

COMMODITY MARKETS: OPTIONS FOR DEVELOPING COUNTRIES

Over the past two years the prices of many commodities have risen (see Box 2), but the long-term trends in commodity markets have been damaging to the interests of developing countries. The purchasing power of such exports has been on a downward trend and the problems have been compounded by much volatility. This Briefing Paper looks again (see 'Commodity Prices: Investing in Decline?', ODI Briefing Paper, March 1988) at commodity price trends and variability, and the impact these factors have had on economic performance. The market continues to signal the desirability of export diversification, and this Briefing Paper considers the options both for stabilising earnings and for diversification.

Commodities in world trade

Commodities, encompassing all the primary products derived from both renewable natural resources (RNR) and non-renewable minerals (including petroleum) represent about a fifth of total world trade. That share is shrinking, however, with trade in manufactures growing twice as fast as trade in primary products. Industrialised countries import about two-thirds of these primary exports, but they are also important suppliers with a commanding position in RNR commodities such as cereals, timber, dairy products, fish and vegetables. Developing countries are dominant in exports of tropical beverages, sugar, tobacco and rubber, with their next most important commodities exports being metals and minerals, other non-food crops and timber.

Table 1: Primary commodities as a percentage of exports

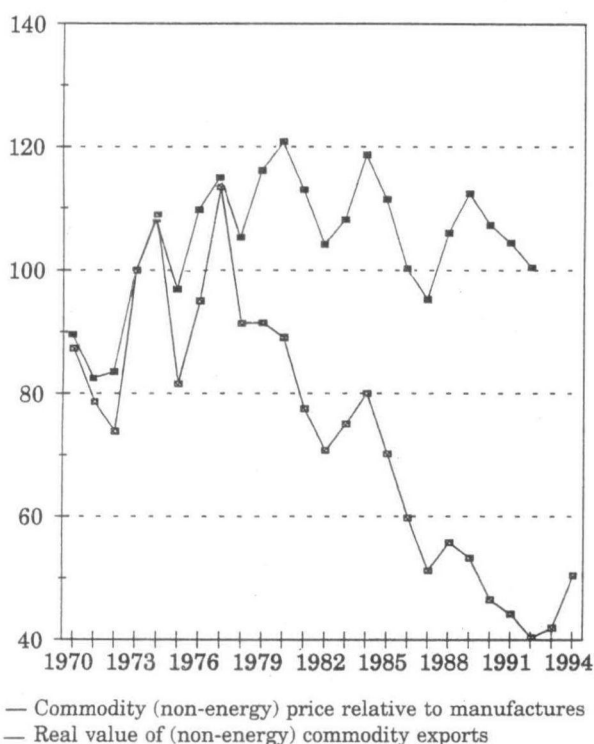
	1970		1992	
	All	(RNR)	All	(RNR)
East Asia	69	(45)	26	(18)
South Asia	53	(44)	27	(21)
Latin America and Caribbean	88	(45)	62	(30)
Middle East and North Africa	92	(18)	90	(5)
Sub-Saharan Africa	83	(46)	76	(32)

Note: RNR = Renewable Natural Resource based commodities

Source: World Development Report, 1994

Many developing countries are heavily dependent on primary commodities for their export earnings. At least half the countries in sub-Saharan Africa (SSA) and Latin America rely on commodities for over 50% of their exports. There are some countries (mostly in SSA) whose reliance on one, two or three commodities is extreme. Reliance on exports of RNR commodities is also most pronounced in SSA. However, as Table 1 shows, the export structure for developing regions changed significantly during the 1970s and 1980s. Manufactures now play an increasingly important role, especially in East Asia. The share of RNR commodities has declined particularly sharply, partly because of lower real prices.

Figure 1: Commodity price and export value indices for developing countries (1973 = 100)



Note: indices calculated from data for developing countries in the World Bank *Global Economic Prospects*, 1995 and UNCTAD *Commodities Yearbook*

The long-term price trend

Figure 1 shows how prices of commodities of particular importance to developing countries have been changing relative to prices of manufactured goods. With 'real' commodity prices in 1994 half of those at the post-World War II 1970s peak levels, a strong downward trend is evident.

Many economists had expected prices to start rising once the economic cycle in the industrial countries entered an expansionary phase in the mid-1980s. These expectations were exemplified by the World Bank, which consistently forecast rises in commodity prices which rarely materialised. Although a return to the relative prosperity of the 1970s cannot be ruled out, many economists now believe that period to have been exceptional, representing only a temporary reversal of a long-term downward trend (see Box 1).

