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Chapter II

COMMODITY PRICE HIKES AND INSTABILITY



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COMMODITY PRICE HIKES AND INSTABILITY

A. Introduction

One of the main features of the world economy since 2002 has been the price boom in international markets for primary commodities. This has been driven by the relatively strong and stable performance of the world economy, fast growth and structural change in a number of large developing economies, and increasing attention by policymakers and market participants to the challenges of climate change and shrinking oil reserves.

Higher prices for primary commodities have an immediate positive impact on the developing and transition economies that export such commodities, through improved export earnings. This increases the potential for financing new investments in infrastructure and productive capacities that are necessary to advance the process of diversification, structural change, and output and employment growth. Whether this potential is used to create new productive capacities and raise productivity depends on how commodity export earnings are distributed between domestic and foreign stakeholders, and how the part of these earnings that remains in the exporting countries is spent.

On the other hand, developing countries are not only exporters of primary commodities but also importers. For many of them, higher prices of certain commodities lead to an increase in their import bill,

and a worsening of their terms of trade, depending on their trade structure. Moreover, the recent tightening in the markets for some food crops has created serious problems for many developing countries in supplying food at affordable prices to the poorer segments of the population. The dramatic social and humanitarian consequences of this are jeopardizing progress towards attaining the Millennium Development Goals (MDGs).

Surging food and energy prices are also raising concerns in both developed and developing countries about their potential impact on inflation. In this context, what matters is not only the direct effect of higher commodity prices on the consumer price index. It is also, and perhaps even more importantly, the indirect effects that may result from subsequent attempts to increase other prices and wages in response to perceived real income losses caused by the initial price rises in energy and food. Central banks may be prompted to react to these upward pressures on the price level with monetary tightening.

The current situation, with soaring prices of key commodities and a high degree of uncertainty about short-term trends, illustrates the different facets of the commodity price issue. The stereotyping of developing countries as exporters of primary

commodities and developed countries as importers is no longer valid, and for an individual country, rising prices may mean higher incomes from one type of commodity but it may also mean higher import costs for another. The response of private actors and policymakers to the changes in relative prices and to their effects on real income is extremely important for the stability of growth and for further progress in development, including achievement of the MDGs. Indeed, the macroeconomic and social implications of commodity price developments are an issue that is high on the policy agenda, not only of developing countries, but also of developed countries, as reflected in the repeated reference in G-8 communiqués to commodity prices and their volatility.¹

Uncertainty about key prices generally has a negative impact on investment and production planning of both sellers and buyers, and renders macroeconomic, fiscal and financial management more difficult. This is why, from the perspective of developing countries whose export earnings and

national income are highly dependent on commodity markets, not only the long-term trend of primary commodity prices, but also their volatility have always been a concern. Partly as a result of this volatility, commodity-dependent economies have lower long-term average growth rates than economies with diversified production structures, and greater difficulty in reducing poverty (UNCTAD, 2002a).

This chapter addresses current issues related to commodity markets. It first reviews recent price developments and the factors that have shaped them, including the link between the financial and commodity markets, especially since the latter seems to have gained in importance in recent years. Section C of the chapter discusses in greater detail the origins and implications of the food crisis that emerged in the first half of 2008, and section D revisits the issue of commodity price instability, its implications – particularly for developing countries – and possible policy measures to resolve problems resulting from instability.

B. Recent trends in commodity prices and terms of trade

1. Trends in commodity prices

Since 2002, there has been an upward trend in the nominal prices of all commodity groups (chart 2.1). In 2008, their levels were generally much higher than the previous peaks of the mid-1990s, except for tropical beverages. The surge in prices has been mainly the result of rapidly increasing demand from several fast growing developing economies, in particular China and India, owing to their highly intensive use of energy and raw materials for industrialization, urbanization and infrastructure development (*TDR 2005*: chap. II). Growing demand encountered supply constraints because during the period of relatively

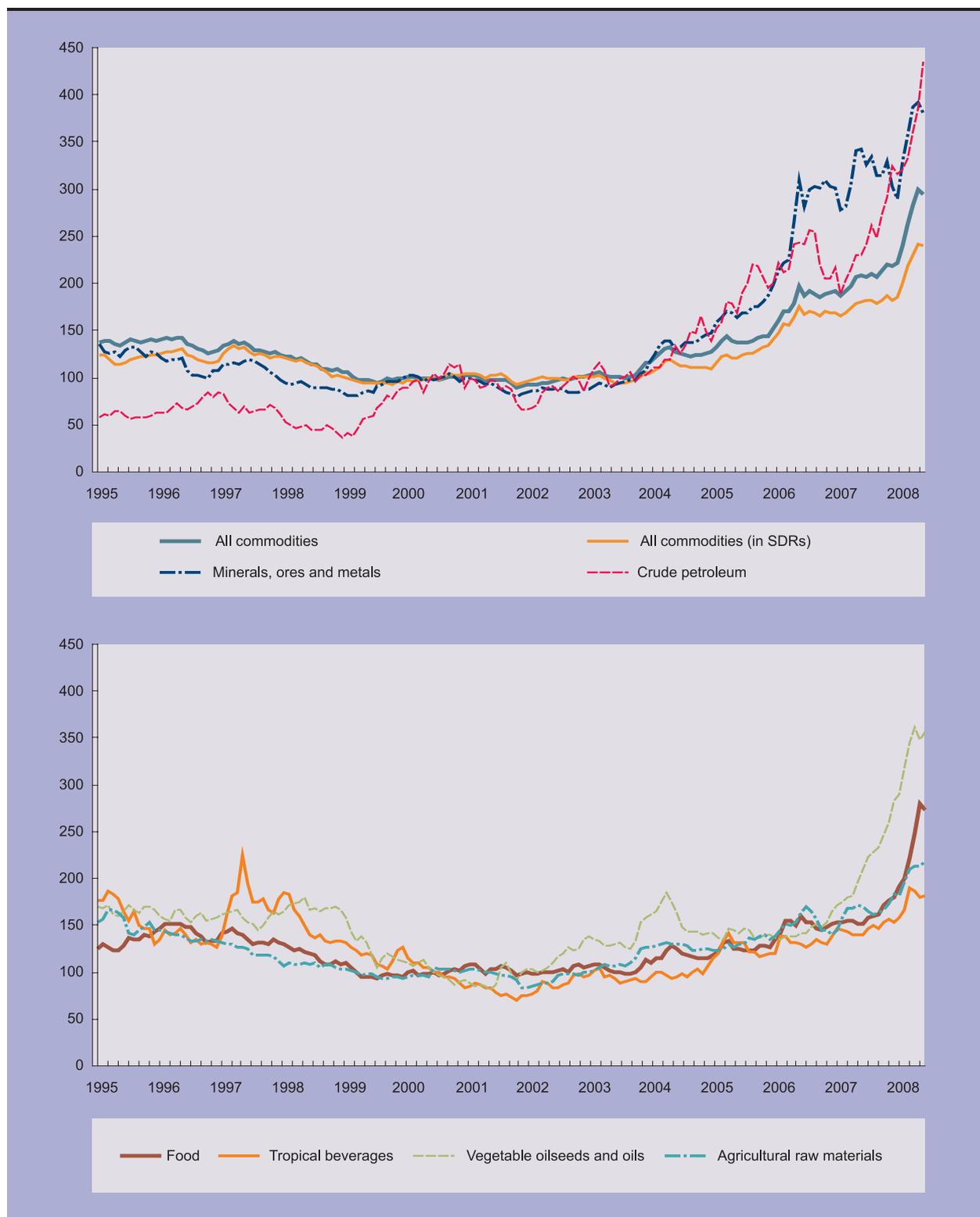
low prices in the 1990s, investment in new capacity had been low in the oil and mineral sectors. Although investment in exploration and new production capacity has increased since 2002, it has met with severe technological and geological constraints, so that the supply response so far has been weak.

The evolution of prices of different commodity groups has varied (chart 2.1). Until 2006, the average price increase of mining products (minerals, ores and metals) and of crude petroleum exceeded the average price increase of agricultural products (food, tropical beverages, vegetable oilseeds and oils, and agricultural raw materials). In 2007, prices surged for all commodity groups, except for a brief correction

Chart 2.1

MONTHLY COMMODITY PRICE INDICES BY COMMODITY GROUP, JANUARY 1995–MAY 2008

(Index numbers, 2000 = 100)



Source: UNCTAD, *Commodity Price Statistics* online.

Note: Crude petroleum price is the average of Dubai/Brent/Texas, equally weighted. Prices are in current dollars unless otherwise specified.

in mining products. However, these averages hide considerable differences within the different commodity groups (table 2.1).

Price increases of vegetable oilseeds and oils accelerated from mid-2006 onwards. In light of the rapid increase in most food prices since the third quarter of 2007, the relatively moderate increase in the aggregate food price indices in 2007 may seem somewhat surprising. It is explained by the fall in the prices of bananas and sugar – two food items that account for a large share of the food exports of developing countries. Income growth in the fast growing developing countries is one factor behind the price increases of agricultural produce. As standards of living in these countries have been improving, consumers have not only been demanding more food but are also changing their dietary habits, leading to increasing demand for livestock and, consequently, for animal feed. Moreover, higher oil prices have had an impact on the prices of food and vegetable oilseeds and oils, because they have prompted an increasing use of scarce arable land for growing crops for biofuel production as an alternative to oil. This trend has been reinforced by policies in the European Union (EU) and the United States to accelerate the substitution of traditional fuels with biofuels.

In real terms, in 2007, prices of all commodity groups (except metals and minerals) as well as the average price of all internationally traded primary commodities remained below their peaks of the 1970s (UNCTAD, 2008a). The typical cyclicity of commodity prices would suggest that supply and demand should adjust to the high prices, and that prices should eventually fall. However, there are some structural features, such as continuously rising demand for commodities in the fast growing Asian developing countries, and increasing difficulties in finding additional supplies of exhaustible natural resources, which point to a long-term shift in these markets. If the upward trend in commodity prices were to be sustained, it would challenge the traditional hypothesis in development economics that commodity prices decline in the long term. Moreover, many developing countries that are increasingly gaining in importance as importers of primary commodities are becoming more vulnerable to rising prices.

The rise in commodity prices since 2002 and the slow supply response has resulted in low inventory levels for many commodities, a situation

that generally gives rise to increased speculation. Financial investors have also been investing more in commodities futures and options because of the recent turbulence in financial markets. Although there is no conclusive evidence of the extent to which speculation is contributing to rising commodity prices so far, there can be little doubt that it has significantly amplified price movements originally caused by changes in market fundamentals (box 2.1).

The depreciation of the dollar is an additional factor contributing to the higher prices in dollar terms. As commodity prices are typically denominated in dollars, their price increases are smaller in the currencies that appreciate against that currency. For instance, between May 2007 and May 2008 the UNCTAD non-fuel commodity price index based on dollar prices increased by 41.9 per cent, but only by 32.7 per cent in Special Drawing Rights (SDRs) (chart 2.1), and by 23.3 per cent in euros. If the price increase is smaller in the currency of a commodity-importing country, the demand response will also be smaller than in the absence of a dollar depreciation. By the same token, the supply response to higher dollar prices is weakened as prices in the currencies of the producing countries rise much less when those currencies appreciate against the dollar. For example, in the case of Brazil, producers benefited little from the dollar price increase for biofuel crops as the Brazilian real appreciated strongly against the dollar. Together with the relatively high cost of cultivating new land in more remote regions and increasing transport costs, it explains the weak supply response for biofuel crops in Brazil, where there appears to be considerable scope for expanding the plantation of such crops without reducing food production.

Oil prices in dollars reached historic highs in the first half of 2008, in both nominal and real terms. The UNCTAD index of crude petroleum doubled between January 2007 and April 2008 (chart 2.1). The nominal oil price per barrel hit the \$100 barrier in January 2008, crossing it thereafter to reach about \$140 in June 2008. In real terms, when deflated by the United States Consumer Price Index (CPI) as a proxy for consumer countries' change in purchasing power, oil prices today are above the level of November 1979 – the peak of the previous oil crisis (see chart 1.2). Demand for oil continues to grow strongly in non-OECD economies, led by China and West Asia. In 2007, non-OECD oil demand increased by 3.9 per cent, and Chinese oil consumption increased by 4.2 per cent.

