



ECONOMIC RESEARCH PAPERS

N° 69

**Fostering the use of Financial Risk
Management Products in Developing
Countries**

by

Ahmed Bahgat, Ph.D
Vice President, Finance
African Development Bank

The views and interpretations in this paper are those of the author
and not necessarily those of the African Development Bank

ECONOMIC RESEARCH PAPERS

N° 69

Fostering the use of Financial Risk Management Products in Developing Countries

by

Ahmed Bahgat, Ph.D
Vice President, Finance
African Development Bank

Copyright © 2002
The African Development Bank
01 B.P. 1387
Abidjan 01
Côte d'Ivoire

Abstract

Through the principle of asset and liability matching, the introduction of financial risk management products in developing countries, will permit the institutions of these countries to hedge their market risk with other counterparties in the market. The use of financial risk management products will also permit these countries and their institutions to match their borrowings terms to suit their debt service capacity, and their investment terms to match their cash inflow and outflow requirements, and to preserve their assets. However, in order to adequately benefit from the introduction of the financial risk management products and to protect institutions against risks involved in the use of these products, developing countries must establish related mitigation measures, including the introduction of necessary internal control mechanism, application of relevant accounting standards, and putting in place required legal documentation. An international financial institution like the African Development Bank is perfectly situated to intermediate and facilitate the effective implementation of a financial risk management products programme for its borrowers in the continent.

Résumé

Grâce au principe de l'appariement de l'actif et du passif, l'introduction de produits de gestion des risques financiers dans les pays en développement permettra aux institutions de ces pays de couvrir leur risque de marché avec d'autres contreparties sur le marché. L'utilisation de produits de gestion des risques financiers permettra également à ces pays et à leurs institutions d'ajuster leurs conditions d'emprunt à leur capacité de service de leur dette, d'une part, et leurs conditions d'investissement à leur besoins de flux de trésorerie, d'autre part, et de préserver leurs avoirs. Cependant, pour tirer effectivement avantage de l'introduction des produits de gestion des risques financiers et protéger les institutions contre les risques inhérents à l'utilisation de ces produits, les pays en développement doivent établir les mesures d'atténuation connexes, notamment l'introduction indispensable d'un mécanisme de contrôle interne, l'application des normes comptables concernées et la mise en place de la documentation juridique nécessaire. Une institution financière internationale comme la Banque africaine de développement est en excellente position pour jouer un rôle d'intermédiaire et faciliter la mise en oeuvre effective d'un programme de produits de gestion des risques financiers pour ses emprunteurs sur le continent.

Fostering the use of Financial Risk Management Products in Developing Countries

by

Ahmed Bahgat, Ph.D

Overview and Objectives

The introduction of financial risk management products over the last decade has revolutionised international capital markets. These products have greatly improved the manner in which institutions manage financial risk as well as introduced new regulatory and legal challenges to ensure their effective operation. In general, this revolution has by-passed most developing countries.

Rational for Introducing Financial Risk Management Products

While many developing countries have embarked on programs aimed at deepening and broadening their financial and capital markets, there has been little development in the area of risk management products. This has been apparent despite the fact that many entities within these countries are exposed to interest rate, foreign exchange, commodity price, and other market risks. The introduction of risk management products can help these countries to mitigate such risks.

The introduction of financial risk management products aims primarily at deepening the markets of developing countries through the introduction of new products and assisting in the enhancement of the financial infrastructure to effectively manage the operations of risk management products in these markets.

Risk management products, and in particular derivative products, assist in the development of capital markets in a number of ways. They lead to greater market efficiency through a more effective price discovery mechanism, foster the transfer of financial risk to market participants better equipped to manage such risk, and lead to greater market transparency.

Furthermore, as many institutions located in developing countries are exposed to foreign exchange, interest rate, and commodity risk, the introduction of risk management products could contribute significantly to reducing such risks.

*The Author is the Vice President of Finance in the African Development Bank, Abidjan, Côte d'Ivoire.

Brief Description of Financial Risk Management Products

Financial Risk Management Products are financial products to hedge or cover an institution's assets and/or liabilities against exposure to market risks¹ (including interest rate, currency, exchange rate and commodity price risks). The principal financial risk management products are swap products and option products.

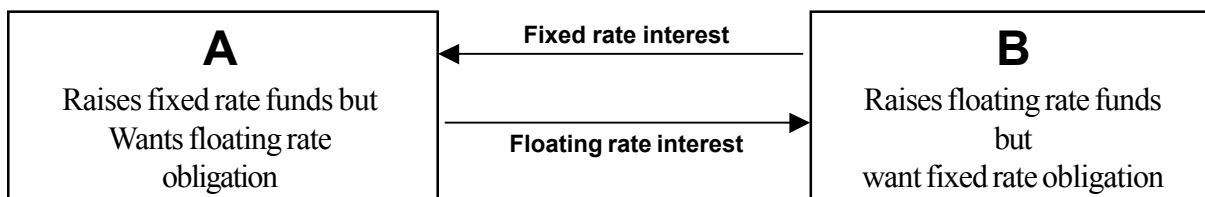
I-Swap Products

A swap is an agreement between two parties to exchange cash flows over a designated period in the future.

