

# **RESEARCH PAPERS**

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## **RETHINKING POLICY OPTIONS FOR EXPORT EARNINGS**

This research paper was written by

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## ACRONYMS

ACP	The African, Caribbean and Pacific Countries
ANACAFE	Asociación Nacional de Café, Guatemala
APOP	Agricultural Products Options Programme, Mexico
ASERCA	Agriculture Marketing Agency, Mexico
CCFF	Contingency Compensatory Financing Facility
CDDCs	Commodity Dependent Developing Countries
CCF	Compensatory Financing Facility
COMPEX	System for revenue loss compensation for non-ACP LDCs
DAC	OECD's Development Assistance Committee
EC	European Communities
ECU	European Currency Unit
EDF	European Development Fund
EFF	Extended Fund Facility
ESAF	Extended Structural Adjustment Facility
ESF	Exogenous Shock Facility
EU	The European Union
FLEX	System, under the Cotonou Agreement, for stabilisation of sudden export earnings fall
FMO	Framework for Mutual Obligation
GCI	Global Commodity Insurers
GDP	Gross Domestic Product
HIPC	Highly Indebted Poor Countries
ICA	International Commodity Agreement
LDCs	Least Developed Countries
LLDC	Land Locked Developing Countries
MDGs	Millennium Development Goals
PRGF	Poverty Reduction and Growth Facility
PSRF	Forestry Revenue Security Programme
SAF	Shock-Absorber Facility
SBA	Standby Arrangements
SDR	Special Drawing Rights
SITC	Standard International Trade Classification
SSA	Sub-Saharan African Countries
STABEX	System for stabilisation of export earnings
SYSMIN	System for Stabilisation of minerals

**Organizations**

CFC	Common Fund for Commodities
DFID	Department for International Development
FAO	Food and Agricultural Organization
IMF	International Monetary Fund
OECD	Organization for Economic Cooperation and Development
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

## EXECUTIVE SUMMARY

The structure of International Trade has undergone a slow but definite transformation. Manufactures have gained prominence during the last half century but at the cost of primary commodities. However, primary commodities still continue to be the lifeline for a large part of the population in the third world countries. A large number of developing countries, especially in Africa, still depend heavily on a narrow basket of primary commodities for their exports. For example, Nigeria is predominantly dependent on petroleum and cocoa, whereas 95% of Ugandan exports consist of coffee and 95% of Zambian exports consist of copper and zinc.

It is estimated that some 2.4 billion people in developing countries are employed in agriculture, of which almost one billion are significantly dependent on the production of export commodities. The figure would be substantially higher if commodity production for domestic consumption and subsistence were also included.

Due to certain inherent peculiarities - for example low price elasticity of both demand and supply - the prices of primary commodities are extremely volatile in the short run and have a secular downward trend in the long run. Between 1997 and 2001, the United Nations Conference on Trade and Development (UNCTAD) combined price index of all commodities in US dollars fell by 53 per cent in real terms. Tropical beverages, along with vegetable oilseeds and oils, which comprise approximately one-fifth of Africa's non-fuel commodity exports, registered the highest rates of decline in real terms.

This makes the export earnings of the Commodity Dependent Developing Countries (CDDCs) fairly erratic on a year-to-year basis. To quote a few examples, Burundi is dependent on the export of coffee and tea to an extent of 87%. Between 1986 and 1987, the prices of coffee and tea fell by 37% and 20% respectively. As a result Burundi's annual exports fell from USD 154 millions to only USD 90 millions - a decline of almost 40%. In 1988, with a marginal improvement of 7% in coffee prices, coupled with an increased volume of exports, total exports rebounded to USD 132 million. However, they contracted drastically again in 1989 to USD 78 million only due to a 20% fall in coffee prices. In 2003, after a passage of more than 15 years, Burundi's total exports were only USD 37 million.

The instability in export earnings has severely impaired the growth of CDDCs and retarded their capacity for lifting their population out of abject poverty. Every dollar lost in export earnings is translated into a two-dollar loss in the gross domestic product (GDP). Research carried out by the UNCTAD secretariat indicates that if Sub-Saharan Africa 'Terms of trade' had remained at 1980 levels, coffee- and sugar-producing countries (in the case of the latter, those exporting to the free market) would have earned an additional USD 19 billions and USD 1.4 billion respectively, and West African cotton-producing countries an additional \$1 billion, if prices for these three products during 1999 - 2002 had remained at 1998 levels (when they were historically average). But for the decline in the terms of trade and associated losses for non-oil-exporting countries, the investment ratio would have been up by 6 percentage points a year, income growth by an additional 1.4 per cent a year and the current level of per capita income would have been as much as 50 per cent higher. According to another estimate, if prices for the ten most important agricultural commodities (in terms of export values) exported by developing countries had risen in line with inflation since 1980, these exporters would have received around USD 112 billion more in 2002 than they actually did. This is more than twice the total amount of aid distributed worldwide. Moreover export earning instability has been found to fuel political instability as well in these countries.

No strategy of 'Millennium Development Goals', espoused by the United Nations, will be successful unless the world, as a whole, shows the courage to adequately address the issues faced by these developing countries, and the developed world, in particular, shoulders greater responsibility.

In the past, some efforts were made in this direction. Some well known examples were the International Commodity Agreements (ICAs) - in the form of Buffer Stock operations and Export Quota Regimes. The International Compensatory Financing Mechanisms (ICFM) in the form of the Compensatory Financing Facility (CFF) of the International Monetary Fund (IMF) and the system for stabilization of export earnings (STABEX) of the European Community (EC) were other well known instruments. On the domestic front the countries themselves experimented with the devices of National Commodity Marketing Boards and *caisses de* stabilization. Unfortunately due to some inherent lacunas in all, none of them proved to be satisfactory.

Learning from these failures and taking advantage of technological developments in the last two decades, one can propose new, better, innovative and more viable policy options.

For example, the benign effects of the International Commodities Agreements, which used Buffer Stocks, among others, could be resurrected through 'Virtual Buffer Stock'. This would utilize an array of 'commodity derivatives' to maintain the prices within a predetermined band. In this way, the international agency charged with this task, would avoid the difficulties of physical storage, physical movement, and spoilage and thereby reduce the overall cost of administration as well.

One could also launch a multilateral effort to set up a 'Global Commodity Insurer', which would provide insurance to the CDDC Governments so that their 'revenues' are not adversely affected when exports decline due to lower global commodity prices. Such a scheme would even out the wild fluctuations of revenues faced by the CDDC Governments, although it would not offer any help to the private persons who are also equally affected by the downturns.

The market-based retail commodity derivatives offer a good hedging mechanism to farmers and other private operators but their efficacy may be lower in developing countries due to several factors peculiar to these countries. For example, there is a lack of institutional structure, poor credit ratings, asymmetry of information and problems with infrastructure, apart from the 'basis risk'. Nonetheless, keeping in mind their future utility, a sustained multilateral effort must continue to popularize them, as a supplementary instrument. Linking bank loans with hedging instruments will ensure that even during downturns, at least the repayment of bank loans incurred by farmers are taken care of without making farmers bankrupt - which recently led to a spate of suicides of cotton and onion farmers in India.

It is debt repayment which badly hurts CDDC Governments during export earning reversals. This could be partly overcome by modulating official debt repayments according to the export earnings of the country. In good years, repayments would be higher whereas during bad years, they could be reduced or stopped completely. A scheme for such modulations would require a concerted multilateral effort to set up and administer. If the private debts were also included, although this could cause more complications, the effect would be significantly countercyclical.

Similarly the current ICFM ought to be remodeled in order to have a 'countercyclical' rather than 'pro-cyclical' effect. Both the current export earnings stabilization facility of the EU (the FLEX) and the CFF of the IMF urgently need to be fine tuned to ensure prompt disbursement of finances on the basis of early warnings of export earning reversals. In the case of the FLEX, some of the restrictive clauses need to be removed. Moreover the limits of CFF need to be increased in tandem with a significant reduction of the interest rates and easing of repayment schedules.

Another good method could be to convert all the debts of CDDCs into their local currency so that these countries no longer have to bear the currency risk.



Moreover all these measures need to be supplemented by a good exchange rate mechanism. A flexible exchange regime which follows the price basket of major export commodities of a country has been advocated in order to maintain the domestic currency prices of commodities, thereby removing some of the vagaries of commodity production.

However, it is pertinent to note that none of these methods provide a foolproof solution. An array of efforts is required, acting in consonance. The major burden has to be shared by the improved compensatory financing schemes and remodulation of the debts of the CDDCs. These require massive international cooperation and most of the burden will have to be assumed by the developed world, which bears a moral responsibility in this regard..



## INTRODUCTION

“There is on the question of commodities a sort of conspiracy of silence. The solutions are not simple... But nothing justifies the present indifference.”

*President Jacques Chirac of France, in his address to the Twenty-Second Summit of the Heads of State of Africa and France, 20 February 2003(As quoted in UNCTAD, 2003a)*

Although the structure of International Trade has changed significantly in favour of manufactures, primary commodities remain extremely important for several developing as well as Least Developed Countries. A large number are still dependent on a limited basket of primary commodities for their exports. For example, Nigeria is predominantly dependent on petroleum and cocoa; whereas 95% of Ugandan exports consist of coffee and 95% of Zambian exports consist of copper and zinc. Due to their inherent peculiarities, primary commodities face extreme price volatility in the short run and secular decline in the long run. This adversely affects primary commodity growers directly, and severely hampers the ability of the Governments of these countries to improve the welfare of their impoverished populace. More than a billion people are still dependent on the production and export of primary commodities in these countries, especially in the Highly Indebted Poor Countries (HIPC), African, Caribbean and Pacific (ACP) countries and the Sub-Saharan African countries (SSA). Even today a major portion of these populations earns less than USD 1 a day. Therefore no strategy aimed at attaining the ‘Millennium Development Goals’<sup>1</sup>, especially that of halving the number of extremely poor people by 2015, will succeed without a conscious effort to address the issues of primary commodities<sup>2</sup>.

Several attempts have been made in the past towards ensuring commodity price stabilization commencing with the Havana Charter. They include, among others, International Commodity Agreements, Marketing Boards and International Compensatory Financing Mechanisms. Unfortunately, none of them proved to be satisfactory and primary commodities remain an area of concern.

Commodities, today, are plagued by several issues, and just a few are quoted here: a) market access, b) value chain, c) subsidies, d) price volatility and e) a long-term secular decline in prices.

This paper is an endeavour to explore the Export Earning Instability experienced by the Commodity Dependent Developing Countries (CDDCs) originating from price volatility and its associated issues which “...constrain the ability of many developing countries to attain a path of stable and sustained growth and employment creation that could benefit all segments of their population and allow them to reach the [Millennium Development Goals] MDGs” (UNCTAD, 2005). It also attempts to suggest better policy options keeping in mind the lessons learnt from past efforts.

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<sup>1</sup> The MDGs are the eight specific and measurable targets emerging from the Millennium Declaration of the UN in September 2000. One of the targets is to halve the number of extremely poor people in the world by 2015.

<sup>2</sup> ‘Millennium Development Compact’, page 17, in Human Development Report, 2003, [www.undp.org](http://www.undp.org)



## I. BACKGROUND: COMMODITY DEPENDENCE AND THE STRUCTURE OF TRADE IN DEVELOPING COUNTRIES

### I.1 Commodity Dependence in Developing Countries

During the last four to five decades, the composition of the international merchandise trade basket has changed significantly in favour of manufactures. Nonetheless the table below clearly indicates that the poorest and most vulnerable group of countries - the least developed countries, Sub-Saharan African countries (SSA) and the African, Caribbean and Pacific (ACP) countries - are still heavily dependent on primary commodities for their exports.

**Table 1**

<b>Share of main commodity categories in Export basket for different country groups in 2002 (in per cent)</b>						
CATEGORY	World	Developing economies	Africa	Developing economies: Oceania	LDC	Land-locked countries
Total	100	100	100	100	100	100
All food items	7	7	12	15	15	15
Agricultural raw materials	2	1	4	3	6	7
Ores and metal	3	3	5	22	7	14
Fuels	9	17	47	13	36	29
Non-ferrous metals	2	1	2	0	3	8
<b>Primary commodities, including fuels</b>	<b>21</b>	<b>29</b>	<b>68</b>	<b>53</b>	<b>64</b>	<b>66</b>

Source: UNCTAD Online Database (*Handbook of Statistics, 2003*)<sup>3</sup>

What makes the situation more complex and alarming is that these countries are heavily dependent on the export of a very few primary commodities thus making them even more vulnerable to price volatility, due to their lack of diversification. This is reflected in the very high concentration index<sup>4</sup> observed in the export basket of these economies, as can be seen from Table 2 below.

<sup>3</sup> The complete list of Countries included in the groups can be found on <http://www.unctad.org/Templates/Page.asp?intItemID=2187&lang=1>

<sup>4</sup> The concentration index suggests how narrow the export basket of the country is. A higher index reflects a narrower basket. The index used here is the Herfindahl-Hirschmann index, which is a measure of the degree of market concentration. Products have been expanded up to three digits of standard international trade classification (SITC) where the total number of Commodities is 239. It has been normalized to obtain values ranking from 0 to 1 (maximum concentration).

**Table 2**  
**Concentration indices of exports by country grouping<sup>5</sup>**  
**(2002)**

	Number of commodities exported	Concentration index
World	224	0.157
Developed economies	231	0.115
Developing economies	210	0.234
Developing economies: Africa	123	0.492
Developing economies: Oceania	56	0.479
Developing economies: Asia	217	0.22
Developing economies: America	213	0.1988
LDC	69	0.526
Land-locked countries	129	0.452
HIPC	124	0.416

*Source: UNCTAD Online Database*

The table shows that the Least Developed Countries (LDCs) have the highest concentration index of 0.526, as compared to 0.157 of the world as a whole and only 0.115 of the developed economies. The concentration is particularly high for the LDCs as a group and for countries in Oceania, Africa and HIPC.

Although some countries may technically show low exports of a large number of commodities, they derive the major share of their export revenue from one or two commodities. For example, the export basket of Nigeria contains 57 items. However, its revenue is predominantly from petroleum and cocoa. Similarly 95 per cent of Uganda's exports consists of coffee, and 95 per cent of Zambia's export basket is comprised of copper and zinc. The situation is aggravated by the fact that the income provided by export crops is essential for many smallholder farmers living in these countries. Of the 2.4 billion people who are employed in agriculture in developing countries, it is estimated that approximately one billion derive a significant part of their income from the production of export commodities.<sup>6</sup> The figure would be substantially higher if one included commodity production for national consumption and subsistence (Common Fund for Commodities (CFC), 2004). In Nicaragua, for example, coffee growing supports more than 40 per cent of the rural labour force.

Therefore, any disturbance in primary commodities will have a direct bearing on the livelihood of these people. For example, Oxfam estimates<sup>7</sup> that the collapse in world coffee prices directly

<sup>5</sup> Supra note-4

<sup>6</sup> REFERENCE it is the same CFC2004 page

<sup>7</sup> Oxfam, *The Coffee Market - A Background Study*, Oxford, Jan 2001

affected 125 million people who depend on it for their livelihoods (see United Nations, 2002: 5). The fact that in most cases it is the poorer strata of the population, which is involved in commodity production, further aggravates the problem.

