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Developments and challenges in commodity markets: current situation and outlook

Recent developments in key commodity markets: trends and challenges

Note by the UNCTAD secretariat

Executive summary

The boom in most commodity markets in 2008 propelled nominal prices to historical peaks – and also in real terms for metals, minerals and crude oil – by the middle of the year. However, prices collapsed in the second half of the year, and the downward trend continued into the first quarter of 2009, with a sustained recovery only beginning in the second quarter. The purpose of this background note is to review developments in commodity markets since mid-2008. It discusses the short- and medium-term price trends, underscoring the main factors that impact on demand and supply – including the evolving pattern of trade – in some key commodity groups, as well as the interaction of the commodity and financial markets. This background note also briefly examines some of the implications of these market developments for commodity-dependent developing countries.

I. Introduction

1. This background note has been prepared by the UNCTAD secretariat to facilitate discussions at the second session of the Multi-year Expert Meeting on Commodities and Development under item 3 of the provisional agenda. It reviews recent developments in commodity markets and discusses the short- and medium-term price trends, underscoring the main factors that impact on demand and supply – including the evolving pattern of trade – in some major commodity groups (in section II). Also, it briefly examines some of the implications of these market developments for commodity-dependent developing countries (in section III). Section IV offers some concluding remarks and sets out some questions to guide experts' deliberations.

II. Recent commodity market developments

A. General trends

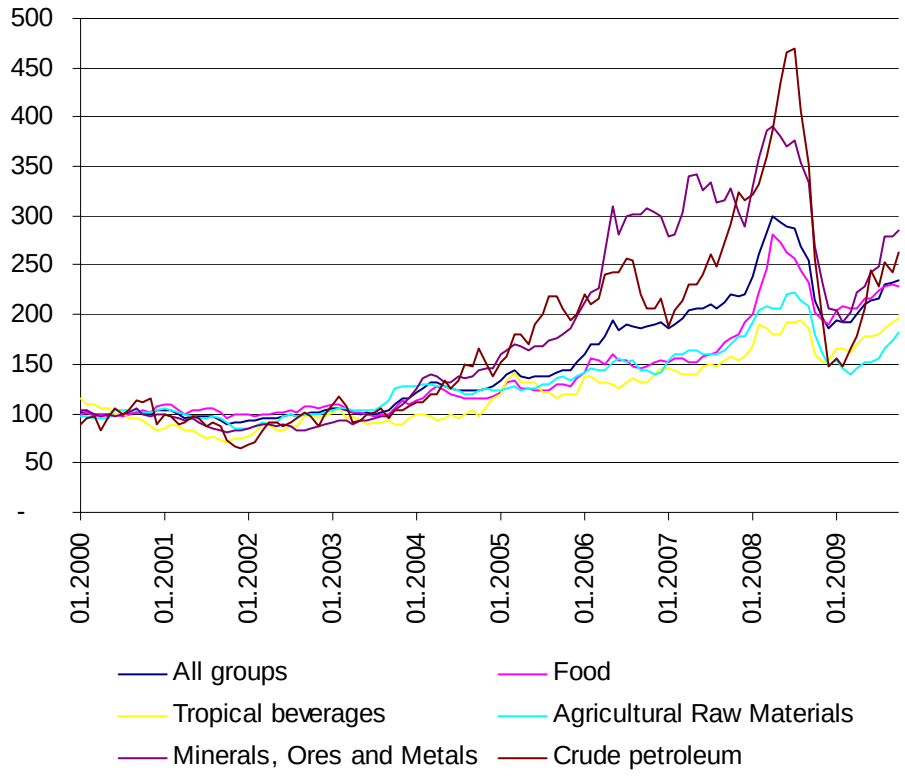
2. Following a period of steadily rising prices after the turn of the millennium, commodity markets were hit by severe turbulence during 2008. The prices of some commodities reached historic peaks by the middle of the year in nominal terms – and in real terms for metals, minerals and crude oil. Soon after this, commodity prices experienced a sharp fall which was closely linked to heightened global economic uncertainties and financial shocks, hitting their trough at the beginning of 2009 as the global economy slowed sharply. However, prices began to trend upwards during the first quarter of 2009 despite the continuation of the global economic downturn; between January and October 2009, the UNCTAD non-oil commodity price index rose by 20 per cent, led by the minerals, ores and metals group (fig. 1). However, the future dynamics of prices remain uncertain.

3. Although there have been common factors impacting on all commodity markets, price dynamics have differed across commodity groups. The global economic downturn, for example, has not affected all sectors in the same way. Some sectors, such as sugar and coffee, have benefited from increased demand, whereas others, such as cotton, were hit hard by the crisis. Similarly, the impact of climatic shocks has differed across agricultural commodity groups.

4. The long price boom (from 2002 to 2008) can partly be explained by the strong and sustained global demand for commodities led by emerging economies – primarily China, but also India. It is, in part, also due to the lagging supply response arising from the underinvestment in the previous two decades. But the explanation for the price volatility in 2008 goes beyond market fundamentals (i.e. supply and demand factors), as there were neither sudden major changes in supply and demand, nor significant changes in stock levels in the first half of 2008. However, there were extraordinary increases in the volume of commodity derivatives as asset classes, which attracted swings of short-term portfolio investments, causing prices to deviate further from their trend levels. This increasing interest in commodities as an asset class has been termed the "financialization of commodity markets", which is a relatively new factor in price formation in commodity futures markets. In 2008, these markets were heavily influenced by the reactions of institutional investors to growing economic and financial uncertainties. The rise in the notional value of commodity derivatives was one of the underlying causes of the increase in prices, and as the crisis unfolded, the rapid unwinding of commodity futures' positions aggravated the bust and amplified the price shocks.[1]

[1] See UNCTAD (2009). *Trade and Development Report 2009.* United Nations publication. Sales no. E .09.II .D.16. New York and Geneva. Chapter 2.

