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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

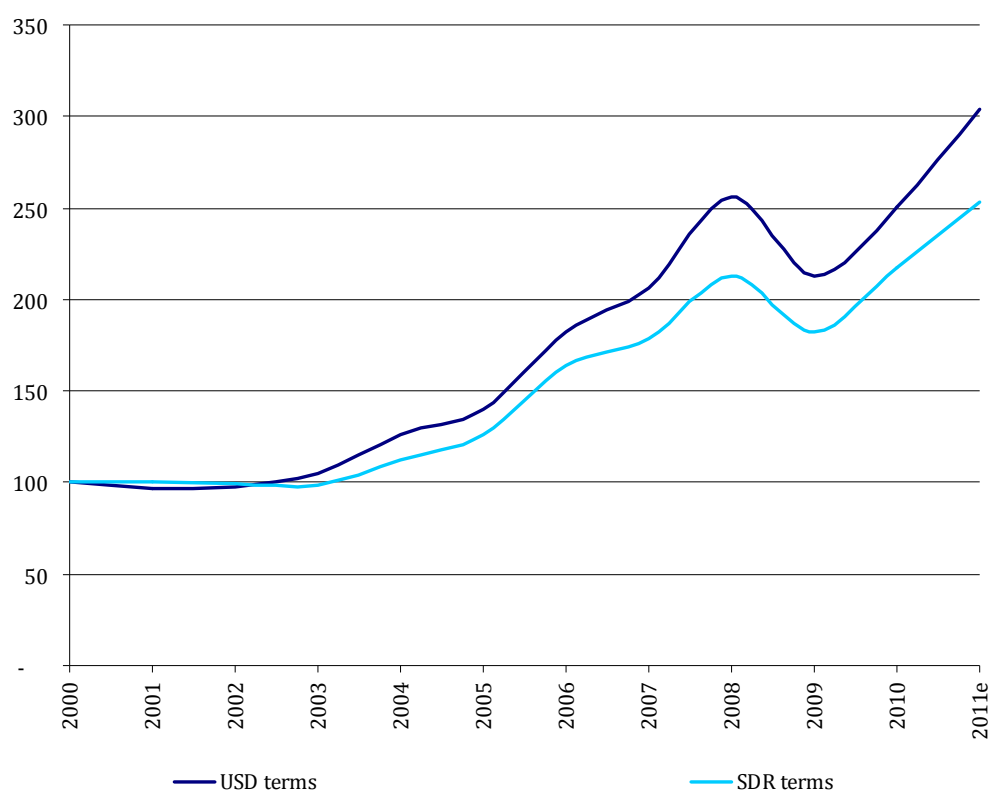
The trend in commodity prices during 2011 was driven by a strong demand for commodities in emerging Asian economies and stock replenishment in Organization for Economic Cooperation and Development (OECD) countries, although concerns remain about the contagion of financial turbulence in Europe. Commodities that experienced the largest variation in prices were those closely related to the evolution of the global industrial production cycle (e.g. minerals and metals). In contrast, the prices of agricultural commodities grew at moderate rates. This background note, prepared to assist in the deliberations of the 2012 (fourth) session of the Multi-year Expert Meeting on Commodities and Development, reviews the current situation and outlook of commodity markets and prices, and identifies short- and medium-term trends, and fundamentals affecting commodity markets and trade.

Introduction

1. By mid-2008, commodities had enjoyed a five-year price boom, the longest and broadest rally of the post-World War II period, after almost 30 years of generally low but moderately fluctuating prices (see figure 1). The subsequent 2008–2009 global financial crisis sent most commodity prices plummeting as global growth slowed and demand weakened in most major economies. However, since then, all commodity subgroups have rebounded strongly; in the case of metals, agricultural raw materials and tropical beverages, average prices in 2011 have even surpassed 2008 averages (see figure 2).

Figure 1

UNCTAD non-oil commodity price index – All groups in United States dollars and Special Drawing Rights terms 2000–2011 (2000 = 100)



Source: UNCTAD, UNCTADstat.

Note: Estimate for 2011 includes monthly average data from January to September 2011.

