



African Union

**Consultancy Services for the conduct of Technical Study on
the Establishment of a Virtual Regional Market as a
milestone on the way towards a Pan African Stock Exchange**

FINAL REPORT

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Abbreviations

AMU	Arab Maghreb Union
ASEA	African Securities Exchanges Association
ASEAN	Association of Southeast Asian Nations
AU	African Union
AUC	African Union Commission
CC&G	Cassa di Compensazione e Garanzia SpA
CCP	Central Counterparty
CEN	Caribbean Exchange Network
CEN-SAD	Community of Sahel-Saharan States
CMA	Common Monetary Area
COMESA	Common Market for Eastern and Southern Africa
COSSE	Committee of SADC Stock Exchanges
DvP	Delivery versus Payment
EAC	East African Community
EC	Exchange Controls
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
ECSE	Eastern Caribbean Securities Exchange
EMCF	European Multilateral Clearing Facility
EU	European Union
FDI	Foreign Direct Investment
FIX	Financial Information eXchange
IASB	See page 36
IFRS	See page 36
IGAD	Inter-Governmental Authority on Development
IOSCO	International Organisation of Securities Commissions
ISSA	International Securities Services Association
JSE	Johannesburg Stock Exchange
LSEG	London Stock Exchange Group
MILA	Integrated Latin America Market
MMOU	Multilateral Memorandum of Understanding
MoU	Memorandum of Understanding
MTF	Multi-lateral Trading Facility
REC	Regional Economic Community
RTGS	Real Time Gross Settlement
SADC	Southern African Development Community
SGC	Singapore Stock Exchange
TMX	Toronto Stock Exchange
XAF	Central African Franc
Xetra	Exchange Electronic Trading
XOF	West African Franc

Executive Summary

1. We have based our proposals for a virtual regional market on:
 - international experience;
 - the recommendations of the 2008 workshop to validate the Report of the Feasibility Study on the Establishment of the Pan African Stock Exchange; which were that the development of a Pan African exchange should be:
 - based on existing stock exchanges; and
 - result from the creation and connections of national or regional stock exchanges.
2. The basic modalities of the proposed market are as follows:
 - a group of markets establish the principle of a virtual regional market;
 - companies which are incorporated within those countries receive permission to issue securities to the general public from the regulator in their country of incorporation; this permission allows them to market their securities to the general public in all countries in the group;
 - these companies may then apply to list on any exchange within the group and will be accepted providing they meet that exchange's listing conditions; it is anticipated that companies will only seek a single listing but this does not prevent a company seeking multiple listings if they wish;
 - intermediaries receive a licence from the regulator in their home country and their compliance with the conditions of their licence is monitored by this regulator; however they may then apply to trade on any market in the group and will be accepted provided they meet any technical requirements (e.g. requirements relating to linking to the system); and
 - technology is shared to the maximum possible extent and is probably outsourced to a commercial technology supplier or to a separate company established by the group; however, each market remains responsible for the rules associated with trading, clearing, settlement and depository operations.
3. The major advantages of this model are that:
 - it is not necessary to completely harmonise laws, regulations, rules, currencies or other 'soft' infrastructures within the regional grouping;
 - the 'pooling' of technology costs (hard infrastructure) can result in very significant savings for the market as a whole and thus in the reduction of trading and associated costs for brokers and investors; and
 - markets may join the group over a period of time.
4. Our examination of the African situation together with experiences of integration in other regions suggests a number of factors which may represent difficulties. The main ones are:
 - exchange controls (EC) and similar barriers to cross-border movement of capital;
 - low level of economic integration among African states; and
 - wide diversity of capital market development.
5. As the regional market model has been accepted as the focus of this project, a supra-national governance structure is not needed as the foundation of the virtual regional model is premised

on the existence of signed MOUs between the various national regulators participating in the virtual regional market.

6. However, the regulators should have their own “association of national regulators” on a regional and / or economic community level basis at which issues of common interest are discussed and resolved. In essence this would be a regional / economic community level version of IOSCO (International Organisation of Securities Commissions), the international industry body of national regulators (securities commissions).

I. Structure of the Virtual regional market as a milestone on the way towards a Pan African Stock Exchange

Introduction

1. We have based our proposals for a virtual regional market on:
 - international experience (see the Section below entitled ‘International Models’);
 - the recommendations of the 2008 workshop to validate the Report of the Feasibility Study on the Establishment of the Pan African Stock Exchange¹; (see the Section below entitled ‘Views of Economic Players in Africa’), which were that the development of a Pan African exchange should be:
 - based on existing stock exchanges; and
 - result from the creation and connections of national or regional stock exchanges.

Overview

Modalities

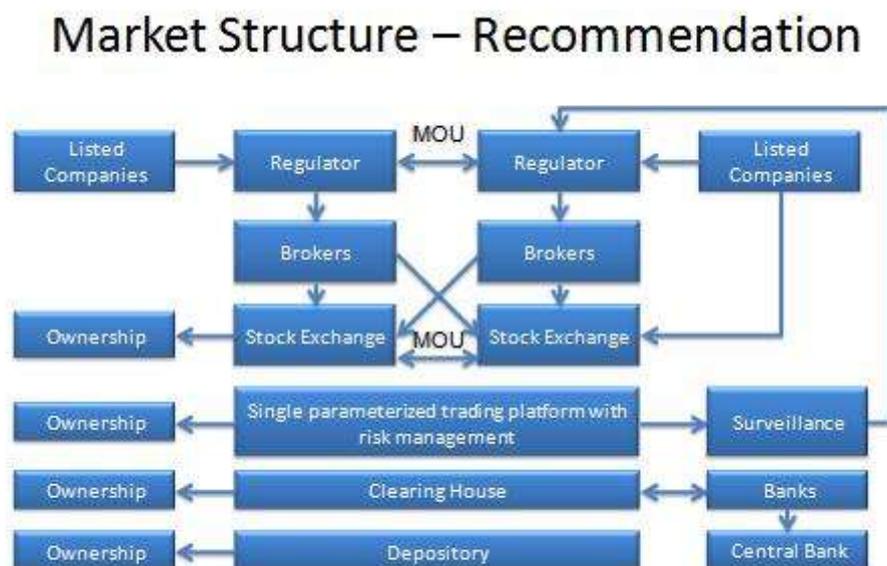
2. Securities market transactions involve trading, clearing, settlement and custody. Thus for an orderly execution of securities markets, efficient and transparent markets, effective clearing and settlement systems, reduced transaction costs, robust banking systems and a strong legal framework are pre-requisites.
 1. In Figure 1 we give a diagrammatic view of the proposed exchange model.
- 3.
4. The basic modalities of the proposed market are as follows:
 - a group of markets establish the principle of a virtual regional market;
 - companies which are incorporated within those countries receive permission to issue securities to the general public from the regulator in their country of incorporation; this permission allows them to market their securities to the general public in all countries in the group;
 - these companies may then apply to list on any exchange within the group and will be accepted providing they meet that exchanges listing conditions; it is anticipated that companies will only seek a single listing but this does not prevent a company seeking multiple listings if they wish;
 - intermediaries receive a licence from the regulator in their home country and their compliance with the conditions of their licence is monitored by this regulator; however they may then apply to trade on any market in the group and will be accepted provided they meet the technical requirements; and
 - technology is shared to the maximum possible extent and is probably outsourced to a commercial technology supplier or to a separate company established by the group;

¹ The Report of the Feasibility Study on the Establishment of the Pan African Stock Exchange dated December 2008 prepared by the African Union Commission, Department of Economic Affairs. A Validation Workshop on the above Feasibility Study, took place in Addis Ababa, Ethiopia on the 6-7 November 2008 to discuss the 2008 report and a report of this workshop was also produced.

however, each market remains responsible for the rules associated with trading, clearing, settlement and depository operations.

- In Figure 1 we give a diagrammatic view of the proposed exchange model.

Figure 1: Proposed Model - Virtual Regional Market



Advantages

- The major advantage of this model is that it is not necessary to completely harmonise laws, regulations, rules, currencies or other ‘soft’ infrastructures within the regional grouping. A measure of harmonisation and the setting of basic standards are required but within this framework national priorities and variations can be accommodated.
- The ‘pooling’ of technology costs can result in very significant savings for the market as a whole and thus in the reduction of trading and associated costs for brokers and investors.
- Markets may join the group over a period of time. This means that a core can commence and be joined by others as those others become eligible, i.e. meet the basic criteria set by the group. The virtual regional market is therefore not dependent on the slowest member for improvements in efficiency.

Rules and Regulations

- What we can learn from the international experience is that no single regulatory model will be right for the regional markets or virtual regional markets which should develop in Africa. However, there are some basic structures that can be put in place to facilitate their growth. These are:

- national regulators to set equivalent regulatory standards for intermediaries;

- memorandum of understanding between regulators permitting intermediaries from a recognised regulatory authority to access markets in their jurisdiction;
- exchanges to facilitate remote access by approved intermediaries; and
- exchanges to develop listing requirements which permit foreign companies to list on the domestic exchange.

10. In addition:

- any requirements that prevent companies incorporated in that country from listing on other exchanges need to be lifted at least to the extent of other countries in the group; and
- blanket restrictions on foreign ownership need to be lifted by both companies and governments.

Technology

11. In terms of technology, any appropriate technology can be considered as the basis for regional sharing. In today's market few exchanges are developing their own systems and most are buying systems from suppliers of exchange systems. The use of systems owned by third parties can alleviate the problem of one market within a group dominating the technology, with all the attendant political and size-related sensitivities that can cloud these discussions.
12. In many cases the technology suppliers are prepared to offer innovative solutions to address the market's problems. In some cases they will not only supply the systems but operate them on behalf of a market. It is also possible that they might be prepared to develop and implement the systems without an upfront fee, charging a transaction fee instead. This could be used where the system will be used by more than one market but where all markets are not ready to use the new system at the same time.
13. Some exchanges in Africa (e.g. JSE) already have technology that could easily be upgraded to provide services for a regional market. However, offers of this technology have not so far been acceptable to other exchanges. If the JSE were prepared to, for example, set up a separate technology company with shares offered to other exchanges or even to the general public then the offer might be more acceptable as any fear of unfair advantage of one exchange could be allayed / diminished.

Listing

14. It is desirable that the listing requirements of the exchanges in the group are harmonised as far as possible. However, it is not necessary for them to be exactly the same and some small national differences may remain.
15. The listing requirements will permit the listing of companies which are incorporated in other countries in the group. They may also permit the general listing of foreign companies.
16. Companies wishing to list on an exchange may therefore list on any exchange in the group, provided it meets the listing requirements. The company will also need to meet the requirements of the Companies Act in its country of incorporation but these should not preclude or impede the regional listing.

Intermediaries

17. Intermediaries are licensed by their domestic regulator and are subject to regular reporting and inspection by that regulator. However, as a result of a memorandum of understanding between

the national regulators in the group, intermediaries may directly but remotely access any of the markets in the group.

18. Intermediaries will need to meet the technical requirements for accessing the trading system and will need to make appropriate arrangements for accessing the trading system remotely and for making efficient and timely settlement. This will probably involve having direct, though remote, access to the depository associated with the exchange and appointing a settlement bank in the country concerned.
19. If this policy is adopted then exchanges will need to remove any restrictions on membership so as to permit foreign and remote members. Where an exchange separates ownership from participation this should not be difficult. However, where an exchange is still a 'mutual, i.e. the owners and the members are synonymous, it may be necessary to make special provision for remote members. A separate class of membership could be established for foreign members. This class of membership would give the overseas participant the right of access to the market for the purposes of trading into the market but would not permit them to trade on behalf of domestic clients, i.e. clients in the country where the exchange is located. The overseas participant firm would therefore provide liquidity for the market but without being in direct competition with local brokers for local business.

Participating Firms Internal Systems

20. In international markets the development of participating firms' internal accounting and risk management systems is the responsibility of individual participating firms, subject to approval by the local regulator. Some exchanges (e.g. JSE and Singapore) have developed broker accounting systems for participating firms as an integral and compulsory part of the exchange trading system. Whilst this offers many benefits in terms of regulatory control and surveillance it hampers the participating firms from using their own single internal system regardless of where the participating firm directs his orders. In addition, it has the effect that the participating firm cannot be a broking division of a bigger operation like a bank. The firm has to be a separately capitalised entity.
21. Internationally many intermediaries buy a 'package' from IT suppliers who may also provide ongoing support. Once again the use of shared technology can reduce their costs.
22. The use of an international protocol (such as FIX) for communicating with exchanges is encouraged to standardise interfaces.

Exchange

23. To make life easier for the participating firms that are providing liquidity by accessing different exchanges, the exchanges should harmonise as far as possible their trading mechanisms and trading rules. However, some national characteristics should be capable of being accommodated.
24. Each national exchange may have its own trading mechanisms. Most exchanges operate a continuous order matching system on the days on which they operate. However, other exchanges operate an auction system (where orders are accepted and matched during a short auction period which attempts to match the maximum number of orders at a price). Most commercial trading systems are parameter driven and could accommodate different trading mechanisms at an individual security level.
25. The exchange may also have its own trading rules, e.g. trading hours, lot size, minimum price movements and circuit-breaker requirements. Once again commercial trading systems can accommodate such rules being set at an individual security level.

Trading Systems

26. To permit direct, remote access to trading systems it is necessary that trading is automated and that access is not restricted to participating firms within a single building or single local location. The access should be common across all markets in the region, using a protocol such as FIX.
27. The utilisation of a single trading platform across a regional grouping should significantly reduce overall technology costs and thus the cost of operating the market.
28. When systems are shared the management structure must be set up to ensure that one market is not given preference over another and that all markets share equal responsibility for the operational security and resilience of the system. In international markets this is usually achieved by:
 - subcontracting the daily operation of the system to a commercial system supplier or regional IT operator; or
 - establishing a separate technology company, independent of individual markets to manage the technology.
29. Trading systems should also include facilities for market data dissemination and counterparty risk management such as exposure limits.

Surveillance

30. A robust surveillance system is important to the credibility of the market with both domestic and international investors. The model assumes that each exchange and regulator is responsible for regulating its own business. However, it is possible for the exchanges to use a single surveillance system and possibly a single regulatory administration to be established where any suspicious activity is referred to the appropriate regulator.

Clearing and Settlement

31. Efficient clearing and settlement systems are very important to attract institutional and international investors to a market. There are four basic steps between a trade in a security and the ultimate discharge of liabilities between all the parties concerned (settlement). These steps are:
 - establishing liability for settlement (Clearing);
 - moving securities between the participants to a trade (settle stock);
 - moving money between the participants to a trade (settle funds); and
 - moving legal ownership of the securities.
32. International investors are generally more attracted to a market where a credible central counterparty takes liability for ensuring that trades are settled. This is particularly the case where the participating firms in the market have a relatively small capital adequacy requirement. Regional markets should therefore consider whether a consortium of local banks could operate the clearing system or whether an international clearing house would be prepared to take the responsibility.
33. Depositories are very important to the successful operation of financial markets. They must be efficient, secure and offer delivery versus payment to all participants. In addition depositories are an example of an organisation where the unit cost decreases significantly as the volume of transactions processed increases, i.e. the fixed costs are large and the variable costs (costs relating to increased volume) are relatively low.

34. However, in the example of the NASDAQ OMX Baltic and Nordic markets (see 11 – International Models below), each market retains its own depository and this model could work for the African regional markets. The disadvantage of this model is that depositories are expensive to develop and to operate and thus the cost of the market as a whole is increased by operating separate depositories. However a virtual regional market could start with separate depositories and move to an independent depository at a later point.
35. International investors require that delivery and payment take place on the basis of Delivery versus Payment (DvP) or, at least, that they are protected during the settlement process from being out of both securities and cash. An efficient interbank payment system, preferably Real Time Gross Settlement (RTGS) is therefore essential.

Market Inhibitors

36. The amalgamation of stock exchanges can significantly increase liquidity and reduce costs and contribute positively to the development of financial services and to the general economy of the region by reducing the cost of raising capital. However, if the development of an individual market is impeded by surrounding legal infrastructure, the taxation system or currency restrictions then the regional market will similarly be impeded (see the Section below entitled ‘Macro-economic Barriers’).

II. International Models

37. In this section we have listed the key ownership and operational structures of the major international groupings. In addition to these groupings many national markets have memorandum of understanding and co-operation agreements with each other.

Europe

38. The moves towards amalgamation of the financial markets in Europe have a long history and the current situation is quite complex.
39. The major exchanges/groupings in Europe are as follows:

- CEE Stock Exchange Group;
- Deutsche Borse;
- London Stock Exchange Group;
- NASDAQ OMX – Baltic;
- NASDAQ OMX – Nordic; and
- NYSE Euronext.

CEE Stock Exchange Group

40. This group is the majority shareholder in the Vienna (Austria), Budapest (Hungary), Ljubljana (Slovenia) and Prague (Czech Republic) Stock Exchanges. It was launched in September 2009. The group works on the ‘home market’ principle, which means that the local markets are responsible for local business but co-operate to attract and service international companies and investors.
41. At present they are working:
 - to install Xetra (the trading platform developed by Deutsche Borse) as a common trading system across all four exchanges (two exchanges are already using the system);

- on developing cross memberships; and
 - on the development and implementation of a joint clearing system.
42. It is early days to determine how successful the grouping will be, particularly given the difficult market conditions in Europe over the last two years. However, they seem to be moving in the right direction.

Deutsche Borse

43. Deutsche Borse is a listed company. Within the group are the:
- Frankfurt Stock Exchange;
 - Eurex (the derivatives market);
 - Eurex clearing (the central counterparty for clearing)
 - Tradegate Exchange (an over the counter trading facility);
 - STOXX Ltd (an index provider); and
 - Clearstream (an international depository).
44. Deutsche Borse is also a provider of technology to other exchanges (e.g. CEE Stock Exchange Group).
45. In early 2012 a proposed merger between Deutsche Borse and NYSE Euronext was blocked by the European Commission.

London Stock Exchange Group

46. The London Stock Exchange Group (LSEG) owns and operates the London Stock Exchange. UK participating firms settle through LCH.Euronet, which acts as a central counterparty and Crest, the UK depository, which is owned by Euroclear.
47. The LSEG also owns and operates Borsa Italiana and the associated central counterparty (CC&G) and post trade services (depository) provider, Monte Titoli.
48. In addition to the above markets, the LSEG own Millennium, which is a technology company, which provides IT services to the exchanges but also provides trading systems to other exchanges. The Group also has a stake in Turquoise, which is a joint venture with 12 banks, and provides a multi-lateral trading facility (MTF).
49. In 2011, the LSEG made an offer to buy the Toronto Stock Exchange (TMX). However, this offer was withdrawn following rejection by TMX shareholders.
50. The LSEG and the Johannesburg Stock Exchange (JSE) have a long relationship. In 2002 the JSE started to use the LSE trading system through a communications link to London. However, after suffering disruption to the link in 2011, the JSE decided to deploy the new Millennium trading system locally. The new system went live in July 2012.

NASDAQ OMX

51. NASDAQ OMX owns a number of European markets as follows:
- NASDAQ OMX Baltic is not a legal entity. It is essentially a ‘brand’ under which the individual markets, Tallinn (Estonia), Riga (Latvia) and Vilnius (Lithuania) operate. The markets share a trading platform. Each market has an associated depository which is wholly or majority owned by a NASDAQ OMX company.

- NASDAQ OMX – Nordic operates in the same way as NASDAQ OMX Baltic. NASDAQ OMX Nordic is not a legal entity. The individual markets, Stockholm (Sweden), Copenhagen (Denmark), Helsinki (Finland) and Iceland are all owned by NASDAQ OMX. They were acquired over a period from 1998 to 2006. The vast majority of trades executed on the Stockholm, Helsinki and Copenhagen markets are cleared through the European Multilateral Clearing Facility (EMCF) which is owned by Nasdaq OMC (22%) and a Dutch Bank (ABN Amro). Each market has its own depository system although the depositories associated with the Swedish and Finnish markets are owned by Euroclear.
- NASDAQ OMX Armenia; settlement is through an associated CSD.

NYSE Euronext

52. NYSE Euronext was formed in 2000 when the Paris, Amsterdam and Brussels Stock Exchanges merged to form Euronext NV. They were joined in 2002 by Lisbon. Euronext NV was bought by NYSE in 2007 and the name changed to NYSE Euronext, which is a publicly owned company listed on the NYSE in New York. The European markets group use NYSE Euronext's Universal Trading Platform technology, operated out of Paris.
53. NYSE Euronext use a company called LCH.Clearnet for its clearing operations. This company was formed as a result of a merger between LCH in the UK and Clearnet, its French equivalent.
54. NYSE Euronext use Euroclear for their depository operations.

Other European Markets

55. **Appendix A** contains a list of other European markets for information.