Figure 1. Commodity price indices in current United States dollar terms, January 2001–October 2009 (2000=100)



Source: UNCTAD Commodity Price Statistics.

5. The main reason for the general increase in commodity prices since the first quarter of 2009 has probably been the "stimulus packages" introduced in a number of countries of the Organization for Economic Cooperation and Development (OECD) and in some emerging economies, in response to the economic and financial crisis. The scale and impact of these packages varies considerably, however the efforts of some developing countries have, in this respect, been unprecedented. One such package was the 4,000 billion yuan ($586 billion) economic stimulus plan launched by China in November 2008, mainly to expand infrastructure (construction of new highways, roads and bridges) and to support the manufacturing industry. As a consequence, China has maintained or increased its imports of metals, minerals, and to some extent, energy and cereals. For instance, imports by China of iron ore stood at 58.10 million tons in July 2009, up 46.7 per cent on a year-on-year basis, reaching a historically high level. Similarly, in June 2009, imports of refined copper reached an all-time high of 378,943 tons, corresponding to an increase of 398 percent over the previous peak. China has also filled all four of its relatively recently built emergency oil reserve tanks, accumulating about 100 million barrels. With regard to cereals, China has increased its minimum purchase prices for some crops. Commodity stockpiling via strategic reserve accumulation, with the active support of the Chinese Government (through the financial backing of the State Reserve Bureau), has further reinforced these trends.

6. The main trends in the different sectoral price developments are briefly reviewed in the following sections.

B. Agriculture

Grains

7. In mid-2008, the prices of basic foodstuffs on international markets reached their highest levels in 30 years, before dropping back sharply in the second half of 2008 and early 2009, and rising again in the second half of 2009 to well above their pre-2008 level. In the midst of the 2008 food crisis, crop failure due to climatic shocks in a number of leading wheat-producing regions such as Australia added to price pressures. Similarly, the slight decrease in world wheat production at the end of the 2008/2009 season, attributed to the reduced crop harvest in Europe and the United States, and not offset by recoveries in production in countries such as Argentina and the Islamic Republic of Iran, helped to trigger (and sustain) the upward trend in prices.

8. The case of maize is slightly different from that of wheat. Exceptional weather conditions in major maize-producing countries – despite dry conditions in Argentina and China – resulted in the second-largest crop in history in 2009, following the previous year's record. Although prices initially rose, probably in anticipation of the negative impact of the dry conditions in Argentina and China on supply, the price increase proved to be short-lived as the global economic downturn generated a lower demand for meat, and hence a lower demand for maize for animal feed purposes. Furthermore, the declining prices of oil slowed down the expanding use of maize for ethanol production in 2008/09. However, estimates for 2009/10 suggest that increased demand for biofuels will put maize prices back on an upward trend.[2]

9. In 2009, exceptionally good weather conditions also had an effect on rice production in many Asian economies, including India, Pakistan, the Republic of Korea, Taiwan Province of China, and Thailand. Similarly to maize, rice production was predicted to nearly match the record production levels seen in 2008. Despite such predictions, rice prices fluctuated throughout 2009, albeit remaining higher than during the pre-2008 period. The main driver remains high freight prices reflected in the cost of imported rice.

Sugar

10. Adverse weather conditions in major sugar-producing countries, such as Brazil, China, India, Mexico and the Russian Federation led to predictions of lower levels of sugar production over the 2008/09 season. In addition to the influence of climatic factors, low levels of production continue to reflect persistent underinvestment in the sector due to depressed prices on international markets. However, increased demand led to sugar being the year's best-performing "soft" commodity, as prices reached their highest level since 1980.

Tropical beverages

11. Tropical beverages did not follow a homogeneous pattern in terms of price movements (fig. 2). On the one hand, continued increases in world coffee consumption, despite the economic downturn and historical stock shortages, kept coffee prices on an upward trend during 2009. However, some projections foresee a price reversal in the near term. On the other hand, cocoa prices experienced a downward trend during the first quarter of 2009, before beginning a recovery in June 2009. Projections of crop losses, partly due to the El Niño phenomenon, are expected to help sustain higher prices in the short term.

12. In contrast to most commodities, after the decline in prices that characterized the second half of 2008, tea prices reached a historical peak during the first 10 months of 2009. This increase is mostly attributed to the combination of adverse weather conditions

[2] For a more detailed discussion of the relationship between prices of foodstuffs and energy, see UNCTAD document TD/B/C.I/MEM.2/8 entitled "The future energy matrix and renewable energy: implications for energy and food security".

and a robust demand for premium grade teas in the Russian Federation and the Middle East. Political disturbances in some of the major exporting countries (e.g. Kenya) and the substantial increase in fertilizer prices have also added to the shortfall in supplies.