2. Much of the recent price hikes in agrifood and non-agrifood commodities may be explained by market fundamentals: (a) rising demand for commodities in emerging economies (especially China and India); (b) adverse weather patterns due to greater climatic variability (increased incidence of floods and droughts); (c) low yields and declining productivity growth rates in some regions; (d) low stock levels; and (e) increasing scarcity of arable farmland and water. Moreover, insufficient investment in mineral exploration and new technologies during the 1990s has led to some supply shortages in the sector. In addition, the depreciation

of the United States dollar, speculation and government policies (subsidies, export restrictions and biofuels mandates) have also impacted commodity prices. Arguably, the burden of high and volatile food prices falls disproportionately on low income developing countries.

I. Agricultural commodities

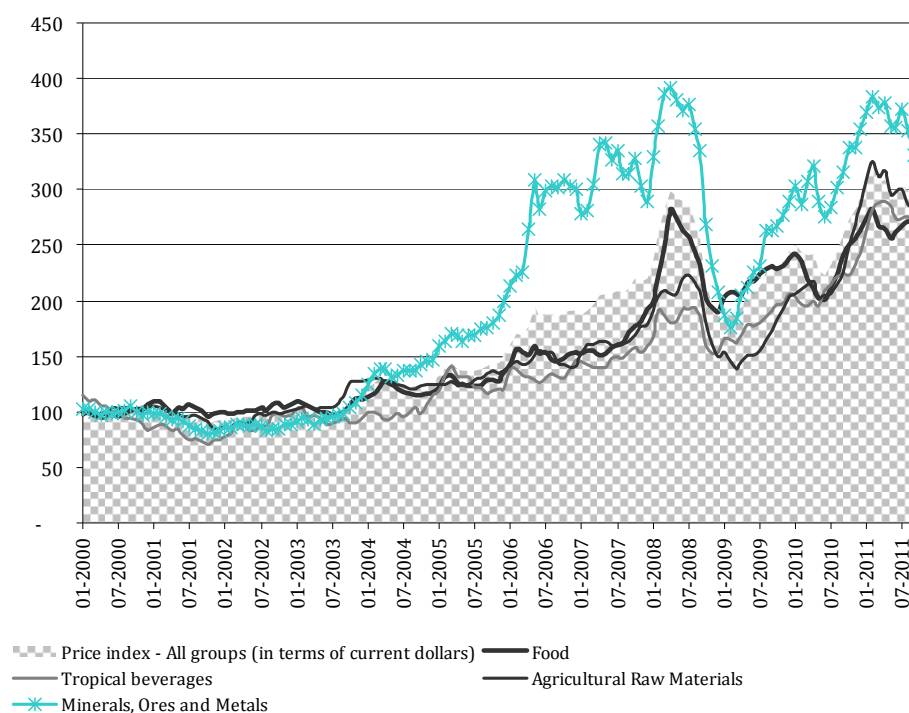
3. The UNCTAD agricultural commodity price index peaked in February 2011. Figure 2 shows that agricultural commodity prices have risen unevenly. The UNCTAD Food Price index decreased during the first half of 2010 before rising sharply, reaching a peak in February 2011. The Food Price index averaged 268 points from January to September 2011, up 48 points from the same period in 2010.

4. The UNCTAD All Food Price index rise was driven mostly by higher cereals, vegetable oils and meat prices. This was not critical for most of Africa because of good harvests of maize and sorghum, the main exception being the Horn of Africa, where drought has exacerbated food insecurity. In Asia, domestic prices for edible oil and some cereals (e.g. wheat) are especially high. The benchmark wheat price rose to a high of \$360 per ton in May 2011, just short of the \$364 per ton reached in February 2011, but has since receded to \$325 in September 2011. The outlook for 2011/2012 wheat crops is unclear; however, increased production projections for the European Union (EU) and the Commonwealth of Independent States (CIS), together with competitive prices relative to maize, continue to promote the use of wheat in feedstock and may contribute to raise prices.