Table 2.1

WORLD PRIMARY COMMODITY PRICES, 2002–2007							
<i>(Percentage change over previous year)</i>							
<i>Commodity group</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2002–2007^a</i>
All commodities^b	0.8	8.1	19.9	11.7	30.4	12.9	113.2
All commodities (in SDRs)^b	-0.8	-0.2	13.6	12.0	30.7	8.5	80.1
All food	2.9	4.1	13.2	6.3	16.3	13.3	65.0
Food and tropical beverages	0.4	2.3	13.2	8.8	17.8	8.6	61.2
<i>Tropical beverages</i>	11.7	6.2	6.4	25.5	6.7	10.4	67.0
Coffee	4.7	8.7	19.8	43.8	7.1	12.5	125.6
Cocoa	63.3	-1.3	-11.8	-0.7	3.5	22.6	9.8
Tea	-9.5	8.4	2.1	9.1	11.7	-12.3	18.2
<i>Food</i>	-0.5	1.9	13.9	7.2	19.0	8.5	60.5
Sugar	-20.3	2.9	1.1	37.9	49.4	-31.7	46.4
Beef	-0.3	0.4	17.8	4.1	-2.4	1.9	22.6
Maize	10.4	6.5	5.0	-12.0	24.4	38.2	69.2
Wheat	16.6	-0.7	6.8	-1.4	26.6	34.3	77.7
Rice	11.0	4.1	23.1	17.1	5.5	9.5	73.4
Bananas	-9.6	-28.7	39.9	9.9	18.5	-0.9	28.6
Vegetable oilseeds and oils	24.9	17.4	13.2	-9.5	5.0	52.9	93.1
Soybeans	8.6	24.1	16.1	-10.4	-2.2	43.0	80.6
Agricultural raw materials	-2.4	19.8	13.4	3.9	15.0	11.2	80.5
Hides and skins	-2.9	-16.8	-1.7	-2.1	5.1	4.5	-12.1
Cotton	-3.6	37.2	-3.3	-11.6	5.9	10.2	36.8
Tobacco	-8.2	-3.5	3.6	1.8	6.4	11.7	20.9
Rubber	33.1	41.7	20.3	15.2	40.4	8.6	199.4
Tropical logs	-10.5	20.1	19.2	0.3	-4.7	19.5	63.6
Minerals, ores and metals	-2.7	12.4	40.7	26.2	60.3	12.8	260.8
Aluminium	-6.5	6.0	19.8	10.6	35.4	2.7	95.4
Phosphate rock	-3.3	-5.9	7.8	2.5	5.3	60.5	75.7
Iron ore	-1.1	8.5	17.4	71.5	19.0	9.5	184.7
Tin	-9.4	20.6	73.8	-13.2	18.9	65.6	258.1
Copper	-1.2	14.1	61.0	28.4	82.7	5.9	356.5
Nickel	14.0	42.2	43.6	6.6	64.5	53.5	449.4
Tungsten ore	-41.8	18.0	22.9	120.7	36.2	-0.6	333.5
Lead	-4.9	13.8	72.0	10.2	32.0	100.2	469.9
Zinc	-12.1	6.3	26.5	31.9	137.0	-1.0	316.4
Gold	14.4	17.3	12.6	8.7	35.9	15.3	124.7
Crude petroleum	2.0	15.8	30.7	41.3	20.4	10.7	185.1
<i>Memo item:</i>							
Manufactures^c	0.6	9.2	8.3	2.5	3.4	7.5	34.8

Source: UNCTAD secretariat calculations, based on UNCTAD, *Commodity Price Statistics* online; and United Nations Statistics Division (UNSD), *Monthly Bulletin of Statistics*, various issues.

Note: In current dollars unless otherwise specified.

a Percentage change between 2002 and 2007.

b Excluding crude petroleum.

c Export unit value of manufactured goods of developed countries.

Box 2.1**COMMODITY PRICE FORMATION AND SPECULATION**

Traditionally, speculators have played a useful role in primary commodity markets by providing opportunities for sellers and buyers of primary commodities to hedge against commodity price risks. However, in recent years speculation may well have become excessive, amplifying price movements to such an extent that they no longer reflect market fundamentals (Masters, 2008).

Major commodity exchanges around the world have witnessed record trading volumes helped by the wider use of electronic trading and greater interest by institutional investors. In 2007, agricultural futures and options trading grew by 32 per cent, energy by 28.6 per cent and industrial metals by 29.7 per cent (Burghardt, 2008). In addition, according to statistics of the Bank of International Settlements (BIS), outstanding amounts of over-the-counter commodity derivatives increased by close to 160 per cent between June 2005 and June 2007.^a New actors in commodity markets, such as investment, pension and hedge funds – and, more recently, sovereign wealth funds – have become significant players in international markets for commodity futures and options. According to one estimate, investment in commodity indices has surged, from less than \$13 billion at the end of 2003 to \$260 billion in 2008 (Masters, 2008). In addition, media reports suggest that derivatives trading in petroleum has increased 30 to 35 times more than physical petroleum trading between 2000 and 2006.

For various reasons, it is difficult to assess the extent to which price formation is influenced by speculation. Statistics do not distinguish between commercial customers and speculators. Moreover, speculative operations are partly executed over the counter (such as directly between banks and their clients), and therefore are not recorded by commodity exchange regulators. Besides, operations on commodity exchanges are not fully transparent. Nevertheless, a report by staff of the United States Senate (2006: 2) concluded for the oil market: “Although it is difficult to quantify the effect of speculation on prices, there is substantial evidence that the large amount of speculation in the current market has significantly increased prices. Several analysts have estimated that speculative purchases of oil futures have added as much as \$20–\$25 per barrel to the current price of crude oil, thereby pushing up the price of oil from \$50 to approximately \$70 per barrel.”

Movements in petroleum prices also influence the prices of other commodities because much of the derivatives trading is done on the basis of index trading (i.e. a bundle of commodities in which petroleum often has the largest share). Index speculators behave differently from traditional speculators. The latter contribute to price discovery as they both buy and sell options and futures contracts. Index speculators, on the other hand, are attracted to commodity markets because movements in commodity prices traditionally have been uncorrelated to price movements on stock and bond markets. These speculators turned their attention to commodity exchanges following the burst of the dot-com bubble on stock markets and, more recently, following the sub-prime mortgage crisis. Index speculators see buying commodity derivatives as a portfolio allocation decision. They allocate a certain proportion of their portfolio to commodity futures irrespective of the actual price on commodities markets. These speculators usually roll over one futures contract into another when the initial contract approaches maturity. They sell their positions only when they change the composition of their portfolio; thus they normally do not provide market liquidity. This insensitivity to price multiplies the impact of index speculators on commodity exchanges.

Futures prices are one criterion that guides spot prices.^b For example, a producer of wheat will be happy to sell the entire future wheat harvest already at the time of planting if the futures price that can be locked in is high enough to guarantee the producer a satisfactory profit. The futures prices will go up if more and more people try to buy wheat for future delivery, for example because of an expected shortage of supply. Standard accounts of commodity futures markets postulate that speculative activities on such

Box 2.1 (concluded)

markets affect spot markets only in terms of price expectations, but with no change in the behaviour of spot traders. However, an expected shortage of supply and the associated continued increase in futures prices also encourages consumers (e.g. bakeries) to buy as much wheat flour as possible at the outset (i.e. before spot prices move up even further). Thus it may well be that a sustained rise in futures prices encourages physical traders (such as bakeries) also to engage in speculative activities. This would mean in the above example that the bakeries start hoarding flour so as to avoid, for as long as possible, the expected increase in the spot price of flour. Bakeries will do this because of very limited possibilities to substitute wheat flour in the short run. If there is substantial index speculation, and if it is combined with low price elasticity of demand, the level of spot prices will remain high. And only a sizeable supply shock will be able to reverse the speculation-driven price increase.

The cumulative process of rising futures and spot prices will continue until expectations of future supply shortages have vanished. If the price increase triggers an increase in supply, this new price level is likely to be close to the one that prevailed prior to the speculative surge. But if there is a sluggish supply response, the new price level will be established on the basis of declining demand. This would be the case for food, for example, when consumers can no longer afford as much food as they used to.

Speculation is not a driver of commodity prices but rather a factor that may accelerate and amplify price movements driven by fundamental supply and demand factors, and the impact of speculation on prices is limited in time (Burkhard, 2008; IMF, 2006: 15–18). This view is also supported by the United States Commodity Futures and Trading Commission (CFTC), which notes that prices of commodities for which no futures contracts exist, or in which there is little or no index trading, have also shown rapid increases (Harris, 2008).

Improved market supervision and regulation of derivatives trading could limit the impact of speculation on spot prices. One regulatory measure could be to limit the value of outstanding futures contracts; another could be to limit the amount of futures contracts that can be rolled over in the final days preceding maturity of a futures contract. In view of the recent developments in commodity prices, the CFTC has undertaken several initiatives directed at enhancing oversight of the energy and agricultural markets. These initiatives include increasing information and transparency, ensuring proper market controls, continuing aggressive enforcement efforts and improving coordination of oversight (Lukken, 2008). The Commission has also stressed the urgent need for more international dialogue and cooperation on this matter.

In any case, the growing presence of financial investors is most likely adding volatility to commodity markets, as it causes prices to react quickly – and often to overreact – to new information in the market (UNCTAD, 2007a). A bullish sentiment on commodities investment can suddenly change, and if speculators were to decide to take profits or to change the composition of their portfolios in response to changes in financial markets, such as an increase in interest rates or a recovery in stock markets, there could be a sharp correction in prices.

^a BIS over-the-counter derivatives statistics are available at: <http://www.bis.org/statistics/derstats.htm> (accessed 9 April 2008). Data refer to nominal or notional amounts outstanding, defined as the gross nominal or notional value of all deals concluded and not yet settled at the reporting date.

^b For a further discussion of the relationship between futures and spot prices, see the website of the Commodity Futures Trading Commission (CFTC) at: <http://www.cftc.gov/educationcenter/economicpurpose.html>.

This robust growth more than compensated for the 0.4 per cent decline in oil consumption in the OECD countries. Overall, global oil demand increased by 1.3 per cent, and the pace and pattern of this demand is expected to continue in 2008 (IEA, 2008).

Supply response to the rising oil prices has been sluggish. In 2007, global oil production increased by only 0.2 per cent.² Even though oil companies substantially increased their investment outlays, these had a relatively small impact on additional supply capacity. This is because new exploration and the creation of new production capacity have become much more costly due to difficulties of access to remote deposits with existing equipment and technology (IMF, 2008: box 1.5).³ The costs associated with constructing new oil and gas facilities upstream have doubled since 2005 to reach a new record high, according to the IHS/Cambridge Energy Research Associates Upstream Capital Costs Index (CERA, 2008). Moreover, as a result of the high price levels, many extractive companies may become complacent about increasing investment in new facilities.⁴

After the Organization of the Petroleum Exporting Countries (OPEC) decided to cut oil production in late 2006 and early 2007, oil supply fell from 36.7 million barrels per day in the third quarter of 2006 to 35.5 in the second quarter of 2007. Its members then decided to raise production again in late 2007, which resulted in the production of 37.3 million barrels per day in the first quarter of 2008. In 2007, demand exceeded supply, but in March and April 2008 the oil market swung back into surplus, and it is expected to remain so for the rest of the year (IEA, 2008). Most OPEC members decided to maintain their output levels, as they believe the price increase in 2008 is due to geopolitical tensions, dollar depreciation and speculative investment rather than to supply shortages (OPEC, 2008). However, in late June 2008 Saudi Arabia agreed to increase production further, by about 500,000 barrels per day (according to media reports). Indeed, many observers believe that it is currently the only OPEC country that is in a position to increase production. In oil-producing countries that are not members of OPEC, the increase in oil production has been below expectations.

Overall, the measures taken by OPEC and the additional oil production by non-OPEC countries have been insufficient to calm the market. As a result of the tight supply and demand conditions, the lower levels of oil stocks in consuming countries and the very limited spare capacity in producing countries, the oil market has become highly sensitive to any supply disruption, which is immediately reflected in much higher prices. But even if the production of crude oil were to increase, it is unclear whether refineries have the capacity to cope with such an increase.

However, there is no clear knowledge of how much oil is left in the world, and by when exactly peak oil would be reached. According to some analysts, the oil price could reach \$200 per barrel in two years.⁵ In this uncertain context, energy markets react quickly to any news concerning supply, such as OPEC decisions to change or maintain production quotas, geopolitical tensions, the status of reserves in major consuming countries, or demand prospects in China. But certainly, the daily oil price changes of the magnitude seen in May and June 2008 cannot be attributed to market fundamentals alone; speculators might also be playing a significant role.