Over the same period, the developing countries increased the volume of non-energy commodity exports; the real total value of these exports therefore remained roughly constant. Figure 1 shows that their commodity export earnings in 1992 were at 1973 levels. Nevertheless, the record was poor when compared with the growth in world manufacturing and services trade. Developing countries, notably in SSA, which did not participate in the boom in non-commodity trade, increasingly found themselves looking on as the rest of the world sped ahead.

The aggregate export trend hides important differences when regional and sectoral developments are examined. Asian economies have been by far the best performers: the real value of commodity exports from this region has increased by 60% since 1973. The figures for Latin America and SSA are 5% and

Box 1: Are commodity prices really on a downward path?

The debate surrounding the long-term behaviour of commodity prices has been raging for a long time. In the 1950s the so-called Prebisch-Singer hypothesis maintained that the terms of trade for developing countries reliant on commodity exports had deteriorated and would continue to do so. This position has been the subject of much methodological debate and rigorous empirical testing. Despite the complexities, most recent studies have concluded either that real commodity prices do indeed exhibit a downward secular trend or (what amounts to something quite similar), that the trend is stationary but subject to one-off downward step jumps in certain years. Estimates of the long-term downward trend are generally around -0.5% a year, in real terms.

However, the significance of such a trend is debatable. For example, available data may overstate the trend, since increasing prices of manufactures relative to commodities could reflect greater proportionate quality improvements in manufactures. In any case, a downward trend in commodity prices may not be as important as it was for many developing countries fifty years ago, given the changing composition of their exports and pattern of their terms of trade (Table 1). Taking all developing countries together, it has been estimated that a 1% reduction in real commodity prices implies a decrease of only 0.3% in their terms of trade, although this percentage is a good deal higher for many countries in Africa and Latin America.

minus 50% respectively. The contrasting experiences of Asia and SSA are made even more stark by the fact that the Asian economies both increased the value of their commodity exports and reduced the share of commodities in total exports. SSA dependence on commodities has not decreased much and yet revenue from these goods has also plunged as market shares have declined.

Various factors have contributed to the long-term weakness of commodity prices. One is the persistently *slower growth rates in industrialised countries* following the oil price rises of the 1970s. Because of the importance of commodities as inputs for manufactures, lower industrial-country growth implies slower expansion of commodity demand. However, developing countries are becoming increasingly important as purchasers, particularly of food and industrial inputs such as solid fuel, iron ore and steel. Growth in the consumption of such commodities is expected to remain strong in the future.

Many commodities have *low income elasticities of demand* (implying that an increase in income has only a small effect on demand). Taking the example of staple food products, as income rises the share of income spent on them decreases, whilst the shares of services, luxury goods, etc. increase. Demand for food products therefore increases relatively slowly.

Technological developments, increased efficiency in the use of commodities in manufacturing processes, utilisation of man-made substitutes, and the shift away from manufacturing towards services have also had a negative impact on the demand for commodities.

However, there are commodities which have performed well despite these developments. For example, natural fibres (cotton and wool) have retained their markets despite competition from synthetics. Demand for such agricultural products as fruit, vegetables, cut flowers, pulses and nuts has been relatively strong. In addition, the emergence of new exports (such as pistachio nuts, kiwi fruit and mangoes) has been demand-creating. Processed agricultural goods have fared even better: trade in sugar, chocolate and tobacco products, for example, has increased at $4-9\%$ a year since 1980. This development reflects not just relatively higher demand for processed goods but also a shift in producer countries towards processing prior to export.

Since the late 1980s the collapse of demand for some

commodities in the former Soviet Republics (FSR) and Eastern Europe has added to downward pressures on prices. For example, imports of tea into the FSR halved between 1989 (when they accounted for a quarter of total world imports) and 1992. In addition, the massive increase in metals exports from the FSR (following the collapse of demand from domestic manufacturers and the running down of large stockpiles) has contributed to over-supply in these markets.

Volatile commodity prices

Commodity prices are particularly volatile, with high short-term elasticities. This is because of variable stocks, speculation and expectations, which accentuate the effects of business cycles. During the twentieth century price instability has been consistently higher for commodities than for manufactures.

The sources of this volatility are numerous. Harmonised cyclical growth in the industrial countries contributes to fluctuating commodity prices. The lag between an upswing in prices and the supply response is an important factor in determining how long prices deviate from the trend. Long lags between price rises and investment gestation and increased production can lead to harmful boom-and-bust cycles (corresponding to long periods of under- and over-supply). Levels of inventories kept for precautionary purposes will also affect price stability. For example, the strong rise in coffee prices in 1995 in response to news of frost damage in Brazil (the world's largest producer) was accentuated by the fact that stocks were then at low levels.