5. Rice and maize prices generally trended upwards during the first three quarters of 2011. Rice prices rose from \$528 per ton in January 2011 to \$616 per ton in September 2011. Thailand, the world's leading rice exporter, recently introduced a government-purchase programme for the grain intended to boost rural incomes by artificially inflating the rice price. The export price of 100 per cent grade-B Thai rice, the benchmark for Asia, rose by 12 per cent to \$613 per ton between July and September 2011. Maize in 2011 has traded at prices above its 2008 highs. Maize prices for 2010 averaged \$195 per ton, but traded at \$292 per ton in September 2011. In January 2011, sugar prices rose 95 per cent to peak at 29.6 United States cents per pound (¢/lb) from 15.2 ¢/lb in May 2010, due to growing demand in China, India and Indonesia, and increased diversion of sugarcane to ethanol production. Sugar prices fell to 21.95 ¢/lb in May 2011 on reports of a surplus sugar crop – about 10.3 million metric tons of raw value, as producers respond to higher prices. The sugar price recovered in May 2011 to 27¢/lb in September 2011, underscored by higher projected world demand for refined sugar in the light of anticipated market deficits.

Figure 2

Price indices of agricultural raw materials, food, tropical beverages and minerals, ores and metals, January 2000–September 2011 (2000 = 100)



Source: UNCTAD, UNCTADstat.

6. The price index for vegetable oilseeds and oil peaked at 374 in February 2011, before declining (7.2 per cent) to 347 in May 2011. Price volatility in these markets is highly contingent on supply and demand prospects in major oilseeds-producing and exporting countries.

7. The tropical beverages price index rose steadily since December 2010, from 243 to 271 in September 2011 (figure 2). The International Coffee Organization composite indicator price index averaged 200¢/lb from January to September 2011, up 68¢/lb from the same period in 2010. Cocoa prices peaked at \$1.57/lb in February 2011 due largely to supply deficits. However, prices gradually fell to reach \$1.30/lb in September 2011 as a result of better than expected supply conditions¹

8. The price index of agricultural raw materials experienced a sharp increase due to supply shortfalls generated by adverse weather conditions and strong demand in Asian emerging economies. The average of this index for January to September 2011 was 303, an increase of 91 points above the average for the same period in 2010. Natural rubber prices remained high in 2011 due to strong demand for tyres in emerging market economies and high energy costs (especially crude oil), affecting synthetic rubber prices. Moreover, supply disruptions due to poor weather conditions in major producing countries such as Thailand, the world's biggest producer, China, Viet Nam and Cambodia also contributed to the high prices. Cotton prices also reached a historic peak in March 2011 at \$2.3/lb, up 63 per cent from the 2009 average.

¹ ICCO (2011). Cocoa Market Review, September 2011 (<http://www.icco.org>).

II. Minerals, ores and metals

9. On the basis of average monthly growth between January 2010 and September 2011, minerals, ores and metals price indices increased with tin, nickel and copper driving the price rises, which was a response to the stronger-than-expected recovery in emerging economies. The UNCTAD minerals, ores and metals price index average for January to September 2011 was 364, an increase of 65 points above the average for the same period in 2010.

10. Metal prices remained high over the first nine months of 2011 (figure 3) due to a combination of tightening supply and a strong demand from Asian countries and Brazil. Over the next few years, the shortage of investment in new mines, coupled with an already challenging situation in upgrading mining capacity is set to further generate a supply contraction. Thus, if demand continues to grow at the rates observed over recent years, metal prices could rise further in the short-to-medium term.

11. According to the International Copper Study Group (ICSG), the growth in global copper demand is expected to outstrip copper production in 2011; the forecast annual production deficit is estimated at 160,000 tons of refined copper for 2011.² Uncertainty in the market resulting from factors such as changes in trade and monetary policies, and the aftermath of the Tohoku earthquake in Japan could increase production deficits and exert an upward pressure on prices.