The combination of a slowdown in global growth and sharply rising primary commodity prices has important implications for monetary policy.

In the short-term, as the elasticities of supply and demand are low, oil prices are likely to remain high. However, the slowdown of the world economy could lead to a downward adjustment in oil consumption. Also, at the current price level, governments in those developing countries where oil is subsidized may find subsidies unsustainable in budgetary terms; a reduction in subsidies would cause demand to fall. In the long term, adjustment should come from reduced oil consumption, through the implementation of more energy-saving and efficiency measures. Greater use of alternative energies, which become more profitable when oil prices are high, will also help. Additionally, higher investment in oil-producing countries should eventually bear fruit and lead to an increase in production.

Changes in oil prices influence the evolution of prices of other commodities, as some of these have become increasingly interlinked.⁶ Most importantly,

higher oil prices are leading to greater demand for agricultural commodities for biofuel production, which compete with food commodities. They also raise the cost of production of other commodities. For instance, global fertilizer prices tripled in 2007 (IFDC, 2008). Oil prices can also affect the prices of commodities that are used as substitutes for oil by-products, such as cotton as a substitute for synthetic fibres or natural rubber for synthetic rubber. The closer links between oil prices and other commodity prices also mean that the greater volatility of oil prices is transmitted to other commodity markets.

Higher freight rates, which are driven in part by rising oil prices, also influence the final price of commodities and commodity-related products. The Baltic Dry Index for transport costs of bulk commodities jumped from about 4,400 in early January 2007 to over 11,000 in early June 2008, due to the combination of higher oil prices and booming demand. The average Overall Liner Trade Index for container transport in the first quarter of 2008 was 96.3, compared with 88.6 in the first quarter of 2007.⁷ In the past, lower transport costs was one of the major forces behind globalization. Now, the rise in oil prices to unprecedented levels, and the consequent increase in transportation costs, may lead to a greater tendency to seek supplies from domestic and regional markets (Rubin and Tal, 2008).

Moreover, the combination of a slowdown in global growth and sharply rising prices of oil and other primary commodity prices has important implications for monetary policy. With the inflation targets set by many central banks likely to be breached for yet another year, it will be difficult to ease monetary policy, even though doing so would prevent a sharper economic slowdown. A rise in commodity prices has a lasting inflationary impact only if so-called second-round effects (i.e. a vicious circle of rising nominal wages and further rising prices) cannot be avoided. There can be little doubt that such second-round effects must be minimized. However, while monetary restrictions are a suitable instrument for preventing an economy from overheating as a result of a cyclical increase in aggregate demand, they are not an appropriate instrument for curbing increases in relative prices resulting from a structural shift in the international commodity markets. International cooperation in macroeconomic policy could be helpful in avoiding an accumulation of such restrictive actions.

While it is likely that the prices of most commodities, including oil, will remain relatively high for quite some time, for the structural reasons discussed above, the short-term evolution of most commodity prices will largely depend on the performance of the world economy in the course of 2008 and 2009. A sharp slowdown, or even a recession, cannot be excluded. A recession in the United States alone, which accounts for about 16 per cent of world commodity imports, could have a significant impact on the global demand for commodities, and a downward price trend resulting from changes in real demand could be amplified by speculative sales. This would hit developing countries in particular, as commodities account for a large proportion of their exports and of their national income. The impact would also depend on the extent to which the fast growing developing countries that are major producers of manufactures and services are able to “decouple” their macroeconomic development from the United States. In view of all these uncertainties, the case for stabilization measures to mitigate the negative effects of volatility in commodity markets is as valid as ever.

2. *Terms of trade*

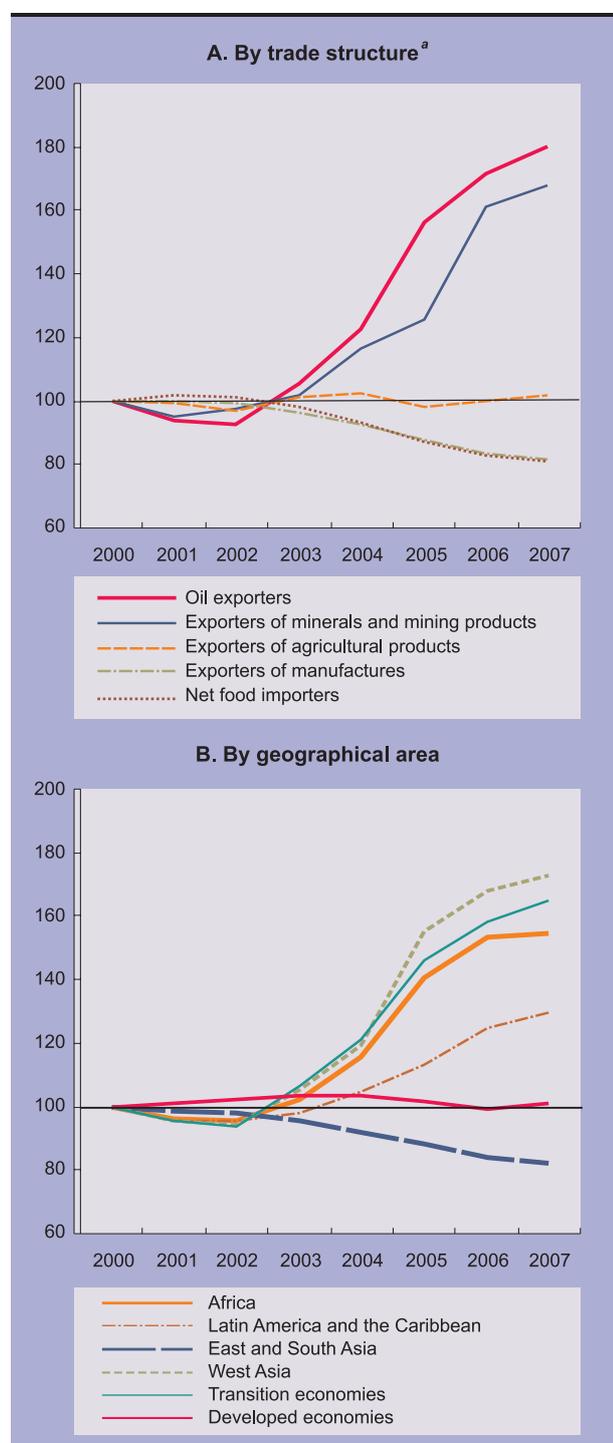
The overall impact of price changes differs considerably, depending on the trade structure of each economy and on the relative weight of commodity exports and imports in their gross national income. The recent evolution of prices of internationally traded goods also affects the distribution of income among and within different countries. Changes in income distribution within countries result from the fact that the social and economic groups that benefit from higher prices received for exported commodities are not identical to those that have to bear the burden of higher prices for imported goods.

The distribution effects across countries are largely determined by the evolution of the terms of trade, i.e. the ratio between the index of the unit price of exports and that of the unit price of imports. At a given level of export earnings or import expenditure, terms-of-trade gains indicate a relative increase in real income (because the same volume of exports enables a greater volume of imports) and terms-of-trade losses indicate a relative loss of real income (because the same volume of exports buys a smaller volume of

Chart 2.2

NET BARTER TERMS OF TRADE, SELECTED COUNTRIES, 2000–2007

(Index numbers, 2000 = 100)



Source: UNCTAD, secretariat calculations, based on *UNCTAD Handbook of Statistics* database.

Note: Net food importers are low-income food-deficit countries, excluding exporters of fuel, minerals and mining products.

a Developing and transition economies.

imports). There is broad agreement that during most of the twentieth century, developing countries – which typically exported raw materials and imported manufactures – suffered from a long-term deterioration in their terms of trade, due to a declining trend in the prices of primary commodities (which constituted most of their exports to the developed countries) vis-à-vis those of manufactures (which were mostly imported from developed countries).

Terms-of-trade trends have changed significantly since the beginning of the new millennium, not only because the prices of most primary products have risen sharply, but also because prices of many manufactures have risen more slowly – or have even fallen – especially prices of low-skill-intensive manufactures. The change in the trend has been related to two main structural changes: on the demand side, the emergence of a group of developing countries as major importers of primary products, and on the supply side, the fast expansion of manufactured exports by developing countries with relatively low labour costs. The latter was reinforced by currency devaluations in Asian countries following the 1997–1998 financial crisis, as the devaluations contributed to slower increases in the average price of internationally traded manufactures. As a result of the changes in the demand and supply patterns, stereotyping developing countries as exporters of primary commodities and importers of manufactures, on the one hand, and developed countries as importers of such commodities and exporters of manufactures, on the other, is no longer valid.

Between 2000 and 2007, on average, the greatest improvements in the terms of trade occurred in developing and transition economies that are exporters of fuels and mining products. In contrast, developing countries that have emerged as important exporters of labour-intensive manufactures and are net oil importers saw their terms of trade deteriorate (chart 2.2A). Data for developing and transition economies covering the period up to 2007 indicate that the terms of trade for the group of exporters of agricultural products have changed very little since 2003, but, within the group, the terms of trade have evolved quite differently for individual countries, depending on their specific export products and on their degree of dependence on imports of food and energy. For instance, exporters of cotton (Benin, Burkina Faso), tobacco (Malawi) and some tropical agricultural products (Guinea Bissau) suffered significant

losses, as their export prices did not compensate for the higher food and oil bills. On the other hand, significant recovery in the prices of coffee, maize, wheat and soybeans brought terms of trade gains, or at least avoided losses, for countries such as Argentina, Ethiopia, Paraguay and Rwanda. Given that prices for food crops and oil have risen faster in the first half of 2008 than the prices for tropical beverages and agricultural raw materials, variations within this group are likely to have increased further.

The Food and Agriculture Organization of the United Nations (FAO) has identified 82 “low-income food importers” that are vulnerable to food price hikes.⁸ For 48 of these countries, which do not export oil or minerals and mining products, food price increases have led to deterioration in the terms of trade by 20 per cent since 2001. In the remaining 34 countries, the terms of trade effect was offset by substantial increases in the prices of the commodities that they export.

A comparison of geographical regions further reveals the diverging trends in the terms of trade among developing and transition economies (chart 2.2B). The most dramatic improvement in terms of trade since 2003 have been observed in West Asia, which has several major petroleum exporters. This region is followed by the transition economies, on account of important hydrocarbon exporters such as the Russian Federation, Kazakhstan and Azerbaijan. The strong improvement in the terms of trade of Africa as a whole has been due not only to the rise in the prices of oil and mining products, which have benefited several countries, but also to the fact that in recent years a number of countries that traditionally have been exporters of agricultural products have begun exporting fuels and minerals. However, there are particularly large differences among the various countries of this region in terms of the evolution of the terms of trade. The situation of 20 sub-Saharan countries that do not export fuels or mining products has deteriorated since 2000, as the rate of increase in the prices of their imports (fuels, food and relatively sophisticated manufactures) has exceeded that of their exports (comprising mainly tropical agricultural products or labour-intensive manufactures).

The main challenge for countries that benefit from improved terms of trade is to use the additional revenues in a way that enhances development prospects.

Latin America and the Caribbean also show significant gains in their terms of trade, although more moderate, owing to a more diversified trade composition. Gains have been more important in South America, while most Central American and several Caribbean countries (most of which depend heavily on fuel imports and export labour-intensive manufactures) have suffered terms-of-trade losses. Finally, East, South-East and South Asian countries have experienced a significant deterioration in their terms of trade, owing to the large share of labour-intensive manufactures in their exports, and to their increasing dependence on imports of energy and industrial raw materials.

