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IMPROVING MANAGEMENT OF PRICE RISKS AND
CASH FLOWS IN DEVELOPING COUNTRIES

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CASH FLOWS IN DEVELOPING COUNTRIES**

**A Seminar Presented to USAID
by
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SUMMARY

By using specialists to manage price risks for exports and imports and by following specific planning and management techniques, a developing country can control the violent fluctuations of international commodities markets and save much needed foreign exchange in the process.

1. Given the volatile nature of international commodities markets, exporters and importers must develop pricing plans and monitor the markets closely to effectively execute a buying or selling program.
2. The function of price risk management of internationally traded commodities is highly specialized, necessitating intimate knowledge of:
 - international commodity markets (cash, futures, options)
 - international currency markets
 - international transportation markets
 - cash market transactions and logistics
 - hedging techniques
 - basis trading
3. The paucity of price risk management skills, particularly in developing countries, may necessitate the centralization of price risk management function, either within a single national agency or within private organizations.

Price Risk and Cash Flow Management Problems in LDC's

In developing countries with open economies, effectiveness in selling and buying commodities in volatile international markets, has a dramatic effect upon a country's Gross Domestic Product (GDP) and Foreign Exchange Reserves. For a country exporting 25% of its Gross Domestic Product (GDP), imports and exports combined would be 50% of GDP. If we assume that 60% of a country's exports and 20% of its imports are commodities, then total commodity trade in a given year would be 20% of real GDP. In today's volatile commodity markets where commodity prices can fluctuate by 20% to 100% in a year, commodity price fluctuations alone can affect real GDP by 4% to 20%. This in turn has a corresponding impact upon a country's balance of trade, net foreign exchange position and its ability to meet international debt obligations.

An overview of developing country economies yields two salient facts:

- Fact I. Developing country economies are, for the most part, commodity-based.
- Fact II. State trading organizations and commodity marketing and export boards play an important, if not a dominant, role in developing country commodity trade.

Given these two facts coupled with the increasingly volatile nature of the international commodity markets in which developing countries trade, it is apparent that many state trading organizations are inadequate at properly buffering the national economy from the price fluctuations of international commodity markets.

Fluctuations in the prices of basic commodities, which can range from 20% to 100% per annum, produce a negative multiplier effect throughout the entire economy affecting the level of national income, the variability of domestic income from year to year, and the flow of income during the year.

The disruptive effects of such volatility on the national economy are several:

- substantial variability of national income resulting in a "boom or bust" economy,
- chronic foreign exchange shortages
- chronic port congestion, resulting in exorbitant demurrage charges
- high storage losses
- inability to take advantage of market opportunities

By taking advantage of proven price risk and cash management techniques, developing countries can significantly insulate their fragile economies from the fluctuations of international commodity markets. With a more stable environment in which to operate, country planners and managers in both the private and public sector, will be able to plan and effect more efficient production and investment decisions which will in turn lead to greater economic growth and higher levels of national income.

The Need for Price Risk Management

Currently, most developing countries take a passive approach to the management of their commodity price risks. National import or export boards do insufficient advanced planning or forecasting and they generally are unprepared for dramatic commodity price changes. Information systems are poor or non-existent and communications are difficult or impossible. When information is gathered, it usually is obtained from international commodity merchants, the very group that ultimately will negotiate the import/export price with a country's national board.

State trading organizations in developing countries live a hand-to-mouth existence. They generally buy or sell in the cash market for immediate delivery as credit and foreign currency availability dictates. They make little or no use of futures markets, basis tenders, and other market facilities. They tend to rely on large multinational trading companies for their information which, from an LDC point of view, is less than desirable, since the LDC and the multinational trading company often have conflicting interests. Moreover, these countries generally

are not well informed about international business practices that profoundly influence their pricing performance.

The organizational and structural problems of national import and export boards are further compounded by the limitation of experienced people in the price risk management area. These individuals require specialized management and technical education. In addition, they require experience and on-the-job training. The opportunity to receive both the education and experience is quite limited in a developing country.

To address these personnel and management problems, organizations in developing countries should seek management solutions. A management solution which has been effective in both the international corporate environment and among Eastern bloc marketing/import boards has been the centralization of the price risk management function. This has led to new training, continuity in personnel, greater management control and, ultimately, improved economic results.

Public and private organizations in developing countries, should consider the establishment of Price Risk Management Groups to coordinate their imports and exports. A National Group might operate within an appropriate institution, such as the Central Bank or the Ministry of Finance. The import/export of physical commodities would then be managed in accordance with pre-stated plans, monitored for change and with pricing decisions originating from a central group. The National Price Risk Management Group should be staffed by 3 to 5 professionals of the highest caliber.