There are two channels through which price fluctuations affect commodity-dependent exporters. The *direct* effect is felt on foreign-exchange earnings (and hence import capacity), reserve levels, the government's fiscal position and producers' incomes. The *indirect* effect works via the exchange rate. For example, during a commodity boom the balance of payments will improve and the exchange rate will tend to appreciate. This will affect investment and production decisions, which may well be reversed when the boom subsides.

In the face of an adverse price shock, export volumes could be expanded to mitigate the impact on a country's reduced import purchasing power. However, this often cannot be done quickly. It is estimated that, for commodity-dependent exporters, fully 90% of the adjustment to a negative price shock is made via reduced imports, with export expansion accounting for only 10% . Perhaps unsurprisingly, the evidence shows a strong positive correlation between the share of a single commodity in a country's exports and the variability of total export earnings. The need to adjust to sporadic price shocks will therefore be intensified for those countries with narrow export bases. For example, Côte d'Ivoire, which is dependent on cocoa and coffee for almost half its exports, experienced negative terms-of-trade shocks in 1981-2 and in 1985 in excess of 10% of GDP. Empirical studies suggest that negative shocks have a far greater detrimental effect on investment than on consumption.

Options for price and export earnings stabilisation

There are various forms of collective international action, as well as national measures open to affected countries, to confront excessive instability in commodity prices and revenues. At the international level, *commodity agreements* are one option. These attempt to moderate price swings by regulating sales (through export quotas, or the maintenance of buffer stocks, or both, so as to smooth the flow of supplies). Such agreements became popular in the 1960s, with producers and consumers co-operating to create agreements for such products as cocoa, coffee, rubber, sugar and tin. In principle, these were intended as price-stabilisation measures. Producers always hankered, however, after using them also as price-support mechanisms (through restrictions of supply) – a desire intensified by the success of the OPEC oil cartel in the 1970s.

Differences of interest and problems of enforcement eventually proved the undoing of commodity agreements (as

they did for OPEC itself). There were major disagreements between producers and consumers on whether floor prices should follow downward market trends. Among producers, the temptation for some individual suppliers to become 'free riders', selling in contravention of collective decisions, proved irresistible. In consequence, all the existing commodity agreements collapsed and the device has become regarded as discredited, although a new form of agreement has since been negotiated for cocoa.

The provision of *compensatory finance* is another international possibility for insulating commodity-exporting economies from price fluctuations. Unlike commodity agreements, which attempt to stabilise prices, compensation agreements release funds for exporting countries in times of (cyclically) low prices. The main existing arrangements are the International Monetary Fund's Compensatory and Contingency Financing Facility (CCFF) and the European Union's STABEX fund for the Lomé Convention group of developing countries¹. In contrast to the boom times of the 1970s, the size and administration of such funds proved inadequate during the 1980s. There have also been criticisms that payments accrue to governments rather than to producers, and that the stringent conditionality of the CCFF reduces access and disbursement, while its high interest charges make it even less attractive.

At the national level there are various options available in the face of price volatility:

- A government can *refuse to intervene*, so that domestic producers absorb the full impact of price fluctuations. There is some evidence to suggest that private producers do then act in a precautionary manner to curb income fluctuations by saving more in times of high prices. Unsurprisingly, this behaviour is more pronounced amongst the more prosperous developing countries. It should also be noted that if access to savings instruments is limited (e.g. because of poorly developed financial systems) saving will be discouraged and resources may be diverted to unproductive activities.

- Governments have often taken an active role in stabilising producer prices via *commodity boards*. Consider two coffee exporting countries: Côte d'Ivoire and Colombia. In Côte d'Ivoire, the marketing board was until recently state-controlled, and provided stable prices across all crops. However, it was criticised for passing on less than half of the export proceeds to producers; pricing policy was in effect used as a form of taxation. The board also removed the incentives for greater production during boom times and for shifting between sectors (the price of cocoa relative to coffee remained set by the board at 1977 levels, even though the world prices of these two commodities diverged). Reform of the Ivorian board was started in 1995.

Under a fixed producer price regime there is a danger of the government acquiring large stocks and being forced to export at a loss if domestic prices (plus marketing costs) prevail for long at above world prices. The budgetary burden will eventually become untenable and the price-support mechanism will collapse. This has been the fate of numerous domestic stabilisation schemes and many developing countries have consequently removed the monopoly of state marketing boards, making room for competition from private traders. Alternatively, as in Colombia, the government can impose a progressive tax (rising and falling with world prices) so that it shares with producers the risks arising in world markets. This has been the policy pursued by the (joint public-private) Colombian coffee board, which was successful in halving the price volatility.