The changes in the terms of trade have led to significant gains or losses in the real income of trading countries. In fact, between 2004 and 2007, developing countries classified as exporters of manufactures suffered losses from changes in their terms of trade equivalent to almost 1 per cent of GDP per year. On the other hand, oil exporters and exporters of mining products obtained windfall gains from improving terms of trade, which were 7.5 and about 4 percentage points of GDP respectively. For many of these countries, windfall gains from terms-of-trade changes appear to have been offset in part by a rise in profit remittances by transnational corporations involved in the exploitation of natural resources. In those cases, the gross domestic *income* grew faster than the gross domestic *product* (the difference resulting from gains in the terms of trade), but the gross *national* income grew less than the gross *domestic* income (owing to higher net payments to non-residents). This was the case, in particular, for a number of mineral exporters such as Chile, Peru and Zambia between 2004 and 2007, where 60 per cent or more of the gains from price increases of minerals and mining products went into profit remittances (table 2.2). Similarly, in several sub-Saharan African countries and transition economies that are oil exporters, foreign companies appear to have captured a substantial share of the windfall revenues. On the other hand, in other oil- and gas-exporting countries, such as Algeria, Angola, Bolivia, the Bolivarian Republic of Venezuela, Ecuador, the Islamic Republic of Iran, Kuwait, the Russian Federation and Saudi Arabia, the rise in prices and related improvements in

Table 2.2

IMPACT OF CHANGES IN TERMS OF TRADE AND NET INCOME PAYMENTS ON NATIONAL DISPOSABLE INCOME IN SELECTED DEVELOPING-COUNTRY GROUPS, AVERAGE OF 2004–2006
(Per cent of GDP)

	<i>Effects from changes in</i>		<i>Net impact</i>
	<i>Terms of trade</i>	<i>Net income payments</i>	
Oil and gas exporters	7.5	-2.0	5.5
<i>of which:</i>			
Algeria	4.6	0.0	4.6
Angola	16.4	-3.9	12.5
Azerbaijan	9.3	-7.1	2.2
Bolivia	2.6	0.2	2.9
Equatorial Guinea	18.7	-11.6	7.1
Iran, Islamic Republic of	3.9	0.6	4.5
Kazakhstan	8.6	-4.9	3.6
Kuwait	10.2	2.4	12.6
Nigeria	5.5	-3.3	2.2
Russian Federation	4.3	-0.5	3.8
Saudi Arabia	9.5	0.6	10.0
Venezuela, Bolivarian Republic of	7.1	1.0	8.1
Exporters of minerals and mining products	3.9	-2.1	1.8
<i>of which:</i>			
Botswana	-0.8	-0.3	-1.1
Chile	6.3	-3.7	2.5
Jamaica	2.3	-1.1	1.2
Papua New Guinea	6.6	-1.5	5.0
Peru	2.7	-2.1	0.6
Zambia	6.5	-4.0	2.5
Exporters of agricultural products	-0.2	-0.1	-0.4
Exporters of manufactures	-0.6	-0.1	-0.7

Source: UNCTAD secretariat calculations, based on UN data; IMF, *Balance of Payments Statistics* database; ECLAC, *Balance of Payments Statistics* database; Economist Intelligence Unit, *Country Reports*; national sources; and UNCTAD estimates of unit value and volume of exports and imports.

Note: For an explanation of net income payments, see text.

the terms of trade were not accompanied by a higher share of net factor payments abroad in gross domestic income. This suggests that the producer countries themselves appropriated most or all of the gains. These are countries where State-owned companies dominate the extraction and export of oil and gas, or countries that have recently renegotiated contracts with foreign companies to appropriate a larger share of the income from oil and gas exploitation.

The main challenge for countries that benefit from improved terms of trade is to use the additional revenues in a way that enhances long-term

development prospects. It is therefore important that the windfall income be captured by the producing countries to the largest extent possible, either through local ownership of producing firms or through a well-designed taxation and royalty system that ensures a fair distribution of the rent between domestic actors and foreign investors. The present high prices for oil and mining products may offer an opportunity for renegotiating the conditions of rent distribution where it remains unfavourable for the producing countries. In addition, these resources need to be used for financing investment in infrastructure development and in social and productive sectors in a sustainable way.

C. The global food crisis

1. Soaring food prices in 2007 and 2008

World food prices roughly doubled between January 2006 and May 2008, and they have increased by over 80 per cent since April 2007 (chart 2.1). The increases apply to a wide range of food commodities. The current price surge, which started in June 2007, has been led by wheat, the price of which more than doubled by March 2008, although it declined slightly thereafter. The price of maize has risen by 66 per cent since July 2007, while that of rice has tripled since September 2007 and surged by about 160 per cent in the short period between January 2008 and May 2008 (chart 2.3). Vegetable oilseeds and oils have also registered spectacular increases, with prices multiplying by about 2.5 times since early 2006 (chart 2.1).

There are a number of reasons for the dramatic increase in food prices in 2007 and 2008, including a slowdown in the expansion of global production due to a lower rate of growth of crop yields and cultivated land⁹ on the one hand, and strongly increasing demand by fast growing developing countries on the other (*TDR 2005*, chap. II). However, an analysis of world consumption and production data for the last two decades for wheat, maize and rice (chart 2.3) shows that previous price increases in comparable deficit situations were much smaller than the present one. Thus recent price hikes cannot be explained solely by underlying consumption and production trends. As mentioned above, they are also related to higher fuel prices and transport

costs and, to some extent, to dollar depreciation (IMF, 2008). Furthermore, today, many food stocks have fallen to historic lows,¹⁰ suggesting that positive demand shocks and negative supply shocks can only be accommodated through sharp price movements (Merryll Lynch, 2008).

Under these conditions, the effect of speculation is also magnified. It is more than a mere coincidence that the recent price surge started at the same time as the financial turmoil resulting from sub-prime mortgage lending in the United States. Speculators, looking for high returns in the short run, may well

have sensed strains arising in world food markets and readjusted their portfolios to contain a greater share of commodity futures contracts (see box 2.1). On the other hand, if food stocks had been high, any supply or demand shock could easily have been absorbed through a reduction in stocks, thus reducing the incentives for speculation. Thus,

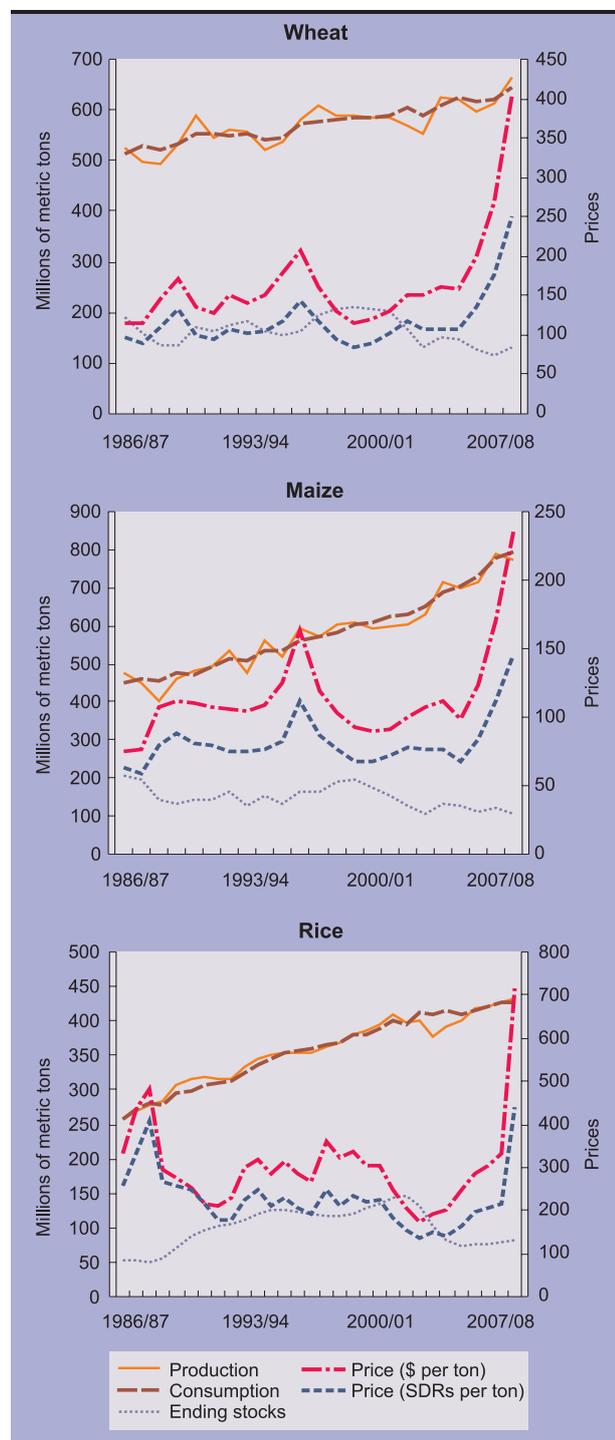
as the general evolution of global food prices since mid-2007 has been driven by a series of shocks that occurred in the context of increasing sensitivity of global food markets to events in other markets, these shocks had a much stronger impact on global food prices than in normal circumstances.

The shocks that triggered the price explosion have differed by commodity. For wheat, adverse weather conditions were the main factor, which considerably reduced crops in Australia and Europe. The higher price of maize was largely the result of a policy-driven push for biofuel production of ethanol

Recent price hikes cannot be explained solely by underlying consumption and production trends.

Chart 2.3

WORLD CEREAL CONSUMPTION, PRODUCTION, STOCKS AND PRICES



Source: UNCTAD secretariat calculations, based on United States Department of Agriculture, *Production, Supply and Distribution Online* database; UNCTAD, *Commodity Price Statistics* online; and IMF, *International Financial Statistics* database.

Note: Data on prices for 2008 are only an indication as they are the average of January to May.

in the United States, which led to a doubling of the maize output used for biofuel production between 2006 and 2008, partly at the expense of maize produced for food consumption (WAOB, 2008). Demand for biofuels is also behind the strong increases in the prices of vegetable oils. According to OECD-FAO (2008), biofuels accounted for more than half of the increase in demand for grains and vegetable oils between 2005 and 2007. The United States accounts for a large proportion of the increase in the use of grains, mainly maize, for biofuel production. The FAO reports that, of the nearly 40 million ton increase in global maize consumption in 2007, 30 million tonnes were absorbed by ethanol plants alone, mostly in the United States, which is the world's largest producer and exporter of maize (FAO, 2008a). Indeed, the United States Department of Agriculture recognizes that the increase in that country's ethanol production over the past five years and the related changes in the structure of the domestic corn market have had a more pronounced impact on the world's supply and demand balance for total coarse grains recently than in the 1980s and 1990s (USDA, 2008a: 18). Although there is strong evidence that the demand for biofuels has driven up the price of food, the relationship between both in the long term will depend on future trends in petroleum prices as well as on the "second generation" of biofuels.

The substitution effects of crops have also been important. As the price of maize increased, consumers shifted to alternative grains (such as rice and wheat), while producers shifted from rice, wheat and soybean production to maize. The combined effect of this was higher prices of rice, wheat and soybeans. With regard to soybeans, their higher price in 2007 was mainly the result of a sharp drop in production due to a reduction in the area under cultivation. This situation seems to be reversing in 2008, with prospects for higher production of these food commodities and lower production of maize. For instance, wheat prices started falling after March 2008 following expectations of higher yields. By contrast, recently the price of maize has been rising due to unfavourable weather conditions. As for rice, its price has surged, mostly as a result of policy measures adopted by major rice-exporting countries to restrict exports and by importing countries to build up their strategic stocks of grains. These measures were taken to protect domestic consumers in response to concerns about food scarcity. They were also a reaction to domestic food price inflation due to higher

production costs, mainly of fuels and fertilizers. But these measures also reduced the already relatively low supply in international markets and increased food prices even further.

However, the recent developments in food markets also have deep historical reasons. One important reason for today's food shortages – as characterized by low supply and declining stocks – is neglect of the agricultural sector over the past two decades. Since the 1980s, in many developing countries this sector has suffered from underinvestment, as now also recognized by the World Bank (2008). In the context of structural adjustment programmes, many developing countries, especially in Africa, had been encouraged to dismantle agricultural support institutions and abandon other instruments of agricultural policy, such as input subsidies, output price stabilization and territorial pricing, which encouraged agricultural use of even remote land areas (*TDR 1998: Part Two*). One objective of the reforms was to raise prices of agricultural goods in order to trigger higher production in the agricultural sector. But this did not happen. Furthermore, while developing countries were encouraged to liberalize their external trade in agricultural products, developed countries continued to provide substantial support to their agricultural sector.

Farmers in the least developed countries (LDCs) were particularly hard hit by these developments. They were unable to weather the competition from imports of cheaper, subsidized agricultural products from developed countries. As a result, food imports surged and farmers suffered income losses (FAO, 2003a).¹¹ They also had insufficient access to finance for investment aimed at increasing productivity (UNCTAD, 2007b). To make matters worse, ODA in support of agriculture has been falling from an annual average of about \$7.5 billion in the 1980s to about half this amount in 1995–2005 (World Bank, 2008: 41).