Primary commodity markets face several challenges. However, this paper focuses on export earning instabilities in developing countries, emanating from the price fluctuations of primary commodities and suggests policy options to mitigate them.

## **I.2 The Commodity Problems**

Prices of primary commodities exhibit excessive short-term and medium-term fluctuations and long-term declines. Erratic short-term movements in commodity markets hamper economic decision making in commodity-dependent developing countries; while long-term declines of primary commodity prices exacerbate the deterioration in terms of trade and balance of payment imbalances, apart from perpetuating poverty by reducing the income of producers and farm workers.

### ***I.2. Commodity Price Volatility***

Primary commodity prices show large intra- and inter-year fluctuations. The gravity of this phenomenon could be gauged by a specially designed index called an 'Instability Index' which measures the percentage deviations of prices from expected prices at different times, derived from the best-fit trend line<sup>8</sup>. If prices are relatively stable, the magnitude of deviations will be small. If prices are very volatile, the average deviation size will be very large.

The 'Instability Index'<sup>9</sup> of different groups of commodities across different decades is given in the Annex 1. It appears that commodity price instabilities have fallen on aggregate. The price instability index for all commodities declined from 17.27 in 1970 - 79 to 14.21 in 1980 - 89 and to 9.32 in 1990 - 99. For all food items, the price instability index declined from 22.22 in the 1970s to 10.65 in the 1990s. Similarly, tropical beverages on aggregate have become less volatile with the instability index falling from 22.97 in the 1970s to 15.64 in the 1980s and 10.99 in the 1990s.

However, a desegregation of commodities shows that price volatility has in fact increased for some commodities of interest to developing countries while showing little or no decline for others. For example, the price instability indices of coffee, tobacco, cotton, wool, tropical sawnwood, plywood, rubber and crude petroleum have increased in the 1990s from their levels in the 1980s. The price indices of jute and cocoa have decreased only slightly in the 1990s.

The exact reason for the inter-decadal variation of indices may be different for different products. For example, for petroleum, the high indices of the 1970s are perhaps linked to the first oil crisis. Moreover these indices also contain the inherent instability of the US Dollar as a currency. Nonetheless, irrespective of the exact reason and root cause, it is clear that the instability of primary commodity prices is worryingly high for many commodities of export interest to developing countries.

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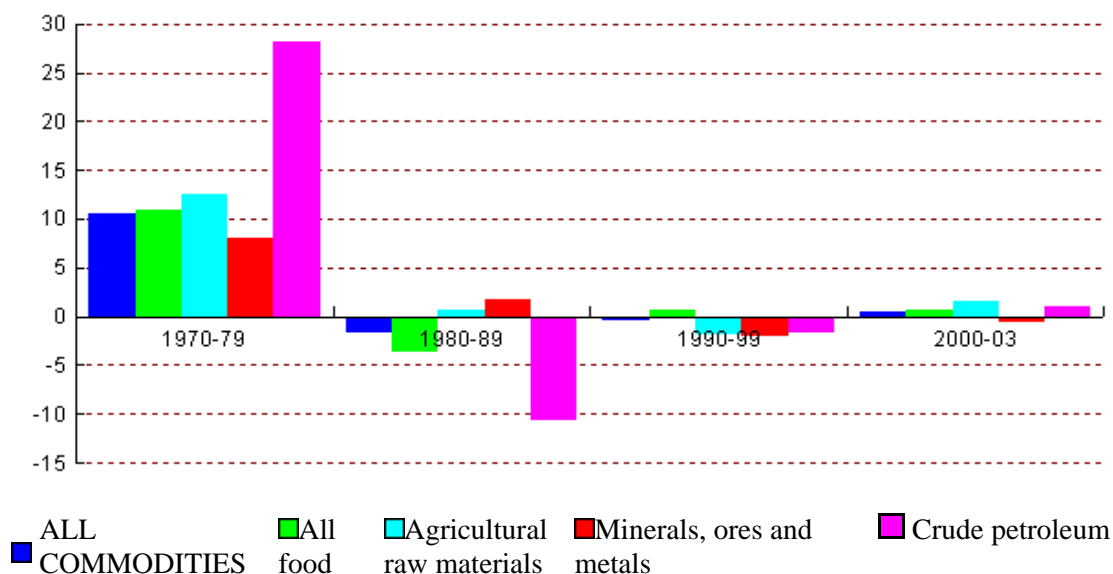
<sup>8</sup> The deviation is measured from the best-fit line of the observed values of prices

<sup>9</sup> See Footnote 71, *Infra*, in the Annex-3

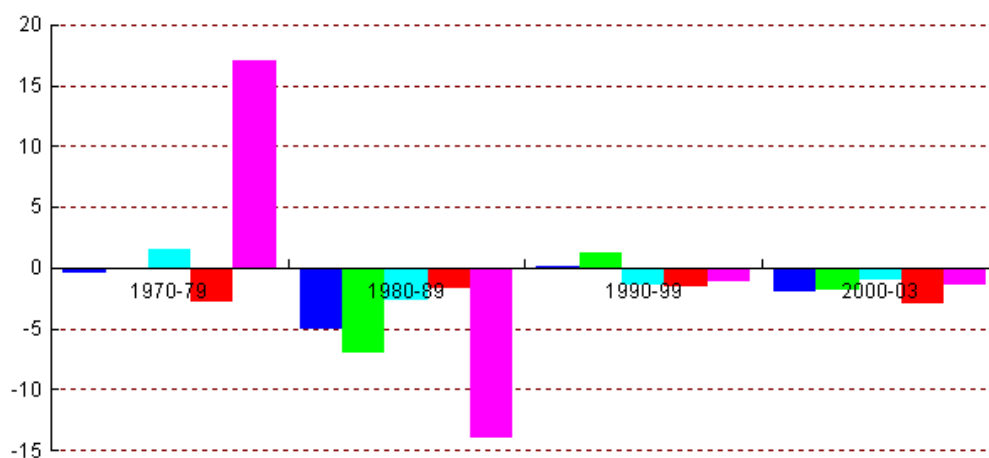
### 1.2.2 Long-Term Price Declines

Moreover, there is a constant deterioration in terms of trade for the CDDCs. Primary commodity prices are falling relative to those of manufactures. This is reflected in the fall of most commodity prices in both current as well as constant dollars over the last three decades, as shown in the bar chart below.

**Average price trends of primary commodities- annual percentage change (in current dollars)**



**Price trends of Primary commodities-average. Annual percentage change (in constant dollars)**



Source: UNCTAD Online Database



As a result, the CDDCs are facing a constant erosion in their terms of trade.<sup>10</sup> The Terms of Trade (TOT) data of selected developing African economies across the last few decades is shown in Annex 2 to this paper.

A high degree of price instability of primary commodities, coupled with worsening terms of trade, leads to a contraction in export earnings and instability in the CDDCs. To quote a few examples, Burundi is dependent on the export of coffee and tea to an extent of 87%. Between 1986 and 1987, the prices of coffee and tea fell by 37% and 20% respectively. As a result Burundi's annual exports fell from USD 154 millions to only USD 90 millions - a decline of almost 40%. In 1988, with a marginal improvement of 7% in coffee prices, coupled with an increased volume of exports, total exports rebounded to USD 132 million. However, they contracted drastically again in 1989 to USD 78 million only due to a 20% fall in coffee prices. In 2003, after a passage of more than 15 years, Burundi's total exports were only USD 37 million.

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<sup>10</sup> The so-called "net barter" terms of trade, defined as the ratio of the export unit value index to the import unit value index.

## II. REASONS FOR PRICE FLUCTUATIONS AND IMPACTS OF COMMODITY EXPORT EARNINGS INSTABILITIES

### II.1 The Reasons for Commodity Price Fluctuations

Commodity prices fluctuate in response to good or poor harvests caused by variations in weather conditions. Furthermore, by its very nature, the price elasticity of demand and supply of primary commodities is low. Such an inherent low price elasticity brings wide fluctuations in prices in the case of even small shocks in supply or demand. For example, several primary commodities are tree based. Their numbers and therefore production, unlike other manufactures, cannot be increased overnight on the basis of price signals. Similarly, neither can their supply be curtailed very easily. The prices of tree crops such as cocoa, coffee and tea, experience sharp fluctuations because of the multi-year delay in the adjustment of production to shifts in demand. It is the same case on the demand side. This also makes their supply and demand sticky, which coupled with the Prebisch-Singer hypothesis (explained in a later chapter) leads to long troughs and short peaks.

The cyclical income fluctuation in the consuming countries also influences commodity prices. Prices fall when restrictive policies are imposed to reduce inflationary pressures in the importing countries. The consequent slowing down of economic growth leads to a sharp decline in the demand for raw materials (Adebusuyi, 2004). The prevailing global exchange rate regimes also influence commodity price fluctuations. It has been observed that a flexible exchange rate regime has induced more volatility in commodity prices than a fixed exchange rate regime (Cuddington and Liang, 2003). Similarly the individual exchange rate regimes of countries also affect volatility. For example a Dollar peg regime will cause more volatility when the country's major trading partners are in the EU (Frankel, 2005).

Moreover most commodity prices are currently quoted in US dollars. Therefore the volatility of commodity prices is not only caused by reasons attributable to commodities themselves (for example demand and supply), but also to the volatility of dollar as a currency. Therefore they are affected by US inflation, US monetary policies, etc. (Mundell, 2002).

Furthermore since the holding of inventories of virtually all primary commodities, even the non-perishable ones, tends to involve significant costs, they are in turn significantly affected by the prevailing rate of interest. Thus movements in the rate of interest, which affect the costs of holding these inventories, may lead to variations in the prices.<sup>11</sup>

Most basic commodities are fairly standardized so their prices are less sticky compared to other manufactured goods, which are slightly differentiated. As a result whenever any change in monetary policy takes place, the prices of basic commodities adjust very quickly, and in fact overreact compared to their long-term value. This is akin to Dornbusch's overshooting model of exchange rate. Therefore the prices of basic commodities are inherently more volatile (*ceteris paribus*) compared to other manufactured goods (Frankel, 1986).

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<sup>11</sup> A good correlation analysis between interest rates and commodities prices, by Jeffrey Frankel of Kennedy School of Government is available on [http://ksghome.harvard.edu/~jfrankel/CommodityP&R\\_Plots\\_&\\_Regr.pdf](http://ksghome.harvard.edu/~jfrankel/CommodityP&R_Plots_&_Regr.pdf)

## II.2 Impacts of Export Earning Instability

Export earning instability, specifically, and economic volatility, generally, restricts economic growth (Aiello 2000, Collier et. al. 2000; Combes and Guillaumont 2002; Dawe 1996; Dehn 2000; Fosu 1992; Guillaumont, Guillaumont Jeanneney, and Brun 1999, Ramey and Ramey 1995). Price shocks and the ensuing export price vulnerability have both a microeconomic and macroeconomic impact on growth and development.

A country's vulnerability to price shocks and the consequent export price instability depends on the relative magnitude and interaction of three components: the size of the shock or price instability, the exposure to the shock, i.e. the channels through which the shock is transmitted to the economy, and its resilience, i.e. the capacity to react to, or to manage, the shock (Combes and Guillaumont, 2002).

The magnitude of the effect caused by commodity price shocks was studied by Collier and Dehn in case of 47 large negative export price shocks (Collier and Dehn, 2001). The typical shock was a 40% fall in the price of the country's exports, one year on the next, representing a loss of around 7% of GDP. They studied its impact on the growth of the economy in the following three years. They found that on an average the economy went into a recessionary tailspin, with output contracting cumulatively by around 14%. Thus, each dollar lost through exports triggered a further loss of two dollars of output (ibid). The problems were aggravated by the fact, as observed by Dehn (2000), that although per capita growth rates are significantly reduced by large discrete negative commodity price shocks, positive commodity price shocks and commodity price uncertainty do not exert an influence on economic growth.

### II.2.1 Impact on Investments

1. A fall in the terms of trade caused by the variability in prices of primary commodities leads to a contraction of GDP and investment levels in the CDDCs.
2. By disrupting signals about long-term market trends, this instability leads to poor resource allocation and, hence, to lower factor productivity.
3. On the microeconomic level, since unstable markets cannot provide a reliable indication of the relative profitability of alternative lines of investment, risk-averse investors become hesitant to invest in sectors that are subject to high volatility. Furthermore, in the agricultural area, when international price instability is transmitted directly to agricultural producers, its effects are more damaging to agricultural supply as producers are often poor and unable to obtain insurance (Adebusuyi, 2004). In such circumstances, farmers are inclined either to scale back their investment and innovation owing to their apprehension about using riskier techniques or, in a period of price drops, even to forego educating their children - a rather irreversible outcome (Guillaumont et al, 2003).
4. High-price instability of a country's commodity exports has an impact on the rate of domestic savings and also tends to favour investments (e. g. financial assets) for short gain, whereas low-price instability would tend to favour long-term investment in productive assets. In other words, private investment may be channelled into domestic projects with short-term profits rather than into more risky ventures, even though the latter may reflect the country's comparative advantage. (A. Maizels, 2000).
5. High export instability tends to exacerbate the general climate of business uncertainty, and can lead to capital flight if savers prefer to invest abroad.

6. The instability of commodity prices also constrains economic development through the resulting variability in imports of capital and intermediate products (Adebusuyi, 2004).

### ***II.2.2 Revenue Loss***

7. Unstable earnings might also discourage farmers from producing for export markets and can lead to a future fall in export earnings and GNP (Adebusuyi, 2004).
8. Research carried out by the UNCTAD secretariat indicates that if the terms of trade for Sub-Saharan Africa had remained at 1980 levels, coffee- and sugar-producing countries (in the case of the latter, those exporting to the free market) would have earned an additional USD 19 billion and USD 1.4 billion respectively, and West African cotton-producing countries an additional USD 1 billion, if prices for these three products during 1999–2002 had remained at 1998 levels (when they were historically average). But for the decline in the terms of trade and associated losses for non-oil-exporting countries, the investment ratio would have been up by 6 percentage points a year, income growth by an additional 1.4 per cent a year, and the current level of per capita income would have been as much as 50 per cent higher (UNCTAD, 2001: 36; United Nations, 2002: 5). According to another estimate, if prices for the ten most important agricultural commodities (in terms of export values) exported by developing countries had risen in line with inflation since 1980, the exporters would have received around USD 112 billion more in 2002 than they actually did. This is more than twice the total amount of aid distributed worldwide (FAO, 2004: 21).

### ***II.2.3 Adverse Impact on Exchange Rate Stability***

9. At the macroeconomic level, unstable international prices, insofar as they lead to instability in export earnings, are also a factor responsible for real exchange rate instability - that is, instability in the relative price of tradable and non-tradable goods, which occurs regardless of the nature of an exchange rate regime (Guillaumont et al, 2003).
10. Moreover, the impact of export earning fluctuations on the real exchange rate is not necessarily symmetric, notably owing to domestic price rigidities. An increase in export earnings during a boom period results in an appreciation of the real exchange rate, and in a loss of competitiveness of tradable goods sectors that are not associated with the boom (a phenomenon generally referred to as the “Dutch disease”). In a fixed exchange rate regime, the shortfall in export earnings is usually unlikely by itself to generate a real depreciation that would improve competitiveness; in a floating exchange rate regime, the nominal depreciation may be much more important than the earlier appreciation, owing to imported inflation (Guillaumont et al, 2003).