Latin America

56. In May 2011 an Integrated Latin America Market (MILA) was formed by the Chilean, Peruvian and Columbian stock exchanges. The new exchange permits the cross trading of all the securities listed on the participating exchanges by participating firms who register to trade on the new exchange. There are suggestions that Mexico and Panama may also join the new market.
57. In addition to the founding of MILA, there were plans to merge the Colombian and Peruvian exchanges. However, this was cancelled following an election in Peru.
58. It is reported that the amount raised through IPOs has exceeded expectations. However, although it is early days for the new exchange, the trading volumes are disappointing. This is ascribed to the following factors:
 - lack of a common tax regime;
 - lack of a common currency;
 - different credit ratings;
 - different securitization rules; and
 - lack of free float in the listed securities.

Caribbean

59. There has been a regional exchange in the Caribbean for over 10 years. A single market, The Eastern Caribbean Securities Exchange (ECSE) operates for eight English speaking territories

in the Eastern Caribbean, Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines.

60. In 1989, the Barbados, Jamaica and Trinidad and Tobago Stock Exchanges proposed the establishment of the Caribbean Exchange Network (CEN) under which securities would be cross listed and traded. However, as of February 2012 this initiative has not gone live. Initially it was proposed that there would be a single settlement bank but this idea has since been abandoned.

Asia

61. In Asia the Singapore Stock Exchange (SGX) made an offer for the Australian Stock Exchange in 2011 but permission was refused by the Australian regulator.
62. An ASEAN exchange is being proposed, with exchanges joining in stages. The first participants would be Bursa Malaysia and the Thailand Exchange, followed by the Singapore Stock Exchange and the Philippines Stock Exchange, followed, two or three years later, by the Ho Chi Minh Stock Exchange and the Jakarta Stock Exchange. However these proposals are at a very early stage and few concrete details are available.

III. Lessons learned from European Experience

Introduction

63. It can be seen from the above analysis that international experience does not provide clear guidelines for the development of markets at a continental level or even on a regional basis. One would perhaps expect that Europe, with its single currency and political union would be the most advanced in this area. However, consolidation of stock exchanges has not followed the political groupings within Europe.

One dominant exchange

64. In the 1990's the strategy of Deutsche Borse was to absorb other exchanges and to become a pan national exchange. However, this strategy was not acceptable to other national exchanges as they feared losing their identity and so Deutsche Borse has today diversified its markets and offers a wide range of services to international companies (who wish to list) and international investors.

Single currency and legal system

65. Of the 17 countries in the euro area (the closest political union), 9 are not in one of the stock exchange groups. The Euronext Group contains only countries with a common currency. The CEE group includes 2 countries which are in the euro currency area and two which are not. The NASDAQ OMX Nordic group has one national exchange which is in the euro area within the European Union, two national exchanges which are outside the euro area but within the European Union and one exchange which is outside the European Union and thus outside the euro area (although it is an applicant to the European Union).
66. This would appear to indicate that a common currency and a common legal system are not pre-requisites for the development of groups of exchanges serving domestic, regional and international markets.
67. The relative success of the NASDAQ OMX groups would indicate that whilst a common currency and common legal system are not essential for the formation of a successful group a certain commonality of outlook and legal basis, a stable currency, basic common standards of

regulation and a determination to make the necessary savings on infrastructure and technology are essential for building a group.

Harmonisation of rules and regulations

68. The development of the European Union (EU) and the issue of various directives concerning the development of the capital market have driven a considerable degree of harmonisation of regulation within the EU countries. This has in turn affected countries which are not part of the Union but were (or are) applicants or rely on trade with the EU for a significant portion of their economy.
69. However, none of the groups have totally harmonised their rules and regulations and each country retains its own regulations and each market within a group has retained some specific rules.

Trading Technology

70. The common driver of these groupings, not only in Europe, would appear to be technology. In all cases the markets in the group are using the same trading technology, which clearly reduces the overall cost of operating the market, which in turn reduces the costs for listed companies (in raising capital) and investors and intermediaries.
71. In the trading area, each market has its own strategy:
- CEE: this group are installing the Xetra trading system; which is a system developed and supplied by Deutsche Borse;
 - Deutsche Borse uses its own trading technology, but is also supplies this technology to other markets;
 - London Stock Exchange and Borsa Italia use Millennium trading technology; LSEG have recently bought Millennium which also supplies technology to other markets (e.g. Johannesburg);
 - NASDAQ OMX group use the OMX technology, which is also supplied to other exchanges; and
 - NYSE Euronext uses NYSE Euronext's Universal Trading Platform technology.

Clearing and Settlement

Group Strategies

72. Once again each group has adopted its own strategy for clearing and settlement:
- CEE group are developing a joint clearing system but in accordance with the home market principle, each market has its own associated depository;
 - Deutsche Borse has an integral clearing system and uses Clearstream as its depository. Clearstream was one of the two 'international clearing systems'² and still provides international clearing for bonds and has links with many other markets for clearing bonds and equities;
 - London Stock Exchange does not wholly own the clearing system or the depository used by its participants; the clearing house LCH.Clearnet was 83% owned by its users and

² Euroclear and Clearstream were originally established to provide settlement for Eurobonds. They subsequently facilitated the settlement of equities and developed links with many national exchanges. They became known as the 'international clearing houses'.

17% owned by its associated exchanges; however, the LSEG acquired a 71% stake in April 2012; Crest is owned by Euroclear;

- NASDAQ OMX; The vast majority of trades executed on the Stockholm, Helsinki and Copenhagen markets are cleared through the European Multilateral Clearing Facility (EMCF) which is owned by Nasdaq OMC (22%) and a Dutch Bank (ABN Amro). Each market has its own depository system although the depositories associated with the Swedish and Finnish markets are owned by Euroclear;
- NYSE Euronext use a company called LCH.Clearnet for its equity clearing operations. It is developing a new clearing house for its derivatives markets. NYSE Euronext use Euroclear for their depository operations.

Euroclear

73. The Euroclear group reshaped its corporate structure in 2000 and 2001, transforming the Belgian company Euroclear Clearance System (Société Coopérative) into Euroclear Bank SA/NV, which now operates the Euroclear System and provides the services previously contracted to Morgan Guaranty Trust Company of New York, Brussels branch. In 2005, a new Belgian holding company, Euroclear SA/NV, was created as the owner of all the shared technology and services supplied to each of the Euroclear CSDs and the ICSD.
74. Euroclear SA/NV is owned by Euroclear plc, a company organised under the laws of England and Wales, which is owned by market participants using Euroclear services as members.
75. Both Euroclear plc and Euroclear SA/NV have independent Boards of Directors composed of representatives of Euroclear users (major securities market participants), and of former user shareholders of merged companies (Euroclear France and Euroclear UK and Ireland).
76. The Euroclear plc Board makes the strategic decisions for the group. It decides in particular on the strategic investments and on joint ventures and alliances. Shareholder voting rights are limited to 5%. The Board is assisted by several committees comprising Non-Executive Directors. The Euroclear SA/NV Board has 24 Directors, all of whom are also members of the Euroclear plc Board. The Euroclear Boards set the policies and objectives of the Euroclear group, ensure their implementation by the Management Committee, and review its performance. These policies include, among others, pricing, risk management and membership admission.

Cross Listing

77. During the 1980s many companies listed on many different exchanges. These companies thought that listing in a country where they did business would lead to greater name recognition. To encourage this trend, stock exchanges often changed listing rules to facilitate secondary listings from companies listed on other international exchanges. However, the increased costs of listing and disappointing results for the companies concerned have reversed this trend. Exchanges also found the results of cross listing were disappointing as, unless the home exchange were extremely inefficient, trading tended to remain concentrated in the home market of the security.
78. Even now, many companies do list on more than one exchange. This is particularly true of mineral companies and other very large companies that do business internationally. Where this occurs the company typically lists on the exchange in its country of incorporation (e.g. Australia, Canada or South Africa) and also on one of the large international exchanges that specialise in its type of business (e.g. London, NYSE or Nasdaq).

Single passport

79. A development in Europe which has assisted the development of regional groupings has been the availability of a single passport. Under EU legislation intermediaries that were regulated in one EU country were able to access markets in another EU country, provided they met the technical access requirements. Crucially the intermediaries were not required to have a presence in the country in which the market was located but could communicate remotely. In addition to accessing the trading engine, participating firms would need facilities to efficiently settle transactions, e.g. have a settlement bank account in the country concerned. It took some time for this development to become effective but it has had a significant impact on the efficiency of the European market.

IV. Views of economic players in Africa

Basis of this section

80. It has not been possible, within the Terms of Reference and the time scale of this project to visit and/or interview the economic players concerned with the development of a Pan African (or regional) Stock Exchange. This section is therefore based on:
- The Report of the Feasibility Study on the Establishment of the Pan African Stock Exchange prepared by the African Union Commission, Department of Economic Affairs dated December 2008 (see **Appendix B**); and
 - A report of the Validation Workshop on the above Feasibility Study, which took place in Addis Ababa, Ethiopia on the 6-7 November 2008 (see **Appendix B**); and
 - Information from the participants of this workshop concerning their current views on the issues.

Feasibility Study

81. The study was conducted by the Commission's Economic Affairs Department, mainly through a survey carried out in November and December 2007, by means of questionnaires distributed throughout the continent and missions to a number of member countries to seek advice from concerned institutions and economic agents. The Commission also drew on the abundant existing literature on the development and progress of stock exchanges in Africa and on national and continental economic data.
82. The questionnaires were sent to Ministries of Finance, Central Banks of all African countries, stock exchanges and regulators of financial markets, banking institutions, insurance companies and selected employers' associations.
83. Over 130 questionnaires were sent out of which 36 were filled and returned representing 15 countries and covering 5 African regions. The type of respondent was as follows:
- Stock Exchanges (6);
 - Capital Market Authority (7);
 - Ministries of Finance (2);
 - Central Banks (15);
 - Regional Economic Communities (2); and
 - Others (4).
84. The questionnaire was divided into two parts: a part dealing with data collection and the other probing participants on the development of stock markets, the Pan-African Stock Exchange project and the necessary conditions for the establishment of the latter. In this report we are concentrating on the latter issues.

85. More than 70% of the respondents thought that a Pan African Exchange would improve the mobilization and allocation of financial resources, would provide economies of scale and cost efficiencies and would improve efficiency, liquidity and transparency. However, nearly 80% thought that the concept of a Pan African Exchange was premature as the countries were in different stages of development. We trust that the model proposed in this report, ameliorates this difficulty.
86. Almost all respondents believed that any development should be:
- based on existing stock exchanges; and
 - result from the creation and connections of national or regional stock exchanges.

Validation Workshop

87. **The** Validation Workshop was held in Addis Ababa in November 2008. The participants divided into two groups to discuss the options set out in the report and subsequently drafted recommendations for the creation of a Pan African Stock Exchange.
88. The participants noted that the creation of a Pan African Stock Exchange should be done gradually by existing stock exchanges establishing close alliances to ensure that there is consolidation at the level of regional economic communities and sub regions.
89. They also took the view that there were a considerable number of impediments to the development of capital markets on a national and regional basis that needed to be overcome before significant progress could be made. These included:
- easing and lifting of exchange controls;
 - progress towards currency convertibility (the European experience demonstrates that full convertibility is not required but stable exchange rates are necessary to encourage any form of cross border trading);
 - the existence of clear, unambiguous and enforceable bankruptcy rules;
 - the existence of technological links at a minimum level ; these require stable and efficient telecommunications networks and a reliable electricity supply;
 - planned progress towards the easing and lifting of exchange controls;
 - planned progress towards rationalisation of clearing and settlement operations as their efficiency and cost effectiveness is volume dependent;
 - planned progress and movement towards the privatisation of pension funds and conditions that encourage and support the establishment of a private sector asset management culture and industry; and
 - elimination of prescribed asset allocation regulations (e.g. for pension funds) or at the very least the commitment of governments to phase them out within the short term.
90. We believe that the model set out in this report makes the development of a regional capital market achievable; it will not be a success unless the governments address the related issues set out above.

Updated Views

91. As part of this project we attempted to contact all of the participants of the Validation Workshop to solicit their current view. However, we have received no response to our request.

Views of Regional Groups

92. It was agreed that the African Union Commission would contact the eight Regional Economic Communities (REC), COMESA, EAC, SADC, CEN-SAD, ECOWAS, ECCAS, IGAD, AMU

and the regional stock exchange associations; COSSE, ASEA to ask them for an update on the work being undertaken and the progress made in their areas.

93. The AUC has received no response to its letter.

V. Macro-economic Barriers

Overview

94. The concept for integration described in this report is for harmonisation of regulations and linkages rather than a for a supra-national exchange. The focus of this section is on barriers to that development.
95. Our examination of the African situation together with experiences of integration in other regions suggests a number of factors which may represent difficulties. The main ones which are discussed are:
- exchange controls (EC) and similar barriers to cross-border movement of capital;
 - low level of economic integration among African states; and
 - wide diversity of capital market development.

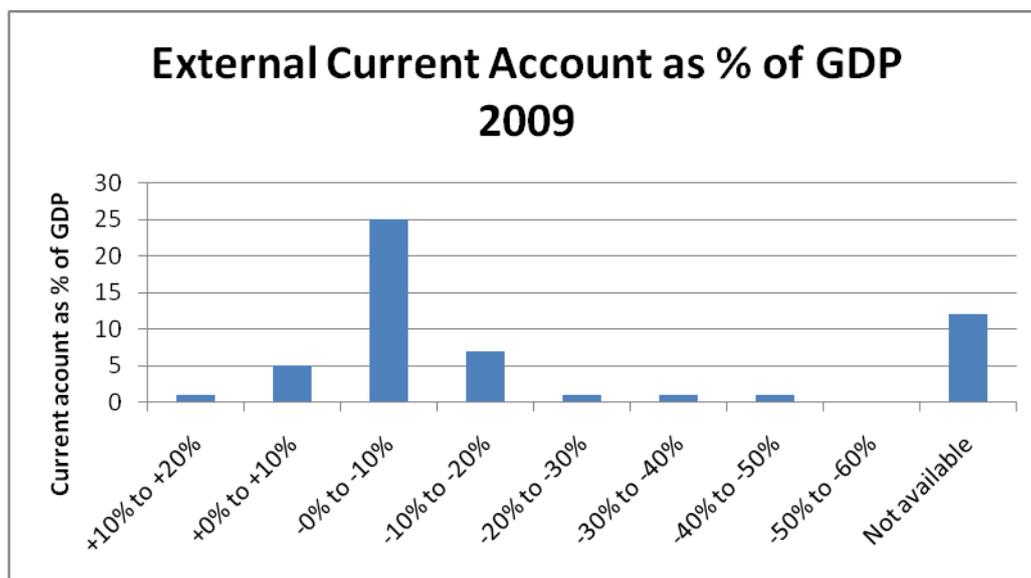
Exchange control and other barriers to cross-border capital flows

Common barriers

96. All models of integration imply that investors in one country are able to purchase assets in another country. This is only possible if both countries have capital account convertibility so that:
- the country of the investor allows outflows of funds; and
 - the country of the asset allows inflows of funds.
97. Countries which have persistent balance of payments deficits and consequent shortages of foreign currency are likely to have barriers to export of capital. These may be:
- Formal structures of exchange control rules which limit/prohibit the export of capital. These may be multi-layered as in the Common Monetary Area covering South Africa, Namibia, Swaziland, and Lesotho where South Africa controls the overall inflows but, in addition, the individual countries each have their own exchange control regimes. They may also vary between types of entity – South Africa allows individuals to invest abroad but limits the amount of long-term funds may be so invested.
 - Less formal structures whereby the export of capital requires case-by-case approval from the central bank which is, in practice, never granted. Examples in Africa are numerous but include Mozambique where each outward transfer requires pre-approval by the central bank.
98. In Africa balance of payments deficits are the norm. Figure 2 summarises the results for balance of payments current accounts for 2009 (the latest year for which most countries produced data). Of the 53 countries, six had a balance of payments current account surplus in 2009. The remaining 47 either did not produce results or were in deficit.

Figure 2: External Current Account as a % of GDP 2009

Source: World Bank



Source: World Bank

99. Countries which have persistent fiscal deficits tend to be wary of inflows of foreign currency. Such inflows, unless sterilised by issuance of bonds to “mop up” the liquidity created when the foreign currency inflows are converted into domestic currency, lead to expansion of the domestic money supply and consequent inflationary pressures. Countries with fiscal deficits are already having to raise money to finance the deficit through domestic borrowing which is difficult especially if the domestic bond market is not well developed. A requirement to issue further bonds to sterilise inflows is usually more than the domestic bond market can sustain. Therefore while a country might like the prospect of inflows of foreign investment, in practice the need to sterilise will probably lead to quantitative controls on such foreign investment. The World Bank has fiscal deficit data for 20 African countries for 2009. Of the 20, 6 were in surplus and 14 were in deficit.
100. In addition countries may have:
- Barriers to foreign ownership of domestic assets – it is common to have restrictions on foreign ownership of land and on foreign ownership in industries deemed to be strategic. Some countries go further and severely restrict foreign ownership in any industry.
 - A preference for foreign direct investment (FDI) over portfolio inflows. This may reflect a political preference or a more specific fear of allowing portfolio flows which are often seen as hot money i.e. investments which may be liquidated rapidly and so may have a destabilising effect. It is worth noting in passing that a strict regime of controls tends to encourage a hot money approach as investors will take fright more easily if they see a risk of their capital being locked in. This is even more true with informal control regimes.

Summary situation in Africa

101. Many African currencies are non-convertible – meaning there are controls or other barriers which mean the currency cannot be converted into other currencies without permission. Permission usually requires that the transaction will bring some direct and immediate benefit to the country – such as paying for imports. Of the remaining currencies which are convertible

they may have controls on capital account transactions. Table 1 below summarises the situation.

Table 1: African countries with non-convertible currencies or exchange controls on capital account

	Number of	
	Countries	Currencies
Non-convertible currencies	28	28
Currency areas with non-convertible currencies	14	2
Convertible but with EC on capital account	5	5
Convertible and no-controls	6	6
	53	41

Source: Nordea.com, Exchangecontrol.net, AUC.

102. The table shows that only six countries state that they have no controls on two-way flows of capital. All other countries have an entirely non-convertible currency or controls on capital flows.
103. However this does overstate the level of control – many countries, including Mauritius, Kenya and Nigeria, have relaxed or removed controls on portfolio inflows. These relaxations may, at first sight appear to address the problem of exchange controls at least for those countries that have liberated inflows. However the remaining controls still remain a barrier to capital market integration for two reasons:
- Outside investors tend to be nervous about the existence of controls even where the controls permit inflows. While the controls exist there is always the possibility that the authorities, in what they perceive to be a crisis, will re-impose controls on foreign shareholders to prevent them from withdrawing their funds. Thailand in 2007 and Malaysia in 1998 are examples of countries which, at short notice, radically changed their treatment of portfolio investments and both faced a serious loss of credibility among outside investors as a consequence.
 - A truly integrated African capital market requires Africans to invest in other African countries. The existence of restrictions on exchange control means that, in general African investors cannot obtain the foreign currency capital to invest in other African countries. That being the case the only inflows will come from outside Africa. This risks an outcome where the African market is dominated by non-African investors – surely an undesirable result.

Can the exchange control barrier be reduced?

104. The near universal exchange controls in Africa represent a significant barrier, in our opinion the most significant barrier to development of a regional capital market. There are workable models for a regional market which use proxies/derivatives to lessen the effects of exchange controls and we briefly mention three of them:
- Depository receipt model – an entity in country A acquires shares in a company incorporated in that country. A linked entity in country B allows investors in country B to acquire assets which are backed by the shares held by the entity in country A. Investors in country B will have exposure to the shares of country A – though they will not be able to receive dividends or vote their holdings

- Derivative model – an entity in country B sets up a derivatives market based on shares in companies incorporated in country A. The derivatives are cash-settled – essentially investors in B are betting on share prices in A – so there is no need to transfer stock or money across borders. Again investors would not be able to receive dividends or vote.
 - Fund-of-funds model – mutual funds are set up in each country – countries B,C,D,E etc – and an entity in country A constructs a fund-of-funds based on a weighted portfolio of the mutual funds set up countries B,C etc. In fact this model is similar to the depository model since no assets could move between countries – but the wider portfolio gives it a possibly wider appeal to investors from outside the region.
105. It should be noted that this report does not advocate these models but they are discussed for completeness – since they are likely to be raised at some stage during discussions of the regional markets. In practice they are likely to fall foul of regulators in all the countries involved since they are artificial constructs designed to avoid controls.
106. More legitimate ways to reduce the exchange control barrier include one or a combination of the following actions:
- Recognise that the stocks that are likely to be traded across borders will initially be few in number and that associated currency flows will initially be small. Countries might then relax controls on cross-border capital movements associated with those stocks – with appropriate safeguards.
 - Gradually relax controls as India has done by allowing currency flows up to pre-specified annual aggregate levels.
 - Reduce controls on capital flows within common currency areas and economic groupings. Africa has a number of economic groupings (described below) and three common currency areas - the Central African Franc (XAF), the West African Franc (XOF) and the Common Monetary Area (CMA)³ with several others planned for example the common currency planned for the West African Monetary Zone by 2015⁴. While this has merits because of its gradualness it has the serious disadvantage that it restricts liquidity within the currency area by excluding not only other African investors but also international investors who are likely to be sources of significant inflows into Africa.
 - Relax controls (subject to aggregate limits) on some forms of investor. However, any such limitations tend to reduce liquidity by excluding important types of investors – and may also restrict the development of institutional investors in Africa to the general detriment of market development.