While prospects for some food crops are better in 2008, it will take some time before stocks are replenished to normal levels. There may be some easing of prices from current levels, but they will continue to be high and volatile (FAO, 2008b; OECD-FAO, 2008; and USDA, 2008b). Markets are likely

to remain extremely sensitive to new supply shocks and shifts in investor sentiment, depending on further developments in international financial markets and regulatory measures that have a bearing on the profitability of biofuel production.

2. Impact of the rise in global food prices

The impact of higher food prices varies across countries and population groups. At the country level, this impact depends to a large extent on the trade structure. Net food exporters can benefit from improved terms of trade, although some of them are currently foregoing this opportunity by regulating exports in order to assure food security for domestic consumers. By contrast, several net food-importing countries have been finding it difficult to meet domestic food demand.

Data show that developments in 2006–2007 in international markets for food (including vegetable oilseeds and oils) had only a minor impact on the food trade balance of the developed countries (table 2.3). The strongest impact was felt in Australia and New Zealand, where the food export surplus fell more than 1 percentage point of GDP since 2000, mainly due to lower export volumes. The food trade deficit in Japan increased slightly, to 1 per cent of GDP, while the developed countries of North America and Europe maintained a fairly even balance between food exports and imports.

The impact of changes in international food markets was felt much more in developing countries. Net imports increased in Central America (including Mexico) and in the Caribbean, whereas a growing surplus was registered in South America, mainly on account of Argentina. The South-East Asian economies maintained a food trade surplus in the order of 1.9 per cent of their GDP, while the deficit in the food trade of the transition economies fell from 1.3 per cent of GDP in 2000 to 0.7 per cent in 2007. At the same time, net food imports of sub-Saharan Africa (excluding South Africa) increased from 1.3 per cent of GDP in 2000 to 1.9 per cent in 2007.

With better prospects for some food crops in 2008, there may be some easing of prices, but they will remain high and volatile.

Table 2.3

FOOD TRADE AS A SHARE OF GDP, BY MAIN COUNTRY GROUPS, 2000–2007									
(Per cent)									
	Net imports			Gross imports			Gross exports		
	2000	2006	2007	2000	2006	2007	2000	2006	2007
World	0.1	0.0	0.1	1.1	1.3	1.3	1.1	1.2	1.3
Developed economies	0.1	0.1	0.1	1.0	1.2	1.2	0.9	1.1	1.1
America	-0.2	-0.1	-0.2	0.4	0.5	0.5	0.6	0.6	0.7
Asia	0.9	0.9	1.0	0.9	1.0	1.1	0.1	0.1	0.1
Europe	0.1	0.2	0.2	1.7	1.9	1.9	1.6	1.7	1.7
Oceania	-3.1	-2.2	-1.7	0.7	0.7	0.7	3.8	3.0	2.4
Developing economies	0.0	-0.2	-0.1	1.6	1.5	1.5	1.6	1.7	1.6
Africa	1.4	1.3	1.6	2.8	2.7	2.9	1.4	1.3	1.2
Northern Africa	2.4	1.9	2.3	3.4	3.1	3.4	1.1	1.2	1.1
Southern Africa	-0.5	-0.2	0.1	1.2	1.3	1.4	1.7	1.5	1.4
Eastern Africa	0.3	1.1	1.8	3.0	4.1	4.5	2.8	3.0	2.7
Western Africa	1.4	1.9	2.0	2.7	3.1	3.2	1.3	1.2	1.2
Middle Africa	3.5	2.1	2.1	4.0	2.3	2.3	0.5	0.2	0.1
America	-0.9	-1.6	-1.4	1.2	1.2	1.3	2.1	2.8	2.6
South America	-1.7	-2.8	-2.5	0.8	0.7	0.7	2.5	3.5	3.2
Central America, incl. Mexico	0.2	0.3	0.6	1.7	1.9	2.1	1.5	1.6	1.5
Caribbean	2.2	3.2	3.7	3.7	4.1	4.5	1.5	0.9	0.8
Asia	0.2	0.1	0.2	1.6	1.4	1.5	1.4	1.3	1.3
South Asia	0.2	-0.1	0.1	1.2	1.0	1.0	1.0	1.1	0.9
East Asia	0.4	0.4	0.5	1.2	1.2	1.2	0.9	0.8	0.7
West Asia	1.7	1.0	1.1	2.5	2.0	2.1	0.8	1.0	1.0
South-East Asia	-1.7	-1.9	-1.9	2.5	2.4	2.4	4.2	4.3	4.3
Oceania	1.9	1.6	1.5	5.4	5.7	6.0	3.6	4.2	4.5
Transition economies	1.3	0.9	0.7	2.4	1.9	1.6	1.1	1.0	1.0
Asia	0.9	0.8	0.7	2.8	2.2	2.0	1.9	1.4	1.3
Europe	1.4	0.9	0.6	2.4	1.9	1.6	1.0	0.9	0.9
Memo items:									
Sub-Saharan Africa, excl. South Africa	1.3	1.7	1.9	3.2	3.2	3.3	1.9	1.5	1.4
Least developed countries	2.1	2.0	2.2	3.7	3.6	3.7	1.6	1.6	1.5
Landlocked countries	0.4	0.6	0.6	3.1	2.9	2.8	2.6	2.3	2.2
Small island developing States	2.1	1.9	2.4	5.7	5.7	6.0	3.6	3.8	3.6
Heavily indebted poor countries	1.1	2.1	2.4	4.0	4.5	4.8	2.9	2.4	2.3
G-7	0.2	0.3	0.2	0.8	1.0	1.0	0.6	0.7	0.8

Source: UNCTAD secretariat calculations, based on UNCTAD Handbook of Statistics database; UNCTAD, Commodity Price Statistics online; and national sources.

Note: Food includes vegetables oilseeds and oils. Data for 2007 are estimates.

On average, the poorest developing countries were more adversely affected by the recent increase in food prices than the more advanced developing countries. According to FAO estimates, the food import bill for the LDCs and low-income food-deficit countries (LIFDCs) could grow by another

37 to 40 per cent in 2008, after rising 30 and 37 per cent, respectively, in 2007 (FAO, 2008b).¹² This implies that by the end of 2008, the food basket in these countries could cost about four times as much as it did in 2000. Most of the heavily indebted poor countries (HIPC) and small island developing States

have also witnessed a substantial rise in their food import bill since 2006.

At the household level, those with the lowest purchasing power were particularly hard hit by the surging and volatile food prices. In developing countries, and particularly in the LDCs, households spend a much higher share of their income on food than those in developed countries. According to FAO estimates, this share amounts to 60–80 per cent in developing countries, compared to 10–20 per cent in developed countries (FAO, 2008c). And for the poorest segments of the population, the share of staples in total food consumption is much higher than for the average household.

The degree to which higher international prices get passed on to domestic prices differs from country to country, depending on the exchange rate, transport costs and domestic policies to control prices, as well as on trade policies and food distribution structures. As the share of processed products in the food basket is usually small in developing countries, increases in international commodity prices are likely to be more directly transmitted to retail prices. For many developing countries, the recent inflation in food prices has considerably exceeded overall inflation, and it has been much higher than in developed countries. In the latter, the direct contribution of higher food prices to overall inflation is modest compared to developing countries (OECD-FAO, 2008: box 2.1). The United Nations (2008) reports that the increase in global food prices contributed from about a third to over a half of headline inflation in developing countries in 2007, and that the impact was particularly strong in Asia, including West Asia.

Upward pressures on prices have been intensifying in the course of 2008 in all developing regions, especially in oil- and food-importing countries.

A simulation by USDA (2008a) shows the different impact of food price hikes in developing and developed countries. A 50 per cent increase in staple food prices causes retail food expenditures to rise by 6 per cent for a consumer in a high-income country, but by 21 per cent for a consumer in an LIFDC. This implies that the percentage of income spent on food

increases only from 10 to 10.6 per cent for the high-income consumer, but it jumps from 50 to more than 60 per cent for the low-income consumer. The likely result is that poor households that are typically net purchasers of food, including smallholder farmers, landless labourers and the disadvantaged segments of the urban population, will be forced to reduce their consumption of food and other basic necessities. By contrast, better-off farmers and agro-businesses may directly benefit from higher food prices, as they tend to be better equipped to respond to changing price incentives and market opportunities. While the impact of the recent rise in food prices will differ among developing countries, depending on the patterns of poverty, income and expenditure, they could substantially increase overall poverty in low-income countries (Polaski, 2008; Ivanic and Martin, 2008).

3. Policy implications of the food crisis

The recently soaring global food prices may well be more than just another short-lived phenomenon, the last of which occurred in 1995–1996; it could represent a structural change in the world food economy. Hence, while emergency measures, such as greater food aid, can address the most urgent needs, in the medium to long term the food crisis must be tackled through investment, innovation and productivity growth.

There is undoubtedly need for emergency measures to ensure that the poorest households have access to sufficient food. This aid should be provided in a manner that does not affect

market incentives or undermine local production. Governments in developing countries will also need to provide safety nets for the poor to enable them to buy food. Indeed, a key challenge is how to maintain the real income of poorer households in developing countries to enable them to buy enough food without triggering a wage-price spiral. Income support for the most needy households through targeted transfer payments would also help to contain the inflationary impact of higher food prices. Such payments must be based on a broad social consensus on how the higher

Emergency measures can address urgent needs, but for the longer term the food crisis must be tackled through investment and productivity growth.

costs of food are to be distributed. Yet, in many of the concerned countries it will be very difficult for the public budget to accommodate such additional social expenditure without reducing public spending for other purposes, including urgent infrastructure investments. This dilemma suggests that additional foreign assistance to solve this distribution problem in poor countries is justified. It also demonstrates the importance, from both the macroeconomic and social perspective, of new measures to achieve greater commodity price stability and of quick-response instruments to mitigate their impact.

Equally important, and even more important for solving the problem of food supply in the medium and long term, will be measures to encourage smallholder farmers to boost production, for example by providing financial support to improve their access to vital production inputs such as seeds and fertilizers. Such measures must be undertaken in the context of broader programmes to reform the financial system in developing countries in support of investment in the productive sectors (see also chapter IV). In this context it might be worth considering the possible contribution of environmentally sustainable agricultural production methods.¹³ Such methods generally require less imported energy and have lower carbon intensity, thereby reducing the vulnerability of farmers to external shocks. They rely more on local resources and local traditional knowledge. This form of agriculture is also particularly well suited to small farmers.

At the international level, a concerted and coordinated global response to food shortages must take into account the link between markets for food crops, biofuels and petroleum, in addition to considering the broader need for mitigating climate change through reduced consumption of fossil fuels. In this context, it might be worth taking a fresh look at producer-consumer cooperation schemes, including in the oil sector, where an orderly, long-term management of the remaining reserves is in the interest of both producers and consumers. Moreover, in light of recent experiences, developed-country policymakers may

wish to consider changing the relative weight of reduction of total emissions and substitution of fossil fuels by biofuels or substitution by other renewable forms of energy in their policy objectives. This might imply reviewing policies for the provision of subsidies for domestic biofuel producers, erection of protectionist barriers against ethanol and biodiesel, and mandating an increased use of biofuels in total fuel combustion. In any case, it is imperative that biofuel production does not reduce the availability of food supplies.

In addition, international action may be needed to tackle the problem of excessive speculation in global commodity markets, which is also closely related to movements on financial markets. This should include measures to allow concerted intervention of governments in food markets if there is a strong indication that speculation is driving prices. By contrast, measures such as country-specific export bans, bilateral food trade accords, or national targets for the use of a certain percentage of biofuels in total energy consumption should be discouraged, as they tend to contribute to instability in global markets and they may undermine the incentives created by rising prices to boost production.

Poor developing countries that experience deterioration in their trade balance because of higher commodity prices depend heavily on external financial assistance. Such assistance, in the form of ODA grants, is particularly important for those poor countries that are net importers of both oil and food. In this context the calculations for the amount of ODA required to achieve the Millennium Development Goals (see chapter V of this *Report*) may need to be revised on a country-by-country basis.¹⁴

In the medium to long term, agricultural output needs to be increased, including through sustained improvement in agricultural productivity. This will require substantial investment in the agricultural sector, including in infrastructure, water supply, improved seeds and fertilizers, education and agricultural research and development.¹⁵

International action may be needed to tackle the problem of excessive speculation in global commodity markets.