### ***II.2.4 Adverse Impact on Public Finance***

11. The instability of export earnings also extends to public finance, and may generate serious imbalances. The relative ease of collecting taxes on international trade, and the lack of alternative “tax handles” in several developing countries mean that government revenues in these countries, especially African countries, depend heavily on taxes levied on exports and imports. This makes fiscal earnings highly vulnerable to changes in the value of export earnings (Guillaumont et al, 2003). According to the Economic Commission for Africa, over the period 1991–2001, import duties comprised 34 per cent and 22 per cent of government revenues respectively in the least developed and non-least developed countries of Africa compared to an average of 15 per cent for developing countries (UNCTAD-2003a). Similarly for a group of 19 African countries, trade taxes as a percentage of GDP was about 5.5 per cent in 1995, compared

to the average of just over 3 per cent of GDP for other developing-country regions, and less than 0.5 percent in the Organisation for Economic Cooperation and Development (OECD) (Ebrill et al., 1999).

12. During expansionary periods, the growth of tax receipts, as well as providing an easy recourse to external borrowing, leads to an increase in public expenditure. This results in public deficits during periods of declining prices. These deficits are in turn difficult to absorb, owing to the downward rigidity of expenditures, especially those on wages and salaries. As a result, inflation and public indebtedness become a chronic problem (Guillaumont et al, 2003). Schuktnect, (1999) provides clear evidence that coffee booms tended to lure governments into unsustainable increases in expenditures and find themselves locked into them when revenue falls again.
13. Amongst public expenditures, debt service is likely to be most affected by commodity price shortfalls. The recurrent payment incidents in sub-Saharan African countries are easily explained by the size of the shocks as compared to budgetary resources. The HIPC initiative and its bilateral complements admittedly aim at restoring long-term debt sustainability, but they do so in a framework that does not take into account the risk of transitory but major price shocks, likely to lead to a severe liquidity crisis. Upon the occurrence of such a crisis, without appropriate support, the countries are not able to meet their debt service obligations and thus may be subject to sanctions. External financing is then interrupted, while the country's rating on financial markets suffers a severe and durable deterioration. The ensuing recession is likely to transform the initial liquidity crisis into a new solvency crisis (Guillaumont et al, 2003). For example, 10 African countries<sup>12</sup> that have been seriously affected by declines in export prices are currently projected to have the NPV of debt-to-export ratios above the sustainability threshold at their completion point under the enhanced HIPC Initiative. Uganda, one of the six African countries currently at completion point, has already found itself in an unsustainable debt situation on account of steep declines in the price of coffee (IMF and World Bank, 2002: 17–18), and completion point debt relief for Burkina Faso had to be topped up by USD 129 million because of the decline in the price of its main export, cotton (UNCTAD, 2003a).
14. Besides debt service, public investment constitutes one of the most flexible components of public expenditures. Its instability, induced by that of exports, results in a lower average rate of return, due to the low return of many investments launched in boom periods, compared to the higher return of those given up when shortfalls occur (Guillaumont, Guillaumont Jeanneney, and Brun 1999).

#### ***II.2.5. Adverse Impact on Governance & Political Stability***

15. Through the channels mentioned above, the instability in export earnings and the related relative price instability are likely to lead to political instability, due to their significant impact on absolute and relative incomes (Guillaumont et al, 2003). Thus, this export (price) instability may be an important explanation for the relation found between the share of primary commodities in exports and the risk of conflicts: Collier and Hoeffler (2001), who emphasized this relationship<sup>13</sup>, suppose that the presence of primary commodities gives rise to rent-seeking behaviour, and favours the financing of rebels. However, the instability of export earnings - greater when exports are mainly primary commodities - exacerbates feelings of frustration.

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<sup>12</sup> These are Benin, Burkina Faso, Chad, Ethiopia, Gambia, Guinea-Bissau, Malawi, Rwanda, Senegal and Zambia.

<sup>13</sup> In their World Bank Paper- 'Greed and Grievance in Civil War', Collier and Hoeffler (2001) observe that "The effect of primary commodity exports on conflict risk is both highly significant and considerable. At peak danger (primary commodity exports being 32% of GDP), the risk of civil war is about 22 percent, while a country with no such exports has a risk of only one percent."

When the instability of exports, weighted by the rate of openness, is included in a conflict determination model *à la* Collier-Hoeffler, not only does the risk of conflict increase significantly, but also the significance of the share of the primary commodities in exports vanishes (Chauvet and Guillaumont 2003). The impact of export earning instability on political instability therefore seems to be an important channel through which growth sustainability is disrupted (Arcand, Guillaumont and Guillaumont-Jeanneney 2001).

16. Primary commodity dependence also leads to poor governance (Collier, 2002). The association between primary commodity dependence and poor governance can be due to various routes which have been dealt by Sachs and Warner (1995); Auty (2001) and Pritchett et al. (2002).

In view of the above it appears to be reasonably clear that the Export Earning Variability of the CDDCs, induced by commodity prices, indeed adversely affects the growth of their economies.

### **III. PAST AND CURRENT POLICY APPROACHES FOR DEALING WITH EXPORT EARNING INSTABILITY AND THEIR LACUNAS**

This chapter will deal with the various methods propounded in the literature for handling Export Earning Instability. It will give brief details of each of them and analyse pros and cons. Chapter IV will discuss some schemes which were actually implemented in past and their efficacy. Chapter V will deal with some more innovative solutions, using the theories described in this chapter.

The price fluctuations observed in primary commodities could be broadly subdivided into three classes:

- a) Short-term fluctuations, where the time period of variations is less than a year
- b) Medium-term variations where the duration is more than a year and
- c) Secular long-term decline in primary commodity prices, partly explained by the famous Prebisch-Singer hypothesis<sup>14</sup>.

The abovementioned three different types of price fluctuations require different policy responses. This calls for an understanding of the relative importance and prevalence of the three problems. For example, the short-term fluctuations may perhaps be taken care of, to some extent, using the normal hedging instruments available in the commodity markets whereas the medium-term shock may perhaps be better handled through buffer stock operations or compensatory financing mechanisms. On the other hand, long-term fluctuations may require certain mechanisms to stimulate demand or diversify commodity production in the supplier countries, both horizontally as well as vertically.

According to an IMF study, of the 44 commodities studied, shocks lasted less than five years, on average, for only 17 commodities, of which just 7 experienced shocks lasting less than one year (Cashin et al, 1999). Nonetheless the long-term trends in commodity prices are completely overwhelmed by the magnitude of observed variance of price movements. Therefore though there is a downward trend in real commodity prices (Prebisch-Singer hypothesis - which calls for a different type of policy initiatives), it is the rapid, unexpected, and often large movements in commodity prices that are an important feature of their behaviour (Cashin and McDermott, 2002). It therefore implies that mitigation of the short-term and medium-term shocks should be an immediate area of concern for the policy makers.

#### **III.1 Policy Approaches for tackling Commodity Price Volatilities**

The export earning instability of the CDDCs can be attacked from several angles, although none of them offer a foolproof solution.

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<sup>14</sup> The hypothesis states that owing to the low-income elasticity of demand for commodities and because total factor productivity increases have been smaller for manufactured goods than for primary commodities, the price of commodities relative to manufactured goods should decrease over time.

### ***III.1.1 Supply Management***

As discussed earlier the price variation of primary commodities is exacerbated by the relatively inelastic supply of the commodities. Modulating the supply, so that the apparent price elasticity of supply is increased, could stabilise commodity prices within a band or a minimum price could be maintained. Some of the better known mechanisms are International Buffer Stocks Operations, Export Quota Control, Management of National Stocks, Measures to reduce the total Supply, Variable Export Levy and Restrictions on Exports of Poor Quality Stocks.

The basic philosophy behind a buffer stock scheme is to buy commodities when the market prices are below the perceived long-term equilibrium prices and sell them when they are above the equilibrium prices. This may lead to a relative stability of market prices within the predetermined price band.

#### ***Main Lacunas of buffer stocks***

- a) The main problems faced in any buffer-stock-based scheme are how to assess the long-term equilibrium prices and how to distinguish between a medium-term shock and a long-term price shock. This is relevant because setting the intervention level too high would encourage un-economic levels of production in producer countries (apart from the fact that such a scheme would be open to speculative attack by arbitrageurs who would be able to trade against the upper and lower intervention bounds with little risk).
- b) From the policy perspective if the upper or lower intervention band in a buffer stock scheme is set respectively below or above the true long-run equilibrium price level, or if a deterministic trend occurs in the equilibrium price level, or a unit shock occurs that persists and results in a step change in the equilibrium price level, then the upper or lower intervention bands will eventually be permanently breached and the scheme will inevitably collapse. In effect, the buffer stock scheme will be forced into the position of permanent buyer or seller, and effectively transformed into a producer or consumer subsidy scheme requiring a permanent flow of new finance to sustain it.
- c) Stochastic trends may also cause a buffer stock scheme to collapse if intervention bands are breached for a sufficiently long period of time such that the initial stock of the commodity is exhausted by high prices or the stock of finance is exhausted by low prices (Bower and Kamel, 2003). Newbery and Stiglitz concluded that, for all practical purposes, complete price stabilisation through a buffer stock scheme is impossible. They state that “the benefits of price stabilisation are comparatively small compared with the likely cost of operating buffer stock(s) and that they are not necessarily distributed in favour of the producers” (Newbery and Stiglitz (1981) as quoted in Bower and Kamel, 2003).
- d) Moreover buffer stock operations are based on the assumption that the imbalance between supply and demand is of a temporary nature, and that it would be possible for the agency to dispose of the stocks it has built up to defend the floor price when prices firm up as a result of reductions in production or increases in demand. In the present situation where stocks amounting to nearly one third of the estimated consumption are available in producing and consuming countries, if a buffer stock agency were to enter into the market, it would be only saddled with stocks, which it would not be able to dispose of on the world market, except at heavy losses (WTO, 2003).

Contrary to the buffer stock scheme, which endeavours to keep commodity prices at a predetermined floor and cap, the objective of international export quota control may be to extract higher prices for the



commodities concerned by maintaining a tight control over supplies. The practical difficulties faced by any export control mechanisms are summarized below:

- It is difficult to distribute the quota among the countries as relative production may vary from year to year. If current production in the country is taken as a parameter to fix the quota, members will have an incentive to promote more production in their country, which may further aggravate the problem of oversupply. If it is based on historical production, it may prove unjust to low-cost and new producers.
- As observed in any Cartel, policing it is difficult, especially when the number of participants is high. High export prices coupled with low domestic prices, provides each one of them with an incentive to cheat.
- Although export prices may be maintained higher through this arrangement, it wreaks havoc with domestic prices as they become disconnected to the international demand and supply leading to very high variability. Therefore in countries, where domestic consumption of the produce is also sizeable, producers selling goods on the domestic market may suffer badly.
- Unrealistically high prices and relatively sticky export quotas lead to distortion in both production as well as consumption. On the production side, it leads to overproduction in high-cost areas and on the demand side, it leads to underconsumption.
- Unrealistically high prices induced by this system give an incentive to the invention of synthetic replacements of the commodities, which may harm producers in long run.
- Such a system generates the problem of free riders because the country, which opts out of such an arrangement, gains the most as it can sell any quantity at increased prices.
- Export quota arrangements may soon be threatened by new producers/sources of supply. Coffee production in Vietnam is a good example of this.
- Another major detrimental effect of an export quota is that it creates quota-rent, which stimulates rent-seeking activities. Rent seeking could be defined as activities intended to obtain value (income) without carrying a commensurate cost or burden. Rent-seeking activities always require government involvement through quota allocations; and indeed rent-seeking is all about getting the quota right. The rent-seeking argument explains why export controls through quotas are inefficient as the potential benefits from export controls would be appropriated by bureaucrats and individuals who have the quota right with little or no benefit transferred to producers/farmers (Jarvis (2003 and 2004) and Bohman et al (1996) as quoted in South Centre (2004)).

### ***III.1.2 International Compensatory Finance Mechanism***

As discussed earlier, the CDDCs face export earning instability, which cuts their growth. Timely international support in the form of compensatory finance may be useful in saving them from this downturn. The International Compensatory Finance Mechanism can either take the form of an infusion of cash during the export downturn, can comprise a debt readjustment scheme or could be a combination of both. The cash infusion schemes, again, could be either an infusion of repayable loans (concessional or non concessional) or could be grants.

## **Major Lacunas**

The major lacunas observed in such schemes are delays in disbursement of finances, taking away its effectiveness and its ability to act in a countercyclical<sup>15</sup> manner, difficulty in designing correct trigger points - whether a fall in an individual commodity price should be taken into account or whether it should be the entire export basket - and a lack of *ex ante* distinction between a mid-term price shock or a very long-term structural change in prices. Another dilemma faced by any compensatory finance system is that whether it should infuse funds to the Government concerned or the exporters and producers concerned and how to ensure that the funds reach the correct recipients.

### **III.1.3 Use of Market-based Risk Management Instruments**

The market-based risk management instruments try to reallocate the price risk among the various players in the commodity markets. Risk management markets essentially provide mechanisms to exchange and redistribute risks from those unable or unwilling to bear them to those who wish to benefit from taking them on.

The most commonly traded market-based risk hedging instruments range from simple forwards and futures to commodity options and swaps.

## **Main Lacunas**

The following problems are faced while undertaking a market-based approach:

- i) Even today, price risks for some agricultural products important to many developing countries, such as rice and tea, cannot be transferred through established commodity exchanges.
- ii) Currently, traded market instruments are generally of a shorter duration. Therefore they may not prove useful in handling the medium-term and long-term price shocks in commodities.
- iii) Lack of local market infrastructure: private providers of risk management instruments have access to timely market information, but their counterparts in developing countries do not. This situation results in asymmetric information about market prices and hedging opportunities. In addition, local entities (banks, traders, wholesalers, cooperatives) typically lack the expertise to use intermediate risk management instruments. In addition, many of these entities are undercapitalized, often facing significant risks of business failure<sup>16</sup> (World Bank, 1999).
- iv) Lack of adaptability and trust: instruments available in risk management markets do not always respond to the needs of developing countries. For example, developing countries typically need longer maturities, a smaller contract size, a different quality of the

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<sup>15</sup> The objective of a compensatory financing scheme is to maintain the foreign exchange flow of CDDCs during the downturn of the commodity markets and thereby avoid large fluctuations/export earning instability. If the infusion takes place during the downturn, it is said to be countercyclical as it reduces the gap between peaks and troughs. If infusion takes place when the commodity markets are rebounding, it is said to be procyclical and will therefore exacerbate the problem of export earning instability.