Lack of regional economic linkages

107. Regional capital markets have two purposes:
- to encourage cross-border movements of capital within the region; and
 - to attract investors from outside the region to invest in the region.

³ XAF – Central African Franc region covering 6 countries - Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea and Gabon. XOF – West African Franc region covering 8 countries – Benin, Burkina Faso, Cote D'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo. CMA covering 4 countries - South Africa, Namibia, Swaziland, and Lesotho.

⁴ The West African Monetary Zone is a group of 6 countries within the Economic Community of West African States (ECOWAS) – The Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone.

108. Geographic proximity is not sufficient for the development of cross-border capital flows and a regional capital market – as the lack of integration of capital markets in the SAARC region demonstrates⁵. Despite their proximity and many common cultural elements, the SAARC region has not developed as an economic region nor are its capital markets in any way integrated. Economic integration is a crucial fore-runner to capital market integration and economic integration can best be demonstrated by the importance of inter-regional trade. Table 2 shows the levels of inter-regional trade in a number of regional groupings⁶.

Table 2: Inter-regional trade for various regional groupings

Regional grouping	Inter-regional trade as a percentage of total trade (2009)
European Union (EU)	65%
North American Free Trade Assoc (NAFTA)	39%
Association of South-East Asian Nations (ASEAN)	25%
Mercado Común del Sur (Mercosur – South America)	16%
AFRICA	10-12%
SAARC/SAFTA	5%

Source: Various, African Union

109. The level of inter-regional trade in Africa is low in comparison to most other regional groupings – a fact that is well-known in the region. SAARC also suffers from a high level of exchange control and similar barriers to cross-border capital movements. The reasons are many – including poor infrastructure and artificial barriers – but the consequence for capital markets are that there is:

- little to encourage cross-border investment in support of underlying trade flows e.g. companies acquiring subsidiaries in countries where they export;
- limited knowledge of other economies and investment opportunities within the African region; and
- little economic convergence so countries are in widely differing states of development.

110. However, while the level of intra-regional trade and economic integration across Africa as a whole is low, there are a number of active regional groupings which have an economic purpose. Almost all African countries are members of at least one such grouping. Table 3 shows the main groupings operating under the umbrella of the African Economic Community (an organisation of the African Union). Some of these are more active in the economic sphere than others as the table indicates.

Table 3: Regional Economic Groupings

⁵ The South Asian Association for Regional Co-operation (SAARC) is a regional grouping comprising Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

⁶ The comparison is slightly misleading since, aside from Africa, the groups were created with the specific aim of increasing trade

Organisation		Number of members
Community of Sahel-Saharan States	CEN-SAD	28
Common Market for Eastern and Southern Africa	COMESA	20
Economic Community of West African States	ECOWAS	15
East African Community	EAC	5
Economic Community of Central African States	ECCAS	6
Southern African Development Community	SADC	15
Intergovernmental Authority on Development	IGAD	8
Arab Maghreb Union	UMA	5

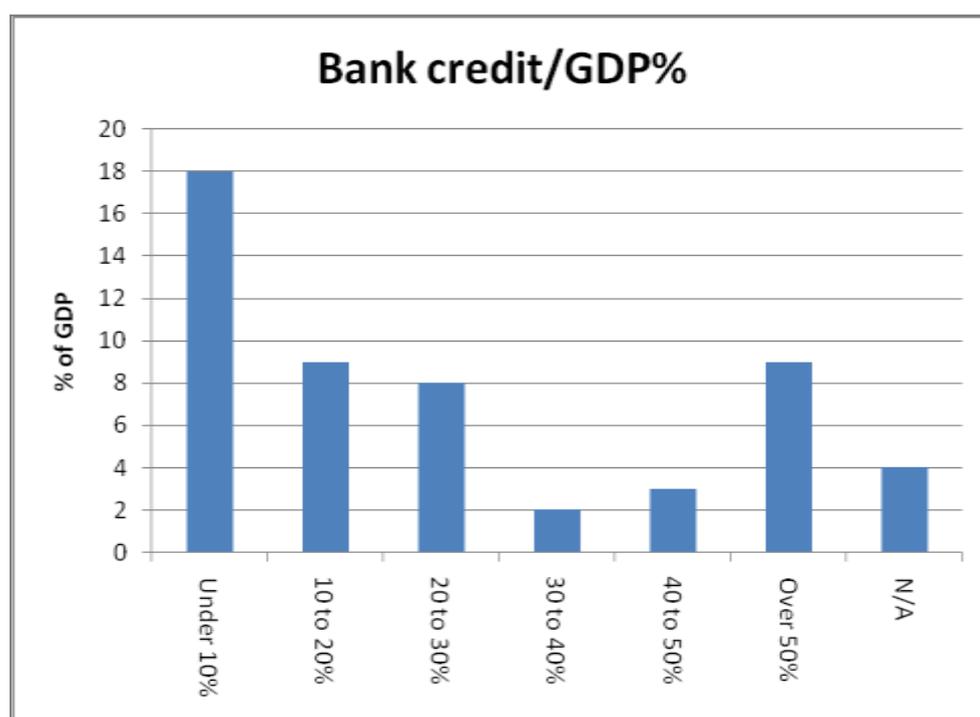
Source: Wikipedia

111. These groupings – some of which represent customs unions and currency areas – have a greater level of economic integration than there is in the continent as a whole. Therefore the prospect of capital market integration within those regions is correspondingly better – particularly if the groups are able to ease controls on capital flows between members.
112. In addition there are important capital market developments including:
- groupings of countries into stock exchanges – such as the BVRM and the Namibia/South African link; and
 - co-operation between stock exchanges – in particular and the East African stock exchange grouping of Kenya, Tanzania, Uganda and Rwanda which is planned to lead to a single market.

Wide divergences in financial and capital market development

113. This section looks at barriers created by the widely differing levels of development of African capital markets. The divergences in economic development among African countries are well-known and these naturally have consequences for the divergence of financial and capital market development. Many African countries have very shallow financial systems – with, for example, most monetary assets being held in cash rather than in bank deposits. Using a measure of bank deposits as a percentage of GDP shows the low level of financial deepening in Africa. Figure 3 below presents a frequency distribution of the variable for African countries and shows that over half of African countries in 2008 had a bank credit to GDP ratio below 20% - to put a context on this the comparable figures for other developing countries were India 68%, Bangladesh 60%, Cambodia 16% and Laos 10%.

Figure 3: Bank credit as % of GDP – African countries 2008



Source: World Bank

114. With a few exceptions capital markets are at an early stage of development. There is no definitive list of exchanges, the researcher found references to 26 exchanges. Of the 26 exchanges, 24 are national exchanges and 2 are regional exchanges (BVRM covering 8 countries and BVMAC covering 5 countries⁷). In all 37 countries have access to a stock exchange. Table 4 below shows the stock exchanges and the number of companies with equity shares listed as a measure of market development.

Table 4: Number of companies with equity shares listed

Number of companies with equity shares listed			
Algeria	5	Mozambique	2
Botswana	38	Namibia	24
BVMAC	0	Nigeria	204
BVRM	28	Rwanda	4
Cameroon	6	Sierra Leone	1
Cape Verde	4	South Africa	392
Egypt, Arab Rep.	214	Sudan	38
Ghana	35	Swaziland	6
Kenya	57	Tanzania	17
Libya	7	Tunisia	58

⁷ Bourse Regionale des Valeurs Mobiles (BRVM) covers Benin, Burkina Faso, Guinea Bissau, Cote d'Ivoire, Mali, Niger, Senegal and Togo. Bourse des Valeurs Mobilieres de L' Afrique Centrale (BVMAC) covers Central African Republic, Chad, Democratic Republic of the Congo, Equatorial Guinea and Gabon.

Malawi	14	Uganda	9
Mauritius	39	Zambia	23
Morocco	77	Zimbabwe	81

Source: Exchange web sites and internal sources.

115. A number of the stock exchanges have become members of the World Federation of Exchanges. The WFE is open to exchanges that fulfil certain minimum standards in terms of infrastructure regulation etc. As well as long-standing full members – Casablanca, Egypt Johannesburg and Mauritius – Africa now has a number of corresponding or affiliate WFE exchanges – BRVM, Ghana, Lusaka, Nairobi, Nigeria and Namibia.
116. The small size of the markets raises problems for the regulators which are often under-funded and lacking in regulatory capacity. IOSCO recommends that regulators should be operationally independent and have ‘proper resources’ to perform its functions and exercise its powers. This is most easily achieved if the regulator has an independent source of funding but this is often not practicable and regulators in smaller markets tend to be funded by the government. As well as potentially compromising the independent actions of the regulator, government funding is usually very constrained and regulators are often rather poorly paid – in comparison to those working in the industry they are regulating.
117. These weaknesses matter for regional integration because integration requires regulators to have confidence in other regulators. Specifically, mutual recognition, the structure which permits intermediaries and issuers to participate in foreign capital markets without being directly supervised by the local regulator, requires this confidence. Regulators in the more developed African markets are likely to be reluctant to delegate regulatory authority to what they may see as less strong and effective regulators.
118. ASEAN is working towards a two-speed solution to this problem⁸ and a similar approach might be feasible in Africa. Africa has 14 regulators that have qualified for membership of IOSCO (Table 5).

Table 5: IOSCO Members in Africa

IOSCO members in Africa	
Algeria	Nigeria
Egypt	South Africa
Ghana	Tanzania
Kenya	Tunisia
Malawi	Uganda
Mauritius	WAMU*
Morocco	Zambia

Source: IOSCO

* WAMU – West African Monetary Union – regulator for the BVRM

⁸ The most developed ASEAN markets – Indonesia, Malaysia, Philippines, Singapore and Thailand will move towards integration at a faster pace than the less-developed markets in Laos, Vietnam and Cambodia.

119. These 14 could be a fast-track group moving more rapidly towards integration. However, as already noted Africa tends to have identities linked to regional groupings. The fast-track approach would cut across those groupings and lose that commonality that exists between group members. Arguably a better approach could be based on regional groupings with the most-developed markets (where most of the cross-border business will probably take place) taking a lead role in assisting the less-developed member of the group towards the standards required for integration.

Savings Institutions not well-developed

120. Capital markets require investors. In their early stages capital markets and share-ownership tend to be dominated by banks and by wealthy individuals. This has not proved to be a good longer-term model – the proper function of banks is lending directly to companies and individuals and wealthy individuals are not usually sufficient in number or rich enough to finance national development needs. Foreign investors often play a role as markets develop but it is usually not an acceptable outcome for foreign investors to dominate the market so their role must necessarily remain relatively small. The solution is to mobilise the savings of individuals. Currently savings ratios in Africa are relatively low but as incomes rise then levels of saving will also rise. Mobilisation is achieved through long-term savings institutions – typically pension funds, insurance companies and mutual funds.
121. Markets where long-term investors are significant are usually better than markets dominated by individual investors because:
- institutions take a more information-based view of the market rather than being driven by speculative sentiment;
 - institutions tend to take a longer-term view but also, because of their size, provide liquidity in the market; and
 - institutions are more likely (although not certain) to comply with regulations than other investors – they prefer to deal in clean markets and therefore avoid abusive behaviour themselves.
122. But institutions, because of their size, can also introduce significant risks into the market – risks that they may fail, risks that they may mis-invest the funds entrusted to them and risks that their size may tempt them to try and exploit the market. Therefore they need a strong structure from a legal framework and robust regulation to mitigate those risks. Few countries in Africa have well-developed long-term savings institutions and relatively few have the necessary legal/regulatory infrastructure. The growth of institutional investors is likely to be a key part of developing local and regional African markets so it is imperative to set up the frameworks to regulate them. They should be careful to ensure that the rules – for example those governing investment mandates of institutions – do not preclude them from participating in the regional capital markets.

Mutual ownership of exchanges

123. Relatively few African stock exchanges are organised as commercial, for-profit organisations. Government-owned exchanges and mutual associations (not for profit entities owned and controlled by their members) are the norm. Similar patterns were common in other regions when stock exchanges were first set up – at the start brokers came together to organise and regulate trading setting up a mutual organisation or governments set up exchanges as part of a development policy. As the nature of the stock exchanges' business has changed – particularly the needs of a more diverse membership, the need to invest in technology the need to develop new products and, most recently, the recognition that consolidation of exchanges brings major gains – exchanges and their users have concluded that more conventional, corporate business structures were more appropriate. In most regions mutual exchanges have demutualised

becoming private companies with their members as shareholders and government-owned exchanges have been privatised. In many cases these exchanges companies are listed on the exchange that they operate.

124. The organisation of exchanges has important implications for capital market integration. Exchanges that are controlled by their members will, naturally, be cautious of allowing members from other exchanges to have access to their exchange. They will argue that the local market was developed by the local brokers and all the infrastructure was paid for by the local brokers – so why would they let in brokers from outside. Government-owned exchanges tend to be similarly resistant to opening themselves to outsiders. It is worth noting that the East African stock exchanges which have a longer-term objective of merging is comprised of exchanges which currently have different ownership structures which may make a merger problematic⁹.
125. Some African stock exchanges are set up as private companies – e.g. Morocco – and others are working towards demutualisation – e.g. Kenya – but while the majority remain mutual or government-owned they will be an obstacle to integration.

Conclusions

126. This section has identified the main macro-economic barriers to development of a wider regional capital market in Africa:
- Restrictions on currency movements are very widespread and represent a serious barrier. There has been some relaxation but in most cases this has been relaxation to allow investment inflows. Widespread barriers to capital outflows still exist and while this situation continues it is unlikely that a truly cross-border capital market will develop. A gradual and controlled relaxation of controls on outflow, possibly on a sub-regional basis, might represent a good start on the path to removal of controls.
 - Capital market integration tends to be associated with more general economic integration which is low in Africa – one of the weaknesses in the ASEAN integration plan is the lack of intra-regional trade between the members (though it is considerably larger than in Africa). The reasons for the low level of intra-regional trade in Africa are well-known – poor infrastructure and artificial barriers to trade. Artificial barriers to trade can and should be addressed for all the usual reasons – increased trade brings clear benefits. However, regional groupings are strong in Africa and are likely to have stronger trade links. These groupings could form the basis for a first stage of capital market integration – as in deed they already have in some parts of the continent.
 - African countries are at widely different stages of economic development and of capital market development. This is important because integration of capital markets implies mutual recognition – regulators in country A trust the regulators in country B and so are willing to allow entities from country B to access the capital market of country A. If the regulators and market infrastructure in country B are significantly less developed than in country A then the regulators in A will be reluctant to extend mutual recognition. The ASEAN two-speed solution seems less appropriate for Africa and a regional solution where the strongest markets assist the others in the group might be preferable – the SADC is a model for this sort of structure.

⁹ Kenya is working towards demutualisation. It is worth noting that European exchange mergers, after several false starts, really took off after the exchanges became private, commercially-oriented companies.

- Development of long-term savings institutions are at an early stage in Africa. Long-term savings institutions are beneficial for capital market development. Countries should set up legal/regulatory frameworks to support such institutions and ensure that these frameworks do not unnecessarily restrict them from regional investment.
- Exchange ownership has an important bearing on regional integration. Typically exchanges that are privately-owned and focussed solely on commercial objectives are more likely to regard regional integration as a positive opportunity (As well as being more likely to innovate and serve market users). Africa has a mix of ownership types – some mutually- owned, some government-owned and some privately-owned commercial. A move towards more commercial structures would be supportive of regional integration.

Moving forward

127. The barriers described above present significant obstacles to speedy integration of African capital markets. However there are possible actions which could move the process forward and which are consistent with the proposals set out in this report:

- The barriers described may be able to be addressed on a group rather than continent-wide basis. The importance of regional groups has been noted and the current groups could form a possible basis for communities where capital markets become more integrated. There are already proposals such as the East African grouping of exchanges. Within these groups it might be possible, for example, to relax barriers to capital flows with the security that the relaxation is not global but only within the group.
- Within the regional groupings the national regulators could establish ever-stronger links leading to co-operation and eventual harmonisation. Links could be cemented by regular working groups. These working groups should be practical sessions and the participants in such groups should be those involved directly in the capital markets – rather than Ministry of Finance officials with little direct involvement in capital markets. They should also focus on specific topics, be agenda-driven (action points, follow up etc) and possibly facilitated by outside assistance.
- The issue of different levels of capital market development present a problem of trust for regulators considering mutual recognition of intermediaries and issuers. A sound approach to this might be to develop baseline standards which would be adopted within a grouping. The standards would be the minimum required to give regulators confidence in the effectiveness of other regulators in the group. Within this framework each national regulator would be free to super-impose additional standards – perhaps more demanding or recognising specific features of their national market.
- The baseline standards would need to be drawn in a way that reflects the specifics of the African market but they would also need to acknowledge international best-practice. Various standards already exist – IOSCO principles for regulation (see **Appendix C**), OECD Principles of Corporate Governance, 2004 CACG Guidelines – Principles for Corporate Governance in the Commonwealth, final version, November 1999, UNECA Guidelines for Enhancing Good Economic and Corporate Governance in Africa, Final Draft, May 2002, Qualifying Characteristics for WFE Member Exchanges (see **Appendix D**) etc. Over time the standards between regional groups would tend to converge leading to greater mutual recognition between regional groups.
- Governments have a major role to play in developing the regional markets and eventually continent-wide market. Governments, by their commitment to the African exchange concept, have recognised the importance of integration and the benefits that would flow from it. Exchange controls are a major barrier to capital market integration in Africa and

artificial trade barriers are an obstacle to greater economic integration. Capital market participants and governments (or central banks as the government representative in the area of currency management) should work together to devise joint plans for a progressive relaxation of controls which recognise the needs of both the government to protect the currency and the capital market for movement of capital. A key element of these plans should be an affirmation of the benefits of capital market development and a commitment to address other barriers – such as bankruptcy procedures and accounting standards.

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VI. Recommendations for appropriate accounting standards

Exchange requirements

140. The listing requirements set by an exchange and approved by the exchange's regulator must make reference to the applicable accounting standards to which listed companies are required to comply on a continuous basis.
141. An exchange may require compliance with only its national accounting standards which are not necessarily international standards or may require full compliance with the latest International Financial Reporting Standards (IFRS)¹¹. In the latter case, where the exchange's own requirements are those of the IFRS standards, even if the legal requirements of the country of domicile does not require such compliance, the company will have to acquire the skills and knowledge to comply with the exchange requirement.

Recommended accounting standard

142. When we are considering the development of a virtual regional stock exchange, then, clearly, the harmonisation of accounting standards across all the exchanges in the group is very desirable.
143. All countries have implemented their own accounting standards over the years. In many countries these standards may not have kept pace with the ever-changing complexity of the new and revised international standards being developed by the International Accounting Standards Board (IASB). Thus in many countries the local accounting standards are not as comprehensive as the IFRS set by the IASB.
144. It is generally expected that IFRS adoption worldwide will be beneficial to investors and other users of financial statements, by reducing the costs of comparing alternative investments and increasing the quality of information. Companies are also expected to benefit, as investors will be more willing to provide financing. Companies that have high levels of international activities are among the group that would benefit from a switch to IFRS. Companies that are

¹¹ The International Accounting Standards Board (IASB) develops and publishes the International Financial Reporting Standards (IFRS).

involved in foreign activities and investing benefit from the switch due to the increased comparability of a set accounting standard.

Move towards international accounting standards

145. The domestic accounting standards setting processes followed differ from country to country. In some it is driven by government agencies and in others by the professional accounting institute. Before deciding to adopt and implement these standards the accounting setting bodies have to carefully consider the implications on businesses of the potential difficulties of implementing these standards many of which require significantly greater disclosure than before. The accounting systems in use may be unable to meet those requirements and will either need to be modified or replaced. Where this is the case these bodies usually adopt the standards after considering these issues and will give the business community a period of time in which to adopt and implement these standards.
146. The domestic Companies Act or the equivalent legislation may have to be amended to accommodate the adoption of these IFRS standards which will extend the time frame over which implementation can happen.
147. It is recommended that the regional groupings of exchanges act as the driver and catalyst of this change as a result a change its listing requirements whereby all listed companies will have to submit IFRS compliant audited annual financial statements within “x” years. The auditing community will consequently have to be in a position to meet this listing requirement.