D. The persistent problem of instability in commodity markets

1. Background

Traditionally, the “commodity problem” of developing countries has been understood to have three dimensions: first, the long-term deterioration in prices of commodities, primarily those exported by developing countries, vis-à-vis the prices of manufactures, exported mainly by developed countries; second, the high volatility of prices in commodity markets; and third, the small share of the final price of commodities that accrues to the commodity producers in developing countries.¹⁶ With trade among developing countries increasing, the geographical pattern of trade in primary commodities and manufactures has changed considerably. Although many developing countries still depend on exports of a few primary commodities and on imports of manufactures, particularly capital goods, others have become important exporters of manufactures and importers of primary commodities from other developing countries.¹⁷

Many developing countries continue to depend on earnings from exports of primary commodities to finance their imports of capital and intermediate goods that cannot be produced at home but are indispensable for advancing structural change. Movements in commodity prices thus have an immediate impact on the potential for capital formation and growth in the exporting countries. Many other economies, including

an increasing number of developing countries rely on imports of primary commodities as industrial raw materials or for current consumption. For these countries, price movements change both the cost of production and consumer prices.

But in an increasingly integrated world economy, the level and stability of commodity prices is not only an issue at the national level; it also has a global dimension. Similar to wages in a national economy, which determine incomes and the purchasing

power of workers as well as the costs of production for firms, commodity prices have a significant effect on the incomes of producers and the costs for users. This gives them an important role in macroeconomic stability and growth in the world economy. The global macroeconomic impact of commodity price movements depends on the reaction of demand in the

exporting countries. If, with unchanged export volumes, the additional income from higher commodity prices is spent entirely on additional imports by the commodity exporting countries, the price increases tend to have a global expansionary impact. This is because most demand for commodities is relatively inelastic so that the higher import bill tends to translate into lower savings. On the other hand, if rising commodity prices do not result in higher imports by the commodity-exporting countries, they tend to have a global contractionary effect. Such an effect is also likely to arise from a fall in commodity

Movements in commodity prices have an immediate impact on the potential for capital formation and growth in the exporting countries.

prices, unless the level of imports of the commodity-exporting countries can be maintained by means of external financing that compensates for the shortfall in export earnings.

Another international aspect is that price hikes for essential primary commodities may generate inflationary pressures prompting central banks to adopt a tighter monetary policy, even when the cyclical situation would call for an expansionary monetary policy stance instead. Thus, short-term price stability and carefully managed price movements of internationally traded primary commodities could contribute substantially to stabilizing demand and supply conditions, and thus, to an investment-friendly macroeconomic environment, not only in the exporting countries but also in importing countries.

Notwithstanding the recent improvement in the growth potential of exporters of primary commodities, many developing countries will remain highly vulnerable to changes in supply and demand in international commodity markets, as long as progress towards diversification and industrialization is slow. Indeed, they may even experience a severe slowdown if a recession occurs in the global economy. The next subsection reviews commodity dependence in developing and transition economies and its implications for investment and growth.

2. Commodity dependence and price volatility

The share of primary commodities (including fuels) in total developing-country exports plunged to 33 per cent in 2003–2006, from around 73 per cent in 1980–1983. The shift in the structure of exports towards a greater share of manufactures occurred in all developing regions. However, diversification into manufactures has been highly concentrated in a small number of countries, mainly in the newly industrializing economies (NIEs) of East and South-Asia. Excluding this region, primary commodities still accounted for about 51 per cent of developing-country exports in 2003–2006, and fuel exports alone for 34 per cent. The number of countries that rely heavily on the export of primary commodities has not changed significantly since 1995 (table 2.4). This dependence is particularly high in Africa, where

primary commodity exports represented 79 per cent of total exports in 2003–2006.¹⁸ Although oil exports from Africa account for a large share of the region's total commodity exports, only a small number of African countries are involved; the majority of African countries depend on exports of non-oil primary commodities. Dependence on primary commodity exports is closely related to poverty and high external indebtedness, as indicated by the particularly high share of primary commodities in exports (83 per cent) of the heavily indebted poor countries (HIPCs).¹⁹

Commodity-dependent economies are exposed to considerable external shocks stemming from price booms and busts in international commodity markets (Cashin and McDermott, 2002; Cashin, McDermott and Scott, 1999). These relatively strong price swings are also reflected in relatively high volatility in the barter terms of trade of many developing countries, and movements in the terms of trade have a strong effect on the current-account position and growth of developing countries (as discussed in chapter III, section D of this *Report*).

While the trend since 2002 is of increasing commodity prices, volatility continues to be very high and has even increased over the past 30 years. A comparison of overall non-fuel commodity price volatility as measured by the deviation of prices from their exponential trend level over the past four decades reveals that commodity price instability in 1998–2007 was lower than in 1968–1977, but higher than in 1978–1987 and 1988–1997.²⁰

The higher volatility of commodity prices compared to manufactures can be illustrated by showing the evolution of the commodity price index for all commodities (excluding fuels), the export unit value index of manufactured goods of developed countries and the price index of crude petroleum, around their corresponding trends (chart 2.4A). Chart 2.4B shows the quarterly changes in these indices in nominal terms. The UNCTAD non-fuel commodity price instability index showed a slight increase in volatility between 1996–2001 and 2002–2007.²¹ This was mainly due to higher price volatility of vegetables and oilseeds and of the minerals, ores and metals group.

The particular reasons for commodity price volatility differ by country and commodity. But in general, sharp price fluctuations are the result of

Table 2.4

COMMODITY DEPENDENCE BY GEOGRAPHICAL REGION, 1995–1998 AND 2003–2006						
<i>(Number of countries for which exports of commodities account for more than 50 per cent of total exports)</i>						
	<i>Total primary commodities^a</i>		<i>Three or less commodities</i>		<i>One commodity</i>	
	<i>1995–1998</i>	<i>2003–2006</i>	<i>1995–1998</i>	<i>2003–2006</i>	<i>1995–1998</i>	<i>2003–2006</i>
Developing and transition economies	118	113	82	84	47	50
Developing economies	108	103	78	78	45	46
Africa	46	45	37	34	21	23
Latin America	30	27	15	17	6	7
East and South Asia	7	8	4	6	1	2
West Asia	9	9	9	9	8	6
Oceania	16	14	13	12	9	8
Transition economies	10	10	4	6	2	4
<i>Memo items:</i>						
Least developed countries	38	38	31	31	19	20
Heavily indebted poor countries	38	36	30	28	15	15

Source: UNCTAD secretariat calculations, based on *UNCTAD Handbook of Statistics* database.

a Primary commodities: SITC Rev. 2: 1 to 4 plus 68, 667 and 971.

low elasticities of demand and supply in the short-term. Price changes therefore tend to overshoot any supply or demand shock. For metals and minerals, industrial raw materials and energy, price movements are strongly determined by demand, and are closely linked to global industrial and economic activity. Prices of agricultural commodities are highly influenced by the supply side and by external factors such as weather. In addition, as explained above, low inventory levels lead to greater price volatility of the concerned commodity. In the particular case of oil, other factors also influence price volatility, such as geopolitical tensions.²² Furthermore, as commodity prices are denominated in dollars, part of their variability is due to changes in exchange rates. As discussed in box 2.1, speculation also plays an increasingly important role.

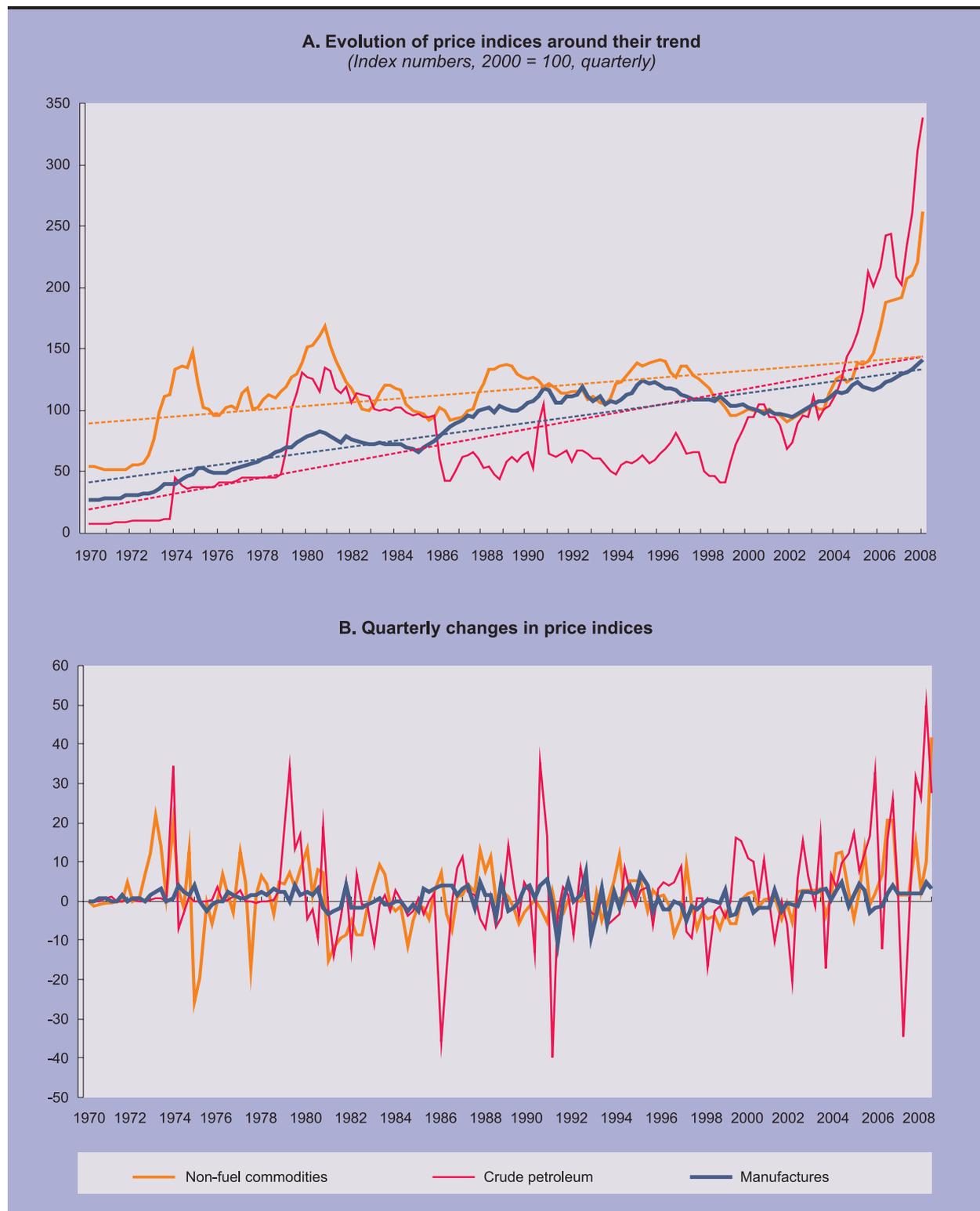
Volatility has negative effects at both macroeconomic and microeconomic levels. In developing countries, particularly the poorest, the problems created by commodity price volatility are aggravated

because of the lower resilience of their economies to external shocks.²³

At the macroeconomic level, large short-term movements of commodity prices and export earnings have a direct impact on the trade balance, but they can also have an indirect impact through their influence on the real exchange rate of the exporting country. For example, a sharp price increase can lead to a currency appreciation and a worsening of the international competitiveness of other export goods. This is because sudden increases in export earnings do not always translate immediately into higher import demand. In the case of emerging-market economies, if such pressure for an appreciation of the currency cannot be addressed through monetary or exchange-rate policies, this may increase the incentives for carry trade speculators to purchase assets in the local currency, which in turn will reinforce the appreciation. On the other hand, if there is a sharp fall in prices, it may be difficult for an exporting country to maintain the level of its imports of essential goods,

Chart 2.4

PRICE VOLATILITY OF NON-FUEL COMMODITIES AND CRUDE PETROLEUM VIS-À-VIS MANUFACTURES



Source: UNCTAD secretariat calculations, based on UNCTAD, *Commodity Price Statistics* online; and UNSD, *Monthly Bulletin of Statistics*, various issues.

Note: The dotted lines represent the trend of the relevant price indices.

and uncertainty about price developments translates into perceptions of a higher country risk by potential trading partners and international lenders.