<sup>16</sup> In several countries, legal and regulatory restrictions exist for derivatives trading and flows of foreign exchange. See Budd, N. 1995. "Legal and Regulatory Aspects of Financing Commodity Exporters and the Provision of Bank Hedging Line Credit in Developing Countries," *Natural Resources Forum*, 19(2), pp.99-105.

commodity, or contracts for a commodity not actively traded in international markets. Moreover, there is a trust gap between users and providers of risk management instruments that is exacerbated by many cases of misuse and abuse of these instruments (World Bank, 1999).

- v) There is a higher degree of credit risk involved in doing business in countries whose sovereign rating is of a non-investment grade. This increases the price of hedging instruments offered in these CDDCs putting them further out of the reach of a common farmer.
- vi) Moreover, the lack of access to credit markets limits the accessibility of internationally traded commodity derivatives for producers in developing countries (Gilbert, 1986 as quoted in South Centre, 2004).
- vii) The operations of the financial derivatives are technically too complicated for producers in developing countries to comprehend (South Centre, 2004).

## IV. LESSONS FROM THE PAST/ONGOING SCHEMES

In past, several schemes have been put forward incorporating some or several of the philosophies, explained earlier. The present section will briefly discuss them with a view to understanding them and drawing important lessons.

### IV.1 International Compensatory Finance Schemes

This section will discuss several important schemes put forward by different agencies with a view to understanding the mechanism and drawing important lessons.

#### *IV.1.1 The Compensatory Financing Facility/ the Contingency Compensatory Financing Facility*

The IMF started the Compensatory Financing Facility (CFF) Scheme in 1963, after a decade long debate under the aegis of United Nations. It was later modified in 1988 and is now known as the Contingency and Compensatory Financing Facility (CCFF). It was again modified in the year 2000, although no country has used it since then. The objective of the CFF/CCFF is to smooth the effects of a temporary, exogenously-caused shortfall in merchandise export receipts (over a 12-month period) below the medium-term trend (five-year geometric average) in a particular country.

The CFF/CCFF sought to provide the capacity to smooth national consumption in the presence of a temporary shock to export earnings in countries that either lack sufficient reserves or have limited access to borrow externally. Originally only merchandise exports were considered, which was further expanded in 1979 to include the shortfall experienced in some services exports as well. In 1981, even excess cereal imports were also incorporated.

The eligibility requirements for access to the compensatory financing element of the CCFF include a *temporary* export (both of merchandise as well as some services) shortfall and/or excess cereal import, which is attributable to factors largely beyond the control of authorities<sup>17</sup>; the country's having a balance-of-payments problem<sup>18</sup>; and a willingness to cooperate<sup>19</sup> with the IMF to address the problem (UNCTAD, 2003a). The financial terms are a period of typically 12–18 months, whilst repayment is normally expected within 2¼–4 years unless an extension is approved. The CFF loans carry no surcharge. It was hoped that this instrument could, potentially, play a major role in alleviating the effects of price shocks and their destabilizing impact on incomes. A few provisions were made that requests for compensatory financing are met in a timely fashion, in particular that a request cannot be

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<sup>17</sup> Although this is often a matter of judgment, fluctuations in world prices are typically considered beyond the control of the member, except when the member is a dominant producer. By contrast, a decline in export volume due to imposition of trade or quota restrictions imposed by a member on its own exports would be regarded as within the control of that member.

<sup>18</sup> It is expected that the balance of payments situation of the country is satisfactory and the current problem arose out of the temporary export shortfall, or else withdrawals will be allowed only with conditional arrangements.

<sup>19</sup> Before year 2000, the access limit was dependent on the country's degree of cooperation with the Fund in the past.

made later than six months after the end of the shortfall year, and, in cases where the authorities foresee a shock, that the calculation for the shortfall year may include up to 12 months of estimated data.<sup>20</sup>

### Experiences of the CFF

The CFF scheme started off with very little conditionality<sup>21</sup> as the assumption underlying the facility was that the occurrence of an export shortfall did not of itself create a presumption that adjustment was necessary. Over time, the Fund has been tightening the access to the compensatory financing facility by defining the required degree of "cooperation" of a country in terms either of a conditional arrangement with the Fund or of a set of policies that would qualify for such an arrangement. The net result has been that, in later years, far fewer countries have received CFF drawings and that the overwhelming majority of them qualified on the ground of having a conditional arrangement (stand-by arrangements (SBAs) , Extended Fund Facility (EFF), Shock-Absorber Facility (SAF), or extended Structural Adjustment Facility (ESAF)/ Forestry Revenue Security Programme (PSRF))<sup>22</sup> (Polak and Reisen, 1991).

**Table 3**  
**Number of drawings under the compensatory financing facility**  
**by 4-year periods**

<b>Fiscal years</b>	<b>Total</b>	<b>Without conditional arrangement</b>
1979-82	79	28
1982-86	59	13
1987-90	23	1

*Source: IMF, Annual Reports (cited in Polak, 1991)*

The CFF drawings are subject to an upper quota limit of 55 per cent. The quota of a country is the funds which a member country has to contribute to the IMF pool of resources and is used to decide the quantum of assistance to that country at different times under different schemes. The 55 per cent upper limit is granted only to a member whose balance-of-payments position is satisfactory<sup>23</sup> and on condition that the balance-of-payment difficulty that the member faces is caused only by falls in commodity prices or surges in cereal imports. Depending on how high or low an opinion the IMF has on the member's policies and its recent policy record, the limit may be set at 45 per cent, 20 per cent or 10 per cent of quota - or of course at zero. Nor can it be assumed that any compensatory amount for

<sup>20</sup> <http://www.imf.org/external/np/ccffbsff/review/index.htm>

<sup>21</sup> In the terminology of the International Monetary Fund, "conditionality" refers to the policies the Fund expects a member to follow in order to be able to avail itself of credit from the Fund

<sup>22</sup> The EFF and SBAs are non-concessional programmes whereas ESF and the Poverty Reduction and Growth Facility (PRGF) which replaced the ESAF in 1999 are concessional programmes of the IMF.

<sup>23</sup> Hence, the member does not need to undertake adjustments in its balance of payments.

which the country qualifies is wholly additional to its access under a stand-by arrangement or an EFF concluded at about the same time (Polak and Reisen, 1991).

Few countries availed themselves of CFF funds in the 1990s. In recent years Russia has been the dominant user, mostly on its oil and gas accounts and today the scheme has almost become defunct. In the year 2001, post 9/11, several countries faced a drastic fall in their export revenues, mainly related to tourism receipts. At least 19 member countries, mainly in the Caribbean and Middle East experienced a loss of revenue of more than 50% of their quota. Similarly, several African Countries faced major increases in cereal imports. Still none of them availed themselves of the CFF facilities, highlighting the underlying lacunas of the scheme in its current format<sup>24</sup>.

### ***Main Lacunas***

The main lacunas in the CFF scheme, which any new policy should try to take into account, are as follows:

- Loans under CFF are subject to non-concessional interest rates under IMF's market-related interest rate, known as the "rate of charge". The rate of charge is based on the Special Drawing Rights (SDR) interest rate, which is revised weekly in order to take account of short-term interest rate movements in major money markets. As of 31 August, 2005, the rate of interest was 3.91 per cent while the concessional loan rate under the Poverty Reduction and Growth Facility (PRGF) was only 0.5 per cent.
- Repayment periods are lower than comparable schemes of the PRGF. The length of CFF is 12-18 months and repayments are normally expected within 2.5 - 4 years, whereas, loans under the PRGF are to be repaid over a period of 5.5-10 years.
- Macroeconomic conditionalities are often attached to CFF/CCFF making the loans less acceptable to the recipient countries. This is because debt conditionalities often reflect the ideological bias of the IMF and pay little regard to the economic interests and development priorities of the recipient countries.
- There is a delay in the disbursement of financial resources under the CFF/CCFF. Delays in disbursement meant that they are procyclical rather than contracyclical.
- The 55 per cent quota, which is the ceiling level, for the amount of the financial disbursement under the CFF/CCFF, is much lower than that of other comparable IMF schemes. For example, assistance under the PRGF is normally up to 140% of members' quota and in exceptional cases it can go up to 185%.
- No compensatory financing mechanism can handle long term or permanent shocks as income-stabilizing schemes providing compensatory finance (such as the IMF's CCFF) are predicated on the assumption that the temporary shortfall in export earnings will be self-reversing. This assumption will not hold true (on average) where the shortfall in export earnings (for a given supply) is caused by an adverse price shock to commodities that are subject to long-lived price shocks. As mentioned earlier, of the 44 commodities studied by Cashin et al (2000), shocks lasted less than five years for only 17 commodities, of which just 7 experienced shocks lasting less than one year.

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<sup>24</sup> <http://www.imf.org/external/np/pdr/ccff/eng/2004/021804.pdf>

### ***IV.1.2 System for Stabilisation of Export Earnings (STABEX)***

The STABEX was introduced by the European Communities in 1975 under the Lomé I Convention with the objective of providing support to African, Caribbean and Pacific countries in case of shortfalls of exports due to fluctuations in export prices or domestic supplies of primary commodities.

The STABEX, under Lomé I, covered 11 agricultural products (28 sub-products) and iron ores (Art 17 of the EU-ACP Lomé Agreement<sup>25</sup>). A particular product (covered by the Lomé I Convention) from a country in ACP was eligible for support under the STABEX when the export share of the product within the country's total merchandise export equalled or was above 7.5 per cent. However, for sisal the threshold dependency level for support was only 5 per cent. In addition, for LDCs and Landlocked ACP countries, the dependency threshold was only 2.5 per cent for all products. For the eligible products, a reference level was calculated, productwise, which was an average of the four preceding years (Art 19.1)<sup>26</sup>. In addition, the trigger price fall for financial transfers was 7.5 per cent below the reference price level. For LDCs and Landlocked ACP countries, the trigger price fall from the reference price was 2.5 per cent. (Art 19.2). In essence, if in a particular year, the export income from a particular eligible product was at least 7.5 per cent (2.5 per cent for the LDC and Landlocked countries) lower than the reference level, the ACP countries were eligible for STABEX support.

Certain provisions of the STABEX were later modified. For example, in Lomé II, the product coverage was increased to 44 and the dependency threshold was raised to 6.5 per cent. Even the trigger threshold was dropped to 6.5 per cent (2 per cent for the LDC and Landlocked countries)<sup>27</sup>. They were further revised in Lomé III and the Lomé IV dropped the trigger threshold altogether. From Lomé IV, all transfers were made as grants.

### ***Conditionalities and their Evolution***

Prior to Lomé IV (1990-2000), the STABEX system had almost no conditionalities concerning the use of funds. Nevertheless, soft conditionalities were gradually introduced. Lomé I had given freedom to the ACP recipients to decide the end use of those funds, which carried no interest and had to be repaid in five years (treated as a grant for LDCs), but they had to submit a report to the Commission on the use of funds.

*Article 20 of the Lomé Convention states that "the recipient ACP State shall decide how the resources will be used. It shall inform the Commission annually of the use to which it has put the resources transferred."*<sup>28</sup> The Lomé II (1979) required a proposal on the intended use and a report on the actual use of funds. Under Lomé III (1984), reports on the use of funds had to be sent within twelve months of signing of the transfer agreement (Art 173.1). Lomé IV (1990-2000) has made substantial changes: all transfers had to be used in accordance with a "framework of mutual obligations" (FMO) established by the ACP state and the Commission following the provisions of articles 186 and 209 (Koehler, 1997).

The relevant section of Lomé IV (1990-95) is reproduced below for ready reference:

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<sup>25</sup> Convention Document available at [www.acpsec.org](http://www.acpsec.org)

<sup>26</sup> By Lomé IV, it was the preceding 6 years, of which two extreme years were removed.

<sup>27</sup> [http://www.acpsec.org/en/conventions/Lome\\_II\\_dossier.pdf](http://www.acpsec.org/en/conventions/Lome_II_dossier.pdf)

<sup>28</sup> Details of the Agreement available on [www.acpsec.org](http://www.acpsec.org)

#### **Article 209**

1. *Where application of Articles 196 and 197 gives rise to a transfer basis, the ACP State concerned shall, in the month following receipt of the notification referred to in Article 207 (1), send the Commission a substantial analysis of the sector recording the loss of earnings, the causes of the loss, the policies pursued by the authorities and the projects, programmes and operations to which the recipient State undertakes to allocate the resources in accordance with the objectives set out in Article 186 (2).*
2. *Should the recipient ACP State intend, as provided for in Article 186 (2), to allocate the funds to a sector other than that where the loss has occurred, it shall communicate to the Commission the reasons for this allocation.*
3. *Projects, programmes or operations to which the recipient ACP State undertakes to allocate the transferred resources shall be examined jointly by the Commission and the ACP State concerned.*
4. *Where, in the sector for which the transfer is destined, there is already an adjustment operation designed to restructure production and export activities or to achieve diversification, the resources shall be used to second these efforts and, where necessary, support any consistent reform policy in the sectors concerned.*

#### **Article 210**

*When agreement is reached on the use of resources, the ACP State and the Commission shall sign a protocol setting up a framework of mutual obligations stipulating how the funds are to be used at the various stages of the operations agreed on.*

Moreover, although in Lomé I, a reduction in exports destined to the world as a whole was considered for compensation, subsequent conventions restricted them mostly to the exports to the EC/EU, which led to the perverse incentive of exporting only to EC/EU.<sup>29</sup>

During the Lomé I-III Conventions, the share of STABEX in the European Development Fund (EDF) was about 11 per cent. For Lomé IV, it rose to 12.8 per cent, or 1.8bn for the final 5-year period 1995-2000, although there were years in the 1990s when it was unable to fund all the requests. Since 1975, STABEX transfers have totalled 4.4bn European Currency Unit (ECU) and it has been by far the fastest-disbursing instrument in the EU's aid portfolio.

The leading commodities triggering STABEX payments have been coffee, cocoa, groundnuts, cotton and copra (representing four-fifths of total transfers) (Page and Hewitt, 2001). Similarly a subset of ACP countries has benefited more, in comparison to others<sup>30</sup>. For instance, transfers settled

<sup>29</sup> For example see Article 162(1) of the Lomé III, [www.apsec.org](http://www.apsec.org)

<sup>30</sup> One of the prime reasons behind this phenomenon is the unbalanced inclusion of products in the eligible list, which has favoured tropical agricultural products. Mineral products were completely excluded but were the major export items of several poor ACP countries. Dependence on exports of minerals is very marked, for example, in Zimbabwe and Zambia, where copper exports in 1994 were 85% of the total exports of each country. The situation is similar in Zaire (copper, 85%), Jamaica (aluminium, 67%; bauxite, 14%), Suriname (bauxite, 85%), Togo (phosphates, 20%) and Sierra Leone (rutile, 48%; bauxite, 25%) (Quoted from Aiello, 1999). Therefore such countries did not receive any benefit from STABEX. This lacuna has been partially corrected in the new scheme of FLEX where both agricultural and mineral products have been taken into account.



for coffee in 7 ACPs (Cameroon, Ivory Coast, Ethiopia, Papua New Guinea, Kenya, Uganda and Rwanda) amounted to than 85 per cent of the total compensation obtained for coffee over 1975-1998. Furthermore, cocoa exports from Cameroon and Ghana received about 68 per cent of the total payments transferred to the cocoa sector. If Ivory Coast's cocoa exports are added, this percentage was more than 81 per cent. Papua New Guinea's palm product exports received most (76 per cent) of the total transfers provided to the palm sector and more than 84 per cent of the compensation payments received by the wood sector were allocated to Ivory Coast wood exports alone (Aiello, 2000).

