocks [c]	Price-earnings ratio	Correlation [a]		Avg. annual change in index [b]	
						S&P500	FT All Share	Local curr.	US $
Malawi	-	-	-	-	-	-	-	-	-
Swaziland	85	0.2	0.2%	5	-	-	-	-20%	-32%
Zambia	293	2	0.8%	7	-	-	-	-	-
Namibia	429	13	2.6%	15	-	-	-	7%	-9%
Cote D'Ivoire	1818	39	2.6%	35	8.5	-	-	23%	11%
Ghana	1384	60	4.8%	21	10.5	-	-	49%	12%
Botswana	724	70	10.6%	14	10.9	0.01	0.04	19%	7%
Kenya	2024	79	4.0%	58	8.1	0.01	0.02	16%	3%
Mauritius	1849	102	5.9%	40	11.6	-0.04	0.03	13%	6%
Nigeria	2887	161	5.2%	182	10.1	0.01	0.05	35%	1%
Zimbabwe	1310	166	9.2%	67	5.8	0.07	0.06	14%	-18%
Tunisia	2268	189	8.3%	38	10.5	-	-	18%	14%
Morocco	15676	1385	10.1%	53	21.2	0.01	0.02	-	-
Egypt	24381	5028	22.3%	861	8.7	0.01	0.00	26%	26%
South Africa	170752	58444	30.4%	668	10.1	0.24	0.26	9%	-2%
TOTAL	225880	65737	29.1%	2064	-	-	-	-	-
Excl. South Africa	55128	7293	13.2%	1396	-	-	-	-	-
MSCI World Index	-	-	-	-	29.0	-	-	-	-
IFCG Composite	-	-	-	-	-	-	-	-	1%

Notes a) 1990-1998.
b) where marked with (*) change in index refers to different time period.
c) refers to domestic primary listings only (I.e., excludes those with primary listings on other markets).

Source: *IFC (1999)*; *Flemings Research (1997)*; *Smith, Jefferis & Ryoo (1999)*.

Table 2: **Trading Environment in Selected Southern African Stock Exchanges**

	Botswana Stock Exchange	**Lusaka Stock Exchange**	**Malawi Stock Exchange**	**Namibian Stock Exchange**
Legal Establishment & Governance of the Stock Exchange	Legally established in 1995 Governed by the Botswana Stock Exchange Act. Informal Botswana Share Market since 1989.	Established in February 1994 and is governed by the 1993 Securities Act.	Started in march 1995 and it operates in terms of the Capital Markets Development Act of 1990 and the Capital Market Development regulation of 1992	Started in 1985 and is governed by the 1985 Stock Exchanges Control Act an is licensed by Ministry of Finance
Openness of SE Membership (Domestic/Foreign Brokers)	Corporate or individual.	Corporate	Corporate or individual	
Brokers	2	3	1	8
Listed Companies	23	15	7	44
Trading Systems	Open out-cry system. Clearing occurs transaction by transaction	Single price auction	Single price auction Clearing occurs transaction by transaction	Electronic trading system i.e., JET system adopted from the JSE
Frequency of Trading	Monday to Thursday: 09:00 -16:00 Friday 09:00 - 12:00	Monday to Friday: 10:00 - 12:00	Monday to Friday: 09:00 - 12:00.	Monday to Friday: 09:30 - 16:00 with a five-minute variation to the start and close times.
Openness/Restrictions on Foreign Ownership/Trading in Shares	No restrictions on foreign investment.	No restrictions on foreign investment and foreign investors invest on similar terms as Zambians	Foreign investment is allowed but is limited to 5% of issued share capital for one foreign investor and 49% of issued share capital in total. No regulations regarding capital repatriation provided the investor is registered with the Reserve Bank.	No restrictions on foreign investment. Foreign investors must apply through an authorised dealer to ensure free remittance of dividends and proceeds of sales
Exchange controls on capital movements and tax	15% withholding tax on dividend No capital gains.			10% withholding tax on dividends No marketable securities tax or capital gains tax
Paper/ Paperless Systems; Central Depositories	None	Electronic depository facilities	No Depository	Paperless real time clearing
Settlement Rules	T + 5	Electronic clearing and settlement process Settlement 3 days after trade (T+3)	Settlement occurs on a T+7 basis	Planning to introduce a settlement system known as the Southern African Instruments Clearing System which is being introduced by the JSE

Table 2. **Trading Environment in Selected Southern African Stock Exchanges** (continued)