Moreover, government budgets in many of these countries depend heavily on taxation and other revenues from the commodity sector. Increases in government expenditures and public investment after a price upswing are often unsustainable when prices fall and increased public borrowing is to be avoided. Price fluctuations can therefore adversely affect a country's ability to consistently maintain and upgrade its infrastructure, which is essential for sustaining the process of diversification as a complement to private investment in productive capacities. They may also pose a constraint on the public sector's ability to maintain the level of education and health services and other social spending aimed at poverty reduction. Furthermore, price increases on imports of basic food and energy commodities may require governments to provide different forms of subsidies in order to avoid socially unacceptable increases in consumer prices that may jeopardize poverty reduction efforts and the achievement of other human development objectives. Commodity price volatility adds to the difficulties in maintaining a sustainable domestic and external public debt (discussed at greater length in chapter VI of this *Report*), and it has been identified as a major factor behind the debt crises of the poorest countries (Cohen et al., 2008).

At the level of the individual commodity producer, instability and unpredictability of earnings increases uncertainty about the viability of investment, which is a major obstacle to rational investment decisions. The uncertain income situation of potential investors also creates reluctance on the part of banks and other financial institutions to provide financing for such investments and increases the cost of finance.

3. Measures to deal with commodity price instability

Although the causes of the recent price hikes may differ from those of previous ones, and their economic and social implications may also differ from past experiences, they highlight the need for greater attention to be given to the problem of commodity

price volatility more generally. Indeed, both have been referred to in numerous political declarations in recent years. But large movements in the prices of primary commodities are not a new phenomenon. Indeed, the international debate on commodity price stabilization and the measures needed to address problems arising from instability in commodity markets has a long history.²⁴ Some measures employed to overcome the problem of commodity price instability aim at: (a) reducing price fluctuations through market intervention; (b) reducing the impact of price fluctuations on the income of producers; and (c) enabling producers to maintain their levels of expenditure at times of falling prices and incomes.

(a) Price stabilization mechanisms

In the 1970s and 1980s international commodity agreements (ICAs) between producers and consumers aimed at price stabilization through direct intervention in the markets, mainly in the form of buffer stocks and/or export quotas. Internationally financed buffer stocks, which bought the commodity and stored it when the prices fell below their long-term trend and sold it when prices increased, sought to reduce price volatility by artificially balancing supply and demand over time. Export quotas functioned more as a price support measure. The agreements on natural rubber and cocoa worked with buffer stocks, whereas the coffee and sugar agreements worked with export controls, and the tin agreement combined both.

The ICAs suffered from a number of technical, operational and political problems. Technical problems related to the determination of the long-term price level around which prices should be stabilized, and the need to be flexible on this. Maintaining buffer stocks was costly, particularly when it had to be done over a long period of low prices, and ICAs did not dispose of sufficient financial resources. Operational problems were also related to the inability of the agreements to effectively cope with problems of cheating, rent-seeking and free-riding. Furthermore, they suffered from broader collective action problems, such as securing agreement among a relatively large number of countries that did not always share the same interests. A major problem, for example, was that the objective of price stabilization as pursued by some members of the agreement was not always

compatible with the objective of price level support as pursued by others.

Political support for ICAs dwindled in the course of the 1980s because, in addition to the operational and financial difficulties with the existing ICAs, an increasingly influential strand of thinking, propagated in particular by the international financial institutions, viewed intervention in markets as leading to inefficient allocation of factors of production. Those supporting this view advocated market liberalization “to get prices right”. As a result of these different factors, all ICAs but one lapsed, or collapsed, by the end of the 1980s.²⁵ The record of ICAs in the 1970s and 1980s was mixed, but some of them were relatively successful in stabilizing prices in those years and, had they been equipped with larger financial resources, they might have operated longer. Although producer cartels pursue objectives different from short-term price stabilization, they have at times also been successful in stabilizing prices, such as OPEC for oil or the Central Selling Organization of De Beers for diamonds (Gilbert, 1996).

Greater stability of prices on international commodity markets has characteristics of a global public good that could facilitate macroeconomic management and contribute to greater stability in the global economy. It would also serve the objective of income stabilization in the exporting countries.

(b) *Income stabilization policies*

The objective of stabilizing producers’ incomes can be pursued not only by minimizing price fluctuations, but also through measures aimed at reducing the impact of such fluctuations on incomes. At the national level, developing-country governments frequently intervened in commodity markets until the 1990s through national marketing boards and *caisses de stabilisation*. They had no direct impact on international market prices but provided a buffer between these and the prices received by domestic agricultural producers. In addition, they provided various extension services to commodity producers, including credit at affordable rates. However, these

institutions were often found to lack efficiency and to suffer from serious governance problems.

Along with the general trend towards reducing market intervention, often in connection with structural adjustment programmes, these institutions were also dismantled in most developing countries. Yet most developed countries have continued to maintain complex and costly schemes of income support and stabilization for their farming sectors. Reduced intervention in developing countries did not lead to the desired results in terms of greater efficiency, faster growth and structural change in the exporting countries (see, for example, UNCTAD, 2003b). Instead, it left commodity producers exposed and vulnerable to considerable instability in world commodity markets (Akiyama et al., 2001). Exposure to previously unknown price risks has combined with growing difficulties in financing investment and shortfalls in earnings. Such investment is indispensable for increasing productivity and enabling producers to react to any price signal from international markets. In the example of cocoa, UI Haque (2003) notes that market liberalization led to higher volatility of producer prices in countries that had dismantled their marketing boards (e.g. Cameroon and Côte d’Ivoire) than in Ghana, which kept its marketing board.

(c) *Compensatory financing schemes*

Independent of these national stabilization schemes that aim to mitigate the impact of commodity price fluctuations on incomes in the commodity producers, the IMF and the EU provided compensatory financing to governments. Such financing has sought to make up for losses in export income resulting from commodity-related external shocks in order to prevent downward adjustment of these countries’ imports. The main international compensatory financing schemes that have been implemented so far include the Compensatory Financing Facility (CFF)²⁶ of the IMF, and the STABEX, SYSMIN and FLEX systems²⁷ agreed between the EU and the African, Caribbean and Pacific (ACP) group of countries under the Lomé and Cotonou agreements. However, these have not been able to solve the problems arising for developing countries in a manner that would

Greater price stability on international commodity markets has characteristics of a global public good ...

satisfy the interests of the different stakeholders (UNCTAD, 2007c).²⁸

One of the main shortcomings was that there was generally a time lag in delivery of compensation so that it would end up having a procyclical effect, rather than a countercyclical one as intended. Both CFF and STABEX worked well until the mid-1990s, but access for countries in need became more complicated over time, with increasingly tight conditionalities attached, when the mechanisms were repeatedly revised. The CFF has hardly ever been used since 2000. It lost its attractiveness, particularly for low-income countries, not only because it was non-concessional, but also because it “became a complex facility that was difficult to use and administer” (IMF, 2004: 5). So far, there has been no resort to the recently introduced Exogenous Shock Facility, under which concessional loans can be provided to meet the needs of the poorest countries that are eligible for lending under the Poverty Reduction and Growth Facility. While the EU schemes did not cover all developing-country commodity exporters, compensatory financing had a concessional element. Indeed, STABEX support was provided in the form of grants, but since these were considered as part of ODA, there was a tendency for ODA for these compensatory funds to be diverted from other forms of ODA.

In general, the scope of the facilities and the resources to face external shocks were too small in proportion to the magnitude of the shocks (Griffith-Jones and Ocampo, 2008), and compensatory financing became unsustainable with the persistent decline in commodity prices until the late 1990s. The schemes have also been criticized because they do not guarantee pass-through of the assistance from the governments who receive the funds to the producers who suffer a loss of income.

(d) Market-based commodity-linked financial instruments

Since the 1990s, considerations of how to mitigate the impacts of instability have focused on the use of market-based commodity price risk management

instruments.²⁹ By transferring their risk to other market operators, producers can better predict their earnings in the short run, and obtain better access to credit because their risk of default is reduced. Hedging is also a useful measure for reducing the impact of risk relating to imports.

Commodity price risk management instruments are traded in organized futures and options exchanges. Futures contracts are agreements to buy or sell a quantity of a commodity at a pre-determined price. An option is a contract that gives the right, but not the obligation, to buy or sell a futures contract at a specified price, at or before a future date. It provides protection against unfavourable price movements, while retaining the possibility to profit from higher prices, unlike futures. In addition, tailored products, such as swaps, are traded in the over-the-counter market. Swaps lock in commodity prices over the medium to long term.³⁰

Although increasing, the use of commodity risk management tools is not widespread in developing countries, particularly in Africa. The reasons for this include lack of knowledge and understanding on the part of producers and governments of these usually complex instruments, the high costs and liquidity needed to carry out such transactions and a limited time horizon, particularly with regard to agricultural commodities. Moreover, there are very few local intermediaries, if any, that participate in these markets, and access to and connectivity with international markets providing these instruments are limited.

Some of these shortcomings can be overcome with the development of commodity exchanges. Since 2003 the volume of trading in commodity exchanges in developing countries has grown twice as fast as that of their more established counterparts in developed countries (UNCTAD, 2007d). This has led to an increasing share of developing countries in overall commodity futures and options trading, approaching one third in 2006. This expansion has been largely facilitated by advances in information and communication technologies. Commodity exchanges in developing countries can offer hedging opportunities which are better adapted to the needs of domestic producers and traders and bring them

... that could facilitate macro-economic management and contribute to greater stability in the global economy.

closer to the producer. They help reduce transaction costs, provide a price discovery mechanism and price transparency, reduce counterparty risk, offer enforcement rules, and facilitate the provision of finance. To some extent, these exchanges can help fill the institutional gap that arose from government withdrawal from the commodity sector.

4. *Commodity price instability and policy coherence*

Although industrialization is progressing in developing countries, and the share of manufactures and services in total output has risen considerably over the past two decades, primary commodity prices remain a key variable in development strategies for the majority of developing countries. Stable growth of earnings from the production of primary commodities not only influences the propensity to invest, but also facilitates the financing of new productive capacities, be it in the primary sector itself or in manufacturing and service activities. Relatively stable commodity prices would be in the interest not only of exporters but also of importing countries, and thus the world economy as a whole. Stable income growth in the primary sector helps sustain international demand for other goods and services, and improves predictability of the costs of production in industries where primary commodities are used as inputs.

Diversification and industrialization are the best means in the long run for countries to reduce their dependence on a few primary commodities, and thus their vulnerability to the adverse effects of commodity price volatility and unfavourable price trends. But diversification is a complex process achieved over a long period of time, as it requires capital formation and skill acquisition, and depends heavily on stable earnings from primary commodity exports.

Market liberalization and privatization in the commodity sector have not resulted in greater stability of international commodity prices. There is

widespread dissatisfaction with the outcomes of unregulated financial and commodity markets, which fail to transmit reliable price signals for commodity producers. In recent years the global economic policy environment seems to have become more favourable to fresh thinking about the need for multilateral actions against the negative impacts of large commodity price fluctuations on development and macroeconomic stability in the world economy. One reason is that developing countries have become larger importers of primary commodities, and many of them have the potential to provide additional financing for price or income stabilization measures. Another reason for the changing policy environment is the increasing attention of the major industrialized countries to the problem of commodity price volatility. However, international price stabilization mechanisms agreed multilaterally between producers and consumers are unlikely to become a political option in the near future; therefore other measures, which deal with either the causes or the effects of commodity price volatility, are urgently needed.

Adequate countercyclical official liquidity to deal with external shocks should be a key aim of a development supportive international financial architecture.

While the causes of instability in commodity markets cannot be entirely eliminated, regulatory measures that prevent excessive speculation on commodity markets could be an important step to reduce the extent of price fluctuations. Greater exchange-rate stability would also help. Regarding international measures to address the effects of instability, a realistic

option would be the improvement and scaling up of compensatory financing mechanisms in light of past experiences. Adequate countercyclical official liquidity to deal with external shocks should be one of the key aims of a development supportive international financial architecture (Griffith-Jones and Ocampo, 2008). In order to contribute to sustained development and global macroeconomic stability, such compensatory financing schemes would need to be equipped with much more financial resources than were available for this purpose in the past. They should not only cover shortfalls in export earnings resulting from sharp dips in prices of export commodities but also, similar to the concept of the CFF, sharp increases in the import bill resulting from higher prices for essential commodity imports, particularly food and energy.