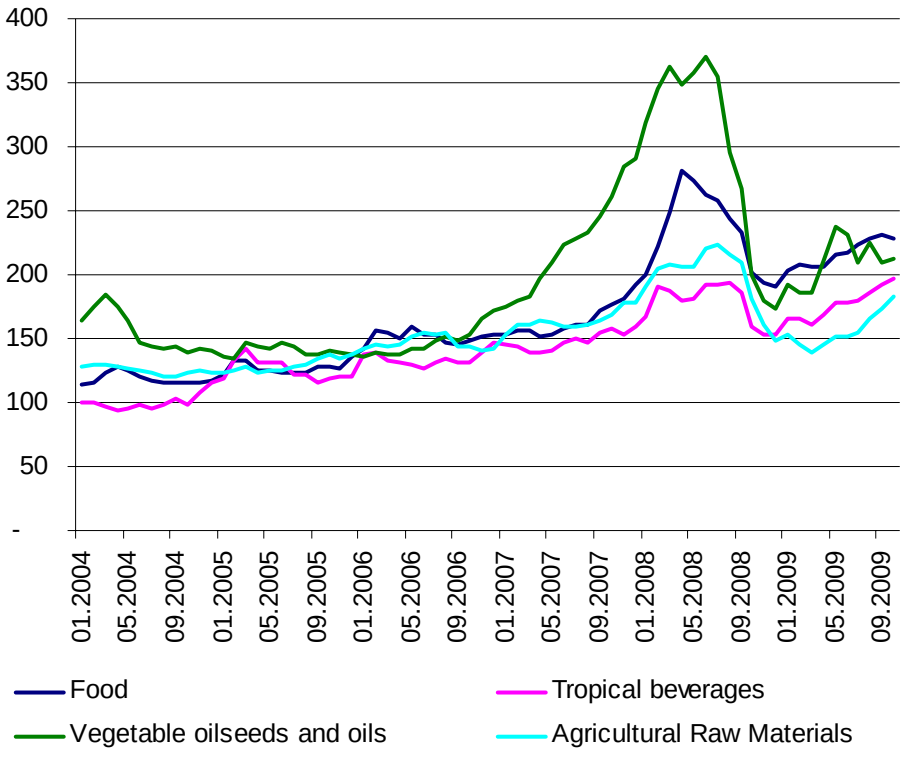
Agricultural raw materials

13. In addition to long-standing challenges such as imbalances in the international trading system and structural constraints common to many low-income commodity-dependent countries, the cotton sector suffered additional blows caused by the world economic downturn. In 2009, the crisis in the cotton sector deepened, due to what is considered to be the largest-ever annual drop in cotton consumption. Other sectors, such as rubber, experienced a downward trend during the first quarter of 2009, before recovering back to their 2006 level during the second and third quarters of the year. This price reduction was first attributed to lower demand from the automotive industry, whereas increased demand from China and developments in crude oil prices were credited with bringing about the subsequent reversal in prices (fig. 2).

Vegetable oilseeds and oils

14. After a downward trend during the first quarter of 2009, prices of soybeans and soybean oil recovered in the second and third quarters. The increase is mostly attributed to crop losses due to severe drought in South American producing countries such as Argentina, coupled with increased demand from China. Supply shortages predicted to be generated by the El Niño phenomenon in South-East Asia are set to maintain the upward price trend (fig. 2).

Figure 2. Agricultural commodity price indices in current and constant United States dollar terms, January 2004–October 2009 (2000=100)



Source: UNCTAD Commodity Price Statistics.

C. Energy

15. Crude oil prices increased from about $10 per barrel in 1999 to nearly $150 per barrel by mid-2008 (in less than a decade), only to fall sharply by the end of 2008 to around $30 per barrel. Prices hovered around this level in the first quarter of 2009, but they progressively recovered towards the end of 2009 to between $70 and $80 a barrel (fig. 3).

16. This sharp plunge in the price of oil from its peak in July 2008 was the result of a combination of factors: the unwinding of speculative positions (as in the case of agricultural commodities), a drastic contraction in demand for crude oil due to the economic crisis, and the drying-up of access to finance as a result of financial meltdown. The fall in traded volumes also brought about further cancellations of freight and of demand for tonnage to carry crude oil, which in turn translated into a sharp fall in the Baltic Dry Index, which represents bulk shipping rates on 40 routes across the world.

17. In spite of the recovery in crude oil prices over the course of 2009, prices in the near term will probably remain at below $100 because of the interaction between demand and supply-side problems, which influences the pace of expansion of production potential. One of the main reasons for the considerable, albeit partial, recovery of prices in 2009 was a quick recovery in demand from China and India, which compensated to a large extent for the contraction in demand in the OECD area. The expectations of a further recovery in demand as a result of a measured recovery in the global economy, along with a sluggish supply response (due to the cancellation or postponement of some major investment projects), could induce further upward pressure on prices. Nevertheless, uncertainty around the future regulatory environment for oil commodity exchanges and over-the-counter markets blurs the price outlook. Furthermore, the outlook of oil prices depends on how oil-intensive the future recovery turns out to be. Financial conditions, and in particular access to credit in the aftermath of the financial crisis, will also likely determine the pace of investment in oil and other hydrocarbon industries, and thus supply capacities, in coming years.