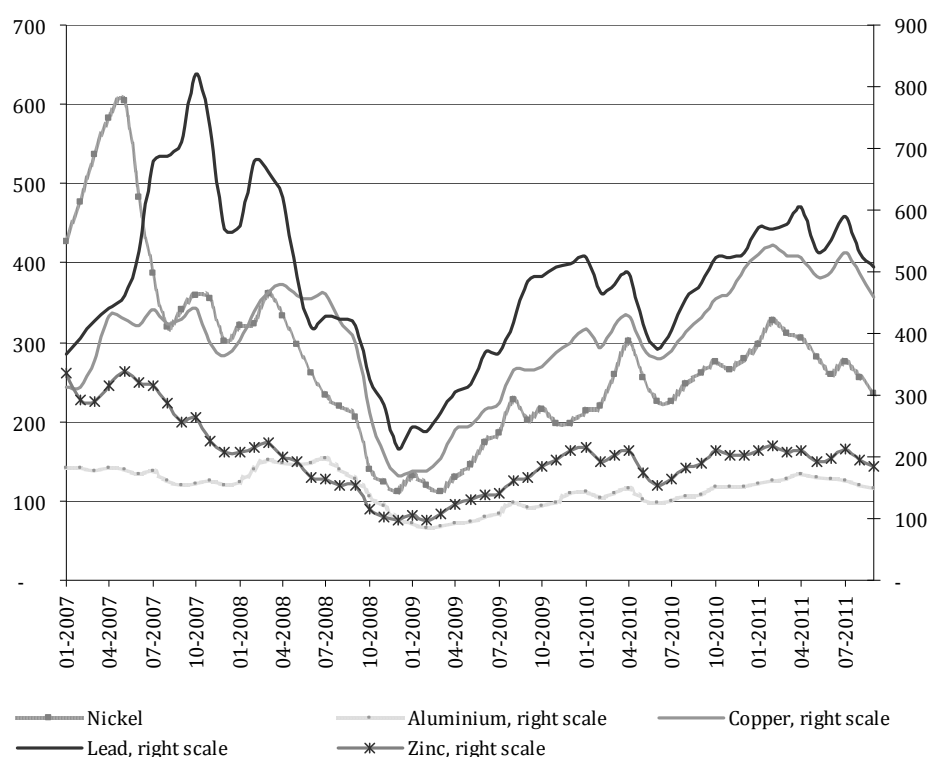
12. Lead, zinc, nickel and tin prices fell in 2008 following a slump in demand triggered by the global recession, but recovered in 2009 and followed an upward trend in 2010 due to the fast pace of growth in Chinese refined output. The increase in lead consumption reflected both a restocking phase and a rise in its use by the automotive sector. Zinc consumption increased by 16 per cent in 2010 but has grown relatively slowly in 2011 (around +1.5 per cent).³ Tin prices rose on the back of strong demand in China, Japan, the Republic of Korea and Taiwan Province of China, accounting for approximately 85 per cent of Asian regional consumption.

² Computed by UNCTAD from ICSG statistical data, accessed September 2011.

³ Computed by UNCTAD from ICSG statistical data, accessed September 2011. The figures are based on growth over the January to July period of 2011, compared to the same period in 2010.

Figure 3

**Price indices of non-ferrous metals, January 2007–September 2011
(2000 = 100)**



Source: UNCTAD, UNCTADstat.