Different external shocks may require different forms of compensatory payments. In the case of a decline in prices that is likely to be reversed, compensatory payments might take the form of concessional loans for balance-of-payments support from international financial institutions. These can be repaid eventually, once prices rise and exceed a certain threshold. By contrast, when compensatory financing is provided for income support, either to producers of certain agricultural commodities or to consumers suffering from soaring prices for imported basic energy and food items, compensatory payments in the form of grants would appear to be more appropriate, because these payments aim at helping parts of the population to maintain a certain level of consumption. However, such grants should not be at the expense of current ODA provided in support of economic infrastructure and productive sectors (see also chapter V of this *Report*).

A compensatory financing scheme that is more effective and administratively less cumbersome than previous schemes would certainly need to avoid procyclicality. One way of achieving this would be to envisage automatic payouts made at predetermined trigger prices. In terms of eligibility, in principle it should be sufficient that a country has no control over the cause of the shock that led to its need for compensatory financing. Conditionality, if any, should be linked directly to the way in which the financial resources provided under the scheme are used. If they are provided as grants, it would be justified to require their pass-through to producers in the form of income support, while pass-through to consumers should be the aim of conditionality attached to compensatory financing for food or energy import stress.

On the other hand, when compensatory financing is provided in the form of loans, decisions by creditors and beneficiary governments about the actual use of those loans should take into account the need to produce a return from which the future debt service can be paid, rather than relying on an uncertain future price

reversal to enable such repayment. In this case, it would seem more appropriate to channel the financial resources into investment in support of productive capacity in other sectors so as to reduce commodity dependence.

The international economic system would gain coherence if new efforts were made at the multilateral level to contain international commodity price fluctuations ...

necessary investments to maintain steady productivity growth. Experience with systems of income support, for example in many developed countries, could provide useful lessons, but the costs of these systems normally exceed the budgetary possibilities of developing countries. However, in situations of high primary commodity prices, an institutional arrangement whereby developing countries retain part of the windfall gains from high commodity prices in national funds for release when international market conditions are unfavourable would be helpful. Such an arrangement would assure a smooth income stream for their producers without unduly straining budgetary resources. In some cases, especially when windfall gains arise from price increases for oil and mining products, which are exhaustible natural resources, similar funds could be instrumental in supporting investments in other sectors in order to accelerate diversification and structural change, which ultimately will reduce commodity dependence.

... while allowing for smooth price adjustments that reflect market fundamentals and structural change.

Obviously, different measures, both national and international, should be complementary. In addition, greater use of new tools for commodity price risk management and finance can make an important contribution to development and poverty reduction efforts in developing countries. The use of such tools will not eliminate or even reduce price volatility as such, but it could help to reduce the vulnerability of producers to price fluctuations. If undertaken in coordination with broader efforts to strengthen the role of domestic banking

At the national level, institutional arrangements that serve as a buffer between prices on international commodity markets and incomes received by domestic producers may be useful. Their aim would be not only to influence domestic income distribution and reduce existing or avoid future poverty, but also to enable producers to carry out

for investment financing, measures that promote the provision and intermediation of such instruments by local banks, together with appropriate regulatory measures to prevent excessive speculation, could help mitigate the impact of commodity price volatility on producers. They could thereby improve the context in which investment in new production capacities or higher productivity takes place. If such measures succeed in making the national economic environment more stable, it might be justified to consider subsidizing the costs that the use of hedging instruments implies for certain producers.

Notwithstanding the merits of such national mechanisms to deal with the effects of commodity

price instability, the international economic system would gain coherence if new efforts were made at the multilateral level to contain price fluctuations on international commodity markets while allowing for smooth price adjustments that reflect market fundamentals and structural changes, for example in connection with climate change. Institutional and financial strengthening of support mechanisms is needed to reduce or avoid the negative impact that sharp commodity price fluctuations can have, not only on commodity exporters, especially when prices are headed downwards, but also on commodity importers in developing countries when prices are headed upwards. ■

Notes

- 1 See, for example, the communiqué of the meeting of G-8 Finance Ministers in Osaka, Japan, 14 June 2008 (available at G8 Information Centre: <http://www.g7.utoronto.ca/finance/fm080614-statement.pdf>), wherein the Ministers expressed their concern not only about high commodity prices, especially oil and food, but also their volatility.
- 2 See IEA (2008). According to data from BP (2008), oil production even fell by 0.2 per cent in 2007.
- 3 According to some observers, renegotiated contracts on the extraction of natural resources in order to modify the distribution of rents between producing countries and transnational companies, constitute an additional investment cost (IMF, 2008: box 1.5).
- 4 See, for example, the *Financial Times*, 9 May 2008.
- 5 Goldman Sachs, as reported by the *Financial Times*, 6 May 2008.
- 6 Baffes (2007) examines the effect of crude oil prices on the prices of other commodities, and concludes that if crude oil prices remain high for some time, the recent commodity boom is likely to last much longer than earlier booms, at least for food commodities, fertilizers and precious metals.
- 7 Data for Baltic Dry Index are from Capital Link Shipping at: http://shipping.capitallink.com/baltic_exchange/stock_chart.html and for Overall Liner Trade Index from ISL, 2008.
- 8 FAO classification of low-income food-deficit countries (LIFDC), at: <http://www.fao.org/country-profiles/lifdc.asp?lang=en> (accessed 8 July 2008).
- 9 Global aggregate yield growth averaged 2 per cent annually between 1970 and 1990, but declined to 1.1 per cent between 1990 and 2007. The area under cultivation has grown at an average rate of only about 0.15 per cent during the past 38 years. The slow growth in yields is probably related to climate change, reduced research and development in the agricultural sector and difficulties in obtaining additional water for agriculture (USDA, 2008a).
- 10 Cereal stocks are at their lowest level in three decades. According to the Food and Agriculture Organization of the United Nations (FAO, 2008a): "A number of changes in the policy environment since the Uruguay Round Agreements have been instrumental in reducing stock levels in major exporting countries, namely: the size of reserves held by public institutions; the high cost of storing perishable products; the development of other less costly instruments of risk management; increases in the number of countries able to export; and improvements in

- information and transportation technologies". The United States Department of Agriculture (USDA, 2008a) provides some additional reasons for the low levels of stocks, apart from greater liberalization of trade, which lowered trade barriers and facilitated trade, and reduced the need for countries to hold stocks. The reasons include: a reduction of grain stocks in China, the lower importance attached by governments to maintaining buffer stocks following about two decades of low and stable food prices. In addition, the private sector reduced its stockholdings due to years of readily available global supplies, the cost of holding stocks and use of "just-in-time" inventory management.
- 11 For a more comprehensive discussion of this issue, see Herrmann, 2007.
 - 12 The global food import bill is expected to grow by 26 per cent in 2008. And, looking at different products, the import bill is expected to increase by as much as 77 per cent for rice and about 60 per cent for wheat and vegetable oils.
 - 13 This is among the recommendations contained in the report of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), an intergovernmental process supported by over 400 experts and cosponsored by the FAO, the Global Environment Facility (GEF), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank and the World Health Organization (WHO).
 - 14 Quite independent of the terms-of-trade and balance-of-payments effects, from the point of view of food security it will be necessary to provide food-importing countries with additional short-term trade financing in line with higher import values. The Marrakesh Ministerial Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least-Developed and Net Food-Importing Developing Countries sought to address the possible difficulties low-income countries might face in financing food imports as a result of liberalization and reform of trade in agriculture in the context of multilateral trade agreements. However, the principle underlying this decision is equally relevant in the context of the recent food price hikes caused by other factors, since it aims at avoiding a shortage of basic foodstuffs stemming from insufficient trade financing possibilities. To ease the liquidity constraints of least developed and net food-importing developing countries and to facilitate the emergency import of food, which may arise quite independently of the net impact on the trade balance, UNCTAD and FAO jointly formulated a proposal in 2003 for the creation of an international Food Import Financing Facility (FAO, 2003b). Given the current global food crisis, this proposal could be reviewed and given serious consideration.
 - 15 For a more detailed account of possible policy options to address the food crisis, see UNCTAD, 2008b.
 - 16 The fact that only a small share of the final price of primary commodities accrues to commodity producers in developing countries has been attributed to the weak negotiating power of exporters vis-à-vis importers, especially transnational corporations (TNCs), and also to the increasing power of retail chains for food commodities.
 - 17 Even though rapidly growing emerging-market developing economies, such as China and India, have accounted for much of the incremental demand for commodities in recent years, thus supporting the increase in South-South trade, developed countries still represented over 65 per cent of total world imports of commodities in 2006.
 - 18 For instance, fuels account for 95 per cent of Angolan exports, cocoa for 90 per cent of the exports of Sao Tome and Principe, iron ore for 64 per cent of Mauritania's exports, and cotton for 64 per cent of Benin's exports.
 - 19 Data on the share of commodity exports are UNCTAD calculations based on *UNCTAD Handbook of Statistics* and UN COMTRADE databases.
 - 20 This analysis is based on the UNCTAD non-fuel commodity price instability index. It should be noted that in historical comparisons of commodity price volatility, the period considered is important. However, an increase in volatility can also be identified when periods other than those referred to in the main text are chosen for the analysis. For example, overall non-fuel commodity price volatility was higher in 1986–2007 than in 1973–1985, periods that were suggested for the measurement of changes in volatility over time by Dehn, Gilbert and Varangis, 2004.
 - 21 This index is calculated on a monthly basis, while the data used for chart 2.4 are calculated on a quarterly basis because monthly data for the export unit value of manufactured goods of developed countries are not available.
 - 22 For a more detailed analysis of commodity price volatility, see Dehn, Gilbert and Varangis, 2004, and for oil price volatility, see UNCTAD, 2005.
 - 23 For detailed discussions on the negative effects of commodity price instability, see World Bank, 2000; Dehn, Gilbert and Varangis, 2004; and Parimal, 2006. For a more focused analysis on the effects on government revenues, see Asfaha, 2007.
 - 24 For detailed accounts on the evolution of international commodity policy, see UNCTAD, 2002b; 2003a; 2004; and 2008c.
 - 25 At present, ICAs serve more as a forum for debate and market transparency, and none of them include economic clauses to stabilize prices. For more details on the functioning of the different ICAs and their

- problems, see Gilbert, 1996; and South Centre, 2004. For a broader assessment of supply management policies, see Lines, 2007.
- 26 The CFF was established in 1963 to assist countries facing balance-of-payments difficulties due to temporary shortfalls in export earnings resulting from external shocks that were beyond the control of the local authorities. It was expanded in 1979 to cover shortfalls in receipts from tourism revenues and workers' remittances, and in 1981 to include excess cereal import costs. In 1988, it was renamed the Contingency and Compensatory Finance Facility (CCFF), until the contingency element was dropped.
- 27 Until 2000, the EU provided compensatory financing to its ACP partners, through the STABEX system for agricultural products and the SYSMIN for mining products. The two mechanisms had been introduced under the Lomé Convention in 1975, and were revised in subsequent renewals of that convention. With its successor, the Cotonou Agreement of 2000, the STABEX and SYSMIN systems were replaced by the FLEX (for financing of short-term fluctuations in exports earnings), which provided additional short-term budget support to ACP countries that lost 2 per cent or more of their export earnings. The aim was to safeguard macroeconomic and sectoral reforms and policies that were at risk as a result of a fall in export revenue (European Commission, 2004). Financial support from this source does not depend on price movements of a specific commodity, but on losses of export earnings and an increasing public sector deficit. FLEX seems to suffer from similar shortcomings as other mechanisms, notably slowness of disbursements and apparent resource constraints. In the context of the negotiations of European partnership agreements following the expiration of the Cotonou Agreement, a reformed FLEX system is likely to be introduced.
- 28 For a review, see Hewitt, 2007.
- 29 UNCTAD has played a critical role in promoting the use of commodity risk management instruments since the early 1990s (see, for instance, UNCTAD, 1998). In 1999, the World Bank, with the participation of UNCTAD, among other institutions, established the International Task Force on Commodity Risk Management for enhancing access to these instruments by developing-country players. The work of this task force was inspired by an influential paper of the World Bank (1999). However, it seems that so far only a small number of pilot projects have been successfully implemented under this task force.
- 30 For detailed reviews of commodity risk management instruments, their advantages and problems, see UNCTAD, 1998; UNCTAD, 2005; and Rutten and Youssef, 2007. The latter authors present a case study on the application of these instruments to the coffee market, which is the second most important commodity in international trade, after oil.

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