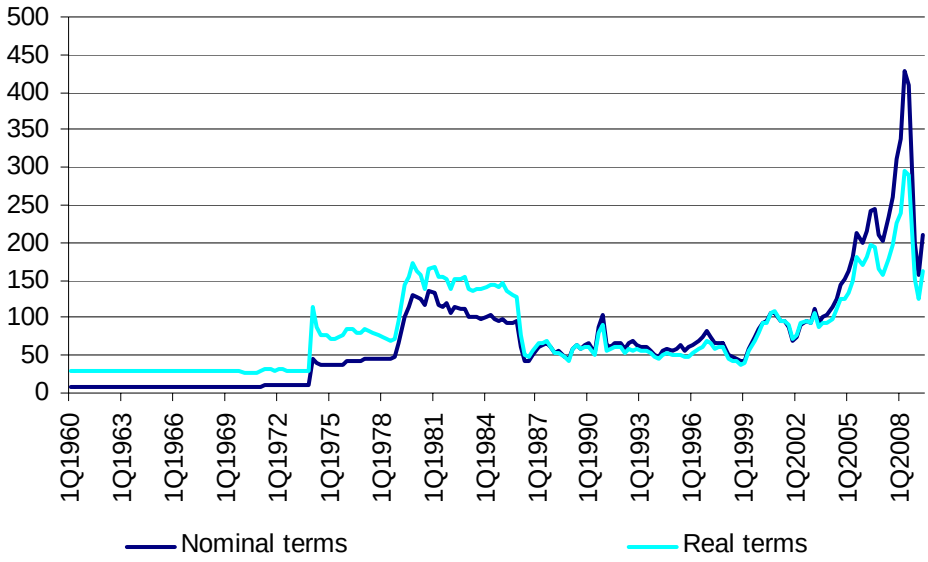
18. Meanwhile, huge new deposits have been found in a number of key countries such as Angola, Brazil and the Congo. Some small deposits have also been found in countries such as Cameroon, Ghana, Kenya and Viet Nam, while production capacity has been expanded in Kazakhstan, and there are new opportunities for investment by foreign and national oil companies in countries such as Algeria and Iraq. According to the International Energy Agency (IEA), global oil demand for 2009 is expected to decrease on a yearly basis to 84.9 million barrels per day (mb/d) – i.e. by 1.4 mb/d.[3] This may be followed by an increase in demand to 86.3 mb/d in 2010. To meet such demand, non-OPEC crude oil production is expected to reach 51.3 mb/d in 2009, with a projection of supply growth reaching 51.6 mb/d in 2010. Similarly, OPEC crude oil production is estimated to increase marginally from 28.7 mb/d in 2009 to 29.0 mb/d in 2010. Oil supply–demand scenarios, and hence prices, also depend on stocks mainly in importing countries and the spare capacities of OPEC and non-OPEC oil exporters (with the former having larger spare capacities), and on the level of competition and the degree of cooperation between both exporters and importers.[4]

19. Prices of coal and gas have followed a pattern similar to that of crude oil. Some gas importers have become increasingly preoccupied with their strategic dependence on key producers, such as the European Union (EU) on the Russian Federation. But this concern might turn out to be unfounded this year, as world gas consumption is expected to decrease, year on year, by 3 per cent in 2009. However, future gas prices will likely depend on whether the fledgling alliance among some of the major gas-producing countries can emulate the OPEC experience, for example through the Gas-Exporting

[3] 1 million barrels per day is equal to 50 million tons per year.
[4] International Energy Agency (2009). IEA Oil Market Report. 11 December. http://www.iea.org.

Countries' Forum which was established in Tehran in 2001 and formalized legally in Moscow in December 2008. With reference to coal, continuing environmental concerns may have a major impact on market conditions in the near future. However, much will depend on whether a legally binding agreement on emission levels can be agreed on in the wake of the Copenhagen climate conference.

Figure 3. Crude petroleum price (nominal and real price indices), First quarter 1960–Second quarter 2009



Source: UNCTAD Commodity Price Statistics.

D. Metals and minerals

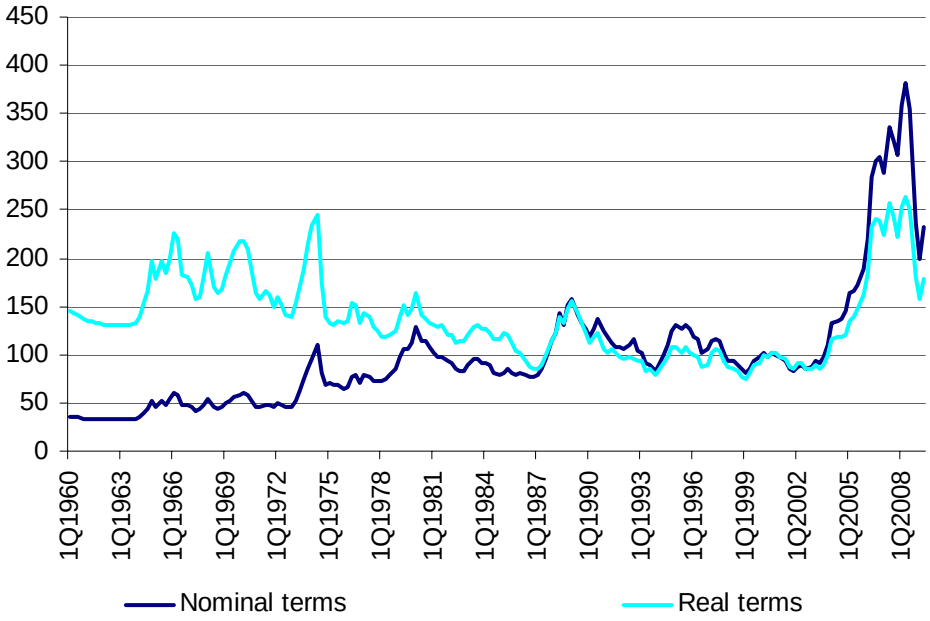
20. Record prices, net profits and ambitious mine expansion plans in the first half of 2008 for most minerals and metals suddenly gave way to price deterioration (fig. 4), production cuts and mine closures in the last quarter of 2008 and the first half of 2009. By mid-2009, however, a slight recovery in hard commodities had begun, although its sustainability is far from assured. In these uncertain times, consolidation remains an attractive option for many mining companies. Exclusive negotiation at the end of November 2009 between Rio Tinto and Iron Ore Holdings over the latter's Iron Valley deposit in Western Australia, and the recent acquisition of the Australian miner OZ Minerals, the world's second-largest producer of zinc, by CMN, a subsidiary of China Minmetals, can be seen as good illustrations of this merger mania, which is likely to exert an upward pressure on prices.