I-1 Interest rate swap

An interest rate swap also called coupon swap is an agreement between two counterparties to exchange interest flows in the same currency, without the exchange of principal. This typically occurs between one counterparty (A) who can raise cheap fixed rate funds but wants floating rate obligations, and another counterparty (B) who can raise cheap floating rate funds but wants fixed rate obligations.

The following diagram illustrates the exchange of two types of cash flows (floating/fixed) between counterparties A and B in an interest rate swap transaction:



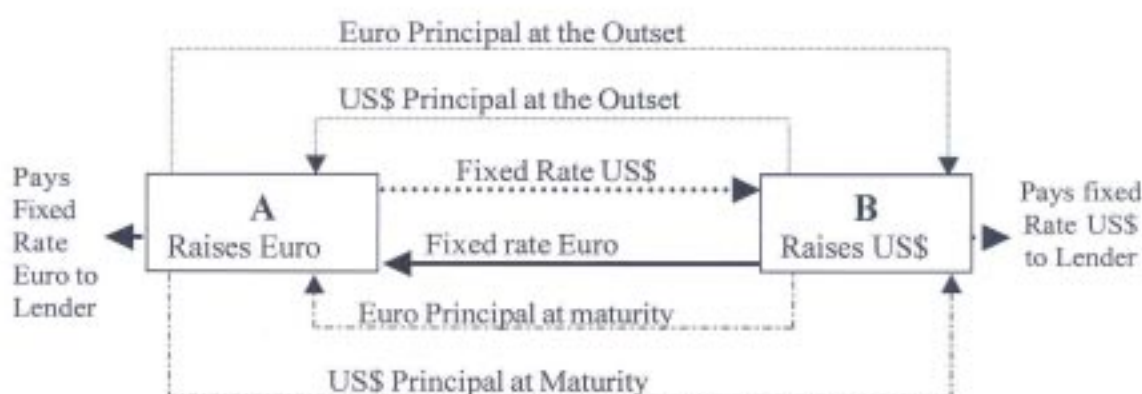
Based on the exchange of interest, counterparty A receives fixed rate cash flows from B to settle the interest charges on its borrowing and will in turn pay floating rate cash flows to B to discharge its interest charges on its floating rate borrowing. The consequence of this transaction is that A and B received exactly what they want, that is floating and fixed rate funds at cheaper cost than if they have directly contracted those funds by themselves.

In an efficiently functioning financial system such transactions would be entered into with banks in their normal intermediation role, thereby avoiding the need to find a suitable counterparty with equal and opposite requirements.

I-2 Currency Swap

A currency swap is an agreement between two parties to exchange cash flows denominated in different currencies. The cash flows are based on an agreed exchange rate and include the exchange of principal and interest.

A Typical cash flow looks like:



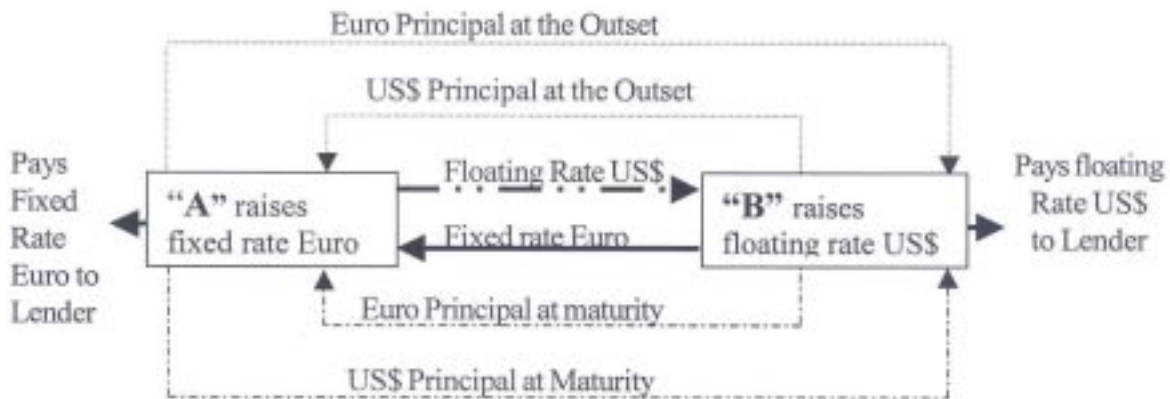
At the outset of the agreement, counterparty A receives the US\$ raised by counterparty B and passes on to counterparty B, the Euro it raised. This exchange is done at a predetermined exchange rate, which will be used at maturity to reverse the initial exchange. Counterparty A receives fixed rate cash flows in Euro from counterparty B to settle the interest charges on its Euro borrowing and will in turn pay fixed rate cash flows in US\$ to B to discharge its interest charges on its US\$ borrowing. The consequence of this transaction is that A and B received exactly what they want, that is respective funds in US\$ and Euro at cheaper cost than if they have directly contracted those funds by themselves.

Typically, these transactions would be conducted with intermediary banks. Such transactions enable borrowers to match the currency composition of their liabilities with those of their assets without having to physically borrow in the currency of their assets. They also allow borrowers to exploit financing opportunities in other currencies without being exposed to the currency risk of the funding currency.

1-3 Cross-Currency Interest Rate Swap

A cross-currency interest rate swap is an agreement covering a combination of an interest rate swap and currency swap, whereby one counterparty exchanges a fixed interest cash flow in one currency with another counterparty's floating rate obligation in a different currency. The structure includes an exchange of principal by the counterparties.