Cross Listing and Secondary Listings

148. Listed companies must produce their annual and interim (either semi-annual or quarterly) accounts in accordance with the accounting standards set out in the listing requirements of the exchange or exchanges on which they have (or seek) a listing.
149. The exchange(s) on which the company seeks a listing may not necessarily be in their own country and thus these standards may be different to those applicable in their country of domicile. In this instance the company will be / may be obliged to prepare separate annual financial statements to satisfy the legal requirements of its country of domicile as well those of the country(s) in which the preferred exchange(s) is /are situated.
150. In the case of secondary listing on such an exchange, the requirement to use an accredited auditor may be less strict and may require a “good standing” letter of clearance from that country’s professional body of auditors and accountants or regulator and inter alia, an acknowledgement from the audit firm that it has the necessary IFRS skills and experience to comply with the exchange’s listing requirements.

Auditors and accountants

151. It should be noted that whatever accounting standards are selected, the listing rules must specify a time table for the publication and release of financial statements produced by listed companies. At the very least the annual financial statements must be audited. The time table must be at least as rigorous and that required by the relevant Companies Act or equivalent.
152. Where the security has a primary listing on an exchange then many exchanges require that the companies use an auditor which is on its list of approved auditors. This is done to reduce the risk of exposing investors to inexperienced, ill equipped or unskilled auditors or accountants.
153. In some markets (e.g. the JSE) the exchange sets the standards and requirements for including an auditor or reporting accountant on the list. In other markets, e.g. Nairobi, the regulators

have a registration regime for all lawyers, accountants/auditors that advise on public offers. Only accountants and auditors registered with the regulatory authority are permitted to provide accounting/audit services for public companies.

International Financial Reporting Standards

Overview

154. International Financial Reporting Standards (IFRS) are principles-based standards adopted by the International Accounting Standards Board (IASB).
155. Many of the standards forming part of IFRS are known by the older name of International Accounting Standards (IAS). IAS were issued between 1973 and 2001 by the Board of the International Accounting Standards Committee (IASC). On April 1, 2001, the new IASB took over from the IASC the responsibility for setting International Accounting Standards. During its first meeting the new Board adopted existing IAS and Standing Interpretations Committee standards (SICs). The IASB has continued to develop standards calling the new standards IFRS.

Structure of IFRS

156. IFRS are considered a "principles based" set of standards in that they establish broad rules as well as dictating specific treatments.
157. International Financial Reporting Standards comprise:
 - International Financial Reporting Standards (IFRS)—standards issued after 2001;
 - International Accounting Standards (IAS)—standards issued before 2001;
 - Standing Interpretations Committee (SIC)—issued before 2001; and
 - Conceptual Framework for Financial Reporting (2010).

Objective of financial statements

158. A financial statement should reflect a true and fair view of the business affairs of the organization. As these statements are used by various constituents of the society / regulators, they need to reflect the true view of the financial position of the organization and it is very helpful to check the financial position of the business for a specific period.

Adoption of IFRS

159. IFRS are used in many parts of the world, including the European Union, India, Hong Kong, Australia, Malaysia, Pakistan, GCC countries, Russia, South Africa, Singapore and Turkey. As of August 2008, more than 113 countries around the world, including all of Europe, currently require or permit IFRS reporting and 85 require IFRS reporting for all domestic, listed companies, according to the U.S. Securities and Exchange Commission.

VII. Recommended regulatory processes for an efficient and well regulated market

Introduction

160. Regulators have a significant role in approving the rules and regulations of stock exchanges and associated facilities and in licensing intermediaries (see Section XI). In addition they have a significant role in ensuring a fair and transparent market place for investors. This section

addresses the various processes that should be undertaken by the regulator to contribute to the development and maintenance of a well regulated market.

161. A regulator without market knowledge and experience is useless and dangerous. However, the education, experience and knowledge required for the regulator fall outside the remit of this report.
162. It is critical to recognise and acknowledge that there is an inherent “conflict of interest” wherein market participants do not necessarily want an efficient market whilst regulators do! This is because it is far easier to make profits in a less efficient market than an efficient one. It is a fallacy that efficient markets are always liquid. Often the converse is true and the regulator needs to be cognisant and sensitive to this conundrum.
163. As a market matures participants become more aware of reputational risk and so tend to become more naturally compliant. This allows the regulator to target its resources on the less compliant participants.
164. This is where the skills and experience of a knowledgeable and “market wise” regulator is of most value in balancing the effective application of the regulations to address these points in the light of the market infrastructure ; prevailing market structure, conditions and participants.

Funding of the Regulator

165. The IOSCO Objectives and Principles of Securities Regulation includes the following Principles Relating to the Regulator:
 - The responsibilities of the Regulator should be clear and objectively stated (1).
 - The regulator should be operationally independent and accountable in the exercise of its functions and powers (2).
 - The regulator should have adequate powers, proper resources and the capacity to perform its functions and exercise its powers (3).
 - The regulator should seek to ensure that conflicts of interest and misalignment of incentives are avoided, eliminated, disclosed or otherwise managed.
166. We would recommend that, whenever possible, funding by the regulated parties rather than the government makes the above principles easier to achieve. However, we recognise that in small and new markets this situation would not be economically viable and therefore subsidy by the government is unavoidable.

Characteristics that make up an Efficient Market

167. It is not the objective of this project to compare various African or other markets and their characteristics and so make an assessment on the relative efficiencies and how well they are regulated. Rather the objective is to recommend the regulatory processes for efficient and well regulated markets.
168. There has been a great deal of material published with regards to the characteristics that make up an efficient market. Most commentators would agree that the minimum criteria required to maintain an efficient market include:

- timely and accurate information being available on the price and volume of the financial instruments for both present and past transactions;
- the market being liquid, which means that the financial instrument can be bought or sold quickly at a price close to the price of the previous transaction (i.e. price continuity), assuming no new information has been received; price continuity requires depth, which means that numerous potential buyers and sellers must be willing to trade at different prices above and below the market price;
- transaction costs being low in relation to the value of the trade (referred to as internal efficiency); this includes the cost of coming to the market, brokerage fees and the cost of transferring the asset;
- prices rapidly adjusting to new information so that the price of the financial instrument reflects the available information;
- all transaction costs are transparent and are disclosed to the underlying client;
- the market having integrity; and
- there is surveillance over the market to establish that all of the above points are performed in the correct manner and there are sanctions if a participant should contravene the rules of the market.

169. The following paragraphs highlight the actions that need to be taken by the regulator to support these characteristics.
170. Timely and accurate information is available on the price and volume of the financial instruments for both present and past transactions
171. The exchange must have clear and unambiguous rules with regards to the mechanisms and timing by which prices and volumes of securities are disclosed to the market – both pre-trade and post-trade.
172. The regulator has to ensure that these rules have to be realistic within the prevailing market structure and should be such that they do not favour one set of participants over another.
173. The regulator needs to monitor that these rules are followed and should also have powers and independence to impose appropriate sanctions which they can enforce. It should have access to the market pricing screens and should interrogate the exchange where it is apparent that the rules are being flouted. Market participants are a very useful source of corroborative evidence when discussing this.

Market has to be liquid

174. This means that the financial instrument can be bought or sold quickly at a price close to the price of the previous transaction (i.e. price continuity), assuming no new information has been received. Price continuity requires depth, which means that numerous potential buyers and sellers must be willing to trade at different prices above and below the market price.
175. This characteristic is the most difficult to achieve in smaller developing markets and even developed ones! However, the larger market and the larger the investor base the more liquid the market is likely to be. Permitting brokers from one country to access other markets should add liquidity to the target market.
176. The regulator in developing markets can do very little to ensure that these attributes are present as a small market has, by definition, few buyers and sellers, and those that are there are often large institutional players that do not want to “show their hands” by trading too often or through the same participating firms.

177. In addition, some markets forbid these large institutional firms from trading these securities for profit, thus they become investors only.
178. This type of restrictive regulation inhibits market growth and thus impedes the growth of liquid markets.
179. There also appears to be a problem in those countries which have adopted the OHADA legal system (see paragraph 423) in that public companies are required to have a minimum par value of 10,000. This can result in securities having a very high unit price, which can also inhibit liquidity. Where the regulator has the power to override the law by regulation to enable the company to 'split' the shares into shares with lower par value, it should do so.

Internal Efficiency

180. The transaction costs must be low in relation to the value of the trade (referred to as internal efficiency). This includes the cost of coming to the market, brokerage fees and the cost of transferring the asset. In general it is best to encourage competition to drive down costs by, for example, allowing brokerage commissions and other fees to be negotiated.
181. The level of these costs may act / do act as a serious inhibitor to the development of smaller markets. The regulator's role is a difficult one which requires a careful balancing the objectives of the various participants within the trade / settlement cycle and those of the investors within the overarching need to develop an efficient market.
182. In smaller developing markets these costs maybe considerably higher, as a proportion of the value of the trade, than in more developed and liquid markets.
183. Prices rapidly adjust to new information and the price of the financial instrument reflects the available information
184. There is little the regulator can do here from a process aspect, as price movements are a function of many variables, one of which is many active buyers and sellers.
185. All transactions and costs are transparent and are disclosed to the underlying client.
186. This is one area where the regulator can play a decisive role. The regulations and the subsequently approved rules of the exchange must be unambiguous in the need for full disclosure to the client of all costs of all parties in the cycle of trading / settlement / custody.

The market has integrity

187. This is the most important characteristic of an efficient and credible market. Without it and without participants who exude this in all their dealings no market can develop, grow and flourish, other variables aside!
188. The regulator's processes should be focussed to ensuring that all its regulations and the rules of the exchange are geared towards building, enhancing and maintaining the integrity of the markets and equally importantly, itself.
189. Many books and papers have been written on integrity in markets and the damage that a lack of integrity can bring to an exchange, its country, and the greater region. It is far harder to recover from a perceived lack of integrity than to establish it. A lifetime of effort can be wiped out in a flash through the actions of one single crooked participant, even as a result of seemingly minor insignificant action!

190. The integrity of the regulator is of critical importance in the functioning of an efficient market¹².
191. The independence of the regulator from the influences of government, politicians and perceived powerful people is even more critical than the skills and experience within its office.
192. The unfortunate reality is that not all participants view integrity as their first priority in their business dealings and this attitude needs to be understood when the exchange drafts its rules for subsequent approval by the regulator. It should always err on the side of being overly strict and thus be seen to be well regulated rather than the converse.
193. Well regulated markets attract more business to their exchanges than less regulated ones with all the widely understood and researched spin-offs to the participants and countries.

Real Time Market Surveillance

194. It is essential that there is real time market surveillance i.e. a review of orders and trades in real time to identify abusive behaviour, such as front running or insider trading. This type of surveillance is usually undertaken jointly by the exchange and the regulator. The exchange reviews the market activities using a surveillance system to produce ‘alerts’ which may indicate abusive behaviour. These ‘alerts’ are investigated by the exchange and if they identify abusive behaviour by a broker, they are able to impose sanctions in accordance with the rules of the exchange. The imposing of such sanctions is then reported to the regulator who may take further action in accordance with the laws and regulations.
195. Where the exchange analysts identify potential abusive behaviour by an investor then the information is usually passed to the regulator for further action as the exchange does not have direct jurisdiction over investors.
196. Regulators may also initiate investigations if it suspects insider trading or other abusive behaviour as a result of external information.
197. The basic requirements for a surveillance system are detailed in Section XIV – Recommended requirements for exchange and regulatory surveillance systems.

VIII. Recommended basis for Listing Requirements on a Virtual Regional Exchange

Introduction

198. Under this model for a virtual regional exchange it is the exchange’s responsibility to set the listing requirements for companies wishing to list.. These requirements should permit the listing of companies which are incorporated in other countries in the group (i.e. other countries with which the regulator has an MOU) and should require listed companies to permit access by foreign investors, unless there are exceptional reasons for restricting ownership¹³.

¹² IOSCO’s set of principles for regulators covering independence etc. has become the standard for international best practice. Regulators which meet the IOSCO principles tend to be more effective. See *Appendix C* for IOSCO document

¹³ In some countries, companies involved in industries such as telecoms or airlines have restricted ownership requirements.

199. It is very important that the rules are clear and therefore have legal certainty. It is also important that all necessary terms are defined (listing rules normally start with a section of definitions) and that these defined rules are used consistently.
200. The rules need to be precise and to set out precisely what regulated persons are required to do. The IOSCO standards relating to 'Regulatory Processes' is included in the IOSCO Objectives and Principles of Securities Regulation which is included as *Appendix C* to this report.
201. The listing requirements of all exchanges should include the key components identified below. Where a country wishes to develop an exchange the listing rules can be developed using the following components as a guide. However, the tried and tested listing requirements of established neighbouring exchanges are a valuable fast start to drafting the detailed listing rules.
202. These components have been compiled following a review of a number of exchanges' Listing Requirements.

Consultation with the Exchange

203. In contrast with rules such as membership or trading rules it is not possible for the listing rules to set out every circumstance which might arise in the life of a listed company. Listed companies are therefore encouraged to consult the listing department of the exchange whenever there is any action which might require the issue of a statement or the inclusion of some information in a listing document.

Key components to be included in the Listings Requirements

204. The key components to be included in the Listing Requirements falls under the following headings:
- Authority of the exchange;
 - Role players in listing regime
 - Sponsors;
 - Auditors
 -
 - Conditions for listing;
 - Methods and procedures of bringing securities to listing;
 - Primary Listing
 - Pre-listing statements;
 - Prospectuses
 - Listing particulars;
 - Financial information;
 - Continuing obligations;
 - Financial information;
 - Circulars, and announcements;
 - Dual listings and listings by external companies;
 - Special sections relating to different types of companies and specialist securities
 - Documentation
 - Documents to be submitted to the exchange;
 - and
 - Schedules.

Authority of the Exchange

205. The authority of the exchange to enforce its listing requirements and rules will be founded in over-arching legislation and regulations. Reference should be made to the applicable Act(s) and regulations to set the framework for the listing requirements.
206. This section should set out clearly the authority of the exchange regarding its powers to list, suspend and terminate listings, and its other powers to enforce the Listings Requirements. These other powers could entail private or public censure and financial penalties, e.g. fines, etc.

Role Players in Listing Regime

Sponsors

207. Most exchanges require a prospective issuer to have a sponsoring entity that will be responsible for a number of key tasks, as described below. A listed firm is required to have a sponsor for the duration of its listing.¹⁴
208. Sponsors play a key role in enhancing the levels and quality of corporate governance in small companies, particularly the prospective and newly listed companies.
- 209.
210. Sponsors will normally be corporate brokers, banks and other professional advisers, including accountants and attorneys. Such sponsors may apply to be recorded on the exchange's Register of Sponsors and must undertake to the exchange that they accept the following responsibilities:
- to assist applicant issuers with applications for listing which require the production of listing particulars and/or other relevant documentation; and
 - to provide advice, on a continuing basis, regarding the application of the Listings Requirements, including the application of the spirit of the Listings Requirements and upholding the integrity of the exchange, and in particular, the continuing obligations set out below.
211. The Listing Requirements will include details of what documents are required to be submitted through a sponsor.
212. Details of the sponsor's responsibilities and any related documents are normally included as a schedule.

Auditors, Reporting Accountants and IFRS Advisors

213. It is axiomatic that only those auditing firms that are registered (licensed) by the local auditing regulatory body /institution can act as auditors to a company / entity.
214. In recent times many exchanges have become more circumspect with regards to their assessment of the skills and knowledge of the auditing profession in the context of auditing their listed companies' financial statements. This has been done, inter alia; as the requirements of IFRS (International Financial Standards of Reporting) have become more

¹⁴ Having a sponsor is obligatory in many exchanges. This role is usually undertaken by a firm which is registered with the exchange and is independent of the issuer. However, this role could be undertaken by the issuer where it has demonstrated to the exchange that it has the requisite skills and knowledge, for example a bank which has its own advisory / sponsor division.

complex and that, in their view, not all the registered firms are considered to be sufficiently skilled and knowledgeable enough to be associated with the firms listed by it.

215. Only an audit firm, individual auditor, IFRS advisor and reporting accountant recorded on the list of approved Auditors and their advisors may act as an auditor and /or reporting accountant for an applicant issuer.

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246. The requirements relating to an accreditation mechanism for auditors and their advisors are an integral part of the regulation of the exchange. It is essential that auditors and their advisors assist the exchange in upholding the integrity of the markets it operates.

247. The Listing Requirements normally set out the requirements relating to auditors and reporting accountants and addresses the detailed requirements applicable to the audit firm, individual auditor, IFRS advisor¹⁶ and reporting accountant¹⁷. In some markets the regulator may maintain a list of approved accountants but the following requirements are still relevant.

Auditors', Reporting Accountants' and IFRS Advisors' responsibilities

248. The audit firm, individual auditor, IFRS advisor, and reporting accountant must undertake to the exchange that they accept certain responsibilities. which includes, inter alia;-

- discharging their responsibilities with due care and skill, in accordance with their professional ethics and codes of conduct;
- reviewing all documents relating to a listing and reporting on any financial information;
- on initial application and annually thereafter submitting all the required returns and documents that are mentioned under the Section above entitled 'Continuing Obligations';
- providing the exchange on its request with any information or explanation to assist it in verifying whether that the Listing Requirements are being complied with;

¹⁶ The IFRS advisor's role is to advise the audit firm, the individual auditor, and the reporting accountant on IFRS related issues which may impact their assurance processes and opinion.

¹⁷ The reporting accountant's role is to provide appropriate advice to the issuer and the individual auditor on the application of the financial information requirements before any circular is submitted to the exchange for comment.

- informing the exchange of any investigations undertaken by any agencies that may impact the company's standing;
- informing the exchange where a previously issued audit report has been amended;
- informing the exchange where there are any ongoing professional or disciplinary processes by anybody of which it is a member, and the outcomes; and
- informing the exchange if an applicant issuer misrepresents the contents of previously issued audit reports.

249. The audit firm should monitor compliance with the Listing Requirements as they relate to the disclosure of financial information as required in the Continuing Obligations

250. The listing rules should give details of:

- the qualifications required¹⁸;
- the roles and responsibilities of the auditors;
- where the various bodies do not fulfil their responsibilities their status will be reviewed and if necessary the accreditation will be withheld; and
- the actions which may lead to termination of accreditation and the rights of the exchange in this respect.

Schedules to be submitted

251. The above rules will give details of the forms that are required to be submitted. Normally examples of these forms are included in a schedule to the Listing Requirements as they may be changed more regularly than the rules themselves.

Conditions for Listing

252. This section should set out the conditions for listing and would include sections dealing with:

- overview – adherence to listing requirements and the discretion of the exchange;
- applicable conditions addressing the following:
 - a requirement on the applicant to be incorporated in accordance with the laws of its country of incorporation;
 - a requirement to detail the directors' and senior managements' experience and a requirement to appoint a suitably qualified financial director;
 - a requirement for a list of subsidiary companies and certain group assets;
 - the minimum market capitalisation required for listing and any other prescribed financial benchmarks;
 - the status of securities being listed, e.g. the voting rights associated with each class of shares;
- public shareholders – defining which shares are considered to be held by the public;
- financial legibility criteria for listing, eg,
 - minimum levels of capital and reserves;
 - minimum number of issued shares;
 - satisfactory audited profit history over a specified number of years and values;
 - minimum number of public shareholders for each of the different securities being listed.

¹⁸ These may include, inter alia; passing specific exchange set exams relating to its rules; passing the local registered persons exams (RPE) required by the Regulator; and any international exchange related exams that the exchange deems appropriate.

Methods and Procedures of Bringing Securities to Listing

253. This section of the listing rules should describe in detail the different methods which securities may be brought to listing and the detailed procedures relating to each method. The main methods by which securities may be brought to listing are:
- Primary Listing
 - placings; in this case the new shares are placed with specific investors¹⁹;
 - offers for sale or subscription; in this case the new shares are offered for sale to the general public;
 - Secondary Listing
 - rights offers; in this case shares are offered to existing shareholders in proportion to their current shareholding at a price which is generally lower than the current market price; rights may be tradable or not tradable;
 - capitalisation issues; in this case shares are allocated to existing shareholders in proportion to their current shareholding; no payment is required for the new shares;
 - scrip dividend and cash dividend elections; in this case shares are issued (or offered) in lieu of a cash dividend;
 - acquisition or amalgamation/merger issues ; in this case shares are issued in exchange for the shares of a target company, which is being taken over; and
 - exercise of options to subscribe for securities (including options in terms of executive and staff share schemes).
254. This section also sets out the exchange's requirements in relation to:
- pre-issued trading; when and how trading in the shares is permitted prior to the shares being issued and trading;
 - shares issued to sponsors and advisors in lieu of fees.