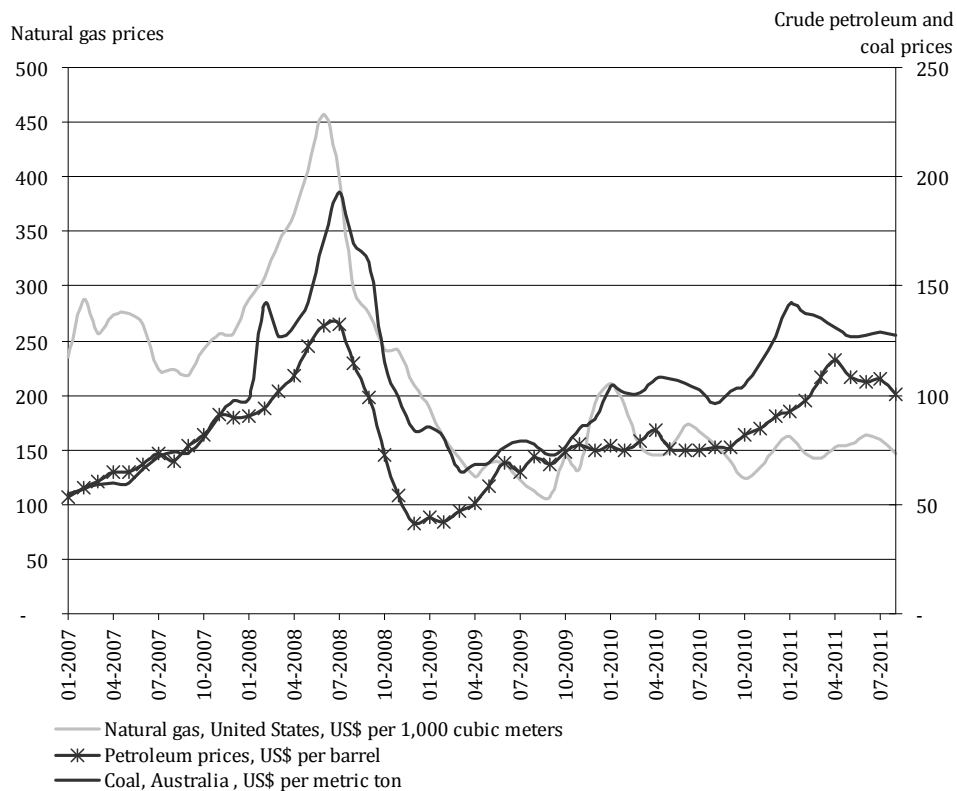
13. Gold is a traditional safe haven during times of uncertainty. In the aftermath of the financial crisis, demand for gold rose modestly as stock markets tumbled. However, between January and December 2009, Gold prices rose by 32 per cent because of the recession in Europe and the United States, and the strong demand from Asia, notably in China and India; prices rose again by 24 per cent from January to December 2010 to reach the record high of \$1,391 an ounce. A variety of factors contributed to the price increase, including the falling dollar, cuts to interest rates, and rising inflation. In September 2011, the monthly average gold price set a new record of \$1,772 an ounce as investors took refuge following the tentative recovery in both the United States and Europe, and in particular the continuing sovereign debt problems in the periphery of the Euro zone. Investors are also buying into stock-exchange traded funds (ETFs), which offer exposure to the gold market without the necessity of buying the physical product.

III. Energy – oil and gas

14. World primary energy consumption is dominated by fossil fuels. While the Middle East overwhelmingly consumes oil and natural gas, coal and oil are the main sources of energy in Asia Pacific. Driven by demographic changes and rising incomes, Asia leads the growth in energy consumption. Nevertheless, its primary energy consumption per head remains relatively low, as compared with developed economies. Figure 4 summarizes the key market trends for oil, natural gas and coal.

Figure 4

**Monthly average price indices for crude oil, natural gas and coal,
January 2007–August 2011**



Source: UNCTAD, UNCTADstat (for crude oil prices), IMF, International Financial Statistics (for natural gas and coal prices).

A. Crude oil

15. Average oil prices reached \$79 a barrel during 2010. In April 2011, the monthly average price of crude oil surged to \$116.30 per barrel,⁴ almost triple its level in December 2008, though still below the previous cyclical peak of \$132.50 per barrel in July 2008 (figure 4). In a context of continuing weakness of the United States dollar, increasing demand, instability in the Middle East and North Africa region, the disconnect between market fundamentals and production quotas of the Organization of the Petroleum Exporting Countries (OPEC), as well as declining reserves, the oil market faces uncertainties which make it a challenge to assess the development of oil prices over the short and medium term.

16. From January to November 2010, monthly average prices fluctuated between \$74 and \$85 (figure 4), above the 2009 average of \$61.79 per barrel. The rise in prices in 2010 was underpinned by market fundamentals. The recovery of global economic growth led to a strong surge in oil demand. In 2010, the increase in global oil demand averaged 2.8 million barrels per day,⁵ more than doubled its average growth during the 2000s. But supply did not grow at the same rate. Non-OPEC oil

⁴ UNCTAD, UNCTADstat: average of the daily prices of United Kingdom Brent, Dubai and West Texas Intermediate, equally weighted.

⁵ International Energy Agency, Oil Market Report, 16 June 2011.

producing countries could only increase supply by 1.1mb/d in 2010 and OPEC output growth was limited to 0.7 mb/d (including natural gas liquids).