The typical structure looks like:



At the outset of the agreement, counterparty A receives the US\$ raised by counterparty B and passes on to counterparty B, the Euro it raised. This exchange is done at a predetermined exchange rate, which will be used at maturity to reverse the initial exchange. Counterparty A receives fixed rate cash flows in Euro from counterparty B to settle the interest charges on its Euro borrowing and will in turn pay floating rate cash flows in US\$ to B to discharge its interest charges on its US\$ borrowing. The consequence of this transaction is that A and B received exactly what they want, that is respective funds in US\$ and Euro at cheaper cost than if they have directly contracted those funds by themselves.

Typically, these transactions would be conducted with intermediary banks. Such transactions enable borrowers to match the currency composition of their liabilities with those of their assets without having to physically borrow in the currency of their assets. They also allow borrowers to exploit financing opportunities in other currencies without being exposed to the currency risk of the funding currency.

I-4 Swaps contracted by Traditional Lenders in the Context of Commodity-Linked Loan

A commodity-linked loan is a loan whereby the principal and/or interest repayments are pegged to the price of a commodity. For such a loan, if the price of the underlying commodity falls and consequently the borrower's export revenue declines, the borrower would gain some relief since the cost of its borrowing is pegged to the source of its revenue. Alternatively if the price of the commodity rises, the increase in export revenues deriving therefrom would compensate for the increase in the cost of servicing its debt to the lender. In summary, by contracting a loan which links interest and/or principal payments to changes in commodity prices, a borrower hedges its debt service obligation against fluctuations in commodity prices; specially if most of the revenue of the borrower is generated from the commodity export.

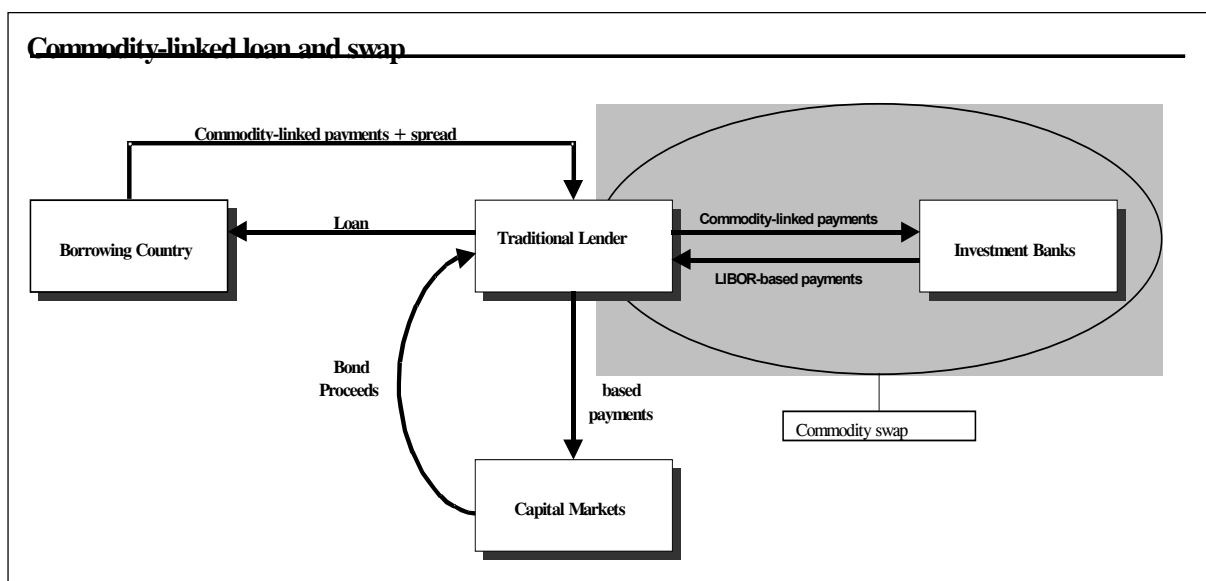
The ability to link a loan to a commodity is dependent on a liquid international market for that commodity. The most appropriate commodities for long term commodity-linked loans are energy products (oil and natural gas), gold, platinum, silver, aluminium and copper. Agricultural commodities are more suitable to short term commodity-linked loans.

The benefits of a commodity-linked loan are:

- The risk of default is reduced as the borrower's debt service obligations on the loan are matched with its revenues;
- It provides borrowers with a loan product that allows them to better manage their foreign exchange cash flows.
- For borrowers, by matching their foreign exchange revenues and debt service repayments to their commodity prices, they eliminate any direct exposure to international interest rate movements that have a very low correlation with their sources of revenues (i.e., commodities' prices);
- They also achieve a reduction in the cost of hedging their production against price fluctuations because through a commodity-linked loan the lender is implicitly providing an economic hedge to commodity producing countries at a lesser cost than what they can achieve by themselves in the market.

Most of the traditional lenders in the international capital market lend with interest payment linked to their funding cost or LIBOR. If LIBOR rises or falls, the debt repayment rises or falls even though the economies of the borrowers may not be correlated to the international capital market. This is done so because the lenders would not want to assume an interest rate risk on the loans. In the case of commodity linked loans, the traditional lenders would not want to be exposed to the risk of cash flow mismatches between the prices of the commodities on the lending side and market interest rates (i.e. LIBOR) on the funding side. Therefore the traditional lender would want to pass on the risk to the market through a commodity swap. The swap would entail the traditional lender passing on the commodity-linked payments it receives from its borrower in exchange for market interest rate payments. These payments would match the traditional lender's obligations on its funding side and consequently eliminate any mismatch that might derive from its commodity-linked loan.