Pre-listing statements and prospectuses

255. A prospectus is normally required to be issued in relation to public issues by the applicable Financial Services Act. However, the exchange may require the company to issue Pre-Listing statements, even if a prospectus is not required under the Act.
256. The main headings in this section should address the following:
- requirement for pre-listing statement, i.e. when they are required;
 - responsibility; who bears responsibility for the statements made in the pre-listing statements;
 - form and content of the pre-listing statement;
 - formal approvals; whose approvals are required;

General Information

257. This section sets out items of information that may be required to be included in pre-listing statements and circulars relating to share offers, rights offers and capitalisation issues.

¹⁹ In this instance, the investors may require that the shares are listed as a condition of their investment. The shares may not necessarily trade at all thereafter. In some markets this is called an "Introduction".

258. Where the disclosure of the information required by this section cannot be obtained or is considered to be harmful to the applicant, then the directors may make an application to the exchange to be excused from disclosure or agree a level of reduced disclosure. The exchange may exercise its discretion in this area but the rules will specify whose decision will be final.
259. The information to be disclosed is as follows:
- details of the identity of the applicant and its capital;
 - the names and experience of the directors, managers and advisors;
 - the securities for which application is being made;
 - details of the business activities of the company or the group of which the company is part;
 - financial information; see the Section below entitled ‘Financial Information’;
 - general information; any other information that may be useful to an investor deciding whether or not to invest in the securities concerned;
 - details of any material transactions; where, for example; material assets have been purchased or acquired by the company within a specified period prior to the publication of the pre-listing statement or assets that will be acquired within a known period after the listing; the details include:
 - the value of the assets;
 - whether the assets are guaranteed;
 - details of any warranties have been given;
 - any restrictions on the vendors of the assets; and
 - any consequent tax liabilities;
 - other sections should cover:- omission of information and material contracts; publication and circulation of the statements and revised rights offers..
260. The rules also require that all relevant documents and consents are to be available for inspection by prospective investors.

Financial Information

261. This section sets out financial information that is required to be included in a prospectus/pre-listing statement/circular.
262. The main headings in this section should give the detailed requirements in the following areas:
- report of historical financial information;
 - pro forma financial information;
 - profit forecasts and estimates;
 - minimum contents of interim reports, preliminary reports, provisional annual financial statements (“provisional reports”) and abridged annual financial statements (“abridged annual reports”); and
 - minimum contents of annual financial statements.
263. The reporting accountant is required to issue a report where the company issues any statement that contains financial information.

Circulars, Pre-listing; Statements / Prospectuses and Announcements

264. This section sets out the requirements that apply to all circulars, pre-listing statements and announcements published by issuers. Where the circular, pre-listing statement or announcement, or the transaction or matter to which it relates, has unusual features or where it is not possible to comply with the relevant requirements set out in this section, the exchange

rules should require that it must be consulted at an early stage in order to discuss the details of the transaction and, where necessary, to obtain a ruling from the exchange.

265. This section will need to distinguish between the information required for all the different methods of bringing securities to listing (see the Section above entitled ‘Methods and Procedures for bringing securities to listing’).
266. This section should also deal with the following:
- the process of obtaining approval of the documents;
 - the information to be contained in circulars relating to:
 - the repurchase of securities;
 - payments to securities holder;
 - voluntary liquidations;
 - redemption of securities;
 - change of name;
 - alteration of share capital, authorised shares and rights attaching to a class or classes of shares;
 - change of transfer office;
 - the rules should also specify when an embargo may be placed on company announcements/circulars: these may entail the exchange approving the content of announcement, the timing of the release, and the method and media mechanism to be used; and
 - any documents issued in relation to take-overs or related transactions.

Continuing Obligations

267. Observance of continuing obligations is essential for the maintenance of an orderly market in securities and to ensure that all users of the market have simultaneous access to the same information.
268. This section should set out the continuing obligations that an issuer is required to observe once any of its securities have been admitted to listing.
269. The sponsor has a continuing role and responsibilities under this section.
270. Failure by an issuer to comply with any applicable continuing obligation may result in the exchange exercising its authority by suspending or terminating a listing or making a private or public censure or imposing financial penalties (See the Section above entitled ‘Authority of the Exchange’).

Financial Information

271. Listed companies are required to issue an annual report and audited financial statements (accounts) to all their shareholders and also to issue interim financial statements. Some markets require interim statements to be issued half yearly but some require quarterly statements. (This is often required of mining companies.)
272. The listing rules should set out the minimum contents of the following reports:
- interim reports;
 - preliminary reports;
 - provisional annual financial statements (“provisional reports”);

- abridged annual financial statements²⁰ (“abridged annual reports”) and
 - annual financial statements.
273. In addition to these regular updates to investors, the continuing obligations require the listed company to issue statements if any changes occur which are (or may be considered to be) price sensitive, i.e. the knowledge by the market of the disclosed information is likely to result in a price change. Some exchanges require that the first release of this information to the public should be done through its own news service so that all investors can receive the information simultaneously.
274. The ongoing requirements section usually sets out in detail the various circumstances that might lead to a requirement for a statement by the company but this does not detract from the principle that all price sensitive information should be disclosed.
275. The detailed circumstances are normally set out under the following headings:
- transactions;
 - transactions with related parties;
 - directors; ,
 - auditors; and
 - miscellaneous obligations.
276. Listed companies are obliged to advise the exchange if they change their auditors or if their auditors produce any form of adverse comment on the accounts.

Transactions

277. This section deals with transactions, principally acquisitions and disposals, by issuers and their subsidiaries. It describes how they are categorised, what the requirements are for announcements and circulars and whether or not shareholder approval is required.
278. In some markets the regulator (rather than the exchange) issues specific takeover regulations and in some markets these regulations are given the force of law. This is because takeover regulations are intended to apply to all companies, not simply listed companies, to protect minority shareholders. Where there are takeover regulations, the exchange should endorse their application but they should not form part of the listing requirements.

Transactions with Related Parties

279. This section supplements the basic rules relating to transactions (see Section above entitled ‘Transactions’) and provides certain safeguards against transactions involving shareholders, directors and/or other persons related to an issuer taking advantage of their position. Transactions with parties related to an issuer are known as related party transactions.
280. Where any transaction is proposed between an issuer, or any of its subsidiaries, and a related party, a circular to shareholders and the approval of shareholders of the issuer in general meeting will normally be required. Any circular sent to shareholders in connection with a related party transaction must provide sufficient information to enable any recipient of the circular to evaluate the effects of the transaction on the listed company.

²⁰ In some cases companies with a large number of shareholders are permitted to issue abridged reports to all shareholders, providing the full report is available on request. These reports can be in electronic form. This is increasingly becoming the norm as companies look to save on printing voluminous reports for shareholders that are seldom read.

Directors

281. This section sets out the reporting requirements where there is a change of directors or when any of the directors deal in the securities of the company concerned. It will also set out ‘black out’ or closed periods, around the time of the issue of regular financial statements or price sensitive activities during the year, when directors are forbidden to trade.

Miscellaneous obligations

282. This covers issues such as:
- the requirement on a company to pay the listing fees within a specified period of time;
 - the corporate governance standards that are required; and
 - the reporting requirements in the event that the company (or a subsidiary) goes into liquidation or business rescue proceedings are instituted.

Special sections relating to different types of companies and specialist securities

283. This section sets out the criteria for the listing of, and the additional disclosure requirements for companies involved in, for example; mining; property, pyramid companies, investment entities in equity funds and unit trusts etc. Specialist securities include instruments such as warrants, asset backed securities and exchange traded funds.
284. These requirements can be dealt with as exceptions in each of the sections detailed above, but in general they are removed to a separate section for the benefit of potential listed companies and their advisors.

Documentation

285. This is a critical part of the interaction between the issuers and the exchange. The sponsors have a key role in this aspect as will be described below.

Documents to be submitted on corporate actions

286. This section details the documents required to be submitted to the exchange when corporate actions are undertaken. The prescribed contents of these documents are set out in the schedules to the Listings Requirements.
287. By way of amplification the main headings in this section should address the following:
- general: i.e. rules that relate to all other sections;
 - documents to be submitted through a sponsor;
 - procedure for approval;
 - documents requiring approval;
 - documents to be submitted by new applicants;
 - offers for sale and subscription;
 - rights offers, claw-back offers and renounceable offers;
 - capitalisation issues and scrip dividends;
 - issues for cash;
 - acquisitions and disposals;
 - extensions of listed options;
 - expiry of listed options or other conversion rights;
 - exchange control approval; i.e. issues for which exchange control approval is required;
 - share incentive schemes;

- repurchase of securities;
- payments to securities holders;
- alteration of share capital, authorised shares and rights attaching to a class / classes of shares;
- odd lot offers;
- any documents issued in relation to take-overs or related transactions;
- change of name of a listed company;
- periodical returns.

Documents to be submitted through a sponsor

288. This section details the documents required to be submitted to the exchange through a sponsor in addition to those relating to corporate actions. The prescribed contents of these documents should be set out in the schedules to the Listings Requirements.

- all announcements required in terms of the Listings Requirements;
- interim and quarterly reports;
- provisional reports;
- annual financial statements and annual reports;
- general mandate to issue shares for cash;
- general mandate to repurchase securities;
- general mandate to make payments to securities holders; and
- the signed auditor's report.

Dual Listings and Listings by External Companies

289. This section sets out the requirements for dual listings and by external companies. Most exchanges provide a set of reduced requirements for companies that have a primary listing on another recognised exchange.

IX. Recommended Requirements for trading participants on the Virtual Regional Exchange

Introduction

290. There are several stages to the process by which a trader associated with a broking firm is permitted to trade on an exchange. In summary these are:

- the broking company applies to the regulator for a licence to undertake the business of being a stock broker; in some countries, usually where there is a single stock which is a self regulating organisation (SRO), the regulator delegates this licensing;
- the broking company employs 'traders' who must demonstrate regulatory knowledge, usually through attending courses and passing examinations; (see paragraph 318 below);
- the broking firm must demonstrate to the exchange that it wishes to access that it has the technical capacity to interface into the trading system and the ability to efficiently settle all transactions.

Licensing requirements for participant firms

Overview

291. Dependent upon the regulatory framework in place the licensing of the participant firms to undertake the business of being a stock broker is usually the responsibility of the regulator.

However, in some markets this responsibility is delegated to the exchange. The requirements described below should apply irrespective of which organisation approves the licensing.

292. The components of the licensing requirements listed below have been compiled following a review of a number of exchanges' and regulators' requirements.

Basic requirements

293. Entities wishing to undertake stock broking business are required to:

- be a registered legal entity in terms of the local Companies Act; and
- appoint directors and officers, including compliance officers etc, who have complied with the "fit & proper" requirements. These requirements apply to many aspects of a participant firm's business and should be specified separately within the regulatory environment.

Services that require licensing

294. In most markets a legal entity requires a licence for each service that it wishes to/does offer to its customers. In addition to trading on behalf of investors these services include, financial services provider, investment services; asset management money broking; settlement and custody services; acting as a nominee company.

295. The specific conditions of licensing set out below represent the minimum conditions which entities are required to satisfy in order to provide brokerage or other regulated services:

- resources, procedures and systems: the participant firm must have the resources to undertake the activities included in their licence, must have appropriate systems for risk management and employ suitably skilled and trained people;
- business activities: the participant firm must declare and be licensed for all the business activities that it wishes to undertake;
- financial resources: a participant firm must on admittance and at all times ensure that it maintains adequate financial resources to meet its business commitments and to withstand the risks to which its business is subject. (See the Section below entitled 'Capital Adequacy').

Changes in control

296. There should be detailed requirements to cover the procedures to be followed in the event that the ownership or the management of a participating firm changes.

Risk management capabilities

297. In most markets it is a requirement that a participant firm "stands good" for its client's settlement obligations as a result of its trading activities. This is an historic carry-over from the days of mutual exchanges and where members were generally unlimited partnerships. The participant will be required to hold amount of funds as dedicated capital and often additional deposits in guarantee funds.

298. Historically each exchange managed its own clearing house and many had a well capitalised guarantee fund in place so that the delivery versus payment of the trades could be assured. Currently risk management takes a number of different forms and these are discussed under Clearing, Settlement and Payment (Section XII).

299. However, whatever risk management method is employed, the participant firm must demonstrate that it has skilled capable risk management people in place with access to suitable risk management processes and systems.

Separation of client assets

300. Licensing requirements for brokers and other entities which hold client's securities or cash require that these assets are separated from the organisations own assets.

Compensation Funds

301. Brokers are normally required to contribute to a Compensation Fund the objective of which is to compensate investors for losses where a broker has defaulted on a transaction established on their behalf.

302. These funds may be operated by the regulator, the exchange or a third party (e.g. SIPC in the USA). They are usually financed by a combination of insurance cover and levies from the brokers, based on a percentage of the trade value.

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The concept of capital adequacy in high level terms

Overview and background

309. In June 2004, The Bank for International Settlements (BIS)²¹ based in Basel Switzerland, published a very comprehensive document on capital measurement for banks entitled “International Convergence of Capital Measurement and Capital Standards”, also known as the Basel II Accord or just “Basel II”. This is the much improved and more detailed successor to its earlier document published in 1988, called Basel I Accord²².
310. In brief, this document describes in considerable detail the various layers of capital that banks should have to manage their operations, the levels (as percentages) that should be place and how they are to be calculated. Basel II has multiple approaches for different types of risk. Basel II has three pillars: minimum capital, supervisor review and market discipline:
- Minimum capital is the technical, quantitative heart of the accord. Banks must hold capital against 8% of their assets, after adjusting their assets for risk.
 - Supervisor review is the process whereby national regulators ensure their home country banks are following the rules. If minimum capital is the rulebook, the second pillar is the referee system.
 - Market discipline is based on enhanced disclosure of risk. This may be an important pillar due to the complexity of Basel. Under Basel II, banks may use their own internal models (and gain lower capital requirements) but the price of this is transparency.

Basel II Charges for Three Risks²³

311. The Accord recognizes three big risk buckets: credit risk, market risk and operational risk. In other words, a bank must hold capital against all three types of risks. A charge for market risk was introduced in 1998. The charge for operational risk is new and controversial because it is hard to define, not to mention quantify. (The basic approach uses a bank's gross income as a proxy for operational risk. It is not hard to challenge this idea.)

Capital adequacy and its applicability to equity exchange participants

312. Whilst in many exchanges the participating firms are not banks and thus the Basel II does not apply to their operations, the principles of capital adequacy should be applied to participant firms in the exchanges. In its basic form a standard capital requirement can be set and the firm's business be limited if the requirement is breached. However, as the firms expand their activities in other securities, some of which maybe OTC instruments, there will be a need to introduce more sophisticated methods of capital adequacy.
313. In so doing and so determining the minimum levels of capital required to cover the Basel II risk buckets above, the regulator needs to take cognisance of the types of entities in their

²¹ The BIS was established in May 1930. It is the world's oldest international financial organisation. The mission of the Bank for International Settlements (BIS) is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks. (www.BIS.org)

²² These accords coordinate the regulation of global banks, and are "an international framework for internationally active banks". The accords are obscure to people outside banking, but they are the backbone of the financial system; the Basel Accords were created to guard against financial shocks, which is when a faltering capital market hurts the real economy, as opposed to a mere disturbance.

²³ The BIS has recently introduced a more strict regime known as Basel III which has increased the requirement for capital to be 12%.

market; the kinds of business they transact on the exchange; whether they have single or dual capacity; the kinds and quantum of risk to which they are exposed in their operations, not just their broking businesses.

314. In addition, the kind of clearing house structure in place will /may have an influence on the quantum and timing of the credit and market risks that a participant brings to the market and / or has to bear as a result of their client's and their own activities and thus the participant's required capital.
315. The reciprocity requirements of other country's regulators may also influence the Capital Adequacy regime and percentages that should be implemented. In this respect a larger market may require its participants to hold more capital for trades undertaken in other smaller less well regulated markets which do not have the same or a similar regime to its own. Should this occur those external participants now have additional costs of capital that will need to be recovered from their activity over and above the expected return which they had hoped to achieve. These additional costs could be the key variable which influences their decision to go elsewhere.

Regulatory knowledge required of their traders and compliance officers

316. One of the objectives of market regulation as set out in the IOSCO documents is investor protection through the strict application of regulation at two levels:
 - firstly, by the regulator on the participants either directly or through an exchange; and
 - secondly, by the participants on their own activities.
317. This latter aspect is undertaken by their traders and officers (management) being monitored (policed) internally by trained and suitably qualified compliance officers.
318. In order fulfil this objective; regulators require traders and compliance officers to pass recognised market exams. This requirement is not a test of their knowledge of the market pricing mechanisms; details of investment strategies, the detailed attributes / conventions and mathematics of the instruments traded and sold. These are the responsibility of the firm itself that their staff recruitment and training processes must address.
319. The regulator should only be concerned with ensuring that these traders and officers have a thorough knowledge of the regulations and that there is adherence to the agreed codes of conduct. In addition the exchange may have a requirement that the traders and compliance officers pass an exam covering market mechanisms and conventions and the basics of instruments.
320. Training courses may be run by a number of entities such as the regulator itself, the exchange, universities or independent third parties set up for this purpose. In some markets attendance at a training course is mandatory. In others the candidate does not have to demonstrate that they have attended a training course, simply that they can pass the examinations.
321. The examinations may be set by the regulator or the regulator may delegate this responsibility to an exchange or may recognise qualifications awarded by third parties such as The Financial Industry Regulatory Authority (FINRA) in the USA. The important issue for the virtual regional market is to ensure that all recognised qualifications represent an equivalent degree of expertise.
322. Traders and officers, including compliance officers and senior operational management, should be required to pass exams which are commensurate with their level of responsibilities and are usually given a stipulated time period which they are obliged to pass them. Should

these officers be unable to pass these exams within the stipulated time period(s) the firms are then adjudged to be in contravention of their license and are obliged to place a suitably qualified person in those positions.

323. The areas that the exams address on a detailed basis are as follows:-

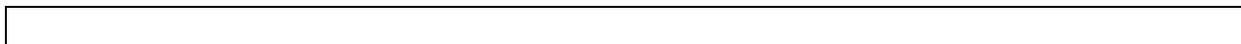
- a general understanding of the market, e.g. types of securities and basic financial ratios such as 'yield' and price earnings ratios;
- objectives of the specific market regulation, eg , the local securities markets legislation: including:
 - key features relating to equity markets;
 - awareness of the regulatory environment in which the firm functions;
- roles of key functions within the firm to ensure compliance;
- requirements for the appointment of 'fit & proper' persons;
- awareness of the specific obligations in terms of the relevant Codes of Conduct and other subordinate legislation, eg, Insider trading;
- the requirements to oversee and manage the compliance functions;
- maintain the license of the firm and ensure compliance with the license conditions;
- actions to be taken if the firm does not comply with the license conditions;
- verification procedures to ensure that proper record keeping activities are undertaken;
- client compliant handling processes; and
- knowledge of the operational requirements of the firm, encompassing:
 - trading, settlement and custodial processes and systems;
 - financial soundness and capital adequacy regulations;
 - financial reporting obligations (a detailed knowledge of the international accounting standards is the responsibility of the chief financial officer (CFO) and not that of the compliance officers); and
 - risk management processes and systems.