Aluminium

21. Over January and February 2009, aluminium prices dropped by almost 6 per cent, due to a fall in demand and the simultaneous rise in international stocks (stocks at the London Metal Exchange (LME) rose by 18 per cent). Aluminium was massively oversupplied at the beginning of the year due to the world economic slowdown. Over the first half of 2009, primary aluminium production capacity utilization decreased by 7.5 per cent compared to the same period in 2008. Increases in production between February 2009 and July 2009 have mainly been induced by the strong demand for stockpiling in China, and not by a reduction in international metal inventories (LME stocks almost doubled between January and October 2009). Aluminium prices finally jumped by about 16 per cent during July and August 2009, mainly on account of the large quantities of metals

required to meet previously concluded contracts. Despite the first signs of an economic recovery in the second quarter of 2009, market fundamentals remain weak, with the annual production for 2009 expected to be around 23.35 million tons (an almost 10 per cent decrease as compared to the 2008 level).

Figure 4. Minerals, ores and metals (nominal and real price indices)
First quarter 1960–Second quarter 2009

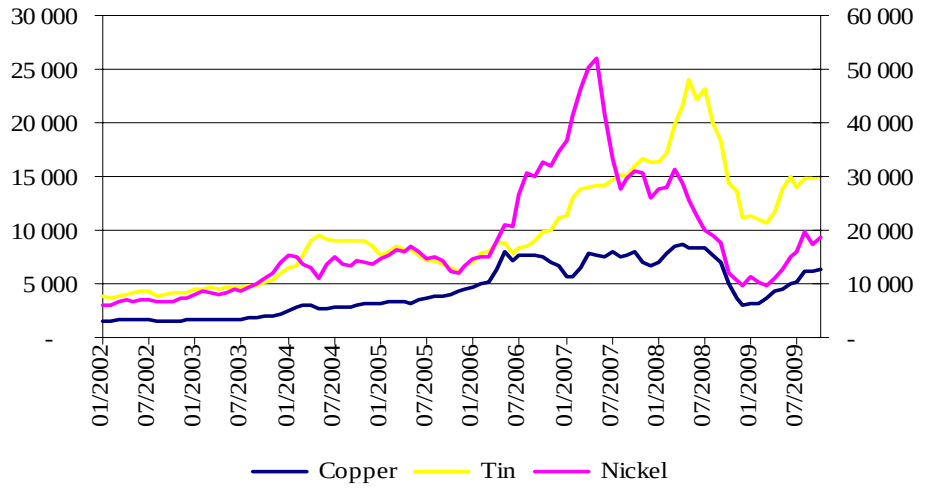


Source: UNCTAD Commodity Price Statistics.

Copper

22. During the first quarter of 2009, copper prices were also negatively influenced by the adverse global economic conditions (fig. 5), which resulted in a contraction of demand, cutbacks and closures of operating mines and refineries, as well as the postponement, and in certain cases, cancellation of new projects. From the supply side, production was expected to increase by 3 per cent in 2009 to around 15.9 million tons, but refined copper production was expected to decrease as a result of lower operating capacity at processing plants (which is currently at 77 per cent, the lowest level since 1989). Due to the economic and financial crisis, the demand traditionally generated by Japan, the European Union and United States is expected to drop significantly, with expected falls of 44 per cent for Japan, and 25 per cent for the EU-15 and the United States. Nevertheless, the growth of Chinese net imports, which is expected to more than double for refined metal net imports in 2009 (as estimated by the International Copper Study Group), is likely to have an offsetting impact on prices. Copper prices plunged at the end of 2008 to come close to $2,700 per ton, but they improved sharply over the second half of 2009 to reach $7,000 per ton at the end of November 2009. A growth in world copper output is expected by 2010, with the opening of new production sites such as Xstrata's El Teniente expansion (100,000 metric tons of annual capacity) in Chile, and Vedanta's Konkola Deep Mining Project (150,000 metric tons) in Zambia. This is likely to exert downward pressure on prices within a context of continuing economic and financial crisis.

Figure 5. Prices of copper, tin and nickel, in United States dollars per ton January 2002–October 2009



Source: UNCTAD Commodity Price Statistics.