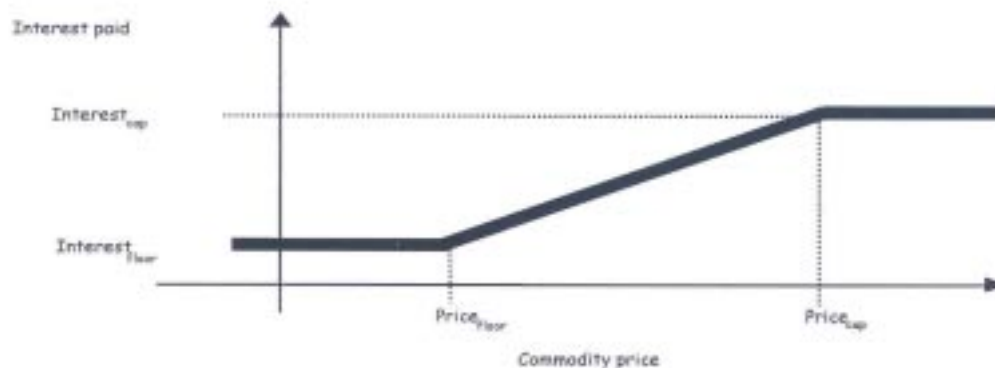
The typical structure of a commodity-linked loan and a commodity swap looks like:



To illustrate the above chart, let us assume the following: a gold producer in Country XYZ has taken out a loan of USD 500 million to finance a new mine. The loan is a floating rate loan based on LIBOR. The producer expects future revenues based on the price of gold. The project is exposed to interest rate and gold price volatility. In order to mitigate the project exposure to these risks, the promoter concluded with the lender an agreement indexing of the interest and principal repayment on the loan to the price of the gold. The consequence of this arrangement is the shift of the exposure of these risks to the lender who is now exposed to the risk of not being able to match his cash flow deriving from his lending activities with the required cash flow of his funding activities. To mitigate these risks, the lender would conclude a swap agreement with an investment bank whereby he would receive a LIBOR based cash flow matching with his funding cash flow and in return would pass on to the investment bank the received index-linked to gold price cash flow from the gold mine promoter.

With regard to the spread received over the gold-linked interest rate, it represents the lender overhead cost and profit margin for doing business.

The following chart explains the nature of a commodity-linked interest rate that established a direct link between the commodity price level (a floor and a cap), and corresponding changes in interest rate applied (a floor and a cap).



The link is therefore a positive linear function between debt service and the price of the commodity. In order to limit the level of his debt service in a period of increasing commodity prices, a commodity producer could buy a cap with the proceed of selling a floor, which sets the minimum debt service charge he would be willing to pay in a period of depressing commodity prices.

II- Option Products

While swap contracts commit both parties to an agreed exchange of cash flows, option contracts give to option holders the right but not the obligation to buy or sell an underlying asset at a pre-determined price during a period or at a specific date. Because of the element of choice, options-based risk management strategies are desirable in certain circumstances and options-based risk management products can apply to any asset price or reference that is applicable to a swap.

The following is the key terminology used in the options market:

- A **call** option gives the option buyer the right to buy a currency or to buy a commodity;
- A **put** option gives the option buyer the right to sell a currency or to sell a commodity;
- The **strike price or exercise price** is the agreed rate at which the exchange of currencies takes place;
- The option **buyer** is also known as the **holder** of the contract;
- The option **seller** is also known as the writer of the contract;
- The **premium** is the price paid for the option by the buyer to the seller;
- The **expiry date** is the last date on which the option may be exercised.

With regard to the expiry date, it should be noted that there are two types of options: European options and American options:

1. A European option is one which can be exercised only on the expiry date.
2. An American option is one which can be exercised at any time between the initial deal date and the expiry date.

The characteristics of the most frequently used options are presented below:

1. Interest rate options

One of the most common forms of interest rate option is an interest rate “Cap”. A “Cap” or “Ceiling” is an agreement that limits the maximum rate on a floating interest rate regardless of the future level of the market reference rate. By buying an interest rate cap, either at loan signature or during the life of the loan, a floating rate borrower can enjoy lower interest costs, while market rates are above the specified maximum rate, often called the bearable or tolerable rate. The key characteristics of a cap are:

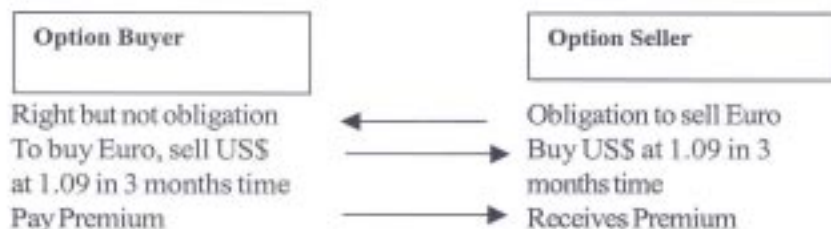
For the Buyer: a) it provides protection against increases in interest rates on liabilities; b) it is sometimes easier to arrange than an interest rate swap; and it calls for minimal documentation/administration requirements.