	Stock Exchange of Mauritius	**Swaziland Stock Exchange**	**Zimbabwe Stock Exchange**
Legal Establishment & Governance of SE	Established in 1988 under the 1988 Stock Exchange Act. And it is a private limited company	Established in July 1990	Established in1986 and operates according to the Stock Exchange Act (Chapter 198)
Openness of SE Membership (Domestic/Foreign Brokers	Open to foreign investors since 1994. All applications are sent to the SEM via a stockbroking company and should meet the listing requirements		Has been open to foreign investment since 1993.Companies wishing to list on the ZSE must conform with the listing rules and regulations of the Listing Committee.
Numbers of Brokers	3	1	14
Number of Listed Companies	40	6	75
Types of Trading Systems	Open outcry, order driven and single-price auction system.	Matched bargain type of trading	manual
Frequency of trading & Price Adjustment		Monday to Friday: 10:00 - 12:00	Monday to Friday: 09:00 - 12:00
Openness/Restrictions on Foreign Ownership/Trading in Shares	Open to foreign investors, no exchange controls and foreign investors do not need approval to trade shares but they cannot have individual holding of more than 15% in a sugar company. No control on currency repatriation.	No regulations regarding the foreign ownership of brokers	Companies may not be more than 40% foreign owned and no single overseas shareholder can possess more than 10%. Income and sale proceeds by those bringing funds registered through a commercial bank can be repatriated free of charge. Need for permission to sell imported foreign bought scrip. Locally acquired dual listed scrip cannot be sold outside Zimbabwe.
Exchange controls on capital movements and tax	No tax on dividends or capital gains	Exchange control approval is required for foreigners wishing to invest on the stock market. 15% nonresident tax is levied on dividends and there are no capital tax gains	There is a 15% tax levied on dividends and 10% on capital gains on individuals.
Paper/ Paperless Systems; Central Depositories	Central depository system which allows for delivery versus payment on a T+5 day rotating basis.		A central scrip depository and a securities and exchange law are being prepared
Settlement Rules	Electronic clearing and settlement system. Settlement can be made in foreign currency.		

Bibliography

BEKAERT, G and C. HARVEY (1996), "Capital Markets: An Engine for Economic Growth", Working Paper, Duke University.

CAZENOVE (1997), *Sub-Saharan Africa Stock Markets*. London: Cazenove & Co.

FLEMINGS RESEARCH (1997), *Global Emerging Markets: Africa on Top*. London: Robert Fleming.

IFC (1998), *Emerging Markets Factbook*. Washington DC: IFC.

JEFFERIS, K. and C. OKEAHALAM (1999a), "International Stock Market Linkages in Southern Africa", *Southern African Journal of Accounting Research*, 13(2), 1-25.

JEFFERIS, K. and C. OKEAHALAM (1999b), "An Event Study of the Botswana, Zimbabwe and Johannesburg Stock Exchanges", *South African Journal of Business Management,* 30(4), pp.131-140.

JEFFERIS, K. (1995), "The Development of Stock Markets in Sub-Saharan Africa", *South African Journal of Economics* 63(3), pp.346-363.

KENNY, C. and T. MOSS (1998), "Stock Markets in Africa: Emerging Lions or White Elephants?", *World Development* 26(5), pp.829-843.

LA PORTA, R., F. LOPEZ-DE-SILANE, A. SHLEIFER and R. VISHNY (1996), "Law and Finance", *National Bureau of Economic Research Working Paper W5661*.

LA PORTA, R., F. LOPEZ-DE-SILANE, A. SHLEIFER and R. VISHNY (1997), "Legal Determinants of External Finance", *National Bureau of Economic Research Working Paper W5879*

LEVINE, R. (1998), "Napoleon, Bourses, and Growth in Latin America", *Working Paper 365*, Inter-American Development Bank.

LEVINE, R. and S. ZERVOS (1996), "Stock market Development and Long-run Growth", *World Bank Economic Review* 10 , pp. 267-290.

MADHAVAN, A. (1993), "Trading Mechanisms in Securities Markets", *Journal of Finance*.

MORGAN STANLEY (1993), *Emerging Markets Investment Research – Africa*. New York: Morgan Stanley & Co.

SMITH, G., K. JEFFERIS, and H-J. RYOO (1999), "Do African Stock Markets Follow A Random Walk? Evidence From Multiple Variance Ratio Tests?", *Discussion Paper*, Department of Economics, SOAS, University of London.

LA PORTA, R., F. LOPEZ-DE-SILANE, A. SHLEIFER and R. VISHNY (1996), "Law and Finance", *National Bureau of Economic Research Working Paper W5661*.

LA PORTA, R., F. LOPEZ-DE-SILANE, A. SHLEIFER, and R. VISHNY (1997), "Legal Determinants of External Finance", *National Bureau of Economic Research Working Paper W5879*.