### ***Main Lacunas***

The main criticisms/lacunas of STABEX are the following:

#### *1. Limited Scope*

STABEX had a limited scope and did not cover all the products produced and exported by the ACP. By definition, it excluded minerals (which formed a major portion of the export baskets of several poor ACP countries), products covered by the Common Agricultural Policy as well as processed and manufactured goods, with some exceptions such as certain oils, cocoa and coffee products, leather, cotton linters and sawn wood.

#### *2. Slowness of disbursement*

Although STABEX was intended to be a quick-disbursing instrument, the Framework of Mutual Obligations (FMO) and its attached conditions required considerable planning and efforts and had increased the period of negotiation. Considerable delays in transfers were caused by cross-checking of statistics and lengthy negotiations, long drafting and implementation periods, complex mechanisms and procedures for transferring funds. In addition, slow acceptance of the FMO, the suspension of payments in case of non-adherence to suspension clauses, and delays by some countries in opening foreign currency accounts also contributed to the problem. Moreover there is evidence that the time between signing the transfer agreement and disbursement had steadily increased. In extreme cases, more than two years elapsed between the calculation of losses and disbursement (Köhler- Raue, 1999, pp. 20, 23 as quoted in Wolf and Spoden, 2000). Another study (Kairi Consultants Ltd., 1994) undertaken by the ACP Secretariat found that the time between the signing of the transfer agreements and the completion of negotiations on the FMO (when the first tranche is released) has been steadily increasing since the 1990 application year. The average time has risen from 188 days in 1990 to 344 days in the 1991 application year, with more than 600 days for the Central African Republic, more than 660 days for Rwanda and Kenya, and more than 540 days for Burundi, Tanzania and Comoros (as quoted in Koelher, 1997). The delay in payments made the programme less effective and sometimes procyclical.

#### *3. Little effect with regard to the stabilisation goal<sup>31</sup>*

Due to its product-by-product approach<sup>32</sup> and delays in disbursement, STABEX became an imperfect countercyclical instrument, thereby limiting its effectiveness. Hermann (1990) found that the overall impact of the STABEX system on the export earnings instability of ACP countries was weak. Not a single stabilisation effect was larger than 10%. On the contrary, in a few cases STABEX payments destabilized export earnings (which in effect meant an increase in the export earning instability) in

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<sup>31</sup> Stabilisation effect is generated if the Export Earning Instability (EEI) without taking into account the STABEX payments is more than the EEI with STABEX received by the country. Percentage stabilization= $(EEI^1-EEI^2)/EEI^1*100$ . Destabilisation is created if the EEI increases when the STABEX payments are taken into consideration.. It shows that STABEX is working in a countercyclical fashion and payments are received with a considerable time delay when the exports have already started increasing due to rebounding prices.

<sup>32</sup> As discussed earlier, the STABEX calculated the eligible payment on comparison of each eligible product's export with the reference export value. Therefore it entails a great deal of data and detailed product-by-product calculations.

four countries that received the highest transfers: Côte d'Ivoire, Senegal, Sudan and Papua New Guinea (Herrmann, 1990). The reason behind this weak stabilisation performance is that compensation was made after a delay of from 12 months to 4 years following the year of shortfall. In many cases, stabilisation effects were coincidental, as they depended on the level of export earnings in the year(s) following the earnings shortfall.

Furthermore, as STABEX calculated earning shortfalls on a gross sum for each commodity, which need not be correlated positively with national export earnings shortfalls, destabilising effects on national export earnings may occur when losses of one commodity are overcompensated for by booming exports of other products. On the other hand, in periods of declining world commodity market prices, STABEX funds proved to be too low to stabilise export earnings effectively (Herrmann, 1990 and Herrmann et al., 1993). But Aiello (1997) found some evidence in support of STABEX and observes that:

“STABEX does have a significant positive influence in stabilising export earnings of the ACPs in the commodities concerned. On average, it has stabilised both the export earning time series of the sectors which caused the payment and the total related export earnings of the ACPs, even if, as expected, the stabilising effect has always been much greater on a commodity-by-commodity level than on an aggregate one. This means that the STABEX has achieved its primary objective, the stabilisation of the nominal export earnings of the agricultural products covered by the scheme”<sup>33</sup>.

#### 4. *Lack of funds*

Extreme falls in prices could not be compensated for, because of limited funding (inadequacy of funds allocated for the STABEX scheme), and compensation for a long-term decline in commodity prices was not provided for. The lack of funds, especially in the 1980s, had been one of the main reasons for criticism in the past. In 1980, 1981, 1987 - 1989 the system exhausted its resources and STABEX was unable to meet eligible claims. With the persistence of low world market prices for coffee, cocoa, oil seeds, cotton and tea throughout the early 1990s, the financial crisis of STABEX continued. During the application years 1990, 1991 and 1992 only 40 per cent and in 1993, 60 per cent of eligible transfer claims could be covered (Koehler, 1997). However, since 1995, for three years in a row, eligible STABEX claims could be covered in their entirety from the resources available for the respective years (Wolf and Spoden, 2000).

#### 5. *Obstruction of diversification and reforms*

The STABEX obstructed a long-term securing of export earnings, e.g. by diversification of exports or development of local and other markets. The fixing of dependency thresholds meant that countries were reluctant to make the necessary diversification efforts. It discriminated against activities ineligible under STABEX, e.g. processing of raw materials, with the result, that the benefiting countries had incentives to concentrate on the production of STABEX-goods instead of trying to reorganise their economic structure to favour other sectors (Wolf and Spoden, 2000). Kappel (1997, as quoted in Wolf and Spoden, 2000) criticised STABEX on the ground that this leads to a further manifestation of monocultural structures and a distortion of the allocation of resources in favour of an incoherent economic structure. He concluded that STABEX has in fact contributed to a commodity-dependent export structure.

#### 6. *Distorting incentives*

The practice of STABEX to count the exports of certain goods to the EU alone, distorted trade with other regions. To use STABEX as an insurance against falls in export earnings, these exports had to be

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<sup>33</sup> Aiello found 4.66% stabilisation during 1975-93, for entire exports of all the ACP countries, if it is assumed that eligible STABEX payment were made in the same year. It was 7.29% if only exports of eligible products and those to the EU alone were considered.

concentrated towards the EU. On the other hand if no fall in the world market price was expected in the near future there was an incentive to redirect exports to other countries. If this trade was not reported (e.g. informal trade to neighbouring countries) a country could benefit from STABEX payments although no loss had occurred (Wolf and Spoden, 2000).

#### 7. *Utilisation of funds*

A lack of institutional capacity by the EU to monitor the implementation of STABEX, and the fact that utilisation of funds was in the hands of recipient governments, often had the undesired result that the producers of commodities were not the beneficiaries of the transfers. Although the use was agreed in the FMO, because of the fungibility of aid governments could spend the resources for other purposes. As this usually raised the demand for domestically-produced goods such as construction or transport, it led to an increase in prices relative to the export goods. Therefore the farmers could be worse off as they also had to pay more for their demand, especially when they received only a small fraction of the compensation funds (Collier et al.; 1999). By stabilising the foreign exchange situations of ACP countries however, STABEX had an indirect impact on the promotion of these states' capacity to implement their structural adjustment programmes.

#### 8. *Imbalance of distribution*

There was a tendency to favour middle- and high-income countries, especially those producing tropical agricultural products, in the allocation of funds. Several countries did not receive any STABEX payments until 1993 (Aiello, 1997). As a result STABEX had little impact in terms of redistribution. The reason for this imbalance was that STABEX was based on the trade and export of eligible goods and not on criteria for underdevelopment. If one considers only those countries that received STABEX payments, a positive correlation between the per capita income and per capita STABEX payments can be found. However, if all ACP countries are included, this correlation disappears (Michaelowa and Naini, 1995). Efficient distribution policies were therefore not fostered by the STABEX mechanism (Wolf and Spoden, 2000).

### ***IV.1.3 System for Stabilising Minerals (SYSMIN)***

SYSMIN existed from Lomé II onwards (i.e. from the beginning of the 1980s). It was introduced to expand coverage to mineral exports from ACP countries because the STABEX excluded minerals (other than iron ores). The SYSMIN covered copper, cobalt, phosphates, manganese, bauxite and alumina, tin and iron ore.

The broad objectives of the SYSMIN were similar to those of the STABEX but the procedures followed were significantly different. The dependency threshold in SYSMIN was that mineral exports to all destinations should constitute at least 15 per cent of total exports. The triggering mechanism was fairly complicated<sup>34</sup> and even if a country proved its eligibility, the funding did not go directly into its budget. It was provided as aid to finance schemes and programmes established by the ACP countries to handle the harmful effects arising out of the disruption of the mining sector.<sup>35</sup>

In contrast to STABEX's automaticity, SYSMIN was tightly controlled by the Commission, which had the exclusive right to approve financing (Raffer, 1998). Its function, like ACP/Lomé

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<sup>34</sup> The "risk" to be covered was that run by a country which finds it is prevented from restoring at a normal rate or maintaining its "production plant or export capacity" by circumstances beyond its control in cases where an otherwise "viable and economic line of production" is involved. There must therefore have been an accident causing a drop in production or export capacity or in export earnings from one of the products covered by the system and exported to the Community. The accident may be caused by local circumstances (disasters, grave political events) or economic factors (price collapse). The damage must be significant; it must entail a drop of 10 per cent in production or export capacity (extracted from the reference cited infra)

<sup>35</sup> [http://www.acpsec.org/en/conventions/Lome\\_II\\_dossier.pdf](http://www.acpsec.org/en/conventions/Lome_II_dossier.pdf)

fisheries policy, seemed designed for the ultimate benefit of northern industrial consumers, rather than poor developing countries, so it never performed a development finance role; nor is there evidence, e.g. from DRC or Zambia, that it sustained flagging mining industries or their exports. SYSMIN was funded at a level of ECU 575 million for the final five-year period of Lomé (1995-2000) and had disbursed over ECU 1.7 billion over its 20-year life (Page and Hewitt, 2001).

#### ***IV.1.4 The COMPEX***

COMPEX was a brief attempt in the late 1980s to extend the benefits of STABEX to non-ACP least developed countries exporting (agricultural) commodities. Haiti, which later became an ACP country, and Nepal were beneficiaries. Despite a commitment in the United Nations Landlocked Developing Countries (LLDC) conference, the EC did not really have the administrative infrastructure to scrutinise claims from or to implement transfers to small non-ACP countries (Page and Hewitt, 2001) The COMPEX scheme proved largely symbolic and ended without fanfare a decade ago. Without a convention or treaty document, the least-developed countries had no means of pursuing their claims (Page and Hewitt, 2001).

#### ***IV.1.5 The FLEX***

With the entry into force of the EU-ACP Cotonou Agreement, a new instrument was established to compensate countries for sudden falls in export earnings: the FLEX. The FLEX allows ACP governments to use the finance for a wider range of purposes. It discards the product-by-product approach of STABEX in favour of aggregate exports and also includes minerals. It provides support to countries that have registered a 10 per cent loss in export earnings (2 per cent in the case of LDCs) and a 10 per cent worsening of the programmed (budgeted) public deficit. Initial experiences with the FLEX have shown that several countries that experienced significant losses in export earnings were not eligible for compensation, due to the stringent eligibility criteria (European Commission, 2004).

Between 2000-2002, of some 51 countries applying for FLEX support, only 29 could clear the first hurdle of export loss. Of these, only 6 could clear the second hurdle of worsening of programmed public deficit<sup>36</sup>. It had therefore been proposed<sup>37</sup> to extend to landlocked countries and island states the special clause applied to LDCs, lowering the eligibility threshold to a 2 per cent loss in export earnings, and also to reduce to 2 per cent the benchmark on the worsening in the programmed public deficit. Had the proposed criteria been applied from 2000–02, ACP countries would have received €255 million through the FLEX system, six times more than the amount actually disbursed (DFID, 2004).

In addition, the methodology of loss of export earnings has been made as a loss of export earnings from goods compared with the arithmetical average of the earnings in the first three years of the four years preceding the application year. If a country is heavily dependent on agricultural and mineral products (more than 40 per cent), the loss of agricultural and mineral products alone could also be considered (Art 9, Chapter 2 of the Annex II of the Cotonou Agreement).

Moreover the entitlement has been limited to four successive years only. Therefore the FLEX has not been helpful in addressing the long-term secular fall in the prices of primary commodities (Article 9.2 of the Annex II of the Cotonou Agreement).

The additional resources shall be utilised in accordance with programming rules and methods including the specific provisions in Annex IV of the Cotonou Agreement "Implementation and

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<sup>36</sup> [http://europa.eu.int/comm/trade/issues/global/development/pr120204\\_en.htm](http://europa.eu.int/comm/trade/issues/global/development/pr120204_en.htm)

<sup>37</sup> The Commission's Proposal can be accessed from the link given in the web page given above.

management procedures", on the basis of agreements drawn up in advance between the Community and the ACP State concerned in the year following the application. By agreement of both Parties the resources may be used to finance programmes included in national budget. However a part of the additional resources may also be set aside for specific sectors.

A provision has been made for withdrawal of an advance up to 80 per cent of the eligible resources on the basis of provisional statistics.

## IV.2 National Commodity Marketing Boards

National Commodity Marketing Boards were the order of the day during 1970s and 80s. These bodies were given the responsibility of acting as the sole collecting agents for the primary commodities in the concerned countries. They also held a monopoly over exports. In several cases they operated the procurements under Minimum Support Price Schemes. In turn they provided stable and predictable prices for commodities to the growers, apart from extension services including fertilizer and good quality seeds.

They essentially took two different formats, i.e. marketing board and *caisse de* stabilization.

*The marketing board system* was characterized by its monopoly in crop marketing, from the farm gate to export, and a pricing system controlled by the government board. Producer prices were fixed by the marketing board. The physical handling of the crop through each stage of commercialization was performed by the marketing board, in which ownership was invested. In some marketing board systems a few strictly-controlled private agents were also involved, usually handling a small part of the crops (Varangis et al 1990).

*The Caisse de Stabilisation* system was the same as the marketing board system in terms of the fixing of producer prices and legal ownership of the crop along the marketing chain. However, private agents licensed by the *Caisse* carried out the physical handling of the commodity from the farm gate to export on the *Caisse's* behalf. The *Caisse* fixed remuneration for each marketing service performed by the private agents. Export activities were managed by private licensed exporters under a fixed reference export price and on terms and conditions approved by the *Caisse* (ibid).