Nickel

23. With the surge in nickel prices in 2006 and 2007 reaching over $50,000 per ton by mid-2007 (fig. 5), stainless steel producers have been inclined to use other low-cost base metals such as manganese as a substitute for nickel, and demand has dropped further with the economic crisis. EU nickel consumption is expected to drop by 7.9 per cent during 2008 and 2009, while consumption in the United States and Japan is expected to decrease by 9.7 per cent and 16.2 per cent respectively.[5] Prices have been on a downward trend since their 2007 peak, and production is expected to continue falling due to the cutbacks, closures, temporary cancellations or definitive postponement of both mining and smelting capacities worldwide. However, the huge Chinese stimulus package of $586 billion referred to earlier contributed to supporting and even boosting prices in 2009. According to the International Nickel Study Group,[6] refined nickel imports by China increased by around 79 per cent over the first half of 2009. Following an off-peak period with prices below $10,000 a ton, nickel prices recovered slightly during the first quarter of 2009 and more strongly during the middle of 2009, then hovering at around $17,000 per ton in November 2009. At the end of 2009, the outlook for the nickel market seems uncertain; particularly with stockpiles of up to 132,661 tons in November 2009 – their highest level in at least 14 years.

Lead

24. The lead market has been driven by the same factors that have driven other metals markets since the beginning of 2009. World lead mine production is expected to drop by 0.4 per cent in 2009 mainly as a consequence of the economic slowdown, while refined lead production is forecast to increase by 2.2 per cent. World demand for refined lead metal is also expected to rise, mainly as a result of the sharp increase in Chinese consumption which is estimated to go up by 26 per cent. The market surplus of around 153,500 tons in 2009 could lead to a further increase in LME inventories. From the

[5] Pariser H and Bhar R. Nickel price volatility. Alloy Metals and Steel Market Research. Xanten, Germany.
[6] International Nickel Study Group. The ongoing economic crisis and nickel. *INSG Insight*. No. 8.

beginning of the year to the end of November, the quantities of lead held in LME warehouses increased by 177 per cent.

Tin

25. Developments in the tin market are similar to those in other non-ferrous metals markets (fig. 5). The possible restarting of mining in Indonesia (which was closed down in August 2009 by the Government) and the expansion of production capacity in the Plurinational State of Bolivia and in Peru will likely increase tin output in the near future. The fluctuation of the United States dollar is also driving price development, as speculative positions remain an important factor in the market for base metals.

Zinc

26. Starting from a price of $1,112 per ton in the first two months of 2009, zinc prices began to recover sharply at the end of August 2009, reaching $2,072 per ton in October 2009. Zinc mining and refining production capacities were temporarily or definitively closed around the world during the first quarter of 2009. Global output is thus expected to slow in 2009 for both ores and concentrates (by 5.5 per cent) and for refined metal production (by 5.8 per cent). The global economic crisis has also affected world refined zinc consumption, which is expected to sharply decrease in 2009 (by 9.5 per cent), in spite of large increases of 15.4 per cent and 596 per cent respectively in Chinese consumption and net imports. LME stocks further expanded over the first eight months of 2009, reaching more than 455,275 tons at the end of November 2009, which was about 1.8 times their level at the beginning of the year, and their highest level since December 2005. At the end of November 2009, the market was quite balanced. However, falling inventories at the end of 2009 are expected to persist in the short term, and may lead to modest increases in prices.

Iron ore

27. Iron ore prices are traditionally negotiated among the three main iron ore–producing companies (Vale, BHP and Rio Tinto) and the steel industry – mainly China, which accounts for about half of the world's iron ore imports, but also Japan and the Republic of Korea, the other major consumers. The first contracts concluded between these actors determine the price for the whole year. However, the situation was somewhat more complicated in 2009, as the price for the year had taken much longer to be concluded. China disregarded the iron ore price reduction agreement reached between Australian Rio Tinto and steel companies in Japan and the Republic of Korea, taking no notice of the long-term contract concluded, and preferring instead to deal on the spot market. In parallel, relations between Rio Tinto and China may be considered as a driving force in the ongoing development of iron ore prices.

Gold

28. Despite monthly price fluctuations, gold prices have recorded historically high levels for the last three years, with an average price of $941.43 per troy ounce in 2009. This is mostly due to the fact that gold is seen as a safe investment against uncertain economic prospects, at a time of weakening confidence in the United States dollar. According to World Gold Council figures, identifiable investment in gold (bars and coins demand) rose by 154 per cent over the first half of 2009 compared to the same period in 2008. Other investments, such as exchange-traded funds and similar products, reached a record level during the first quarter of 2009 (up by 540 per cent compared to the first quarter of 2008), however the market returned to a more reasonable position during the second quarter. Market fundamentals may be considered as balanced, with a decrease in gold demand from the jewellery sector (down 22 per cent over the first half of 2009, which reflected the general economic turmoil as well as high gold prices). The only exception was mainland China, whose demand for gold jewellery increased by 6 per cent over the same period. Industrial sector demand decreased too, by 26 per cent over the first half of 2009. From the

supply side, mine production increased slightly during the first half of 2009. With purchases of gold by central banks, in particular in emerging markets, and the continuing interest of exchange-traded funds in gold as an asset class, the price of gold remained high in the last quarter of 2009. This is likely to continue in the first quarter of 2010.

29. Despite positive developments during 2009, the outlook for basic metals and minerals during 2010 remains rather uncertain. A gradual recovery of the world economy will support the upward trend in prices for this commodity group, though at a slower pace. The significant decline in imports by China recorded in August will likely influence the overall yearly supply-and-demand balance. This suggests that a robust recovery in metal and mineral prices will likely depend on the strength of the economic recovery in emerging economies over the coming year, particularly in China, and how strongly this influences economic activity in the rest of the world.