For the Seller: a) it generates fee income (premium received); b) it involves no credit risk to the seller vis-à-vis the buyer; c) it is sometimes easier to arrange than an interest rate swap; and d) it calls for minimal documentation/administration requirements.

2. Exchange rate or currency options

The buyer of a currency option has the right, but not the obligation, to buy or sell that currency for another at an agreed exchange rate over or at a specified time period. For that right, the option buyer pays a premium to the seller of the currency option at the outset.

To illustrate the functioning of a currency option, the table below shows the cash flows and respective actions taken by the buyer and the seller during the effective life of a 3 months US\$/Euro call option with a strike price of US\$/Euro 1.09:



Events	Buyer	Seller
1. Writing the option	Pays premium	Receives premium
2. During the effectiveness of the option	Has the right but not the obligation to buy Euro, sell US\$ at the strike rate of US\$/Euro 1.09	Has the obligation to sell Euro and buy US\$ at US\$ / Euro 1.09
3. The US\$/Euro exchange rate is < 1.09; that is the Euro appreciated	The option is exercised and the buyer buys Euro with US\$ at the strike rate of 1.09 Euro for the US\$	The seller sells the Euro for the US\$ at the strike rate of Euro 1.09 for the US\$
4. The US\$ /Euro exchange rate is > 1.09; that is the Euro depreciated	The buyer will not exercise the option as he would be able to get the Euro at a cheaper rate in the market with his US\$.	The seller does nothing.
5. Expiration of the option	Either exercised, or not exercised	The seller reacts to the decision of the buyer.

Conditions for Efficient Functioning of Financial Risk Management Products

For a country to have an efficient market of financial risk management products, it needs to develop the requisite accounting, regulatory, payments and settlements processes, and other systems required for an effective management of these instruments. These requirements include but are not limited to an improvement in the country's legal and regulatory frameworks, e.g. the adoption of netting legislation and capital market regulations for derivatives transactions (such as negotiating ISDA Master Agreement). These markets also require the adoption of international disclosure and accounting standards, in addition to the enhancement of the role of key financial institutions.

Risks Involved in the Use of Financial Risk Management Products and Related Mitigation Measures

Risks Involved in the Use of Financial Risk Management Products

While derivatives in general, and financial risk management products in particular can foster a better distribution of financial risks among market participants and consequently reduce risk, they also give rise to risks that are uncommon in cash markets because of their complexity. These products may add not only new dimensions to credit, market, and liquidity risks, but also generate additional aspects of operational and legal risks.

The credit risk is the risk that a counterpart in a financial risk management product transaction fails to perform an obligation owed to its creditor; e.g., one could define in a swap transaction (interest rate or currency swap), credit risk as the cost of replacing a cash flow when the counterpart defaults.

As a result of the extraordinary developments and globalisation of the financial markets and specially the derivative markets, another risk called market risk has gained prominence. Market risk is the risk that adverse movements in a financial instrument price will result in loss for an institution. The definition of institution here encompasses not only financial and securities institutions, but also all kinds of institution including government bodies engaged in derivative transactions.

Another major risk is the risk that default by one individual institution triggers a wave of failures across the market; this is known as systemic risk. Depending on the specific circumstances of an individual failure and on market factors during that period, systemic risk could become a real threat to vast portions of the financial system.

Two other risks resulting from the complexity of the financial markets and specially the derivative markets are operational and legal risks. Operational risk is the risk of loss due to human error or deficiencies in institutions' systems and/or controls. Legal risk on the other hand is the risk that an institution suffers a loss as a result of contracts being unenforceable or inadequately documented.

Finally, liquidity risk is the risk of insufficient counterparts with which an institution would be able to liquidate or offset a position at or near the previous market price. In other words, the market is not deep enough to execute trades without significantly affecting the market price.

Related Mitigation Measures

The mitigation measures to protect institutions against the risks involved in the use of financial risk management products and derivative products may be divided into three areas: internal control procedures; relevant accounting standards; and legal documentation.

To set internal control rules and procedures designed to provide qualitative standards (best practices) complementary to the quantitative analysis of risk within the organisation. These internal controls and qualitative standards include: the integrity of the risk management processes: soundness of risk evaluation models, quality and uniformity of the data input (values used as input for the models must be the same as that used in real transactions), validation and back-testing procedures, monitoring and observance of trading limits for traders, marking-to-market procedures, rules for dealing with changes in duration limits and consequently volatilities. These functions must be done by a structure independent of that effectively involved in the trading in derivative products. Also the reports of this independent structure must be highly transparent, and the structure should

ensure that the process of internal controls covering risks associated with derivative products is properly documented.

To establish and implement adequate accounting systems, not only for the assessment of an institution's exposure to risks but also for a meaningful comparison of financial statements and aggregation of risks of different institutions in order to allow for the evaluation of systemic risk. This important area of accounting treatment and disclosure of financial instrument is elaborated upon in the following section.

To arrange netting agreements² and standard contracting agreements to ensure their enforceability and the existence of proper legal documentation.