- *Market-based hedging strategies*, such as forward and futures contracts which entitle producers to sell future supplies at a predetermined price, offer another path to price stability and risk reduction. Hedging part or the whole of a particular export commodity can significantly reduce price volatility. Despite applying hedging instruments in some cases (such as

cocoa and coffee production in Cameroon, Côte d'Ivoire, Ghana, Malaysia and Brazil) their use is limited among developing countries. This may be due to lack of technical know-how (essential, given the risks involved in futures trading), problems of creditworthiness, and the absence of an adequate framework required for private sector involvement. In any case, hedging for more than eighteen months into the future is usually difficult; market-based hedging strategies therefore offer only limited benefits for medium- and long-term planning.

- Paradoxically, coping with commodity booms has often proved difficult because of their expansionary effects on government budgets and on money supplies. One response is to tax the windfall gains and build up budgetary and foreign-exchange reserves against the probability of price falls in the future. Unless carefully sterilised, this can lead to excess money creation during the boom, but, given the fiscal constraints developing country governments often face, the temptation to spend boom-time earnings often proves irresistible. Governments then find themselves overstretched in post-boom trading conditions and it can take several years of painful fiscal retrenchment to restore budgetary control. In these cases temporary windfalls can carry a heavy cost, leaving a weaker macroeconomic position than at the start of the boom.

The optimal national strategy for dealing with commodity price shocks will probably involve a mix of policies. Given the difficulty of recognising in advance whether a price change is permanent or not, consumption-smoothing rules (saving when prices are high, borrowing when they are low) may not be feasible. Incorrect diagnosis of price shocks can lead to sub-optimal responses on the part of governments and individuals. For example, borrowing internationally makes sense when price dips are expected to go into reverse but may lead to over-borrowing if the decline turns out to be long-lasting (a common scenario in the 1980s). This does not imply that intervention is useless in moderating price shocks, but it does mean that policy-makers have to be cautious in their responses.

Responding to adverse market conditions

Real prices of commodities are apparently on a downward trend, the recent modest boom notwithstanding (see Box 2). This trend seems unlikely to be reversed: the markets are signalling the need to diversify out of dependence on primary products. What, then, should be the response of countries still heavily reliant on such exports?

Box 2: The recent commodity boom

The most recent commodity boom started in late 1993. So far it has benefited developing more than industrialised countries since, for the former, prices of the commodities they export have increased by more than those they import (such as cereals and oil). As examples, Ethiopia's export revenues rose by 80% in 1994, and increases of 50% were recorded for Uganda and Benin, 30% for Chad, and 20% each for El Salvador, Guatemala and Tanzania.

Stronger growth in industrial countries has contributed to this reversal of fortunes, particularly for industrial raw materials such as metals, natural rubber and oilseeds. The negative effect of previously depressed prices on supply capacity has helped to boost the impact of higher demand on prices. In agriculture, poor weather has disrupted supply and boosted prices. Another influence which has been suggested is the interest which investment fund managers have shown in commodities (particularly metals) as a hedge against inflation.

All this indicates that, unlike the long-lasting boom of the 1970s, recent price rises are likely to prove temporary. Indeed, far from forecasting further buoyancy, the World Bank (which in the past has tended towards over-optimism) predicts real commodity price *decreases* of 1.1% a year over the next ten years. Similarly, the Food and Agriculture Organisation expects the growth in agricultural trade to slow over the 1990s to almost half the rate seen in the 1980s.

1. See 'EU Aid Post-Maastricht: Fifteen into One?', ODI Briefing Paper, 1995(2), April.

Four lines of action present themselves:

- Beating the market trend by *raising productivities* and lowering costs in the commodities sectors, thereby protecting the profitability of exporting traditional goods despite the weakness of world prices.
- *Horizontal diversification* within the commodities sectors into products facing more buoyant market conditions, such as exotic fruits and vegetables.
- *Diversifying vertically* – adding value by processing primary goods before export.
- Diversifying on the basis of an aggressive promotion of *outward-oriented industrialisation*.

The scope for *raising productivities* is undoubtedly large, particularly in agriculture, which has demonstrated the highest productivity and yield increases as compared with other commodity sectors. This is true not just for developed-country products such as cereals but for others important to developing countries, such as beverages, vegetables and cotton. Increased uses of fertilisers, pesticides, improved and disease-resistant seed varieties, and irrigation have all been responsible for higher yields. Thus, technological improvements and more efficient cultivation techniques, in such countries as Argentina, Brazil and Indonesia, have galvanised their output of vegetable oils even in the face of declining world prices.