17. The period between December 2010 and September 2011 witnessed a high level of volatility in the oil market. In December 2010, the average price of crude oil broke away from its relative stability and rose above \$90 per barrel. Oil prices continued this upward trajectory, peaking at \$116.30 in April 2011. Tighter supply and sustained demand growth largely explain this price upswing. The political turmoil in the Middle East and North Africa region has led to the loss of 1.3 mb/d of light sweet crude supply by Libya, and raised concerns about further disruptions to energy supply. Despite high prices, the demand growth from developing countries, in particular from emerging Asia, was resilient. Other factors such as the weak United States dollar, activities of financial investors in commodity futures markets and expectations on economic growth also contributed to the rise in oil prices.

18. In June 2011, after OPEC failed to reach an agreement to increase oil output, the International Energy Agency (IEA) member States agreed to release 2 million barrels of oil per day from their emergency stocks over an initial period of 30 days in order to (a) offset the supply disruptions in Libya and the seasonal increase in demand until planned additional oil from major producing countries reaches global markets and (b) boost economic recovery.

19. Excessive oil market volatility has the potential to inhibit demand and reduce the pace of global economic recovery. Higher oil prices could also lead to significant shifts in wealth distribution across countries. For net-oil-exporting countries, high prices can improve the current account, generating government revenues and boosting public spending. However, for net-oil-importing developing countries, rising oil and food prices have led to high inflation and an increased fiscal burden.

20. Despite historical levels, crude oil prices began to decrease in May 2011. As of September 2011, crude oil prices had declined by 13 per cent compared to April 2011. World oil demand in 2011 is likely to be lower by 0.15 mb/d to 1.1 mb/d. The drop in demand is due to slow economic growth in the OECD and weaker than anticipated oil demand in China.⁶

B. Natural Gas

21. World consumption of natural gas contracted by 1.1 per cent in 2009 due to the financial crisis and subsequent global recession.⁷ In 2010, gas demand rebounded as a result of economic recovery and exceptionally cold weather in the northern hemisphere. In the United States, the world's leading gas producer, the price of natural gas peaked at \$456.57 per thousand cubic meters in June 2008 (figure 4), before plummeting to just above \$100.00 in September 2009. In 2010, despite its recovery, the price of natural gas averaged \$158, much lower than its 2007 and 2008 levels. The first eight months of 2011 saw the gas price fluctuate within the range of \$143–\$164.

22. The role of natural gas in any future energy mix will be determined by market fundamentals. On the supply side, since 2000 the development

⁶ Monthly Oil Market Report, OPEC, September 2011.

⁷ United States Energy Information Administration. *International Energy Outlook*

of “unconventional” sources of natural gas, such as shale gas, tight gas and coal-bed methane (CBM) has taken off. The so-called shale gas revolution has dramatically increased the supply of natural gas in the United States market, kept gas prices at a low level and altered liquefied natural gas (LNG) trade patterns. According to the IEA, unconventional gas now accounts for 60 per cent of marketed production in the United States. The growth of unconventional natural gas production in the United States and other countries such as Australia (for CBM) will have a far-reaching impact on other regions of the world, in particular the emerging economies that are seeking diversified energy sources to meet their energy demand, and therefore sustain economic growth.

23. Demand will mainly be determined by global economic growth and the competitiveness of natural gas compared with other sources of energy in terms of price and environmental and safety impact. Other factors such as proximity to the source of supply, technological advances and government policies will also influence demand. Natural gas is one of the cleanest fossil fuels, though still lags behind renewable and nuclear energy in terms of carbon emissions. Nonetheless, its importance in the world energy mix is growing. For example, China’s 12th Five-Year Plan (2011–2015) aims to increase the share of natural gas from 3.8 per cent in 2008 to 8.3 per cent of its primary energy mix.⁸ The 2011 incident at Fukushima nuclear plant in Japan has made some countries rethink their nuclear energy policies and switch to renewable energy and natural gas to satisfy future energy demand. For example, Germany has decided to close 17 nuclear plants and replace them with renewable energy and gas-fired power stations by 2022.⁹ These policies will have significant implications for future global natural gas demand.