Unfortunately, as observed in any public sector enterprise, these Boards became inefficient and instead of providing additional value to the farmers, they reduced their level of welfare. As a result the Bretton Woods institutions initiated reforms in several developing countries mandated to dismantle these monolithic enterprises or to withdraw their monopoly power. Nonetheless the dismantling of these interventionary institutions, without putting in place alternative mechanisms to counteract the negative welfare effects of market failures, created an institutional vacuum thereby exposing commodity producers to the vagaries of market forces. The South Centre (2004) noted that the elimination of commodity market interventionary institutions in developing countries worsens the conditions of commodity producers. The fall of commodity prices has positive welfare effects for commodity-importing developed countries. Similarly, Gilbert and Varangis (2003) argued that the developed countries and the Bretton Woods Institutions insisted on the dismantlement of the marketing boards and the *caisse* in pursuance of their self-interest.

### IV.3. Market-based Risk Hedging Instruments

Although the use of market-based risk hedging instruments is very common in the developed world, in developing markets, they have not been popular for several reasons, some of which were enumerated in the earlier section.

#### *The Benefits of Using Risk Hedging Instruments*

Market-based risk hedging instruments are intended to manage risks associated with the volatility of commodity prices without disrupting the free operation of market forces. According to a report by the World Bank (1999:4) market-based risk hedging instruments "... despite their limitations, offer a promising alternative to traditional stabilisation schemes." This is argued to be the case because of a belief that allowing markets to operate in an unfettered fashion encourages greater efficiency and growth.

In general risk-hedging instruments provide benefits in four ways (Morgan, 2000):

*Anticipatory Hedging:* By allowing producers to lock in future prices received for their commodities, hedging provides stability of income, hence a rational planning of production.

*Flexibility in pricing:* the futures market offers a range of prices for each commodity, allowing a greater deal of flexibility in pricing for the individual trader. According to Gilbert (1986) this allows each producer and consumer to adopt a forwards position that is optimal for its particular circumstances.

*Inventory Management:* The price spread between the futures contract and spot price, so called the basis, measures the storage and interest cost of a spot trader for holding stocks now for sale in the future. The higher the basis, the higher is the incentive for the spot trader to hold more stocks. Thus, negotiations in the futures contract encourage private storage of commodities; in essence allowing for a smoother pattern of prices in the spot market and hence reducing price volatility.

*Price support:* In the futures market, groups of individual producers can be represented by an agent who trades on their behalf. In doing so, the producers increase their negotiating power and secure a minimum price higher than would have been possible when they negotiate on an individual basis.

There have been some successful cases of market-based risk hedging instruments in developing countries. The most well known are Mexico's agricultural products option programme and Guatemala's hedged coffee loan system (see boxes 1 and 2)

#### *The major limitations on the use of risk hedging instruments in developing countries*

Technically speaking, the market-based risk management instruments are appealing for hedging risks. However, on pragmatic grounds, there are a number of limitations associated with market-based risk hedging instruments. Some of the major limitations are:

1. Commodity derivatives have short-term maturities implying that the instruments are suitable only for hedging short-term risks.<sup>38</sup> The risks that producers of developing countries face are not

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<sup>38</sup> Usually three months for agricultural commodity and up to three years for minerals such as copper and aluminium (WT/COMTD/W/124).

limited only to short-term price volatilities but also to long-term price declines that are caused by structural oversupplies of commodities. Moreover, the derivatives are absolutely not able to address the challenges that are concomitant to colossal market power imbalances among different players in the value chains of commodity markets.

2. Commodity derivatives are not capable of mitigating the causes of commodity price volatility but are only intended to manage risks linked to the volatility. Thus, in practice, the derivatives shift attention to managing short-term risks rather than controlling the core sources of the commodity problems.

**Box 1**  
**ASERCA, Mexico**

In Mexico, the *Agricultural Products Options Program (APOP)*<sup>39</sup> was introduced in 1994. Under its provisions, growers may acquire commodity futures, futures options and synthetic options contracts with a 50 per cent federal subsidy on option prices. Both call and put options are eligible although in practice almost all of the contracts outstanding are put options on futures (referred to as futures options). The scheme has become increasingly comprehensive in terms of the crops eligible for hedging and its approved budget for the years 2002-3 was approximately \$U.S 22.5 million<sup>40</sup> (Snowden and Benavides, 2005).

The Mexican banking sector is becoming more interested in the program since they started to require farmers to hedge their production as a condition to obtain credit. The Agriculture Marketing Agency (ASERCA), the agency that manages the APOP, functions like an intermediary and facilitator between the producers and the commodity broker. After the producer has deposited his portion of the premium in an ASERCA account at a local bank, the producer places the order for an option and ASERCA buys the option through the U.S. broker directly. ASERCA also provides information to producers through publications and seminars. Pricing information is available daily over the telephone and on ASERCA's Internet site. Seminars are held as often as once a week to educate producers and other interested parties such as local banks. Several international commodity brokers have worked with ASERCA, including ED&F Man, ING, Smith & Barney, Refco and FIMAT (World Bank, 1999).

When gains are realised from exercising, the farmer's initial share of the option premium is reimbursed. The authorities then recoup up to the full amount of the initial subsidy with any remaining profits remitted to the grower. To limit further the potential costs of the premium subsidies, farmers are required to purchase option contracts with a strike price at, or closest to, the prevailing futures price (Snowden and Benavides, 2005).

<sup>39</sup> The Spanish name of the scheme is 'Subprograma de apoyos directos a cobertura de precios

agricolas'. It is part of 'Apoyos y servicios a la comercializacion agropecuaria (ASERCA)'. The latter is a Mexican Federal Government Department within the Secretariat of Agriculture and Rural Development. The scheme's web page is <http://www.sagarpa.gob.mx>

<sup>40</sup> Corn, rice, wheat, sorghum, soya (beans and oil), cotton, coffee, orange juice, live cattle and hogs were eligible at this time (ASERCA, 2003, p 49).

**Box 2**  
**Hedged Coffee Loan System- in Guatemala**

The coffee sector in Guatemala provides jobs directly or indirectly to about 2 million people (30 percent of the population), and accounts for about 30 percent of the country's total exports in a normal year. ANACAFE (Asociación Nacional de Café) is a non-profit and private organization, which includes about 60,000 coffee producers from all over the country. It has developed a hedged coffee loan system (Programa de Créditos) which aims to improve the access of coffee producers to commercial bank financing and requires the use of risk management instruments. Low coffee prices and high interest rates of the early 1990s significantly increased the indebtedness of small- and medium-size growers who depended solely on coffee for their income (World Bank, 1999).

The hedged coffee loan program was introduced in 1994 in order to reduce the risk to the bank, which then provides credits to coffee farmers at lower interest rates.

Farmers receive education in credit-related issues, develop an understanding of their commercial operations, and determine their costs and break-even prices with assistance from ANACAFE. Trained extension staff from ANACAFE verifies the production potential of the farm and assist with the necessary paperwork for the loan. ANACAFE provides a list of banks with which it has agreements and the farmer chooses the bank. Meanwhile, ANACAFE provides all necessary information to the bank. The bank approves the loan, which is conditioned upon the farmer's obtaining a hedge (for example selling forward or purchasing options) from an exporter. The hedge provides protection against the drop in market prices thus guaranteeing that they will be able to cover the loan payments. The majority of the hedging operations involve future/forward contracts; however, there is an increase in the use of option strategies such as the purchase of puts or construction of price fences (purchase of puts and sale of calls) (ibid).

3. Futures prices themselves are only slightly less volatile than spot prices.<sup>41</sup> This is to say that the maturity of futures is usually one production period, i.e. the period for one production cycle, and futures prices in intra production periods are almost as volatile as spot prices. This is because in every successive futures agreement agents adjust their speculations on the bases of spot price movements.
4. Risk-hedging instruments could not bridge the institutional vacuum created by the dismantling of national institutions such as marketing boards as the activities of such institutions comprised the provision of information, extension services, fertilizers and credits.
5. Producers in developing countries are designated as more risky.<sup>42</sup> Hence in order to get access to commodity instruments in international markets they need to pay a higher risk premium or are asked for higher-value collaterals which are simply beyond their ability. Moreover lack of access to credit markets limits the accessibility to internationally-traded commodity derivatives for producers in developing countries.<sup>43</sup>

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<sup>41</sup> UNCTAD, 2003.

<sup>42</sup> This is mainly because of the generally high country-risk ratings of developing countries.

<sup>43</sup> Gilbert, 1986:655.



6. Commodity derivatives are generally absent in most LDCs; and where they are available their operational efficiency is highly undermined due to the lack of regulatory, supervisory and contract reinforcement capacities (Haque, 2003). Moreover, the operations of the financial derivatives are technically too complicated for producers in developing countries to comprehend.

In short, as Haque (2004:26) put it:

*“... Adequate regulation and supervision of options trading as well as high personal integrity of professionals engaged in trading would be crucial if the farmers are to be protected against mismanagement or fraud. These are governance requirements that seem to go beyond the skills required to successfully manage a state marketing authority.”*

7. Commodity derivatives in international markets are catered to fit the conditions of producers and traders in developed countries and do not generally fit the circumstances faced by producers in developing countries. For example, the availability of risk-hedging instruments in commodity exchange markets is limited to internationally-traded commodities whereas commodities that are mostly traded in the domestic markets of developing countries fall outside the scope of the commodity derivatives.

## V. NEW POLICY OPTIONS

The earlier sections have discussed and analysed various methods of handling short- and medium-term price volatility in commodity prices. They also briefly discussed the various experiments conducted/schemes implemented in past with a view to discerning the efficacy and limitations of those approaches. Following this analysis of different experiences, the following would appear to be promising policy options for managing risks arising from volatility of primary commodities in the short and the medium terms.

### V.1 Virtual Buffer Stock

In the past, several of the International Commodity Agreements (ICAs) used physical buffer stock instruments to stabilize short- and medium-term movements of primary commodity prices within predetermined price bands. Despite concerns about the efficacy and sustainability of buffer stock operations as commodity price stabilizers, previous experiences show that they can bring some price stability. However, physical buffer-stock-based price stabilization may not be sustainable because shocks in commodity prices often tend to be persistent. The persistency of shocks, particularly leading to lower commodity prices, could deplete the financial viability of buffer stock operations thereby resulting in a collapse of the stabilization system. The collapse of the tin price stabilization system under the International Tin Agreement was just such a case.

Today with the development of derivative instruments and widening of their trading markets, it may be feasible to attain the same objectives as those of physical buffer stock, without the constraints of physical storage, quality issues and so forth, at a lower cost than physical buffer mechanisms due to reduced transaction costs. The apparent benefits offered by virtual buffer mechanisms were recognized by Page and Hewitt (2001) also as they remarked, “Advances in both technology and financial instruments raise the question as to whether virtual stockholding is not a better option, especially given the existence of futures and options markets already associated with physical commodity markets”.

The essential difference between a physical buffer stock and its virtual counterpart is that the manager of the physical buffer stock has actual commodities in his possession on the strength of which he sells whereas his virtual counterpart has promises to supply or purchase. Therefore the counterparty risks<sup>44</sup> may be far more important in the virtual buffer stock.

#### V.1.1 *A brief modus operandi of the virtual stock*

An Intergovernmental Organisation may be set up with sufficient finances along the lines of the ICAs. The risk capital for this organisation would be provided by the participating countries. It would be preferable to have the participation of the developed countries. However, past experiences show that developed countries are reluctant to join such schemes. In that case, the onus of the funding of the operation could lie on developing countries and multilateral grants and concessional loans could be sought for the seed money.

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<sup>44</sup> The risk that the other party may fail to honour the contract.

This organization, similar to the ICAs, will endeavour to reduce the volatility (short-term variance) of the prices by keeping them within a predetermined band. To avoid collapse or failure, it should limit its role to smoothing short- and medium-term volatility rather than correcting the long-term prices or structural changes in prices. This entails the correct identification of a medium-term price trend and a suitable band.

In association with the main commodity exchanges of the world, it may use currently available and traded instruments to stabilize the short- and medium-term prices. In several cases medium-term instruments are currently not available. There the organisation will have to endeavour to have them introduced. Similarly, instruments are not traded in several other commodities, such as tea, etc. For those commodities, like tea, where derivatives are not available it will have to come up with new instruments of futures and options of suitable term and specifications. The organization may also have to act as a market maker<sup>45</sup> for these commodities.

As was the practice in the case of ICAs, the new body will have to fix a price band at regular intervals, but must do so properly without any political bias.

If the futures of any commodities are selling (in the open market on commodity exchanges) at a price less than the lower end of the price band decided by the organization, adjusted for the carrying cost and interest,<sup>46</sup> the organization will go into purchase mode so as to increase the aggregate demand of the product and thereby raising the open market prices. On the other hand, should the futures quotes be higher than the upper price limit of the band, suitably adjusted for the carrying cost, interest and risks, the organization should sell the futures to stabilize the markets, thereby bringing down the open market prices of the commodity.

In the interest of its own financial health, the organization should lower its exposure to risk by making equivalent purchase contracts or physical stock available for every quantity of commodity it sells through instruments.<sup>47</sup>

If at the time of maturity of the futures so purchased or sold during market intervention, strike prices<sup>48</sup> are different from the actual open market prices (spot prices in international commodity exchanges) on the day of maturity, the organization may either gain or lose the money equal to the difference between the two. In the long run, should the price band be fixed judiciously, keeping in mind the medium-term market trend, the aggregate gains and losses, in the medium term, may almost be equal to each other. This way the objective of short-term price stability will be achieved.

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<sup>45</sup> A market maker provides liquidity in the market by continuously quoting a suitable buy and sell rate for different instruments and is ready to buy or sell them at these rates.

<sup>46</sup> In an open market, the future prices are given by  $F^{t,T} = P^t(1+r^{t,T}) + SV^{t,T} - CV^{t,T}$ , where  $P^t$  is the current spot price,  $r$  is the interest charged between today( $t$ ) and future date( $T$ ),  $SV$  is the carrying cost for a physical stock for such period and  $CV$  is the convenience value of having a physical stock (as one gets physical assurance of availability). The  $CV$  may be different for different players. For a buffer stock operation, which is basically for price stabilization,  $CV$  could be close to zero, unlike an operation intended for food security, where  $CV$  is very high. Practical experience suggests that the commodity markets always place positive  $CV$ , therefore are never at 'full carry'. This means a physical buffer stock, meant for price stabilization alone, will always have more operating costs compared to its virtual counterpart which involves purchase and sale of futures and forwards.

<sup>47</sup> The difference between the quantity sold and quantity purchased or physically available is called open/uncovered interests where the risk of unpredictable loss exists.

<sup>48</sup> Strike price of any instrument is defined as the price contractually agreed for purchase or sale of that commodity, in relation to that instrument.

Similar results could also be achieved by using the options where the organization may buy 'options'<sup>49</sup> if it wishes to raise the prices. This will raise the premium of the options,<sup>50</sup> which in turn will increase the expected market prices of the product concerned.

This process will therefore offer benefits similar to physical buffer stock with less complications and lower transaction costs. For example, Bower and Kamel (2003) estimated that the cost to a sovereign government of managing its exposure to oil price risk would be at most US\$1.00 per barrel, which is one third of the cost of operating a physical buffer stock scheme. In addition, these methods will need less money to do relatively larger operations, because the premiums payable on the options or the margin money requirements in future will be significantly less than the actual prices of the commodity.