Accounting Implication on the Use of Financial Risk Management Products

Financial risk management products are derivative products whose aim is to hedge against volatility in value of assets and liability. Prior to the effectiveness of IAS 39 entitled "Financial Instruments: Recognition and Measurement", these instruments were not accounted for on the balance sheet; their fair values, either receivable and/or payable were disclosed in the notes to the financial statements at each reporting date.

Because of the need for more transparency in the disclosure of these instruments, The International Accounting Standards Committee (IASC) has adopted IAS 39, which became effective on January 1st, 2001. This new accounting pronouncement requires:

- Recognition of all financial assets and financial liabilities including derivatives, on the balance sheet;
- Recognition of embedded derivatives on the balance sheet; and
- Measurement of derivative/embedded derivatives at fair value and recognition of fair value movements through the income statement.

The new pronouncement requires classification of acquired assets as follows:

- Held for trading;
- Held to maturity;
- Available for sale; and
- Loans and receivables originated by the enterprise.

The valuation method of a financial asset depends on its classification category. Therefore, assets held for trading and assets available for sale are marked-to-market, while assets held to maturity and loans and receivables originated by the enterprise are carried at amortized cost.

The IAS 39 requires that choice be made between accounting for financial assets on the trade date and accounting for financial assets on settlement date.

In order to minimize the impact of fair value movements on the profit and loss accounts, the IAS 39 gives the possibility for special hedge accounting; i.e., accounting designating a derivative or a non-derivative financial instrument as an offset, in whole or in part, to the change in fair value or cash flows of a hedged item. However, the use of special hedge accounting is permissible only under certain specific criteria and only for three types of hedges:

- Cash flow hedges; a hedge of the exposure to variability in cash flows attributable to an asset or liability (e.g., interest rate swap or cross currency attached to an asset or to a liability) or forecasted transaction (e.g., exchange rate options) and will affect reported

- net income.
- Fair value hedges; a hedge of the exposure to changes in the fair value of a recognized asset or liability.
- Net investment in a foreign entity hedge or, a foreign exchange hedge.

For special hedge accounting to apply, all of the following criteria must be satisfied:

- Formal documentation at the inception of hedge (define the intention, determine precisely the asset or liability subject of the hedge transaction and the hedge transaction);
- Hedge is expected to be highly effective (i.e., a certain movement in the fair value of the hedged asset or liability should be compensated by a contrary movement in the fair value of the hedge transaction);
- For anticipatory hedges, the forecasted transaction must be highly probable;
- Effectiveness of hedge can be reliably measured (80% up to 125% effectiveness);
- Ongoing assessment of effectiveness.

This new accounting pronouncement while rendering the use of derivatives more transparent in term of accounting reporting, introduces a lot of volatility in the reported net income figure from one accounting period to another based on prevailing market conditions. The users of derivatives need to be aware of this volatility and be prepared for appropriate accounting disclosure, which will appraise financial statements readers of the resulting volatility effect on net income.

After analyzing the three risk mitigation measures (i.e, internal controls, accounting standards, and legal documentation), I discuss in the rest of this paper an implementation strategy of risk management products.

ADB Role and the Role of Other Intermediary Counterparties

As the only AAA financial institution in the African continent, the African Development Bank³ (ADB) could play a key role in assisting regional countries in the development of risk management products. The Bank could count on the expertise of its personnel, its knowledge of the financial and economic environment in these regional countries, and resources that it can contribute and marshal to introduce such products in the continent. In addition, the Bank has been a consistent user of financial risk management products in its own operations and thus has developed an institutional capacity to provide effective advice to market participants in the regional countries.

The Bank's financial analysts, and its country economists have in-depth knowledge of the economic, regulatory, and structural environment of all regional countries and therefore can provide significant input to assisting countries in the development of their capital markets, their use of financial risk management products and related mitigation measures.

ADB, in collaboration with international financial industry associations such as the International Swaps and Derivatives Association⁴ (ISDA) and the International Organisation of Securities Commission⁵ (IOSCO) are in the process of embarking on an initiative to assist in the development of risk management products in Africa. These joint efforts are targeted to educating financial markets participants in selected regional countries, identifying factors that lead to the effective development of such markets, and advising regional countries on the required improvements in their financial infrastructures to foster the introduction and growth of risk management products in their financial markets.

The program's objective is to foster the development and use of financial risk management products in regional countries and to educate selected regional institutions on how to successfully introduce such products to their markets. This program attempts to achieve three objectives:

1. Further development and deepening of regional financial and capital markets.
2. Improvement in the financial infrastructure in regional financial and capital markets.
3. Reduction of risk associated with financial transactions in regional countries.

A Proposed Program for the Introduction of Risk Management Products

To foster the introduction of risk management products in selected regional countries it is important to take into account the existing market environment and on-going initiatives designed to enhance financial sectors in these countries. Knowledge of the capabilities of existing market participants and regulatory authorities should help to determine the most effective manner to introduce and/or widen the use of financial risk management products.

The proper strategy to introduce risk management products depends, in part, on the existing financial infrastructure in the concerned regional countries. For instance, the choice between exchange traded and over-the-counter markets will depend on the existing regulatory framework and the capabilities of existing institutions. The choice to introduce risk management products to such markets depends on current demand in the market as well as macroeconomic factors. For example, an active money market may imply that the introduction of short-term interest rate derivatives may be the most effective products to introduce to the market; while an active commodity market may imply the need for commodity related risk management products.