Responsibilities of the Price Risk Management Group

In broad terms, the responsibilities of the price risk management group would be five-fold:

1. To provide annual assessments of total projected international commodity transactions.
2. To provide short, medium and long-range price forecasting.
3. To develop an overall price risk management strategy for the country.
4. To develop pricing strategies and action plans for individual commodities.
5. To provide for the execution of physical contracts, futures market transactions, basis contracts, options, and other methods of execution.

PRICE RISK MANAGEMENT

An organization which is importing grain is implicitly operating in several international commodity markets as well as one or two domestic markets:

1. origination or cash markets (basis)
2. pricing markets (futures and price options)
3. transportation markets (international and domestic)

4. currency markets
5. credit markets
6. storage market (domestic)

Typically when an importer makes a deal with a multinational grain company, it is arranged as a "package" (i.e., 100,000 metric tonnes soft red winter wheat, CIF, Santo Domingo, price in \$U.S.). Thus they arrange one price for the grain delivered and financed.

However, in many situations it is advantageous to arrange for the various elements separately, just as the grain company does:

- buying the basis,
- pricing the grain,
- arranging the ocean freight,
- buying the foreign currency, and
- arranging the financing.

This series of distinct transactions enables the importer to take advantage of market opportunities occurring in the individual markets in which they are operating. For example, if the market for ocean freight is unusually depressed one can book the freight in advance and subsequently assemble the wheat at the port. Moreover, if the Chicago market is unusually low one can take advantage of this by buying the futures and fixing the price for a number of months into the future.

At the National level, a given LDC can, just as private organizations and other countries do, estimate its total volume of commodity imports and exports for the coming 12 months.

<u>Imports</u>	<u>Exports</u>
Wheat	Coffee
Corn	Sugar
Soybeans	Cocoa
Petroleum	Gold

Armed with this information, they can make an annual "budget", projecting cash flows due to commodity imports and exports. A budget however implies that prices be projected for both imports and exports. Thus an implicit "spread" is established between an index of export prices and an index of import prices. This spread serves as a measure of the relative health of the national commodity trade. When the spread increases, National Income will increase and when the spread decreases National Income will decrease.

At the risk of over simplifying, the objective of price risk management is to manage the country's international trade "spread"—selling exports into the future when the export index is up and buying into the future when the import index is down. When an attractive overall spread exists, one can take advantage of it by simultaneously selling future exports and buying future imports thus fixing the spread.

For example, consider a country that produces and exports only coffee and imports and consumes only wheat. The annual production of coffee is 10 million lbs. while the annual requirement of wheat is 2.5 million bushels. Average world prices for coffee over the last 10 years have been \$1.00/lb. FOB while world prices for whea. have averaged \$4.00/bu., CIF.

We see therefore that the country exports an average \$10 million U.S. of coffee and imports \$10 million U.S. of wheat. In the current market, coffee is trading for \$1.30/lb. FOB while wheat is \$3.80/bu. CIF. While the average trade spread is:

$$\frac{\$1.00/\text{lb.} \times 10 \text{ million} = \$10 \text{ million}}{\$4.00/\text{bu.} \times 2.5 \text{ million} = \$10 \text{ million}} = 1.0$$

The current trade spread is:

$$\frac{\frac{\$1.30/\text{lb.}}{\$1.00/\text{lb.}}}{\frac{\$3.80/\text{bu.}}{\$4.00 \text{ bu.}}} = 1.37$$

Thus at today's prices, national income has increased by 37%. Faced with this attractive situation the country can:

- A. Sell its coffee into the future, speculating that the price of wheat will drop further,
- B. Buy its wheat into the future, speculating that the price of coffee will rise further, or more prudently,
- C. Sell coffee and buy wheat into the future, fixing in the attractive trade spread.

CASH FLOW MANAGEMENT

The fact that a developing country or private organization is faced with attractive import and export prices, does not mean that they always can take advantage of those prices—they must have the financial capacity to do so. A lack of foreign exchange, will force an LDC to dump its exports "at the bottom" and a lack of adequate supply forces it to buy under disadvantageous market conditions.

Just as the various component markets can be divided and managed separately to take advantage of attractive developments, cash flow can be managed separately from pricing. Suppose a country has a sugar export program with a requirement that they ship 10,000 metric tons/week. If they believe that prices will be increasing in the near future, rather than disrupt their export program, causing a logistical problem with port facilities, and causing cash flow problems, they can continue to export while accumulating a "long" position in the futures market. They can price their sugar by selling their futures contracts whenever they feel the market is right. Meanwhile, they can continue to export the physical sugar, assuring cash flow and efficient handling of the export logistics.