III. Some implications of the recent developments in the commodity sector

A. Commodity price volatility

30. Commodity prices have always been subject to a cyclical pattern of boom and bust, albeit around a stable or even downward long-run trend. Shifts in supply and demand factors continue to be a key factor in explaining price movements over the medium and longer term. However, in recent years, the close interaction between commodity and financial markets appears to have added significantly to price volatility. New actors including hedge funds, and new financial instruments including commodities-indexed trading and commodity market derivatives have shaped market outcomes, influencing prices through speculative positions, arbitrage trading, herding behaviour, flights to safety, and other features familiar in financial markets. Although it is often difficult to disentangle traditional market forces from financial factors, there is a general recognition that market fundamentals cannot explain the spectacular boom and bust cycle of commodity prices in recent years.

31. Although price fluctuations are an integral part of commodity markets, high price volatility is detrimental to both commodity-exporting and commodity-importing developing countries. Indeed, highly volatile commodity prices act as a serious distortion on the development process. On the one hand, they hinder commodity-exporting countries' forecasts of rent creation and allocation, with particularly detrimental consequences for investment planning and technological upgrading. On the other hand, they make it difficult for net commodity-importing countries to make provision for the necessary foreign exchange to pay for these imports.

B. The international trading system

32. The development concerns of many poor countries are still struggling to be voiced in the current multilateral trading system. A number of market distortions and market access barriers still prevail. These include non-tariff barriers and non-tariff measures, such as over-demanding technical standards and health and sanitary regulations, as well as tariff escalation and developed countries' export subsidies. The delays in concluding the Doha Work Programme mean that no agreement has been reached on most of these distortions, or on the issue of the financing required to provide technical assistance for trade and trade-related activities within the framework of Aid for Trade.

33. In the last couple of years, the "financialization" of international commodity markets has had a larger impact on trade patterns than other market forces, exacerbating the price swings of agricultural commodities and of energy, metals, minerals and ores. This is because commodities index funds "bundle" (or combine) futures contracts for different

types of commodities – ranging from farm produce to crude oil, minerals and metals. As such, price movements in metals can trigger the sale of a contract regardless of the underlying supply and demand factors operating in, for example, markets for agricultural commodities, thus increasing price volatility. This inevitably raises the issue of how to curb the role of financial investors in influencing price movements without undermining the price discovery function of such institutional investors.

C. The "resource curse"

34. The "resource curse", whereby a strong dependence on export revenues from extractive industries undermines economic growth, increases inequality, and under certain circumstances, leads to political instability, is still a concern in those developing countries whose economies are heavily dependent on natural resources. Low economic growth rates are linked to the extractive sector through high volatility of resource revenues, difficulties in absorbing and managing these resources, and the policy problems they create – through distorted exchange rate, factor and other markets – for the development of other productive sectors, particularly those that could add significantly to unskilled job creation in the formal sector.

35. Careful empirical analysis of this threat is, however, plagued by data problems, as well as difficulties in determining causation. However, as discussed in the 2009 background document, there are many examples of developing countries that have successfully turned their natural resources into wider growth opportunities;[7] such outcomes depend on how well or badly the rents from natural resources are managed. Adequate policy space is essential for the effective management of resource rents. Fiscal measures – taxes and public spending – are the main instruments that governments can use to improve the share of benefits accruing to the public sector, particularly where bargaining with large transnational firms is involved. But strong and transparent systems of public financial management are also needed, if the benefits from extractive industries are to be more widely shared. Legal frameworks, including the design, implementation and monitoring of contracts with large transnational extractive companies are also essential.

36. Despite a plethora of initiatives aimed at improving governance in mineral-dependent countries, Transparency International's 2009 corruption index rankings show that there has been little progress since 2004, when 10 out of the 15 most oil-dependent countries were listed in the bottom third of the index. Worse still, research by the United Nations Economic Commission for Europe and the United Nations Environment Programme[8] identifies sub-Saharan Africa as the only region that suffers from the "resource curse", hence dubbing it the "SSA specificity". Such specificity is mainly attributed to the poor quality of the institutions in the countries concerned. Further research on the origins of these institutional weaknesses and their links to the resource curse is urgently needed.

D. Climate change

37. The two-way relationship between climate change and agriculture highlights the difficulties in designing appropriate mitigation and adaptation measures, despite the urgency to do so. The overall impact of climate change on global agriculture in the short and medium term remains uncertain. There are regional variations of global warming, but the agriculture and forestry sectors in developing countries in all regions are particularly

[7] For a detailed discussion of these issues, see section V of UNCTAD document TD/B/C.I/MEM.2/3 entitled "Integrating commodity policies into development and poverty reduction strategies: success stories, transparency and accountability", which was a background note to the Multi-year Expert Meeting on Commodities and Development held in Geneva from 3 to 5 March 2009.

[8] UNCTAD and UNEP (2008). *Organic Agriculture and Food Security in Africa.* United Nations publication. UNCTAD/DITC/TED/2007/15. New York and Geneva.

vulnerable to climatic shifts, as even small changes in temperature and in precipitation levels – as well as climatic shocks – can disrupt growth cycles and yields. Many least developed countries are located in either tropical or subtropical regions or in semi-desert areas that are exposed to the risk of water scarcity. Livelihoods linked to agriculture and forestry are already threatened by a scarcity of fresh water in an estimated 40 per cent of rural areas worldwide, and the heightened threat from climate change introduces the risk of far greater damage. On current trends, research cited by the International Food Policy Research Institute[9] shows that by 2080, agricultural yields in developing countries could be reduced by 15 per cent. However, for individual crops and countries, particularly in sub-Saharan Africa, the drop could be considerably greater. Indeed, although it has contributed the least to climate change, the economic damage from climate change is likely to be particularly high for Africa. The annual cost of adaptation in Africa could be as high as 5–10 per cent of the continent's gross domestic product (GDP).