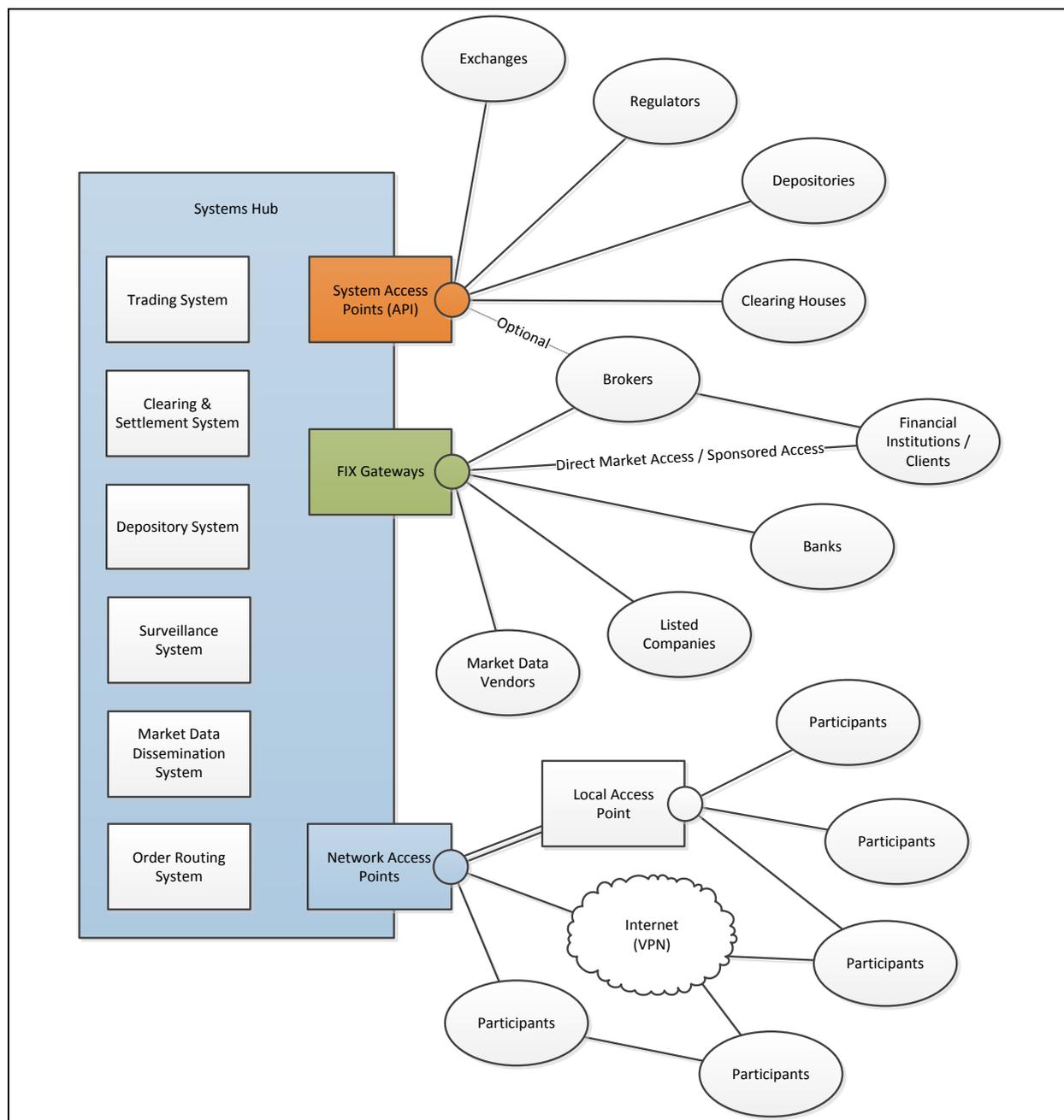
X. Recommendations for appropriate infrastructure and telecommunications network

Overall Design

324. The following (Figure 4) provides a logical view of the required system components and recommended options on connectivity by participants to the core systems:

Figure 4: System components and recommended options on connectivity





325. The above is based on an open flexible design that consolidates the various exchanges trading, clearing and settlement to a common platform as well as accommodating those markets which decide to keep their current systems (or intentionally prefer to stay apart).
326. A centralized common platform will provide trading in multiple separate markets each with their own structure, instruments, trading methods and order types. These will all be parameterized based on the rules of each market.
327. A solution that can cater to this needs to be able to handle multiple exchanges, multiple products, market segmentation and multiple trading methods. It will need to have connectivity links to multiple exchanges and multiple clearing and settlement systems. This all means the architecture and design has to have rule driven flexibility.

Systems Components

328. The following systems will be required to realize the model proposed in this report:
- Trading system to support trading by a number of exchanges with each having its own separate markets, products, order types, hours and other parameters. The trading system must distribute market data (prices, trades, ticker etc.) and limited company information (normal broadcast information). The trading system will have an interface to the clearing system (i.e. for risk management or to support trading limits) and to the depository (i.e. to support pre-validation of securities). Further details on the functionality for trading are provided in **Section 14** 'Trading System Requirements'.
 - Clearing system to receive trades from the trading system and any other markets and report them to clearing participants. A settlement system will allow settlement of trades entered into the trading system with separate settlement dates for each market and security type within the market. More details on clearing and settlement can be found under **Section 13** 'Requirements for Clearing, Settlement, Payment and Depository Systems'.
 - Depository system to store information on accounts controlled by brokers, institutions and custodians and the depository holdings that it controls. The system will provide statements, and allow enquiries about current and historical data. The depository system will interface to the trading system to support pre-validation of positions if required in certain markets. Refer to **Section 13** 'Requirements for Clearing Settlement, Payment and Depository Systems' for more details on depository functionality.
 - Market surveillance system to provide on-line surveillance to the exchanges and their regulators. The surveillance system will have an interface to the depository to enable short selling to be detected (if pre-validation is not implemented for some or all securities) and to identify links between account holders. **Section XV** 'determine the requirements for exchange and regulatory surveillance systems' details the expected functionality of the surveillance system.
 - Market data dissemination system to distribute market data (prices, volumes, indices etc.) and allow the, disclosure of financial company data and searching of company data. The system will make this information available on a centrally hosted website and also broadcast to commercial information vendors.
 - Order routing system will route orders to trading systems at exchanges that are not part of the common platform. This means the trade will happen outside the systems hub and a link will also be required to report the trade back into the market data systems so it can be disseminated on this platform.
329. Cost savings and efficiency gains can only be achieved by having the above core systems bonded as a cohesive whole at a particular hub or location.

Connectivity

330. The guiding principle in terms of connectivity is that access must be fair to all direct participants of the market; they must enjoy the same maximum response time and the same minimum access costs. The connectivity options should not discriminate against remote participants but they may have to accept a slightly slower response time due to the distance involved.
331. There is flexibility however in how all the operators and their participants connect to the central hub using the following connectivity options:

- System access points provide an API for administrating and managing the core system applications, e.g. the market control workstation or system administration functions. The API is also used to interconnect the core applications with functionality provided by client workstations, e.g. market surveillance workstations. Regulators, exchanges, clearing houses and depositories will all access their respective applications via system access point. As a result the security and bandwidth of this network will be higher. Some markets publish their API protocols should participants wish to develop their own interface to get enhanced or customs functions that would not be otherwise be available using standard protocols like FIX. This generally requires a sophisticated participant with high technical capability but also adds additional costs to the exchange as they will then have to support the API to the participant.
 - FIX gateway will use the standard FIX protocol to connect all participants (i.e. brokers, banks, financial institutions, listed companies, market data vendors, etc.) to the core applications to exercise their respective functionality. FIX has over the years become the sole method of connecting to a number of markets. Using FIX also makes it easier to attract international institutions to join the market as they will already have FIX infrastructure in place. This means that all brokers' order management systems will need to be able to connect using the FIX protocol. Smaller brokers who chose to operate using the supplied workstation from the application provider would connect using API or FIX (depending on how the workstation has been designed by the vendor). Furthermore, large financial institutions or investment firms may have direct market access to the hub via FIX under the responsibility of the sponsoring broker.
 - Network access points will extend the hubs reach across the Union. There are endless topologies that could be created to provide varying connectivity options and building layers of redundancy and resilience into the network. In jurisdictions where telecommunications infrastructure is easily available at reasonable cost then operators and participants could connect directly to the hub and only the backup link could be via a nationally located access point. The regulator or exchange in some jurisdictions could carry the participants by having a local access point at their site thereby reducing connectivity costs by having the entire market share one telecommunications link. In some countries where dedicated links are too costly then the internet could be used for connectivity over a VPN (for security). Smaller participants could potentially lease bandwidth from larger institutions or the operators themselves. For added resilience of the network, local access points could be connected to the hub using redundant links from different telecommunications providers. Telecommunications infrastructure in recent years has rapidly expanded in the Union and there are a host of connectivity options (be it direct leased lines, VSAT, internet or other mediums) and we do not foresee this to be an critical obstacle as it perhaps would have been a decade ago. A dedicated access point could also be used to connect the site to a backup site (preferably in a different country).
332. Having numerous connectivity options is how many regional markets have ensured success as no one option is workable for all operators and participants. In addition, this also enables the operators and participants to choose a mode that meets their cost justification.

Solution Options

333. In general, vendors for capital market systems can be segmented into tiers:
- Mega systems by Tier 1 vendors are very capable and actually operate a major market. Hence, in addition to the technological expertise, buyers of their systems also reap the benefits of their operational experience. Furthermore, the support mechanisms of these vendors are well established and experienced. The down side is that there is a hefty

premium for all this; acquiring the full package from a Tier 1 vendor can cost US\$ 10-20 million or more with 20% of this expected to be ongoing maintenance and support costs. Examples of Tier 1 vendors are NASDAQ OMX, NYSE Euronext and Deutsche Börse.

- Mainstream systems provided by Tier 2 vendors do not necessarily lack the functions and capability provided by their Tier 1 counterparts. The key difference between them and Tier 1 vendors is that they do not operate markets and are purely technology solution providers. Tier 2 providers have the largest number of implementations around the world for their systems which vary from mid-level to emerging markets. To purchase and install the required package from a Tier 2 vendor could run from US\$ 5 to US\$ 10 million. While this seems like a large spread, there are many variables to negotiate and each vendor provides a 'core' system which requires varying amounts of customization to meet requirements. Some examples of Tier 2 solutions are those offered by TCS and Millennium IT. Tier 1 vendors also provide smaller scaled systems which have traits and attributes to that of a system provided by a Tier 2 vendor. Examples would a scaled down solution offered by NASDAQ OMX such as the X-stream trading system for emerging markets versus their flagship Genium inet platform.
 - Emerging market systems by Tier 3 vendors target their systems at smaller developing markets that do not have the capital, expertise or needs for the main stream products. They tend to be implemented in small markets and have the benefit of running on simpler platforms, hence requiring less hardware and support. One would assume Tier 3 systems would have less features and functions but this is not always the case. The key differentiation between Tier 2 vendors is that they do not have a large pool of implementations. This is one main reason why Tier 3 vendors are very keen to sell their products (offering big discounts in some cases) since once they have done the customizations to meet your needs they can then sell those to the next client. In essence, their products get better and better after each sale and after enough implementations they essentially become a Tier 2 vendor. However, excessive customizations are always risky and should be avoided. Acquisition of a package from a Tier 3 vendor would cost approximately US\$ 0.5 to US\$ 2 million. Example of a Tier 3 solution would be that offered by InfoTech.
 - Micro exchanges by Tier 4 vendors are similar in nature as those of Tier 3; however these vendors target start-up or very small exchanges. These systems provide the basic and essential functionality any small exchange would require. Acquisition of a solution from a Tier 4 vendor is expected to cost around US\$ 0.3 to US\$ 0.8 million. Example of Tier 4 solutions would be that offered by Market Evolution.
334. Given the need for running multiple markets with different attributes on one unified platform it is likely that only Tier 1 or 2 suppliers²⁴ could provide the solution proposed in this report.

Operational Models

335. There are a number of ways the unified platform could be implemented to cater to all the jurisdictions in the Union. However we only recommend those that we feel are viable given experiences from other regional initiatives, e.g. one country like JSX hosting the systems would unlikely be a sellable concept. The following are the two options we propose:
- An independent market operator is established as a technology company that provides trading, clearing, settlement and depository services to member exchanges, clearing houses and depositories and which hosts the hub at a data centre in one location (hosted

²⁴

This report is not advocating any particular supplier and the names mentioned are a select few as examples only.

model). The hub will require independent personnel to maintain and support the common applications and the physical data centre. Staff from each member could also be stationed at the hub to control and manage their sub-market. A solution from a Tier 1 or 2 vendor could be utilized in this model. It is likely this will mean a typical acquisition of hardware and licensing of software along with typical support and maintenance contracts. Although the vendor will support the solution and provide ongoing bug fixes and updates, this model still provides more autonomy to the operator and less dependence on the vendor.

- The required services of the unified platform are provided by a vendor (outsourced model). This in itself could be undertaken in various ways, i.e. the vendor establishes the physical hub infrastructure in the region (managed services) or provides these services hosted from its home market (Software as a Service - SAAS) or a combination of these. Only a Tier 1 vendor could provide such solutions. The vendor will be required to make substantial upfront investments and would sign a long term contract whereby it is paid an annual fee, a transaction fee or a combination of both. The vendor in return will be responsible for all operations and ongoing maintenance of the systems. Any further customizations would have to be paid for or negotiated separately to the services contract. The advantage in this model less upfront costs versus the system acquisition route.
336. Even the above two options could be combined, i.e. the vendor takes an equity stake in the operator company or the vendor could establish the hub, operate for a number of years and then transfer operations to the created entity (BOT model). All these options are viable and should be considered and pursued. The end model will be based on the available expertise and resources along with the political will of the member countries at the time.
337. Where technology is outsourced the risk that the technology supplier will go into liquidation or become unavailable for some other reason must be considered and appropriate action taken to mitigate this risk. The mitigation factors include:
- undertaking due diligence on the supplier before signing a contract;
 - ensuring that the source code will be available in an escrow account in the event of the supplier becoming bankrupt (through the use of an escrow account);
 - including knowledge transfer to a local technology supplier (which may be one of the exchanges) in the contract.
338. Whether the system is outsourced to a third party or hosted by one of the participating regional exchanges it will be important to mitigate against geographical (or political) risk. The back up of the main system should be in a different geographic location (i.e. in a different country) and the transfer from main to standby site should be regularly tested (swapping backup site and running it as primary for some elapsed time could be considered to ensure full interoperability).

XI. Recommended Requirements for clearing, settlement, payment and depository system for the virtual regional market

Introduction

339. Once a trade has been executed, the trading rules of each exchange will require that the trade is settled within a specified period of time. In most markets trades are settled through an associated clearing and settlement mechanism.
340. Efficient clearing and settlement systems are very important to attract institutional and international investors to a market. There are four basic steps between a trade in a security and the ultimate discharge of liabilities between all the parties concerned (settlement). These steps are:

- establishing liability for settlement (Clearing);
- moving securities between the participants to a trade (settle stock);
- moving money between the participants to a trade (settle funds);
- moving legal ownership of the securities.

Legal basis for clearing and settlement

341. It is very important for the orderly operation of the market that the point at which a market trade is settled and thus the liability between the parties is fulfilled is very clear. Thus the legal system in each country in the region should:

- recognise the legality of ‘novation’ if a central counterparty is used (see the Section below entitled ‘Central Counterparty’);
- permit securities to be ‘dematerialised’ within a depository; and
- explicitly recognise that once securities have been moved from one account to another in the depository that such a movement constitutes a legal transfer of ownership; such a recognition may supersede any requirement in the Companies Act for transfers of ownership to be evidenced by a signed transfer or the issue of a share certificate.

Settlement Date

342. Current international best practice is for settlement to take place on T+3 in equity markets and T+0 or T+1 for debt markets. It is not essential for the markets within a virtual regional market to have the same settlement date but it will encourage cross border investment if the investor is familiar with the market practices.

343. When deliberating on which settlement period to implement and in particular where cross border settlements are required, cognisance should be taken of the standard settlement period for foreign currency, of T+2, where an investor may need to buy local currency to settle a transaction.

Settlement

344. Settlement of securities in most countries takes place on the basis of delivery versus payment. Delivery versus payment (DvP) was defined by G30 and modified by ISSA²⁵ as: *Simultaneous, final, irrevocable and immediately available exchange of securities and cash on a continuous basis throughout the day.*

²⁵ G30 is a private sector group concerned with the workings of the international financial system. To address the perceived problems, G30 formed a committee of members from the banking and broking industries plus the stock exchanges and clearing organisations. The objective was to create the impetus for change and in 1989 they published a list of nine recommendations in their report ‘Clearance and Settlement Systems in the World’s Securities Markets’.

The International Securities Services Association (ISSA) was formed in 1979 by a group of international banks involved in the securities industry and has four principal objectives:

- the promotion of progress in securities administration;
- the contribution to a common language among securities administrators and the opening of communication channels between them;
- the development of personal contacts among securities administrators;
- the enlargement of professional knowledge on securities administrators.

To these ends, ISSA holds biennial symposia to discuss various areas of interest and make recommendations where appropriate.

345. Whilst this remains the international definition of DvP it is accepted that not all payment systems are currently capable of meeting the requirement related to ‘a continuous basis throughout the day’.
346. In its report on Delivery versus Payment in Securities Settlement Systems published in September 1992, The Bank for International Settlements (BIS) identified three models by which settlement systems achieved Delivery versus Payment:
- **Model 1:** systems that settle transfer instructions for both securities and funds on a trade-by-trade (gross) basis, with final (unconditional) transfer of securities from the seller to the buyer (delivery) occurring at the same time as final transfer of funds from the buyer to the seller (payment).
 - **Model 2:** systems that settle securities transfer instructions on a gross basis with final transfer of securities from the seller to the buyer (delivery) occurring throughout the processing cycle, but settle funds transfer instructions on a net basis, with final transfer of funds from the buyer to the seller (payment) occurring at the end of the processing cycle.
 - **Model 3:** systems that settle transfer instructions for both securities and funds on a net basis, with final transfers of both securities and funds occurring at the end of the processing cycle.
347. Provided the settlement system employed by the virtual regional market complies with one of these models then it will meet international standards.

Clearing

Establishing liabilities

348. The role of a clearing house is basically to establish liabilities between participant firms and to ensure that those liabilities are ‘met’, i.e. that trades are settled. The rules of exchanges require that participating firms are responsible to each other for the settlement of transactions, even if they have not received securities or cash from their clients. Thus the role of the clearing house is restricted to establishing liabilities between participant firms whether they are acting as agents or principals.
349. Where exchanges settle on the basis of Model 1, settlement takes place on a trade for trade basis and therefore the reports produced by the clearing house establish details of the trades between participating firms.
350. Where the exchange settles on the basis of Model 2, settlement takes place on a net basis for cash but a gross basis for securities. In this case the clearing house is responsible for establishing the net liability.
351. Where the exchange settles on the basis of Model 3, settlement takes place on a net basis for both securities and cash. In this case the clearing house calculates the net settlement amount for each participating firm for each security and for each currency.

Central counterparty

352. In some markets the clearing house also acts a central counterparty (CCP). In this case the clearing house steps in to the trade as a direct participant so that a trade between firm A and firm B becomes a trade between firm A and the clearing house and a separate trade between the clearing house and firm B.

353. In traditional ‘mutual’ exchanges where the owners and the participating firms are the same the clearing house was normally an integral part of the exchange. The ‘members’ contributed over many years to a fund which was used by the exchange to ‘guarantee’ the trades between members. In other markets, clearing is managed by a separate entity. In Europe this could be LCH.Clearnet or the European Multilateral Clearing Facility (EMCF).
354. The regional markets in Africa could approach a group of regional banks to provide such a facility if a CCP facility is required.

Counterparty risk

355. Some markets do not settle on the basis of a central counterparty but include risk management facilities within the trading system. In these markets each participant can set a net counterparty limit for each other participant and the trading system monitors that this net trading limit is not breached by reducing the trading limit for each purchase and increasing the trading limit for each sale.
356. This mechanism works well where all the market participants are well capitalised entities which are known to each other. It can also work in markets where some participants are less well capitalised but in this case it may be necessary for the smaller firms to use bank guarantees.
357. This method may also be used for block transactions (large transactions made directly between two counterparties) in markets that use a central counterparty or multi-lateral netting for normal market trades

Bank guarantees

358. In other markets each participating firm is required to obtain a guarantee from a recognised settlement bank. The bank may set a net limit for each of its clients (i.e. each participating firm) and the trading system then prevents the participating firm from trading if that limit is breached. The bank is given the facility to change the limit for each of its clients at any time. If the bank reduces the limit and the participating firm has already exceeded the new limit then the participating firms can only sell until its net trading balance is within the new limit.
359. Thus each settlement bank is taking risks against the other settlement banks within the system. This mechanism can work well subject to proper concentration risk limits being set by the regulator and included in the capital adequacy requirements for banks by the bank regulator.

Failure to settle

360. The Clearing House is responsible for maintaining rules concerning the actions to be taken if a participating firm fails to settle and for initiating the necessary actions if this happens. These actions may be:
- to suspend the participating firm;
 - to call in bank guarantees;
 - to initiate a ‘buy in’ of securities so that the market can achieve complete settlement as rapidly as possible; and
 - or such other actions as the rules prescribe.

Depository

361. A secure and efficient depository is one of the key components of a successful securities market. It is also an example of a facility where the development and operational costs are

largely fixed and are therefore independent of the volume of transactions. This means that the unit cost to users is reduced if the volume of transactions can be increased. Thus the development of a single depository for the regional grouping should be able to achieve substantial cost savings.

362. However, as can be seen from the European model, it is possible, at least in its initial stages for each market to have its own depository.
363. The depository should hold securities in dematerialised form and transfer them by book entry transfer following receipt of an instruction from the associated exchange or clearing house.
364. In some markets brokers are required to enter the depository code which relates uniquely to an underlying investor. This is helpful to the surveillance department as it is possible to trace all orders and trades back to the investor that initiated them. However, this is less useful in markets with institutional players. International banks and fund managers may trade for a variety of customers and may hold securities in what are known as omnibus accounts. In this case the depository holds securities to the order of the intermediary or custodian that is a participant in the depository and the participant holds details of the holdings of each of its customers (investors).
365. However, as the capacity of computer systems has increased, so depositories (particularly in emerging markets) are providing facilities for the securities to be held to the order of the individual customer. This has the benefit that the investor is not reliant on the intermediary or custodian for information concerning their holding but can receive information direct from the depository. It should be noted however, that only the participant firm (i.e. the broker or custodian) can give instructions directly to the depository.