However, this case illustrates the risks inherent in the productivity-raising strategy. If most producing countries follow this course the aggregate result will be a large expansion of world supply relative to demand, causing yet further depression of prices – what is known as the ‘fallacy of composition’ problem. Some have blamed the conditions of export-oriented ‘adjustment programmes’ sponsored by the IMF and World Bank for pushing countries in this direction and contributing to the weakness of commodity prices.

There is supporting evidence for this in the case of cocoa and, to a lesser extent, coffee, but whether it is a general problem is doubtful. While large supply increases in the 1980s did contribute to the accelerated decline in real prices, it seems unlikely that adjustment programmes were chiefly responsible, since supply increases were larger in Asian countries than in Africa and Latin America where the majority of adjustment programmes were put in place. The debt and balance-of-payments problems of the adjusting countries were not the main reason behind large market-depressing supply increases. Rather, the increases in supply can be traced to increased factor productivity, technological developments, and the impact of new entrants to the markets.

Nonetheless, even if adjustment policies have been no more than a secondary factor in the tendency for supply to outstrip demand, the general weakness of commodity markets certainly points up the danger inherent in relying too greatly on a productivity-raising strategy. In the worst case, the strategy can be self-defeating, with prices driven down proportionately more than the increase in productivity, leaving reduced export earnings and profitability. Even with less extreme outcomes, the price-depressing tendency of this approach contains the danger that the returns to investments in productivity-raising improvements may be low.

Much the same can be said of the strategy of *horizontal diversification* within the commodities sectors, e.g. in the production of horticultural products, or cut flowers, or semi-precious stones. By and large, demand in the industrial countries for such items is more buoyant, more income-elastic, and some developing countries have done well in this way: Chile (fruits); Colombia (coal, horticulture); Kenya (cut flowers, exotic fruits); Tanzania (horticulture). But the scope is limited and even the success stories have achieved little more than useful marginal additions to export earnings. The world markets for such goods remain quite narrow, with an ever-present danger that these too could become over-supplied.

The third strategy of *vertical diversification*, adding value to primary products by processing, has considerably greater

potential. Indeed, growth in commodities production can act as a stimulus to industry, with an efficient raw materials sector enabling industrial expansion. The resource-rich East Asian economies provide the most notable examples. Thus, Malaysia relied on commodities for 90% of its export earnings in the 1960s, a proportion reduced now to 30%. In order to scale back its dependence on rubber and tin, the government promoted horizontal diversification, achieving phenomenal success in expanding cocoa and palm oil production. At the same time, the refining of palm oil was actively encouraged by export and investment incentives. Again the results were dramatic: whilst in 1975 all the palm oil exported was crude, by 1984 almost all was processed locally. Similar stories of success can be told for Thailand, Indonesia and China, as well as for countries outside Asia, such as Chile and Mauritius.

The vertical diversification approach blends into the fourth strategy identified, of more general *export-oriented industrialisation*. It is useful to distinguish these two options, however. Although it will often be the case that countries will first become internationally competitive in resource-based manufacturing, particularly in low-income countries with low skill and technology bases, there are other sources of comparative advantage, as East Asia has also demonstrated.

A further consideration is that many of the countries most heavily dependent on primary product exports have tiny economies. This is obviously true of the island producers of the Caribbean and Pacific. It is also the case in SSA, where low incomes combine with generally small populations. Indeed, the GDP of the whole of SSA (excluding South Africa) is only about one-fifth of that of the UK. In consequence, sustained industrialisation cannot be based on the local market; the promotion of outward-oriented manufacturing therefore becomes at once a vehicle of export diversification and essential to long-term development.

Supporting measures could include government action in the building and maintenance of infrastructure; development of human skills and technological capabilities; provision of export extension services, including market information, and help to maintain quality standards; directed credit; and input subsidies. It is argued, for example, that the poor response of SSA commodity production to improved prices is not surprising given the constraints producers face, with poor roads and marketing facilities often raising port prices to two to three times those prevailing at the farm gate.

In the past the attempts of commodity exporters to diversify vertically and to industrialise have hit the barrier of industrial-country protectionism. Trade in many primary goods is relatively free but there are progressively higher tariff and non-tariff barriers against developing-country exports of semi-processed goods and finished manufactures. The GATT Uruguay Round agreement might have abolished this hurdle but failed to do so. Commodity exporters can do much to strengthen their own positions but their efforts will be of limited avail if the industrial countries fail to implement the liberalisation of markets that most of their governments now advocate.

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