### **V.1.2 Caveats**

1. Similar to the physical buffer stocks, the price band decided by the organizations should be realistic, keeping in line with the underlying overall market trend or else the limits will be breached by the arbitrageurs and the fund may run out of finances if it becomes a permanent buyer.
2. In addition the organisation must be backed by sufficient financial resources and/or guarantees to handle any eventuality because the risk involved in futures and options, in percentage terms, may be higher.<sup>51</sup>
3. Moreover, whether the benefits of these virtual stockholding operations accrue to the producers of a particular developing country will depend on how well that country's domestic commodity markets are linked to the world market and whether the quality specifications of the derivatives traded by the organization are very different from the actual production in that country (often referred to as the basis risk).<sup>52</sup> However, this risk existed in earlier physical buffer stocks as well.

## **V.2 Global Commodity Insurers (GCI)<sup>53</sup>**

As Governments of CDDCs are significantly dependent on the Export Revenues from commodities, they would be interested in stabilizing their revenue both in short as well as medium term. Purchasing Commodity Price Insurance may, to some extent, do this.

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<sup>49</sup> As discussed earlier, 'Options' give the right but no obligation to purchase/sell a commodity at a predetermined price on a predetermined date.

<sup>50</sup> Premium for options is directly linked with the expected price of the underlying assets, commodities in this case, and is given by the famous Black-Scholes formulae.

<sup>51</sup> If a Kg of physical commodity is currently selling at \$1, and later on the price increases to \$1.1, the physical holder will gain 10%. But assuming that the margin requirements in futures is 10% or the premium of concerned option is \$0.1 per Kg, a future/Option holder will gain/lose \$0.1 for every \$0.1 investment, therefore 100% gain or loss; therefore a more risky proposition.

<sup>52</sup> A brief discussion about methods to minimize the basis risk can be found later in the section dealing with market-based hedging instruments

<sup>53</sup> This section draws substantially from Bower and Kamel(2003)

For short-term purposes, the Governments in these countries can use the existing hedging instruments traded on the commodities exchanges. Unfortunately, as discussed earlier, for several commodities, futures are not currently traded. In addition, most CDDCs have a poor sovereign credit rating. Therefore, ‘put options’<sup>54</sup> are the most suitable among the various instruments currently traded. From a practical and operational point of view as well, put options contracts require the least paperwork, as there is no periodic marking to market.<sup>55</sup> Moreover put options do not place obligations for delivery of commodities. So they are unaffected by the dislocation in production and consequently exports.<sup>56</sup> These instruments create the effect of what is called ‘insurance contracts’ in common parlance.

Unfortunately for the medium term, no suitable instruments are currently traded on the exchanges. Therefore it is proposed to set up another window for the Global Commodity Insurer (GCI), in the architecture of the virtual commodity exchange organization. The window for the GCI could fill gaps in commodity exchange markets and provide price insurances for commodities for which suitable instruments are unavailable in the commodity exchange markets.

### ***V.2.1 Modus Operandi***

The GCI window should have sufficient capital and may also coordinate with other international financial institutions. Both commodity exporters and importers could participate by purchasing insurance contracts. As discussed earlier, the exporters may purchase ‘put’ options,<sup>57</sup> which will ensure them a minimum guaranteed price whereas the importers may buy the ‘call’ options<sup>58</sup>, which may insure them against very high commodity import prices.

All the national Governments may buy a sufficient number of such contracts keeping in mind the total volume of their exposure to commodities in general. These instruments may be bought back to back so that the Government always remains hedged. In practical terms it implies that the Government should immediately buy commensurate new contracts on the expiry of old contracts. However, national Governments should ensure that they do not over hedge, as the basic purpose of this operation is to mitigate the price and revenue risk and not to speculate.

The contracts, on the date of expiry, will be settled as the difference between the agreed strike price and the price prevailing in the market, as stipulated in the contract. This way the Governments are assured of certain level of revenue irrespective of the actual movement of commodity prices in the international markets. Any fall in revenue accruing from commodity exports will be made good by the gains in the ‘futures’ or ‘options’ so purchased. In the past, several oil-exporting countries, such as Mexico, have insulated their budgets from vagaries of oil price volatility by using such instruments. In all these contracts, the GCI will act as a counter party. It will act as an aggregator of risks.

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<sup>54</sup> ‘Put options’ allow the holder to sell the pre-specified quantity of commodity at pre-specified prices. The seller of such an option will have to make good the difference between the ‘strike price’ and the market price on the specified date, should the open market price be lower than the strike price.

<sup>55</sup> ‘Marking to the market’ is done in futures where every day the difference between the margin money required by the exchange, as per the standard norm on the today’s price *vis-à-vis* the yesterday’s price is collected or deposited so as to minimize the risk.

<sup>56</sup> In forwards agreements one has the obligation to deliver the product which may be adversely affected by production dislocation in producing countries. But in ‘Options’ there is no obligation but only a right.

<sup>57</sup> As discussed earlier, they have the right but no obligation to sell a specified quantity of the product at predetermined prices.

<sup>58</sup> These are the ‘Rights’ but not the Obligation to buy the products at a predetermined prices.

The GCI for its own part will be continuously offsetting the risks, contracted by it, by buying/selling suitable instruments from/to the private players, to the extent feasible so that uncovered exposure is minimized. Thus this mechanism will bring predictability to the revenues of the Governments of the CDDCs. They will, therefore, be able to follow their annual expenditure plans without any fear of a mid-term derailment of revenue forecasts. It is pertinent to note that the Global Commodity Insurance will only smooth the revenues of the Governments and not the individual farmers.

### **V.3 Market-Based Hedging Instruments and Price Insurance Policies**

The Global Commodity Insurer, discussed in the earlier section, will be able to smooth the revenue streams of the governments in commodity-dependent countries. But it is equally important to provide similar facilities to poor commodity growers as well. Making available simple hedging instruments to the commodity growers could do this, provided appropriate facilities are made available in the CDDCs.

#### ***V.3.1. Modus Operandi***

Most growers of primary commodities in CDDCs are small-scale producers who have limited access to credit. The poor sovereign rating of CDDCs further complicates the case. Therefore they may find it difficult to get forward cover on the international markets. So for these growers the ‘put options’ (akin to simple insurance contracts) are the best suited, although even an experiment with warehouse receipts<sup>59</sup> could be attempted. These instruments may be sold through intermediaries working in the villages, such as cooperatives or banks, on a commission basis. The typical problem of small lots, compared to the international commodity exchange specifications, could be resolved out by supporting producer cooperatives and other intermediaries to act as aggregators. These intermediaries in turn may be associated with a national cooperative/bank in charge of obtaining insurance by buying hedging instruments on the Global Commodity Exchanges. The Mexican example is a good model to consider.

The question of non-availability of timely information at the lowest level can now be overcome with the help of current developments in information technology. Mobile/wireless telephones have now reached even the remotest corners of the world. An innovative use of a simple facility like the short message service (SMS) would also help in overcoming the information barrier faced in these poor countries. In such cases, governments should subsidise producers’ cooperatives and provide support to allow them to use such facilities, as was done in Mexico.

#### ***V.3.2 Caveats***

Market-based hedging instruments could mitigate the effect of short- and medium-term commodity price volatility without addressing its underlying causes. In addition, market-based hedging instruments are useful mainly for producers that are linked to the national and international commodity markets. They are of little use for growers in the poor and remote regions of developing countries.

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<sup>59</sup> In this approach inventories are used to finance trade and bundle the risk management services. The silo and warehouse operators will serve as intermediaries. The traders holding the warehouse receipts can get them discounted from the banks to obtain the finances. The warehouse receipts could be made more sophisticated by giving legal status to standardized warehouse receipts and making them freely transferable. For this system to function successfully, a good licensing and inspection system needs to be in place for these warehouses. The government can manage a fund to indemnify the receipt holders. The warehouse receipts could be used in spot and future market transactions as well.

A partial solution to the problem of basis risk could be achieved by promoting local commodity exchanges. This will improve the price discovery mechanism in the local markets. Moreover it will lead to a better integration of local and international markets. The current FLEX scheme of EU under Cotonou Agreement has a provision for promoting market-based hedging instruments in the ACP countries and therefore should be suitably exploited. For example some portion of this fund could be utilized to provide subsidies for the purchase of insurance contracts by eligible farmers, akin to what has been done in Mexico.

The inherent limitations of the market-based risk hedging instruments were already described in the earlier section. As a result, the market-based risk instrument can be no more than a complementary tool. Therefore the main emphasis will have to be on compensatory financing mechanisms.

#### V.4 Improved Compensatory Financing Mechanisms

Compensatory financing mechanisms are a promising stabilization tool when they work in a countercyclical fashion with a fairly quick fund disbursement system and with no unreasonable conditionalities. As discussed in an earlier section, the older schemes of STABEX and CFF suffered from these constraints. These have been aptly summarized in the recommendations of the Panel of Eminent Persons on Commodity Issues, organized by the UNCTAD in 2003, which stated (UNCTAD, 2003c):

“Compensatory finance has an important potential role in insulating developing countries from the worst effects of international price volatility, and indeed in reducing volatility. In order to be effective, such financing has to meet the following requirements:

- Operation on the basis of *ex-ante* rather than *ex-post* mechanisms (in other words, clearly linking automatic pay-outs to specific occurrences);
- Ease of access, in terms of technical requirements;
- Absence of conditionalities for receiving the finance – it should be sufficient that the country itself carries no evident blame for the specific commodity-linked loss that it suffered;
- The inclusion of a pass-through mechanism to actual producers and consumers.”

The tools and mechanisms for this exist, and existing schemes should be adapted accordingly and made operational. A good way of making the scheme *ex-ante* is to have the prices of commodities as the trigger mechanism rather than the export receipts. It takes time to compile the export receipt data and validate them to the satisfaction of donors. Price data are transparent. However, the problem with a price-based trigger mechanism is that it will not take into account the export instability created as the result of a fall in export volume. This problem could be mitigated by using a mixture of both price and export receipt triggers where for example 50% of disbursement is done on the basis of price triggers *ex ante* and final/residual disbursement on actual export receipts.

For a credible and transparent pass-through mechanism, perhaps the producers or exporters would have to be registered by a national body, which would continue on recording their volume of production or exports. The producers/exporters would receive compensation on the basis of the fall of their production/export below a reference, which could be the moving average of three years of their income. The money provided by the Donor countries is directly transferred to them through this mechanism.

### V.4.1 Improving FLEX

The new scheme of EU, called FLEX has made some improvements compared to its predecessor, STABEX. For example, unlike STABEX, it does not take a product-by-product approach. It takes into account entire export proceeds. In cases of countries which are predominantly dependent on agriculture or mineral exports (with more than 40% of the exports coming from these sources), the comparison could be made within that sector of exports only. Nonetheless, the following issues still continue to be an irritant in the FLEX:

- a. It is still not as *ex ante*, as one would expect. It still takes into account the actual export receipt, therefore a time delay is involved.
- b. It does not have a pass-through mechanism for the actual producers. In fact that is not its objective. Article 68(2) of the Cotonou Agreement states that “*The purpose of support in cases of short-term fluctuations in export earnings is to safeguard macroeconomic and sectoral reforms and policies that are at risk as a result of a drop in revenue and remedy the adverse effects of instability of export earnings in particular from agricultural and mining products.*” So it supports only sectoral reforms and policies and is not intended to be purely a compensatory mechanism for commodity producers.
- c. The facility is available, at a maximum, for four consecutive years only. Therefore it will not provide support to a country which also suffers an export loss in the fifth year, not an uncommon phenomenon in the case of commodities, which have long periods of ‘troughs’ and also suffer a constant decline in prices.
- d. Compared to STABEX, the trigger level has been increased from 4.5 per cent to 10 per cent export loss, although STABEX’s coverage was narrow as it considered only eligible product groups and in addition only if they constituted sizeable exports, beyond the defined threshold level. Therefore there is a case for the reduction of this trigger level, specified in FLEX.
- e. Moreover, compared to STABEX, an additional criterion, including the effect of such an export loss on the programmed deficit, has been added. The current eligibility criterion, under Article 9 in chapter 3 of Annex II of the Cotonou Agreement is subdivided into two paragraphs (a) and (b), joined together with ‘and’. Therefore, strictly speaking a country may be admissible for the benefits only if both the limbs are satisfied. Limb (a) relates to loss of export earning whereas limb (b) relates to deterioration of programmed deficit. This makes the eligibility very stringent. As a result, from 2000-2002 in only 6 of 51 cases have ACPs been able to meet both criteria. Support from FLEX in the six cases has totalled only €35.65 million<sup>60</sup>.
- f. Several Governments, subject to IMF programmes, have to operate ‘cash budgets’ and are, therefore, unable to run deficits, so preventing any worsening of the public deficit regardless of the loss of export earnings experienced. As a result they are excluded from eligibility for FLEX support. This was a particular point of frustration in Tanzania where there was increasing parliamentary discontent over the failure to deploy EU support in programmes of assistance to coffee farmers affected by the downturn in prices over the last six years<sup>61</sup>.
- g. It may also provide a disincentive for an ACP Government which makes an effort to balance its budget even in downslides by adhering to prudent norms.

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<sup>60</sup> EC press release (IP/04/199-12/02/2004)

<sup>61</sup> <http://www.agricta.org/agritrade/news0403.htm>



- h. Similarly in limb (a), there are two separate situations joined by 'or'. The second situation may help a country only if either agricultural exports or mineral exports alone (and not when taken together) constitute more than 40% of the export basket. This may make the proviso less useful, especially when the basic objective of the scheme is to help the CDDCs. So the criterion of classification of countries as CDDCs should take into account all the primary commodities taken together. Such heavy dependence on either agriculture or mineral exports alone/separately should not be made a precondition.

During the revision of the text of the Cotonou Agreement, proposals<sup>62</sup> were made to loosen some of the requirements of FLEX, particularly for extending the treatment of the land locked countries to all countries and to remove the minimum requirement of the level of public deficit. However, these issues were not sufficiently addressed in the new revision of the Cotonou Agreement.<sup>63</sup>

#### ***V.4.2 Improving the IMF's Compensatory Financing Facility (CFF)***

The IMF should take the lead by completely revamping its current CFF scheme so as to encompass of the lacunas enumerated in the earlier section. The following revisions could be explored:

- a) The CFF facilities should be extended to the eligible countries at a concessional rate of ½ per cent, similar to PGRF.
- b) Automaticity must be brought in. One way to reduce the time lag in fund disbursement would be to remove the condition imposed in the year 2000 that the balance of payments position of the country would have been acceptable but for this export shock.
- c) Moreover, no conditionality should be attached while approving the CFF standby arrangements.
- d) Similarly the cap on access should be liberalized. At one time, it was as high as 100% of the quota.

The IMF came out with a new initiative, in April 2004, called Trade Integration Mechanism (TIM). It is not a new lending facility. It only made some improvements to make the resources available to the eligible countries more predictable<sup>64</sup>. The TIM makes funds available only for countries which suffer damages as a result of *trade*' liberalizations undertaken by other countries. To benefit from TIM funding, countries could be required to undertake structural adjustment measures. As a result of these conditionalities only two countries, namely Bangladesh and the Dominican Republic, have requested and received support under TIM since it was launched in 2004.