A country exporting 200,000 tons per year might have a physical export program of 4,000 tons per week. If they felt that the market price for sugar was about to increase, they could take advantage of the impending price increase by establishing a long position, in the futures market, at the same rate as they are exporting -- 20 contracts per week. They can begin liquidating these futures positions to price the sugar already exported when they feel they have achieved their price objective in the market.

In the same vein, an importer of wheat may need to import wheat this month to assure domestic supplies and take advantage of attractive freight rates as well as port capacity available. If the country felt strongly that the wheat market was too high and prices would soon be easing rather than delay its purchase, it could go ahead and purchase and ship the physicals while establishing a countervailing short position in the futures market. This short position could be lifted to price the grain whenever wheat market conditions and prices eased sufficiently.

No doubt the question will arise--but aren't futures positions risky? The answer is yes, but in today's world there is no escape from risk. The LDC has become economically interdependent and as such they depend upon international trade to assemble the commodities essential for national well being. Risks abound--production risks, price risks, currency risks, competitive risks, business risks--and serve to alter drastically the volume of needed materials available in a given year.

Risk cannot be eliminated completely. As long as weather and politics influence production and consumption, prices will remain volatile. However, the LDC can begin by understanding the nature, magnitude, and interrelations of their risks. Planning reaches that while we plan for the probable we must be prepared for the unexpected. With respect to risks, we can determine most likely outcomes as well as the likelihood of deviation from the most likely. Managed collectively in a diversified portfolio approach, the total variation in outcome (i.e., income and cash flow) can be greatly reduced.

THE PILOT NATURE OF THIS PROPOSAL

Proven techniques exist for managing price risk and cash flows, but these techniques need to be introduced, understood and adopted to the special circumstances of public and private organizations in developing countries. These situations include:

- a scarcity of personnel trained in international commodities trade
- economies "mixed" and not completely centralized
- an unstable "political" environment
- a lack of foreign exchange and credit
- a generally poor infrastructure for trading

While we are convinced that techniques for managing price risks and cash flows can be exploited by developing countries, we believe that they will have to be modified to suit the particular circumstances of each organization and country.

Proposal for a Pilot Project

Even where a centralized price risk management group in a developing country might be perceived as necessary, a country's policy makers or a firm's management may hesitate to initiate comprehensive changes in their price risk management. No doubt they will ask: "Where is there such a system in practice?" and "What guarantees do we have that such a system will work for us?"

The centralized style of price risk management currently is utilized successfully by two main groups: international corporations and selected free enterprise and socialist countries. The disparateness of the user groups indicates that the centralized system of price risk management can be extremely efficient, regardless of economic or political goals. It is a management solution to the management problem of how to operate effectively in volatile, rapidly changing international commodity markets.

Adapting such a system to the needs of developing countries will take time and will necessitate a substantial educational and training process. Furthermore, in order to develop practical solutions to national price risk management problems, we need to work closely with national governments to understand the financial, legal and managerial changes necessary to develop a more disciplined approach for the management of their international commodities trading.

Currently, only large brokerage firms can afford the investment in marketing and education. Brokerage houses, however, have a very narrow perspective and a definite bias in their approach to a developing country's problems. Since brokerage houses traditionally are reimbursed by commissions, they tend to focus exclusively on the use of futures markets. Developing countries may not have the legal, economic, or managerial environment to use futures markets properly and, in some market circumstances, they should limit their activities to the cash and basis transactions.

To the extent that a development agency can use its resources to assist and/or subsidize a country's effort to improve its price risk management, changes will be forthcoming more readily. There is little doubt that if the project is successful the benefits to the host country will be substantial: improved GDP, lower fluctuations in GDP, better cash flow management of foreign exchange reserves, and improved performance on repayment of international debts.

Pilot Project Outline

The Pilot Project would have three phases:

1. Determining the Needs for National Price Risk Management.

In this first phase, the current system of purchasing and marketing would be assessed to determine the adequacy of current mechanisms for managing price risks. Past performance would be evaluated vis a vis international market averages. Current exposure in the international markets would be determined as well as its possible impact on balance of trade and debt repayment ability.

2. Determination of Required Structural Changes.

Certain legal, financial and administrative changes will be necessary to improve Price Risk Management. In conjunction with national and government officials, we will assess the required changes and recommend specific actions to effect these changes.

3. Establishment of the Price Risk Management Program.

Components of a comprehensive Price Risk Management Program would include:

- market information and price forecasting systems
- management control and evaluation systems
- annual review, planning and development of a national strategy in conjunction with national agencies
- coordination with national importers/exporters
- development of specific marketing/procurement plans for individual commodities
- recruitment and development of human resources