C. Coal

24. In 2008, coal accounted for 27 per cent of global primary energy supply,¹⁰ and it remains the major fuel for electricity generation, although it faces increased competition from natural gas and renewable energies. For example, in the EU, coal use has been declining since 1990.

25. The Asia–Pacific region has become a world centre for coal production, consumption and trade. Between 2009 and 2010 global coal production and consumption grew by 6.3 per cent and 7.6 per cent respectively.¹¹ China and India are among the top three coal producing and consuming countries in the world.¹² Australia is the world’s main exporter of coal, and Japan continues to be the world’s largest coal importer.

26. During the 2002–2008 commodity boom, the monthly prices for Australian thermal coal peaked in July 2008 (\$193 per metric ton) before falling to \$65 per metric ton in March 2009, due to the global economic recession (figure 4). Supported by strong demand from China, the price of coal has increased since April 2009. Despite short-term volatility, the price continued its upward trend to reach a cyclical peak in January 2011. Since then and over the first eight months of 2011, coal prices mainly followed a

⁸ International Energy Agency, World Energy Outlook 2011.

⁹ Financial Times, German energy plan seen as viable, 21 June 2011.

¹⁰ International Energy Agency, Key World Energy Statistics 2010.

¹¹ BP Statistical Review of World Energy 2010, June 2011. Estimates based on Mtoe data.

¹² BP Statistical Review of World Energy 2010, June 2011. Estimates based on Mtoe data.

bearish trend, with an average monthly fall of 1.5 per cent, due to the combined effect of the weakening demand and the continuous recovery of Australian production following serious floods in the first quarter of 2011.

IV. Financialization and excess volatility

27. The sustained but volatile increases in commodity prices since 2003 have been accompanied by a growing presence of financial investors in commodity derivatives markets. The growing “financialization” of commodity markets began in response to the dramatic decline in equity prices following the dotcom bubble collapse in 2000. Investment in commodities as an asset class served as a means for investors to diversify their portfolio and for leverage purposes. This increasing presence of financial investors in commodity markets has, however, raised concerns that financial investors are creating increased volatility and price movements unrelated to market fundamentals (see UNCTAD, 2009 and IMF, 2008).

A. Commodity indices can yield returns which are below market returns

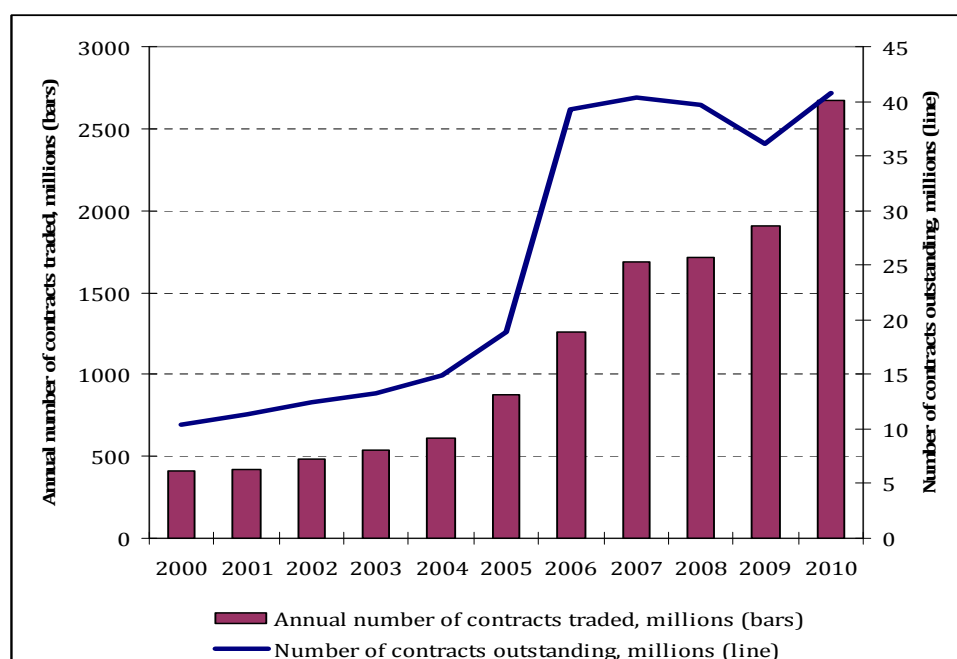
28. With the exception of precious metals, financial investment in commodities does not take the form of physical handling, but rather involves taking positions in futures and options markets. The annual number of commodity futures contracts traded in exchanges globally has risen exponentially from 418 million in 2001 to 2.6 trillion in 2011¹³ (figure 5). Global derivatives markets are still dominated by foreign exchange derivatives trading, but the share of commodities as a proportion of the world total has increased significantly, from 3 per cent in 2003 to 9 per cent in 2010 (see UNCTAD, forthcoming). The notional amount of derivatives traded over-the-counter (OTC) has significantly declined as a result of increased uncertainty and risk aversion with respect to counterparty risk since the collapse of Lehman Brothers in September 2008, therefore trading activities have gradually shifted towards futures/options exchanges.¹⁴ Moreover, given the dramatic fall in commodity prices in 2008/early 2009, over a five-year period, annualized returns on commodity indices have actually been negative and have underperformed the S&P 500 Total Returns Index (see UNCTAD, forthcoming)¹⁵. Since August 2011, there has been a major decline in both equities and commodity prices. These developments show, contrary to popular belief, that investment in commodity indices can yield returns which are below market returns, despite the commodity price boom.