The structure of any program will contain elements of market education, adoption of international market standards, enhancement of regulatory and legal frameworks. For each of the program elements, co-ordination with other organisations (such as IOSCO, ISDA, Banks and others) may be required to benefit from specific expertise.

Market Education

This entails the establishment of a market education program with the assistance of organisations such as ADB, ISDA, and IOSCO to provide training to market participants to enhance their familiarity with risk management products, their uses, and the risks associated with derivatives. This can be accomplished through a program of workshops, training courses, and tailored programs.

Market Standards

The adoption of international market standards is a critical factor in the smooth functioning of risk management products in local and international markets. An international financial institution such as ADB could work with selected local organisations to encourage the adoption and implementation of market standards. This can be accomplished through ensuring that the selected regional countries are aware of and strive to adhere to standards such as the IOSCO principles, Basle standards, and similar initiatives.

Regulatory and Legal Framework

While one would expect the basic regulatory framework for financial and securities markets to be in place in many regional developing countries, the framework for dealing with derivatives may not be in existence. The ADB together with other relevant international bodies could assist regulatory authorities to adopt appropriate policies and regulatory rules to foster the effective development of derivatives markets.

A Strategy for Implementation

While the program should generally be similar for each regional country, it may be adapted to the specific circumstance in the country concerned. In general however, to embark on this program the following activities should be implemented:

Phase I- Review of Market

The market review is designed to determine the suitability for the introduction of risk management products in selected countries financial markets. It should include a review of the existing regulatory framework, market participants, market infrastructure and other elements of mature capital markets.

At the end of this phase full documentation that outlines the existing structure of the particular market under consideration should be produced. This documentation should summarise the roles of the major participants in the market, the range of products offered, the regulatory structure, and other issues to obtain a basic understanding of the market place.

Phase II- Draft Entry Strategy

After the completion of the review of the markets, a draft strategy that outlines the approaches to assisting in the development of these markets should be developed. It should include key issues that need to be addressed to introduce risk management products and identify the critical market participants that need to be engaged in the initiative. The strategy should identify the missing products from the markets and list of those that can most effectively be introduced into these markets. The entry strategy should also identify the key regulatory and financial infrastructure required.

Phase III- Consultations with key Market Participants

Discussions should be held with key participants in the markets concerned in order to gather additional information and gauge the priorities and to further refine the strategy to introduce such products to the market place. This will include but not be limited to the central bank, securities regulators, stock exchange personnel, key private financial institutions, and other relevant market participants.

After this phase, a detailed work program that outlines the specific tasks that need to be accomplished should be prepared. The work program should also identify the required resources for successful completion of the program.

Phase IV- Discussions with Other Potential Participants

To the extent necessary, the development of the strategy of implementation should be elaborated with the support of other organisations. ISDA, IOSCO, and other international organisations such as the ADB should also be able to assist in this implementation. This phase is a continuous process that is expected to be ongoing for the fine-tuning of the program.

Phase V- Implementation of Risk Management Program

This phase will involve the implementation of the risk management program. Technical assistance can be provided through the use of treasury and legal experts from all participating organisations in the program, including outside organisations and the hiring of consultants.

Conclusion

Through the principle of asset and liability matching, the introduction of financial risk management products in developing countries, will permit the institutions of these countries to hedge their market risk with other counterparties in the market. The use of financial risk management products will also permit these countries and their institutions to match their borrowings terms to suit their debt service capacity, and their investment terms to match their cash inflow and outflow requirements, and to preserve their asset. However, in order to adequately benefit from the introduction of the financial risk management products and to protect institutions against risks involved in the use of these products, developing countries must establish related mitigation measures, including the introduction of necessary internal control mechanism, application of relevant accounting standards, and putting in place required legal documentation. An international financial institution like the African Development Bank is perfectly situated to intermediate and facilitate the effective implementation of a financial risk management products programme for its borrowers in the continent.

ANNEX A

Market risk: it is a general term covering the following: interest rate, currency or exchange rate, and commodity price risks. In general market risks are the risk associated with adverse movements in asset prices (interest rates, exchange rates, commodity prices) which expose a firm to potential loss.

Interest rate risk: it is the risk of a firm being exposed to interest rate movements. For financial institutions such as banks, interest rate risk is defined as the interest rate sensitivity associated with the net spread between the interest rate banks earn on their assets and the borrowings which fund those assets. As sometimes banks fund their assets with equity, interest rate risk is the interest rate sensitivity of the income earned from funding a portion of ones assets with equity.

Currency risk or exchange rate risk: it the risk of a firms assets and liabilities being exposed to exchange rate movements.

Commodity price risks: It is the risk associated with movements in prices of a commodity.

ANNEX B

The African Development Bank (ADB) is one of the 5 continental Banks; namely the International Bank for Reconstruction and Development (IBRD), the Asian Development Bank (AsDB), the Inter-American Development Bank (IADB), and the European Bank for Reconstruction and Development (EBRD). The ADB is a regional multilateral development finance institution the members of which are all of the 53 countries in Africa and 24 countries from Europe, North and South America, Asia. The Bank was established in 1964, with its Headquarters in Abidjan, Côte d'Ivoire. The Bank is the only AAA rated financial institution in Africa. The mission of the Bank is to further the economic and social development of African Countries, individually and collectively. To this end, the Bank promotes the investment of public and private capital for development, primarily by providing loans and grants for projects and programs that contribute to poverty reduction and sustainable development in Africa.