Payment

366. Deepening of capital markets has to be backed by strong and robust banking systems.
367. Payment for transactions is made in the currency of trading. A participating firm that is dealing in a remote market in a currency other than the currency of its home country is responsible for effecting any necessary currency conversion, e.g. if the customer wishes to pay or receive fund in one currency but the securities are traded in another currency then the intermediary is responsible for the currency conversion.
368. Payment takes place between the participating firm and either the clearing house or the depository, depending on the mechanism in any particular market. Payment may take place between commercial banks or the central bank may become directly involved.
369. Facilities must be in place to enable foreign exchange transactions to take place to settle cross border stock exchange transactions.
370. Whatever mechanism is used it is important that there is a same day payment system and that payments can be guaranteed by the end of each settlement day. A real time gross payment system (RTGS) can be a very significant asset to the settlement of securities transactions and therefore should be implemented in each country if possible.

XII. Trading System Requirements

371. This section specifies the basic requirements for a market trading system that can be used on a regional basis, including risk management facilities.

Automated Trading

372. In order for firms to trade remotely into the market it is important for all exchanges to implement an automated trading system. Such systems are now widely available from a variety of software suppliers and have been developed for both small and large markets. Many software suppliers are prepared to offer innovative solutions to the cost issues, for example by installing and operating the system on the basis of a per transaction fee or by staggering payments.

Technical Access

(see also Section X – Recommendations for appropriate infrastructure and telecommunications network)

373. The trading system must permit remote access and provide equal access for all participant firms. Where an exchange currently operates an automated system but located on a trading floor that floor may be maintained provided participant firms operating remotely have equal access.
374. Access should not be restricted to messages entered into a workstation with software supplied by the exchange but should be available through an Application Programming Interface (API). To assist participating firms who access a number of markets in a region, the access should be standardised through an international protocol, such as FIX²⁶.

Market Structure

375. The vast majority of markets operate on the basis of automated order matching. In this type of market, participating firms enter orders either on their own behalf or on behalf of their customers. If there is an opposing order then the entered order is executed. If there is no opposite order then the entered order is queued in price time priority.
376. Where the market is quite liquid then order matching can take place continuously throughout the trading day. However, where a security is illiquid then the orders may be collected during a specified period and then all executed at once. This mechanism is usually known as an ‘auction’ market. Exchanges will often offer both continuous trading and auction sessions, depending on the security being traded.
377. In addition to order matching many markets also support a market making system. Market makers are firms that trade on their own behalf and commit to making continuous buy and sell prices (quotes) in a minimum size in a specified range of securities. As compensation for providing liquidity to the market, the market maker’s quotes execute ahead of ordinary buy and sell orders. In less developed markets the facility to accept quotes and to monitor the activities of market makers is a ‘nice to have’ rather than a basic requirement. Many commercial trading systems are able to support order matching and market making systems simultaneously. Quotes appear as a continuously renewable limit order – like an iceberg order.

Order Types

²⁶ The **Financial Information eXchange (FIX) Protocol** is a messaging standard developed specifically for the real-time electronic exchange of securities transactions. FIX is a public-domain specification owned and maintained by FIX Protocol, Ltd. The FIX Protocol specification is maintained by the FIX Technical Committee, which receives its direction from the international Steering Committees, the Global Steering Committee, and the various Working Groups comprised of industry participants such as fund managers, brokers, exchanges, and vendors. (<http://fixprotocol.org>)

378. The trading system should support a wide range of order types and should be parameter driven so that different order types can be supported for different securities or types of securities.
379. The order types should include (but not be limited to):
- Limit orders; the order should execute in whole or in part against equal and opposite orders; any unexecuted quantity should be queued;
 - Market orders; the order should be executed against opposite orders with the best prices; the market parameters should determine whether any unexecuted portion is rejected or queued;
 - Orders of different durations; orders may be:
 - good for the day;
 - good for the week;
 - good for the month;
 - good till a specified date and time;
 - good till a specified time on the day of entry;
 - good for a specific session (see the Section below entitled ‘Market sessions’);
 - orders with minimum quantities:
 - all or none; the total quantity of the entered order should execute against opposite orders; the order stays in the queue until it can execute in its entirety;
 - fill and kill; the entered order should execute for the maximum quantity possible against opposite orders; any unexecuted balance should be rejected;
 - fill or kill; the entered order should execute for the total quantity immediately it is entered or the whole order should be rejected;
 - hidden orders; these orders normally have a minimum quantity specified so that only large orders are eligible; only a portion of the order is displayed on the order book at any time;
 - negotiated orders; this type of order is used to report a trade which has been agreed between two counterparties outside of the central system;
 - stop loss orders; these orders have a ‘trigger’ price and the order is only entered into the order book when the existing price (bid, offer or last traded) reaches the trigger price; and
 - private orders; these are usually available where orders are being entered through a workstation (rather than through a protocol such as FIX); these orders are entered into the workstation but not into the central order book, until the trader uploads them; the advantage is that a range of orders can be uploaded with one key stroke.

Order Parameters

380. The system should support a range of order parameters, such as:
- maximum quantity size
 - minimum quantity size
 - tick size (related to price).
381. The system should also support different pricing conventions, i.e.
- unit pricing for equities;
 - percentage of nominal value for bonds;
 - yield based pricing for bonds.

Order Actions

382. The trading system must facilitate the following order actions:

- order amendment;
- order withdrawal (the order is withdrawn into the private order book); and
- order cancellation.

383. The system should facilitate these procedures with a minimum number of key strokes if a workstation is used. Thus the participant firms should be able to:

- withdraw or cancel one or multiple orders; and
- increase or decrease the price of one or multiple orders by a one or more ‘ticks’ (a tick is the minimum price change that is permitted by the system).

Markets and Boards

384. The trading system should facilitate the operation of many boards or markets through the setting of parameters at an individual security level. This is particularly important when we are considering operating a number of different national markets on a regional platform.

385. Most exchanges permit trading on more than one market (or board). In some countries, small and medium sized enterprises are traded on a different market, e.g. in the UK the LSE trades main board securities and the AIM market lists and trades small and medium sized enterprises. In other countries companies with a lower market capital may be traded on the same market but on a separate board.

386. In some markets both bonds and equities are quoted. In these cases the bonds may be traded on a separate board or the bond market may be established a separate market.

387. Some markets with a large number of institutional customers may operate a board with a high minimum quantity requirement (large trades board). Alternatively this market can be structured as a separate Multi-lateral trading facility (MTF).

388. Whether the different securities are traded on different boards or on different markets it is possible for the same, parameter driven, trading platform to be used.

Market session

389. The trading day is normally divided into a number of different sessions which have different trading rules. These sessions may be:

- Opening enquiry; during this session participant firms may view and withdraw their outstanding orders; they may also enter private orders if these are available;
- Pre-open (Order entry); during this session participant firms may enter orders into the order book but they are not matched; the system may calculate and display an equilibrium price during this session; an equilibrium price is the price at which the maximum number of orders can be matched;
- Opening session; at this point the system attempts to match the maximum number of orders at a single price;
- Continuous trading; this session follows immediately after the opening session and orders are matched on a continuous basis;
- Auction trading; this is a session similar to the opening session but may be auctioned during the day for particular securities;
- Closing session; many markets operate a closing session, this is similar to the opening session and is used to calculate a closing price; orders may be entered specifically for matching during the closing session;

- Last traded; during this session orders may be entered at the closing price or between the closing spread if there is no closing price; and
- Closing enquiry; during this session, good for the day orders are automatically cancelled and participant firms may withdraw other outstanding orders; they may also obtain reports and statistics.

Investor accounts/Pre-validation

390. Some markets require that the participating firm enters the identity number of the depository account through which settlement is to take place. In other markets the broker must simply supply the investor code to the depository before settlement takes place. If short selling is forbidden and the broker is required to enter the depository code the trading system is able to validate sold orders to ensure that securities are available for settlement before accepting the order. This pre-validation must not significantly slow the process of order acceptance and matching.

Circuit breakers

391. The rules of most markets permit trading to be suspended if prices on the market increase or reduce by a specified percentage. The trading system should provide a range of market management facilities which enables parameters to be set for automatically suspending the whole market or individual securities for a period of time.

Indices

392. The trading system must support the calculation of a range of indices. It must be possible to calculate both price weighted and capitalisation weighted indices.

Corporate Actions

393. The price of securities is adjusted when the listed company has a corporate event. Corporate events could be:
- the payment of a dividend or interest (whether cash or securities);
 - a subdivision or a consolidation;
 - a bonus (scrip) issue;
 - a merger or de-merger (spin off);
 - acquisitions; and
 - a rights issue.
394. The trading system should automatically adjust the closing price on the ex-event date of the event. It should also cancel any outstanding transactions and adjust the basis for any index in which the security is included.

Risk Management

395. The trading system should have the ability to monitor net trading positions for each participant firm. Depending on the clearing system selected the following positions may need to be calculated:
- a single net position for each member firm; this could be used where there is a central clearing house (CCP) or where each firm has a bank guarantee; and

- a net counterparty position for each pair of firms; this is used if each participant firm takes counterparty risk against the firm with whom it deals.

XIII. Recommended inter-action between the various regulators and the exchange

Introduction

396. It is axiomatic to say that the relationship will be different at the various levels of interaction dependent on the circumstances and this will influence the information exchanged and decisions and feedback requested / required.
397. The relationship has to be one that works for the benefit of the market and great care should be taken to avoid a situation where the regulator could be perceived “to have been captured” by the exchange and is thus, at its “beck and call”. Conversely the regulator must avoid becoming involved in the day to day operations of the exchange or in the commercial aspects of the exchange’s business. The role of the regulator is essentially to protect the public interest.

Levels of interaction between the regulators and exchange

398. The regulator will have interaction with the exchange at both a legal and operational level. These interactions are discussed below.

Legal

399. Where the exchange issues new directives or interpretations of the rules in response to changing market conditions and/or the activities of participating firms there will be continuous interaction between the exchange and the regulator. This is particularly so where the financial market legislation requires the formal approval of the regulator to these directives. In the converse where this is not required the exchange will usually ensure that the regulator is fully informed so that it is able to address any concerns or objections which may be directed its way.
400. The regulator is responsible under the country legislation to approve the prospectus relating to public offerings of securities. Where the securities are to be listed at the time of the initial public offering the exchange’s listings people will have a continuous relationship wherein, for example, there is a continuous interchange between the regulator and the exchange on specific aspects of the listing, until the former is satisfied and the prospectus is approved and the planned listing process can move forward.
401. Where the listing relates to further issues of shares, which are already listed, the regulator may delegate the responsibility for approving the prospectus, to the exchange.

Operational level

402. The type and extent of the interaction on an operational level will depend on a number of things, for example:
- where, as is usual, the exchange is responsible for daily market surveillance of trading activity it may have an obligation to report to the regulator every week or every month on the volumes and values traded, which would include a report on any unusual/ suspicious

activity; in the converse where the regulator is responsible for market surveillance it would be in regular contact with the exchange to investigate any unusual / suspicious activity: these investigations may evolve into insider trading or market abuse hearings;

- the same process will apply equally where risk management / margining surveillance is operated by the exchange with its own clearing house; in this case the clearing house may be required to report where participant firms fail to meet their commitments;
- where there is a separate central counterparty clearing house that entity may have, as part of its license conditions, a reporting obligation to the regulator as above; and
- the exchange may have a reporting obligation to the regulator on the success of the settlement cycles or conversely only when there is a failure of a settlement, irrespective of the fact that it might not be responsible for the settlement processes.

License renewal process

403. In some exchanges the annual license renewal is a formal process wherein the exchange is obliged to report to the regulator on the conditions set when the license was granted or last renewed. The renewal process is usually described in the regulations that have been issued by the regulator in terms of the legislation.
404. In other markets the renewal is automatic provided the exchange submits an annual report on its activities and any licensing requirements.
405. It is usual for there to be permanent conditions to which adherence is required every year, for example; regular reporting of financial results; regular reporting of investigations and results and actions taken against perpetrators; reporting of the results of compliance audits of participant firms' operations with respect to their own adherence to the exchange's rules for presence of qualified compliance officers and traders etc.
406. On the assumption that the ongoing relationship works successfully the regulator would have received all the required reports across the license period and so the renewal process should be a smooth one.
407. There are usually license application and renewal fees paid each year which goes some way to financing the regulator costs. A cautionary note should be raised though. These fees should not be set too high for this could be seen, firstly, as a barrier to entry for new potential applicants, or secondly, to be yet another unjustified tax. It is interesting to note that the current incumbent exchange may encourage or favour such a high license fee as it knows that it will discourage the arrival of potential competition. This could be termed as a regulatory imposed barrier to entry.

XIV. Recommended Requirements for exchange and regulatory surveillance systems

Introduction

408. In addition to good rules and regulations, it is very important that exchanges and regulators have access to systems that allow them to monitor that participant firms and investors are complying with both the letter and the spirit of the rules and regulations.
409. As we explained in under in the Section above entitled 'Determine the requirements for interaction between the various regulators', the responsibility for surveillance can be split between the regulator and the exchange in a variety of ways. This section does not set out any particular allocation of responsibilities but specifies the basic requirements for an automated surveillance system that could be used by both exchanges and regulators.

410. Surveillance systems should be easy to use and easy to configure and customise. As markets develop, they may be subject to business and regulatory change. It should therefore be possible to easily adjust the surveillance system for such changes and to add new risk areas.

Input

411. The surveillance system should be capable of taking input from all of the exchanges in the regional grouping and from the associated depositories.
412. The exchange's systems should supply full details of all orders and trades, together with all changes (amendments, cancellations, etc.) to such orders. The depository should provide details of the investors who have executed such trades. The surveillance system must permit the holding of 'connections' between investors to assist in detecting insider trading and attempted market manipulation.

Functionality

413. The system must permit surveillance staff to enquire about the status of the following:
- all orders in the system;
 - cancelled orders;
 - amended orders;
 - matched orders including negotiated trades;
 - open orders by participant firm;
 - orders from individual account holders (open, amended and cancelled); and
 - market depth, i.e. all orders by security.
414. The surveillance system should be able to calculate benchmarks for normal trading behaviour for both participant firms and securities.
415. Surveillance staff will need to be able to configure 'alerts' in the following areas:
- Prices:
 - closing price: to detect large price movements;
 - intra-day movement; to detect large differences between high and low prices;
 - standard deviation day price; to detect abnormal price differences;
 - intra-day price movements; to detect large price movements between two trades; and
 - marking the close; to detect large differences in price just before the close (market manipulation of this type is often known as - ramping, painting the tape or window dressing).
 - Turnover/Volume:
 - turnover amount: to detect turnover above a certain amount;
 - turnover day average; to detect unusually high turnover;
 - turnover day, standard deviation; to detect unusually high turnover;
 - turnover day, standard deviation by participating firm; to detect unusually high turnover for a participating firm;
 - volume day – average; to detect unusually high volume; and
 - turnover – underlying amount; to detect high turnover in different instruments with the same underlying security (e.g. convertible bonds or other derivatives).
 - Others:

- press Release; used to detect if the instrument being traded has a new press release; this could indicate insider trading (otherwise known as scalping);
- cross trading (client); used to detect if a single client (or associated persons) are selling and buying the same security (known as a wash trade);
- cross trading (participating firm); used to detect a participating firm acting as both buyer and seller for the same trade;
- front-running; used to detect when a participating firm may be trading ahead of his clients;
- member volume; used to detect when an investor had a high turnover compared to the total quantity of issued or tradable shares (this should normally be disclosed under the rules);
- order spread; to detect orders that are far out of the spread, which can be signs of orders that are not intended to be matched;
- order short time; to detect orders that are withdrawn immediately (this is known as spoofing or layering);
- pinpoint order; is used to follow all orders for a specific participating firm or client;
- pinpoint trade; is used to follow all trades for a specific participating firm or client;
- intra-day buy/sell; is used to detect if a client tries to buy and sell the same instrument on the same day;
- short selling; to detect short selling;
- combination clients; to detect transactions made between two clients (this could indicate a conspiracy by the two clients to manipulate the market); and
- market maker pricing; to detect if a market maker is not meeting his obligations.

416. The surveillance system should also provide information on a participating firm's exposure to:
- a single client; and
 - a single security.
417. The surveillance system should be capable of searching by any criteria and replaying market events both in a real time and a historical basis on an action by action basis.

XV.

XVI. Legal instruments for establishing a virtual Regional Stock Exchange

418. This section presents proposals for a legal and regulatory regime to support the structure and systems recommended for the proposed Pan African stock exchange. The proposed structure envisages a gradual approach to an integrated stock market for the region starting with on-going integration efforts at the sub-regional level.
419. The legal and regulatory regime to support this structure will allow participating countries to retain their own specific regulations and rules while agreeing on minimum standards for the issuance, trading, clearing and settlement of securities as well as accounting and audit standards, disclosure, and corporate governance standards, in order to promote minimum standards in all participating markets. This should help promote the free movement of securities, capital, and relevant financial services across participating countries in a manner that protects investors, protects the efficiency and integrity of the market and prevents systemic risks.

420. Under the proposed model, securities offerings would be regulated by the regulator in the issuer's "home" jurisdiction. Regulators must permit the marketing of securities in all markets in the group once it is approved in one of the markets, and existing laws and rules that require regulatory approval for marketing of securities in every jurisdiction even if already approved in one participating market, will need to be amended. Agreed baseline disclosure requirements acceptable to all participating regulators would need to be incorporated in the proposed regulatory changes to ensure that once approved in one market, securities could be marketed in all other participating markets. Once a security is approved for public issue then, under the model, the issuer can apply to list on any exchange in the group and should be accepted providing it meets the listing requirements of that exchange.
421. Once licensed they would be able to access any market in the group provided they meet any technical requirements set by that exchange. Once again laws and regulations that restrict access to the domestic markets would need to be changed.
422. Currently, different legal systems exist in the region. These are:
- the common law tradition for English-speaking countries;
 - variants of the civil law tradition such as French civil law (for former French colonies), Spanish civil law (Equatorial Guinea), Portuguese civil law (for the five former Portuguese colonies), Belgian civil law (Democratic Republic of Congo);
 - a system combining both common law and civil law traditions (such as in Botswana, Cameroon, Mauritius, Namibia, and South Africa; and
 - a combination of some of the above systems and Islamic law (in countries like Algeria, Egypt, Morocco, and Nigeria).
423. Furthermore, a total of sixteen French-speaking West and Central African countries have adopted the OHADA²⁷ harmonized system of business law since 1993, with harmonized company, securities, contract, bankruptcy and insolvency, and accounting laws, among other things, and a supranational court that enforces such laws across member-countries. The OHADA system of laws is undergoing constant review including a recent amendment to the law governing the creation, perfection, and enforcement of security interests approved by the Council of Ministers of OHADA member states in December 2010²⁸.
424. While not necessarily a bar to harmonization of securities and related laws, the different legal systems operating in the region today have different implications for the way corporate issuers are set up, owned, and governed, how collective investment schemes such as mutual funds may be organized, and how securities may be distributed and traded. It is critical that these and other implications be identified by participating countries and common standards relating to corporate governance, disclosure, accounting, enforceability of securities contracts, among other things be agreed²⁹.
425. Interconnected financial markets may have significant benefits for the region, but may also increase systemic risks for individual markets and for the region as a whole if not properly supervised. For example, lack of appropriate rules or enforcement of rules regarding clearing and settlement of securities trades in one or more participating markets, may have ripple

²⁷ Organisation pour l'Harmonisation en Afrique du Droit des Affaires" or "Organisation for the Harmonization of Business Law in Africa"

²⁸ The changes took effect in May 2011.

²⁹ For instance, OHADA law does not recognize the concept of "trustee" such as exists under English law, however in the 2010 amendment the concept of a "security agent" was introduced whereby designated credit institutions could be vested with special powers similar to those of trustees to create, maintain, and enforce collateral security on behalf of secured creditors.

effects in more than just those markets. Likewise manipulative trading practices if not checked might have repercussions for more than one market if trading is carried out by a broker/dealer in multiple markets. Recent trends in financial crises around the world have shown that liberalized and interconnected financial markets may spread such risks faster through contagion effects. Furthermore, the presence of systematically important financial institutions (SIFIs) participating in the regional market will pose systemic risks for the region should there be failure of any such institution. This has drawn renewed attention to the need to adopt system-wide regulatory measures to monitor and address risks as well as increase cross-border regulatory coordination to address cross-border risks especially those posed by financial institutions (especially SIFIs) that operate in more than one market.

426. In addition to its thirty principles of securities regulation, IOSCO³⁰ introduced eight new principles in 2010 (see Figure 5) reflecting an emphasis on disclosure and transparency at the product and market levels to help identify and mitigating systemic risk, as well as improved regulatory supervision of business conduct to help manage conflicts of interest and the build-up of undesirable incentive structures.