#### ***V.4.3 Debt-linked Compensatory Financing Mechanism***

During the downturn of primary commodity prices, the export revenues of governments in the CDDCs tend to deteriorate, thereby seriously affecting their capacity to meet their debt service obligations. This occurs in addition to the adverse effect on their national budget and overall development. As discussed in the earlier section, an Automatic Debt Readjustment Programme could serve as a countercyclical measure to mitigate the impact of commodity price volatility.

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<sup>62</sup> The Commission's proposal can be accessed from [http://europa.eu.int/comm/trade/issues/global/development/pr120204\\_en.htm](http://europa.eu.int/comm/trade/issues/global/development/pr120204_en.htm)

<sup>63</sup> The Cotonou agreement was revised in 2005 and details of the revised text of Cotonou Agreement is available on [www.acpsec.org](http://www.acpsec.org)

<sup>64</sup> More details on <http://www.imf.org/external/np/exr/facts/tim.htm>

Linking compensatory financing mechanisms with debt essentially modulates the debt repayment obligation of a country to the prevailing market prices of the major export commodities of the country. The mechanism allows the country to continue with the essential developmental expenditures unaffected by the ups and downs in the commodities market. Therefore the scheme links the debt service with the ability to service and, in so doing it offsets the vagaries arising from variability of export earnings. As the scheme operates essentially by retarding or accelerating debt repayments, it may be seen as broadly neutral to the lenders as well.

The main questions to be considered upon before concretizing the scheme is whether it will modulate government loans only or whether it will consider modulation of loans contracted by private individuals and organizations as well. It is easy to design a scheme taking into account government loans only but it will prove less useful. Therefore the scheme should include private loans in addition to government loans in order to be more effective. However, compulsory inclusion of all private loans in the scheme may make commercial external lenders wary of lending in this country.

In addition, before formulation of the scheme the following issues must also be addressed: (i) the nature of the reference (the price of one or several primary commodities or export earnings), (ii) how to compute this reference, (iii) the financing and the adaptation of the loan (cancelling or delaying the payments).

In case of the sovereign loans, the three-year moving average export revenue could be a reasonable indicator for reference, akin to the present requirements of FLEX. But using export revenue as a reference indicator will mean introducing some time delay in disbursement/modulation of relief, as annual export revenues are known only with some delay. This may limit the effectiveness of the scheme as in certain cases the delay may make it procyclical, as was the case in STABEX. Therefore a composite price index, using a basket of commodities, reflecting the export profile of a country could perhaps be better, as prices are known immediately. Moreover, with price linkages, the lenders can also hedge, through Commodity Exchanges, their loan portfolio against their exposure to uncertainties arising from commodities. The problem with this reference indicator is that it would only take into account the price effect and not the volume effect.

For triggering the mechanism, the current year export revenue or the price index, whichever is chosen as indicator, should be above or below a percentage band in comparison to the reference level, described above. A good precedent is the STABEX trigger of 4.5 per cent. If the prices/export revenue falls below the trigger level, debt repayments may be reduced to that extent. When the prices/revenue is more than 4.5% above the reference, the debt repayment instalments will be accelerated to that degree. This way overall neutrality may be maintained.

Different ways of financing could be conceived<sup>65</sup>. One option could be a multilateral fund created with the contribution of creditors and some Official Development Assistance (ODAs)<sup>66</sup>. The covered countries, who wish to participate in this scheme of modulation of debts, also could be asked to contribute some portion during a spurt in prices. This fund could reschedule the payments of all the loans of the covered countries so that during the price and revenue downturn, the debt repayment outgoing is reduced in such a way that the other developmental expenditure of the country concerned is not adversely affected.

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<sup>65</sup> This portion draws significantly from Guillaumont, et al (2003)

<sup>66</sup> Grants or Loans to countries and territories on Part I of the OECD's Development Assistance Committee (DAC) List of Aid Recipients (developing countries) which are: (a) undertaken by the official sector; (b) with promotion of economic development and welfare as the main objective; (c) at concessional financial terms [if a loan, having a Grant Element (q.v.) of at least 25 per cent]. In addition to financial flows, Technical Co-operation (q.v.) is included in aid. Grants, Loans and credits for military purposes are excluded. Transfer payments to private individuals (e.g. pensions, reparations or insurance payouts) are in general not counted.

Cohen et al (2004) reported that the maximum amount of funds required to smooth, for 50 years, the income of producers of a particular commodity against deviations from five-year moving average is less than twice the annual value of trade in the commodity. This is under the worst case scenario of zero commodity prices. Thus, in reality the fund will cost much less than that. Cohen et al (2004) found the median cost of the fund for a life time of 50 years would be a fraction (often less 60 per cent) of the annual trade volume of commodities. The IMF and World Bank may be required to take an initiative in this regard, akin to the HIPC initiative.

Another option is to maintain the conditionality of the individual loans such that the repayments are automatically indexed to export revenues.

#### *IV.4.3.1 Hedging Debt Repayments by Commodity SWAPS/SWAPTIONS*

As already mentioned, the commodity problem interacts with indebtedness. Generally commodity-dependent developing countries borrow from the multilateral and bilateral donors on the basis of the countries' projected growth, which in most cases is related to their commodity export price and volume. According to the IMF (2003), failure to meet the projected growth, often due to the collapse in primary commodity prices, is the most typical cause of indebtedness for these countries. Lower average exports accounted for over 50 per cent of the deterioration of the HIPC debt service indicators (Gilbert and Tabova, 2004).

This reason is that while commodity prices, which determine the HIPCs' ability to meet their debt service obligations, are volatile and tend to deteriorate, their debt liability is fixed, in the sense that it is independent of the commodity price movements. As a result, when commodity prices, hence the export earnings of CDDCs, deteriorate their debt service ratio to export earnings increases thereby making debt unsustainable.

One way of dealing with this problem is by using commodity swaps. A commodity swap is a financial instrument that converts the fixed liability of commodity producers into a floating liability. The floating liability results from making the debt payments conditional upon commodity prices. In essence, the commodity producer would pay a higher debt service when commodity prices are high and lower debt services when commodity prices are low. Commodity swaps have increasingly been used in energy and agricultural commodities. A commodity swaption is an option on a commodity swap and aims to cope only when the price shocks are exceptionally high.

#### *Caveats*

The effectiveness of such an arrangement depends on the degree of export earnings volatility originating from the price movements alone, which it is able to counteract. Nonetheless sizeable export earnings variability emanates from the quantity variation which may not be compensated for by this scheme. Furthermore it may not be a suitable mechanism for less indebted CDDCs.

#### *V.4.3.2 Redenominating the loans in local currencies*

External loan servicing is a major component of the foreign exchange outgoing for most CDDCs that are also HIPCs. The problem is particularly dire in periods of low commodity prices. Currently all the concessional loans of CDDCs are denominated either in the donor's currencies or in widely used international currencies such as United States Dollars. This form of borrowing significantly increases the risk associated with external debt. The real exchange rate tends to depreciate (appreciate) in bad (good) times, increasing (lowering) the domestic cost of external debt servicing to the CDDCs.

As argued by Hausmann and Rigobon (2003), redenominating external concessional loans in the local currencies and indexing them with the local rate of inflation would give almost the same net present value income to the lenders, whereas for borrowers it will better track their capacity to pay the debt. This is the case because any decline in export earnings would tend to lead to a real depreciation of the local currencies; a degree of automatic protection could thus be provided.

However, in the same way as the compensatory finance schemes, this may give rise to potential moral hazards and adverse selection problems. An alternative approach could be to opt for a GDP indexed concessional lending facility, as proposed by Tabova (2005). The limitation of a GDP indexed scheme, however, is that it would only solve the problems faced by governments and not by the individual farmers.

## **VI. CONCLUSION**

The evidence and analysis reflected in this paper clearly suggest that several developing countries are still predominantly dependent on the production and export of a limited range of primary commodities. The prices of these commodities are highly volatile for several reasons, in particular poor demand and supply elasticity. In the long run, they are also suffering from the slow but firm downward movement of prices. For this reason, the export earnings of CDDCs are unstable, which cuts their growth, and therefore forces a large section of their populace to continue in the vicious cycle of poverty. Several attempts have been made in the past, to stabilize the income of such countries, but none of these efforts proved successful in the long run.

A careful analysis of the various policy alternatives suggests that in the long run, these countries may have to undertake horizontal diversification, especially in the non-commodity sector, for which a multilateral effort needs to be mounted. Still in the short and medium term, an improved compensatory finance mechanism appears to be the best option, complemented by a system of international virtual buffer stocks, a Global Commodity Insurer and an export-performance-linked debt repayment mechanism. These mechanisms appear to be more innovative and use the recent technological progress made in the field of 'financial engineering'. Moreover all these efforts must be duly supported by an appropriate Exchange Rate Mechanism, so that the price volatility of commodities in the international markets, is not completely transferred to domestic prices. Similarly it would also avoid commodity-exporting countries suffering the unnecessary importation of the volatility and depreciation of US dollars, when their major trading partners are other countries, such as those of the EU.

Market-based hedging instruments are also desirable options but a great deal of institutional support from the developed world will be required to resolve the inherent and peculiar problems faced by the CDDCs. Similarly local currency denominated debts or GDP indexed debt facilities for CDDCs could also provide a reasonable hedge mechanism. Nonetheless none of the options mentioned above alone could provide a satisfactory solution.

Such a solution would also call for a multilateral effort incorporating the Bretton Woods institutions along the lines of the HIPC initiative. In addition, the trade-related aspects of the issue could ideally be dealt in the ongoing Doha Round. Should this round be successful in reducing or eliminating the subsidies on Cotton, Sugar and Cereals apart from the tariff escalation, several countries and their poor growers who are dependent on these commodities will be immensely benefited.

## VII. RECOMMENDATIONS

In the light of the discussions above and the socio political milieu of the CDDCs, a recommended course of action may be as follows:

### Short Term/Immediate

In the short run, the most effective and relatively simple step appears to be modification of the existing International Compensatory Financing Mechanisms, specifically the FLEX of the EU and CFF of the IMF (Detailed recommended improvements discussed in section V.4.1 and 2). The international community must impress upon these two agencies the importance of further strengthening their schemes to make them contracyclical. The disbursement of finance has to be immediate and ought to be based on some lead indicators of export earning reversals rather than lag indicators (such as the extract of official records of revenues, etc.). At a minimum, sizeable financing may be released, in advance, on an *ad hoc* basis. Similarly the conditionality attached to this financing should be kept to a bare minimum. In the case of the CFF, the IMF should ensure that the rate of interest charged on these advances should be comparable to the rate charged on PSRF schemes.

With a view to popularizing market-based commodity derivatives for hedging purposes, international agencies, like the World Bank, should finance, as a grant, a scheme to set up regional/national commodity exchanges. These exchanges should have adequate linkages with international exchanges in these countries, for the trading of derivative instruments of commodities, hitherto not traded in markets, setting up of institutional mechanisms (both formal agricultural credit mechanisms) coupled with a distribution channel for these instruments as well as training and dissemination of information. Moreover, the agriculture infrastructure (such as good commercial warehouses which issue marketable warehouse receipts) would have to be set up apart from quality improvements - all with a view to reducing the basis risks (detailed recommended steps are discussed in section V.3).

### Long Term

In the long run, the international community must make a renewed effort to launch a Virtual Buffer Stock, which would be helpful in maintaining the prices of targeted commodity within an accepted price band (detailed recommended improvements are discussed in section V.1). Similarly a mechanism for modulating the official debts of the CDDCs, as per the export revenue earned would also need to be established. This mechanism may not cost anything to the donors/lenders, since it would merely readjust the official debt (detailed recommended improvements are discussed in section V.3). Furthermore, the redenomination by the lenders of the official debts in local currency would go a long way towards shielding these countries from the vagaries of extreme volatility experienced in commodity markets (detailed recommended improvements are discussed in section V.3.2).

## ANNEX 1

Instability indices <sup>67</sup> and trends in free-market prices for selected primary commodities (Source- UNCTAD Online Database)			
PERIOD	1970-79	1980-89	1990-99
COMMODITY			
ALL COMMODITIES	17.27	14.21	9.32
All food	22.22	14.54	10.65
Food and tropical beverages	22.97	15.64	10.99
Food	30.41	21.94	9.78
Coffee	23.73	14.54	26.65
Cocoa	22.54	14.85	12.31
Tea	13.00	17.15	11.24
Vegetable oilseeds and oils	19.37	18.80	9.99
Agricultural raw materials	11.93	10.21	9.18
Linseed oil	45.22	22.95	17.26
Tobacco	9.10	5.53	8.97
Cotton	..	14.03	16.52
Wool	..	18.95	19.39
Jute	10.01	25.49	19.06
Sisal	41.38	6.29	11.24
Hides and skins	23.10	11.80	8.68
Non-coniferous woods	12.03	9.74	5.02
Tropical logs	16.11	15.78	6.61
Tropical sawnwood	13.68	11.19	17.93
Plywood	19.71	14.27	19.98
Rubber	17.19	16.95	26.94
Minerals, ores and metals	11.99	16.36	9.21
Gold	22.90	14.32	8.02
Silver	20.87	21.71	9.08
Crude petroleum	25.78	12.82	15.23

<sup>67</sup> The measure of price instability is  $1/n \sum [ ( | Y(t) - y(t) | ) / y(t) ] * 100$  where  $Y(t)$  is the observed magnitude of the variable.  $y(t)$  is the magnitude estimated by fitting an exponential trend to the observed value and  $n$  is the number of observations.

**ANNEX 2**

<b>Tentative terms of trade estimates for Selected African CDDC economies (2000=100)</b>					
<b>YEAR (2000=100)</b>	<b>1980</b>	<b>1990</b>	<b>1995</b>	<b>2001</b>	<b>2002</b>
Algeria	168.35	73.95	58.31	101.26	90.4
Burundi	230.92	128.28	163.59	72.83	81.57
Congo	96.84	63.25	51.74	84.72	94.82
Côte d'Ivoire	202.82	143.06	121.39	99.08	118.03
Egypt	214	101.22	116.7	98.63	98.17
Ethiopia	..	120.83	151.04	93.28	84.38
Gabon	306.17	156.6	124.66	141.07	141.68
Gambia	182.35	100	100.01	99.66	99.58
Malawi	163.33	148.24	105.56	100.04	98.97
Mauritania	72.26	97.32	102.03	97.71	88.41
Mauritius	92.5	92.63	88.9	98.99	97.58
Nigeria	181.25	88.51	55.05	88.74	91.33
Rwanda	56.9	40.23	110.47	80.73	69.45
Senegal	158.42	172.22	156.47	96.62	96.31
Togo	118.27	133.33	99.45	105.65	103.73
Tunisia	123.6	109.18	95.9	101.65	104.28
Uganda	..	145.69	196.87	90.25	87.07
Zambia	222.47	206.86	190.43	106.67	93.14

Source: UNCTAD Online Database



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