The Bank, in addition to its ordinary capital, mobilises resources (i.e., borrows) from the international capital markets at attractive interest rates which it passes to its borrowers via its non-concessional operations. In addition, the Bank's soft window, the African Development Fund provides concessional financing to low-income countries that are not able to carry loans on market terms.

ANNEX C

The International Swaps and Derivatives Association (ISDA) is the global trade association representing leading participants in the privately negotiated derivatives industry, a business which includes interest rate, currency, commodity, credit and equity swaps, as well as related products such as caps, collars, floors and swaptions.

ISDA was chartered in 1985, and today numbers over 500 member institutions from 37 countries on five continents. These members include most of the world's major institutions who deal in and leading end-users of privately negotiated derivatives, as well as associated service providers and consultants.

Since its inception, the Association has pioneered efforts to identify and reduce the sources of risk in the derivatives and risk management business. Among its most notable accomplishments are: developing the ISDA Master Agreement; publishing a wide range of related documentation materials and instruments covering a variety of transaction types; producing legal opinions on the enforceability of netting (available only to ISDA members); securing recognition of the risk-reducing effects of netting in determining capital requirements; promoting sound risk management practices, and advancing the understanding and treatment of derivatives and risk management from public policy and regulatory capital perspectives.

The Association's primary purpose is to encourage the prudent and efficient development of the privately negotiated derivatives business by:

- Promoting practices conducive to the efficient conduct of the business, including the development and maintenance of derivatives documentation.
- Promoting the development of sound risk management practices.
- Fostering high standards of commercial conduct.
- Advancing international public understanding of the business.
- Educating members and others on legislative regulatory, legal, documentation, accounting, tax, operational, technological and other issues affecting them.
- Creating a forum for the analysis and discussion of, and representing the common interest of its members on, these issues and developments.

ANNEX D

The International Organisation of Securities Commission (IOSCO) is an assembly of security dealer agencies which together have resolved, through permanent structures:

- to cooperate together to promote high standards of regulation in order to maintain just, efficient and sound markets;
- to exchange information on their respective experiences in order to promote the development of domestic markets;
- to unite their efforts to establish standards and an effective surveillance of international securities transactions;
- to provide mutual assistance to promote the integrity of the markets by a rigorous application of the standards and by effective enforcement against offenses.

The IOSCO is structured as follows:

The Presidents' Committee, which meets once a year during the Annual Conference, is made up of all the Presidents of member (regular and associate) agencies and has all the powers necessary or convenient to achieve the purpose of the Organization.

The Executive Committee of the Organisation has established two specialised working Committees. The first one, the Technical Committee, is made up of sixteen agencies that regulate some of the world's larger, more developed and internationalised markets. Its objective is to review major regulatory issues related to international securities and futures transactions and to co-ordinate practical responses to these concerns. The work of the Technical Committee is divided into the following five major functional subject areas:

- Multinational Disclosure and Accounting;
- Regulation of Secondary Markets;
- Regulation of Market Intermediaries;
- Enforcement and the Exchange of Information;
- Investment Management.

The Technical Committee has set up specialised Working Groups to address each of the above mentioned subject areas. The members of these Working Groups meet several times during the year and tackle, almost on a continuous basis, the mandates that they receive from the Technical Committee.

The second specialised Committee, the Emerging Markets Committee, endeavours to promote the development and improvement of efficiency of emerging securities and futures markets by establishing principles and minimum standards, preparing training programs for the staff of members and facilitating exchange of information and transfer of technology and expertise. It has set up Working Groups to address the following functional areas:

- Disclosure and Accounting;
- Regulation of Secondary Markets;
- Regulation of Market Intermediaries;
- Enforcement and the Exchange of Information;

- Investment Management

Self-Regulatory Organisations (SROs), that are affiliate members of the Organisation, are members of the SRO Consultative Committee. IOSCO recognises the importance of maintaining a close dialogue with the SROs and international organisations that make up its affiliate membership and of allowing them to make a constructive input in the work of the Organisation. The SRO Consultative Committee has designated contact persons with the Technical Committee Working Groups and is therefore able to provide substantive input related to their regulatory initiatives.

Notes and Reference

1. See Annex-A for definitions of different types of market risks.
2. Netting agreements are arrangements between two or more firms to offset opposite positions of the same nature kept with each other, thereby resulting in a single net payment for one of them.
3. See Annex B for an introductory note on the ADB
4. See Annex C for an introductory note on the ISDA
5. See Annex D for an introductory note on the IOSCO

INTERNATIONAL ACCOUNTING STANDARDS COMMITTEE, "International Accounting Standards", London, United Kingdom, 2000.

FRANCK K. REILLY and KEITH C. BROWN, "Investment Analysis and Portfolio management", fifth edition, The Dryden Press, Fort Worth, Texas, USA, 1997.

FREDERICK G. FISHER, III "EUROSECURITIES and their related derivatives", Euromoney Publications PLC, Nestor House, Playhouse Yard, London, EC4V 5EX, 1997.

ANTHONY C. GOOCH and LINDA B. KLEIN "Documentation for Derivatives", Euromoney Publications PLC, Nestor House, Playhouse Yard, London, EC4V 5EX, 1993.