¹³ UNCTAD forecasts based on Bank for International Settlements statistics.

¹⁴ The OTC market involves trading of derivatives directly between two parties, where there is a risk that one of the parties will default (as happened in the case of Lehman Brothers). In exchange trading, all parties must place collateral (a margin is the capital that must be held at the exchange as collateral) against their positions, which is held at the exchange. Margin calls are made by the exchange wherever collateral of any trading agent falls short of the margin required to hold derivatives positions – positions are immediately liquidated if the margin call is not met. This reduces the risk of default (see CME, 2011).

¹⁵ The S&P 500 Total Returns Index is a free-float capitalization-weighted index of share prices and dividends of the top 500 large-cap stocks actively traded in the United States.

Figure 5

The evolution of commodity trading on world exchanges

Source: Bank of International Settlements.

B. Addressing financialization and excess volatility in commodity prices

29. There is always a degree of uncertainty in predicting commodity prices due to the incomplete nature of information regarding commodity inventories and future demand. Therefore, risk-averse arbitragers may apply stop-loss instructions consisting of liquidating positions after a preset level of loss. On their side, large index traders and other “noise” traders may substantially move prices away from market fundamentals, by taking opposing positions to these stop-loss orders. This may initiate a chain of events which can reinforce a noise trader-led bubble; in effect they can earn returns from the risks they themselves create (see Osler, 2005).

30. Proposals made by the United States Commodities and Futures Trading Commission (CFTC) and through the Dodd-Frank Act (2010) to place positions limits on swap dealers and in particular on participants behind swap deals should help ensure that commodity futures markets function primarily as a mechanism for price discovery and hedging, and not as an opportunity for passive institutional investors to benefit from market asymmetries.

31. Since government and intergovernmental institutions can enforce reporting regulations on private agents, collated information creates scope for direct government intervention in commodity derivatives markets in order to prevent commodity price bubbles. This would be especially relevant if changes to position limits alone do not work. This intervention could take the form of virtual intervention in futures markets backed by physical commodity spot market interventions, to anchor market expectations to those within a price band derived from market fundamentals (UNCTAD, forthcoming).

32. The excess volatility in commodity prices gives rise to great uncertainty in the short and medium term, leading to higher insurance costs and increased risks associated with investment in natural resource sectors. Moreover, volatility creates uncertainty which limits access to capital for investing in the expansion of commodity production, especially when agents are not in a position to collateralize their loans. This also means that producers, as well as government revenues generated from commodity production in developing countries, have to be increasingly set aside as insurance against volatile prices, as opposed to providing a steady stream of income to fund investment in economic diversification. Furthermore, volatility in food prices is especially harmful to social and political stability in developing countries, where food expenses account for a larger share of consumer expenditures than in industrialized economies (see UNCTAD, forthcoming).

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