Figure 5: New IOSCO Principles on Systemic Risk

<p>Principle 6: The Regulator should have or contribute to a process to monitor, mitigate and manage systemic risk, appropriate to its mandate;</p> <p>Principle 7: The Regulator should have or contribute to a process to review the perimeter of regulation regularly;</p> <p>Principle 8: The Regulator should seek to ensure that conflicts of interest and misalignment of incentives are avoided, eliminated, disclosed or otherwise managed;</p> <p>Principle 19: Auditors should be subject to adequate levels of oversight;</p> <p>Principle 20: Auditors should be independent of the issuing entity that they audit;</p> <p>Principle 22: Credit rating agencies should be subject to adequate levels of oversight. The regulatory system should ensure that credit rating agencies whose ratings are used for regulatory purposes are subject to registration and ongoing supervision;</p> <p>Principle 23: Other entities that offer investors analytical or evaluative services should be subject to oversight and regulation appropriate to the impact their activities have on the market or the degree to which the regulatory system relies on them; and</p> <p>Principle 28: Regulation should ensure that hedge funds and/or hedge funds managers/advisers are subject to appropriate oversight.</p>

427. The key instruments for ensuring a supportive legal and regulatory environment for the proposed virtual regional market structure would include:
- A Memorandum of Understanding (MoU) be signed by participating regulators; and
 - an MoU to be signed by participating exchanges in the region.

³⁰ IOSCO Objectives and Principles of Securities Regulation – June 2010 (see Appendix C).

428. Such MoUs would facilitate understanding as to regulators and exchanges retaining their regulatory autonomy and their domestic legal regimes so long as they meet agreed minimum standards.
429. The memorandum of understanding to be signed by regulators should aim at:
- Providing a common platform, based on international standards, for establishing the goals of regulating a virtual regional market including the goals of protection of investors in individual countries as well as in the entire regional market, promoting the efficiency and integrity of the market, and reducing system risks.
 - Agreeing standards and regulatory requirements for public offerings of securities. While most regulators in the region use the disclosure based model for approving public offers, some rely on merit-based requirements especially for the bond market under which profitability and leverage ratios among others must be met in order to issue bonds to the public. Consistency in approach is critical for promoting common standards in this regard and investor confidence. Also the role that credit ratings may play in bond markets must be considered and agreed on if possible. Some minimum standards for regulating credit rating agencies would also be useful to agree.
 - Clarifying the mode of disclosure by listed companies on each market, to ensure that all investors get equal access to material information and are not disadvantaged by distance and failure in communication through postal or technology weaknesses. Currently most countries in the region require issuers to mail general meeting notices and dividend cheques to investors at their addresses on record. With the weaknesses of the postal systems in the region, this may result in a situation where some investors never get their notices or cheques at all or in a timely manner. Also a complete reliance on technology to disseminate material information or notices may work to the disadvantage of some investors. Regulators must therefore ensure that issuers and exchanges have disclosure mechanisms that ensure that all investors (including overseas investors) obtain material information on a time timely basis.
 - Amending listing requirements and/or recognition requirements for depositories to require issuers and/or depositories to organise the payment of dividends, interest or other investment income to registered securities holders or their nominee accounts in a timely manner.
 - Agreeing mechanisms by which broker/dealers, in one participating jurisdiction may be able to access exchanges and related systems (depository, clearing and settlement) other in other participating jurisdictions; ideally such a 'single passport' would be unrestricted, however, in the initial stages it would be acceptable for the regulations to restrict overseas broker/dealers from competing for clients with local broker/dealers in those remote jurisdictions.
 - Setting out rules to be maintained by national regulators and common standards to be adopted by each regulator to provide a basis of equivalence and mutual recognition. Common minimum standards must be agreed for adoption based on international standards such as the IOSCO thirty plus eight principles of securities regulation as well as the OECD and the Commonwealth standards on corporate governance.
 - Clarifying regulatory roles of home country regulators versus host country regulators (the regulator in a market other than the operator's home jurisdiction) in relation to broker/dealers especially those that are systemically important to the region. For instance, while it may be advisable for the home country of a market participant to retain

regulatory/supervisory authority over a broker/dealer, it is important to agree what immediate action a host regulator could take to enforce standards in its jurisdiction if a broker/dealers action is in violation of its rules. There is the need for participating regulators/supervisors to identify and agree on systemically important broker-dealers and other related institutions participating in the market and agree a common regulatory and supervisory regime to be applied to such entities so as to reduce the potential for systemic risk. Furthermore, regulators must agree in advance the extent to which the host regulator may be able to “ring-fence” assets of a broker/dealer in its home jurisdiction (in the event of its failure/insolvency) to ensure payment of liabilities owed by such broker/dealer to investors in the host jurisdiction should be agreed on.

- Improving coordination, information sharing among regulators, standards for cross-border enforcement. It should be a requirement for each participating regulator to have signed the IOSCO MMOU³¹ for cross-border cooperation and information sharing among securities regulators.
- Agreeing common mechanisms for strengthening regulators’ capacity to protect investors by improving market surveillance, investigative and enforcement systems, and improving cooperation with other financial services regulators (insurance, banking, pensions) in the region.
- Providing a standing platform such as the Association of Regional Regulators recommended in paragraph 342 above, for on-going discussions and addressing key regulatory issues of common interest.
- Agreeing details of fidelity/compensation funds available for compensation of investors for violations of broker/dealer duties and /or their defaults, in countries where regulators manage such fidelity funds.
- The memorandum of understanding for the exchanges would provide a framework for:
 - setting conditions for access by broker/dealers to participating trading, clearing, settlement and depository platforms in the region;
 - agreeing common minimum standards for prospectuses for securities offerings, and membership requirements for dealing members;
 - details of fidelity/compensation funds available for compensation of investors for violations of broker/dealer duties and /or their defaults where such fidelity funds are managed by participating exchanges;
 - medium-to-long-term issues such as demutualization and modalities for achieving this; and
 - a requirement that an agreement be executed between the participating exchanges and their technology service providers to clarify risks to be borne by technology provider (s) for losses incurred by the various exchanges as a result of failure of all or part of their trading, clearing, and settlement systems.

430. It is important that support mechanisms are put in place for participating national regulators to meet such core/minimum standards especially in the case of countries with limited expertise and resources. These may include arrangements by which relatively better resourced

³¹ This is the Multilateral Memorandum of Understanding introduced by IOSCO in 2002 for signing by its members to promote enforcement cooperation and exchange of information among regulators. As of January 2010, some, ninety-six percent of IOSCO’s 115 member regulators are reported to have either met the requirements needed to become signatories or have committed themselves to legislative changes that will allow them to do so.

regulators/exchanges would provide technical assistance to weaker ones, with support from the AU, UNECA, and perhaps the regional economic bloc.

431. In addition to the above instruments, a roadmap identifying policy reforms required to be made in participating countries to support more capital market integration would be necessary. Such reforms would include:
- removal of exchange controls (capital controls on inward and outward investments) that may exist in participating countries;
 - currency convertibility issues; and
 - streamlining and improving cross-border dispute resolution mechanisms.
432. Such policy issues would involve action by finance ministries, central banks, justice ministries (as the case may be), as well regional economic blocs such as the secretariats of ECOWAS, EAC, CEMAC, SADC (immediate to medium term). For instance, while capital controls and tax regimes affecting primary and secondary market activity are critical to the smooth functioning of the virtual regional market they go beyond the scope of powers of securities regulators and can only be addressed by some or all of Finance Ministries, legislatures, and central banks in participating jurisdictions.
433. There is the need to institutionalise increased interaction among participating regulators, exchanges, policy makers as well as market participants such as securities markets associations (or through the African Stock Exchanges Association - ASEA), and shareholders associations in participating countries, to ensure that all relevant issues affecting the smooth implementation of recommendations are identified and addressed in a holistic and timely manner.

XVII. Develop a master plan for the establishment of the Pan African Stock Exchange

Overview

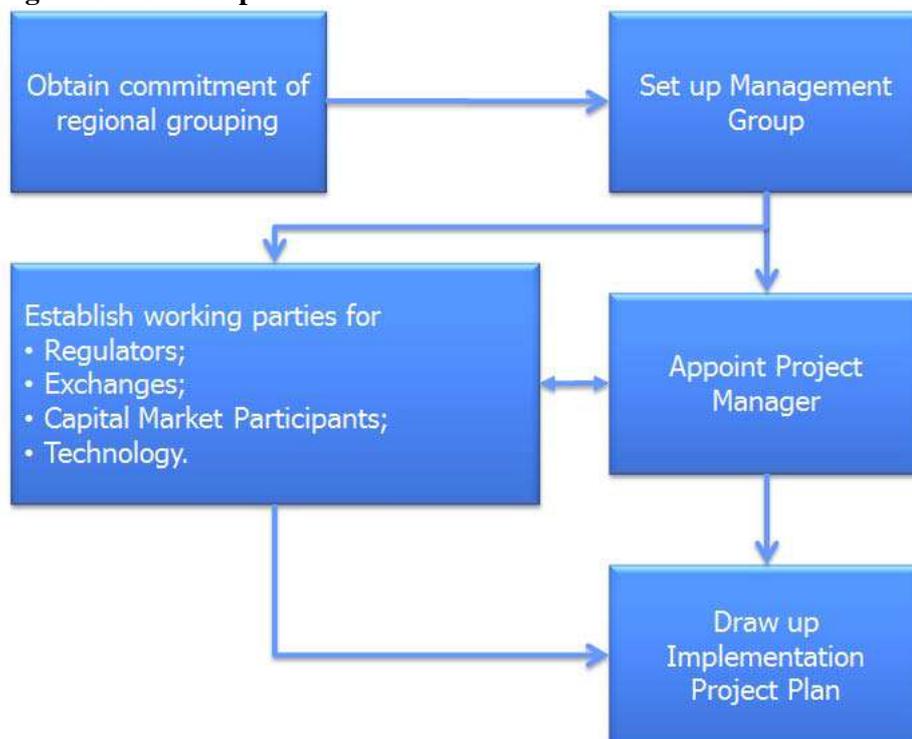
434. These proposals are based on the development of existing regional economic groupings or a sub-set thereof. It is therefore not possible to impose a structure from outside or to undertake further developments without the involvement and commitment of interested countries and markets.
435. The steps necessary to achieve a functioning virtual regional market are as follows:
- obtain the commitment of a regional group or a sub-set of a regional group³² to such a development; this will require the commitment of the governments, the central banks, the regulators and the exchanges;
 - set up a Steering Committee who will be responsible for driving forward the development;
 - appoint a project manager who will report to the management group and be responsible for monitoring progress against agreed plans; and
 - establish working parties for each of the following:
 - Regulators;
 - Exchanges;
 - Capital Market Participants; and

³² It is not necessary for all countries and markets within a regional group to commit to the financial market development although the more markets involved the lower the unit cost of the development is likely to be.

- Technology.

436. Figure 6 is a diagrammatic representation of the steps which form the roadmap.

Figure 6: Road Map



Step 1 - Obtain commitment of regional group or sub set of a regional grouping

437. The commitment required at this stage is a commitment by governments, central banks, stock exchanges and regulators to complete the steps suggested above, i.e. to take the project to the stage of producing a costed implementation plan. At this point it may be necessary for some exchanges to opt out because they are ready to move forward as they will need to undertake some domestic changes before they are ready to actually become part of the virtual regional exchange, e.g. loosen exchange control restrictions in relation to the group. It is also possible that some other exchanges could opt in at this stage.

438. This commitment by regulators and exchanges, supported by governments, should be evidenced by the signing of a letter of intent by the regulators and stock exchanges of the countries concerned. This letter would commit the signatories to:

- nominating representatives to the Steering Committee;
- nominating representatives to be members of the relevant working parties;
- providing such support from their own resources as the representatives require;
- contributing funds to ensure that the working parties can complete their tasks (see paragraph X - estimated costs below).

Step 2 – Form the Steering Committee

439. The Steering Committee is the group that is responsible for bringing this stage of the project to a successful conclusion. It should have at least one representative from each country but the

total size of the committee should be not be more than 10 to ensure that it forms a cohesive and focused group.

440. The representatives may come from the government, the central bank, the regulator or the stock exchange. What is important is their commitment to making the successful conclusion of the project.
441. It is envisaged that the group will meet on a monthly basis to receive reports from the project manager and the working parties. However, the group should be able to meet more frequently if required.
442. The first task of the Steering Committee will be to elect a Chairman, Vice Chairman and Secretary. If acceptable to the group then the project manager could be responsible for the minutes.

Step 3 - Appoint a project manager

443. The project manager will report to the Steering Committee. He/she will be responsible for developing the initial plan to be approved by the Steering Committee. Thereafter be responsible for maintaining the plan and reporting on the progress of the working parties to the monthly Steering Committee meeting.
444. The Project Manager may be seconded from one of the organisations involved but to avoid any conflicts of interest it may be better to involve a third party, possibly an external consultant with some capital market and project management experience.

Step 4 – Establish the working parties

445. There should be four working parties as follow.
 - Regulators working party;
 - Exchanges working party;
 - Capital Market Participants working party;
 - Technology.
446. The tasks assigned to the working parties above represent an onerous workload for all those involved and can only be completed if all the people involved have a strong commitment to the project and have strong support from the governments concerned.
447. The Terms of Reference for each working party are shown below.
448. Each working party should elect its own chairman, vice chairman and secretary.
449. The working parties will need to meet on a very regular basis. To avoid excessive travel time and expense it may be possible to have weekly conference (or video) calls. The project manager should attend every meeting of the working parties.
450. The working party will need to identify all the tasks to be undertaken and allocate them amongst the working party members. Initially many of the tasks will involve comparisons between the markets involved and therefore each member of the working party will require to

source information within its own organisation and provide it to the person allocated to that task. Subsequently the task will be to determine the actions that need to be taken to enable the regional market to operate.

451. It may be advantageous for each working party to have a facilitator to assist it. Once again the facilitator may be seconded from one of the participating organisations or an external consultant may be recruited. If possible the facilitator should have some experience of international exchanges and standards.

Terms of Reference of the Regulators' Working Party

452. At least one representative of each regional organisation should be represented on the working parties although the total number on each working party should not be more than 12.
453. The Terms of Reference for the Regulators' Working Party will be to develop and agree the elements of a Memorandum of Understanding to be signed by each regulator. Basically a common platform for establishing the goals of regulating a virtual regional market including the goals of protection of investors in individual countries as well as in the entire regional market, promoting the efficiency and integrity of the market, and reducing system risks. The elements involved in such a common platform are set out in paragraph 429 above.

Terms of reference of the Stock Exchanges' Working Party

454. At least one representative of each regional organisation should be represented on the working parties although the total number on each working party should not be more than 12.
455. The Stock Exchanges' Working Party will be to develop a framework for the following:
- setting conditions for access by broker/dealers to participating trading, clearing, settlement and depository platforms in the region;
 - agreeing common minimum standards for prospectuses for securities offerings, and membership requirements for dealing members;
 - details of fidelity/compensation funds available for compensation of investors for violations of broker/dealer duties and /or their defaults where such fidelity funds are managed by participating exchanges;
 - medium-to-long-term issues such as demutualization and modalities for achieving this; and
 - a requirement that an agreement be executed between the participating exchanges and their technology service providers to clarify risks to be borne by technology provider (s) for losses incurred by the various exchanges as a result of failure of all or part of their trading, clearing, and settlement systems.

Terms of reference for the Capital Market Participants' Working Party

456. The Capital Market Participants' Working Party should involve representatives of the private sector who are involved in the capital market, e.g. brokers, fund managers, asset managers etc. There should be at least one based in each country involved but they should come from organisations who are interested in the development of regional markets on a practical basis. The task of this committee will be to look at the macro-economic factors affecting the development of a virtual regional market. This will clearly need to be undertaken on a country by country basis. This working party will need to develop minimum standards to permit the operation of a virtual regional market, i.e. whilst the complete abolition of exchange control would be an ideal solution this is unlikely to be practical for all countries in the grouping in at

least the initial stages; therefore the task is to find a solution acceptable to the capital market participants and the government.

457. The working party should, as a minimum address the following:

- Exchange controls and similar restrictions;
- barriers to foreign ownership of domestic assets.
- laws relating to insolvency and bankruptcy;
- cross border enforcement of contracts;
- potential double taxation issues;
- other factors that the participants identify as inhibiting cross market trading.

458. We would not recommend that the governments are represented on the working party but that a close liaison is established between the national representatives on the working party and their government so that ideas can be tested out at an early stage.

Terms of reference for the Technology Working Party

459. The Technology Working Party should include representatives of all the technology suppliers to the regional markets. This includes representatives of the organisations using technology, i.e. exchanges, regulators (if they have surveillance technology), clearing houses and depositories.

460. The role of this working party is twofold:

- firstly to identify any existing constraints to the implementation of the model if the current technology were to be used; and
- secondly to investigate the costs and possible financing models for the external supply of technology on a single platform serving all the participating markets.

Step 5 – Produce a costed implementation plan for the Virtual Regional Market

461. The objective of these working parties is to produce a “costed” and time bound implementation plan for the virtual regional market to be presented to the Steering Committee for approval. This plan should:

- identify the work each country will need to undertake to make the virtual regional market possible and set a timetable for its completion (assuming that the market concerned commits such undertakings); and
- make a regional decision concerning technology, i.e. whether to go with existing technology or to invest in new, regional technology.

Timetable for Production of the costed and time bound implementation plan

462. Whilst it is difficult to set a timetable for such an ambitious development, we recommend that the initial timetable for all the above tasks to be completed should be 12 months from obtaining the commitment of the markets and the appointment of a project manager. It is unlikely that the tasks can be completed in less time but we believe that a relatively tight deadline is necessary to ensure that momentum on the project is maintained.

463.

XVIII. Determine the total cost of establishing and operating the Pan African Stock Exchange

464. The first steps on the road map are to:
- establish a Project Steering Group;
 - appoint a Project Manager;
 - establish four Working Parties;
 - appoint a facilitator for each of the Working Parties.
465. The representatives on the Project Steering Group and the Working Groups should be influential and knowledgeable individuals in their own sphere of influence. Their work on these groups should not be full time although there will be work to be undertaken by the organisations represented by these individuals to support the committee. We envisage that these individuals and the staff in their organisation will undertake these tasks as part of their normal day to day work. We have therefore not included any additional costs in the budget for the time of these people.
466. If the Project Manager can be seconded from one of the countries then, once again, no additional budget would be required. However, it is our view that an independent Project Manager would assist in moving the project forward within the envisaged time scale. In addition, the role of Project Manager will certainly be a full time position. We have therefore included a budget for the employment of a full time Project Manager.
467. We have also recommended that each of the four working parties should have a facilitator. Once again, this would be a full time position which could be filled by a person seconded from one of the organisation represented on the working group. In this case extra funds would not be required. However, if an outside person is employed then a budget is required.
468. The role of the project manager will involved extensive travelling as he/she will need to attend meetings of the Steering Group and liaise with all of the Working Parties, which will probably hold their meetings in different locations.
469. The Working Group facilitators should travel less as we recommend that whenever possible the meetings are held by video conference but inevitably some face to face meetings will be necessary.
470. We recommend that the group and the committee should aim to complete their work within 12 months of formation. However, this is a relatively tight deadline and therefore we believe that a contingency of 50% should be included in the budget.

Table 6: Budget for production of costed and time bound plan

Activity	Budget US\$
Project Manager – One year consultancy/salary	150,000 – 175,000
Travel for Project Manager and Steering Committee members	50,000
4 Facilitators to support Working Groups (125,000 – 150,000 each)	500,000 - 600,000
Travel for facilitators and Working Group members	50,000
Total	750, 000 – 875, 000
Total including Contingency (50%)	1,125,000 – 1,312,500

471. At this stage there are no significant technology costs as a decision on whether and for how long to use existing technology will form part of the “costed” and time bound plan produced from the first stage of this project.
472. However, we recommend that a commitment to ultimately sharing technology should be part of the model for the regional grouping. Therefore at some point in the future it is likely that the regional market will wish to implement one or more new shared systems. It is unlikely that all markets will implement a complete new system (trading, clearing, settlement, surveillance, data distribution etc.) at one time. The time bound plan should identify at what point different systems are likely to need replacing. For example, one market in the group may need to replace its trading system after year 3. If the other markets in the group are involved in the choice they can then commit to moving to a single trading platform over a specified period of time.
473. To assist in understanding the total costs involved in replacing a complete suite of programs we give an indication of current costs in Appendix E. Commercial system suppliers do not publish standard tariffs and the amount paid by a market will depend on how important the market is likely to be to the supplier (new suppliers or suppliers with new systems are often looking for ‘reference sites’ and will therefore supply the system relatively cheaply) and how well a market negotiates on the price.

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