38. A more integrated developmental approach will be needed to deal with the challenge of climate change in commodity-dependent countries, particularly in Africa. Such an approach would contribute to meeting the larger development challenge of overcoming a series of interrelated socio-economic vulnerabilities that can hold back growth prospects and expose commodity-dependent countries to unmanageable shocks. These include, among other things, a narrow economic base, limited access to financial resources, persistent food insecurity and poor health conditions, which can only be addressed through the mobilization and investment of sizeable resources.

39. An integrated approach should start with an assessment of local vulnerabilities to existing climate threats, including their variability and extremes, and of the extent to which existing policy and development practice have served to reduce or increase those vulnerabilities. Still, because the adaptation challenge in commodity-dependent economies can only be met by large-scale investments, including investments that help diversification into new areas of economic activity, assistance from the international community, including predictable access to affordable sources of development finance, will be a critical ingredient to success. Developing countries, in turn, should give priority to formulating plans for adaptation and should take advantage of the expertise made available by adaptation funding in order to establish more integrated and transparent strategies, which would include close consultation with and the participation of both producers and consumers.

40. As a related matter, the diverging viewpoints between proponents of organic agriculture as the key to sustainable agricultural development in Africa and advocates of a technology-led green revolution have generated some heated debates, too. In this respect, research carried out jointly by UNCTAD and the United Nations Environment Programme, based on 114 cases in Africa, showed that a switch to organic or near-organic production resulted in a 116 per cent increase in agricultural productivity. Despite strong arguments for the adoption of biotechnology for a green revolution in Africa, heavy dependence on imported fertilizers and other agrochemicals, as well as the associated loss of agro-biodiversity, are among the reasons for caution. The emergence of heavily funded pro-technology initiatives such as the Alliance for a Green Revolution in Africa (AGRA) has further polarized the debate on what type of agricultural development model is right for the continent. Nevertheless, the need to adapt to climate change should reinforce strategies to promote adaptive agricultural research and development – particularly in the case of Africa, where there is a large gap between current yields and agricultural potential. International mechanisms to support such research and development and to transfer existing technologies will be essential.

[9] Von Braun J (2008). Impact of climate change on food security in times of high energy prices.

IV. Concluding remarks

41. Four main factors could be identified as having had the greatest impact on price developments in commodity markets during 2009. These are the global economic and financial crisis; the subsequent "stimulus packages" implemented by some OECD countries and some emerging economies; the "financialization" of commodity markets; and finally, weather conditions, especially in case of agricultural commodities.

42. The collapse in international commodity prices was exacerbated by the sharp contraction in demand in developed economies and in many emerging economies, which caused major falls in the volume of international trade in commodities. The global crisis, which started as a financial crisis, also negatively affected the banking system which virtually stopped providing credit, thereby depriving both producers and buyers of commodities of access to finance. The lack of credit at the height of the crisis caused a further contraction in commodity trade, and thus amplified the collapse of prices.

43. The subsequent public stimulus packages, in particular the Chinese package, have been credited with stimulating price recovery in most commodity groups – agricultural, energy, mining and metals. How to sustain demand and prices when the impact of these packages begins to wane, especially if the economic recovery remains weak, should therefore be a preoccupation not only for commodity producers but also for the whole international development community. In the final analysis, however, sustaining the nascent recovery into the foreseeable future will depend on the economic and financial policies adopted by OECD countries and major emerging economies. Thus, it is possible that commodity markets will experience more price instability pending a robust and self-sustaining economic recovery.

44. In the last couple of years, the "financialization" of commodity markets has aggravated the impact of weather conditions on the prices of agricultural commodities, but also on the prices of hard commodities. This is because commodities index funds "bundle" (or combine) futures contracts for different types of commodities, ranging from farm produce to crude oil, minerals and metals. As such, price movements in metals could trigger the sale of a contract regardless of the underlying supply and demand factors operating, say, in markets for agricultural commodities, thus increasing price volatility. This inevitably raises the issue of how to curb the role of financial investors in influencing price movements away from market fundamentals without undermining the price discovery function of such institutional investors.

45. Finally, climatic conditions continue to have an enduring impact on the supply of almost all agricultural commodities, triggering price movements in one direction or the other. This is the case not only in low-income commodity-producing countries, but also in some of the more advanced developing economies, such as Argentina and China. In recent years, supporting evidence about climate change or global warming has suggested that the impact of the weather on supplies of agricultural commodities might even get worse. Against the background of a mixed outcome from the United Nations Climate Change Conference held in Copenhagen in December 2009, experts might want to discuss what other alternatives there are at the international and national level to address or contain this phenomenon.

46. A few enduring issues that might exercise the minds of experts include the following:

(a) How to address the distortions in the multilateral trading system. Will a Doha agreement – if finally secured – adequately address these?

(b) Are there any new policy initiatives to address the "resource curse"?

(c) How can we improve market information and early warning systems so that they will give adequate signals to market participants and regulators to tame the excessive commodity price booms and busts?

(d) Is it possible to forecast more accurately the future demand for various commodity groups, in a way that could form a basis for better-informed investment decisions to achieve more flexible supply responses to changes in demand for commodities?