

Developments in energy and commodity markets

Oil and natural gas

The price of Brent Blend oil has risen by USD 13 since *Monetary Policy Report* 1/07, and is now USD 73 per barrel. The increase can be attributed to the following:

- OPEC reduced oil production from 2006 Q3 to 2007 Q1.¹ At the same time, global demand for oil increased more than the supply from non-OPEC countries. This resulted in a sharp fall in total OECD oil inventories (see Chart 1).² OECD crude oil inventories nevertheless remain well over the average for the past five years.
- Petrol inventories in the US dropped to an unusual extent in the first part of 2007. Total petrol inventories in the OECD fell far below the average for the past five years, reflecting a generally tight petrol market. Record high petrol prices feed back to oil prices.
- Oil prices were again affected by various supply-side factors, including recurring problems in Nigeria and unrest in the Middle East.

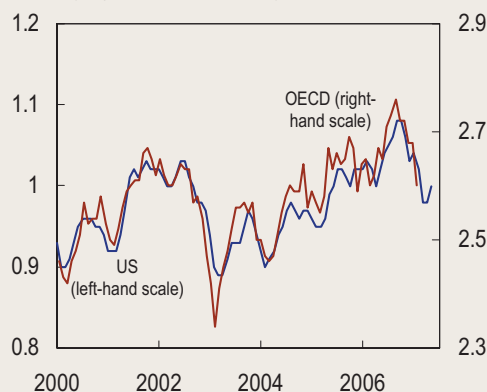
At the meeting on 15 March, OPEC decided not to cut production further. After bottoming out at a level of USD 50 per barrel in mid-January, oil prices rose to just over USD 60 in early March. The organisation did point out that there was an ample supply of oil, and that inventories were still high, but added that the general market situation could change rapidly. The next ordinary meeting is on 11 September 2007. Extraordinary meetings to discuss the need for production changes were not scheduled.

OECD oil inventories are expected to increase in the second quarter, but probably not by more than the normal seasonal pattern would suggest. Inventories will probably fall again in the third and fourth quarters, unless OPEC increases production.

Table 1 compares forecasts for demand for and actual OPEC production from the International Energy Agency (IEA), the US Energy Information Administration (EIA) and OPEC:

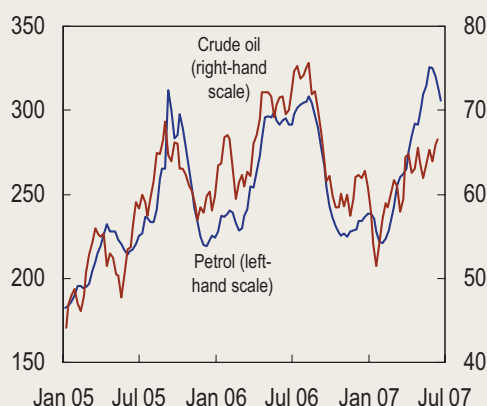
- The IEA estimates that the increase in the need for OPEC production from the second to the fourth quarter will be appreciably

Chart 1 Oil inventories. In billions of barrels. Monthly figures. Jan 00 – May 07



Sources: International Energy Agency (IEA), Energy Information Agency (EIA) and Reuters (EcoWin)

Chart 2 Price of crude oil (USD per barrel) and petrol (cents per gallon) in the US. Weekly figures. Week 1 2005 – Week 25 2007



Source: Reuters (EcoWin)

higher than the growth in the cartel's production capacity in the same period. If production is increased to meet demand – fully or partly – growth in OPEC's spare capacity may come to a halt in the course of 2007 (see Chart 3).³ At the same time, oil inventories may fall, albeit from a high level.

- The EIA also estimates that OPEC will increase output markedly from today's level in the third and fourth quarters.⁴ Even given such an increase, combined OECD inventories, measured in consumption days, are expected to fall to the lowest level in the past five years at end-2007. Like the IEA, the EIA does not envisage a substan-

tial increase in spare capacity through the remainder of 2007. The EIA forecasts prices for West Texas Intermediate (WTI) in 2007 and 2008 at USD 64.1 and USD 64.8 per barrel, respectively. The forecast for 2007 is roughly in line with what actual prices and futures prices indicate, while the forecast for 2008 is somewhat lower than indicated by futures prices.

- OPEC, on the other hand, estimates that the need for OPEC production will not increase to any extent in the third and fourth quarters compared to actual production in May. OPEC forecasts both weaker growth in global demand for oil and stronger growth in the supply of oil from non-OPEC countries. This will result in higher spare production capacity in the OPEC countries.

In 2007, the IEA and the EIA have repeatedly urged OPEC to increase production again. So far, OPEC has argued that the high oil price is largely due to conditions in the petrol market, including a shortage of refinery capacity and uncertainty regarding supply factors that OPEC has little control over. According to OPEC's assessment, the supply of crude oil is adequate.

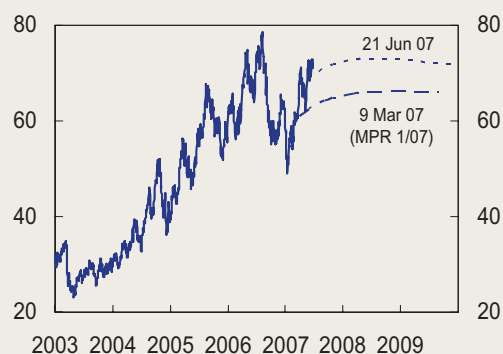
The oil price path presented in this report is based, as previously, on futures prices. These prices now indicate an average oil price of USD 67 in 2007 and USD 73 in 2008, about USD 6 higher than in *Monetary Policy Report 1/07* (see Chart 4). At the beginning of each month, Consensus Economics publishes forecasts of the most likely price for the US benchmark oil, WTI, three months and one year ahead.⁵ Three months ahead, the forecast is some-

Chart 3 Spare OPEC capacity. In million barrels per day. Monthly figures. Jan 00 – May 07



Source: International Energy Agency (IEA)

Chart 4 Oil price (Brent Blend) in USD per barrel. Daily figures. 2 Jan 03 – 21 Jun 07. Futures prices from 9 Mar 07 and 21 Jun 07 (broken lines). Monthly figures. Apr 07 – Dec 09



Sources: Reuters (EcoWin) and Norges Bank

Table 1 Production of crude oil and call on OPEC in 2007, millions of barrels per day.^{1), 2)} Projections in italics.

	Production ³⁾		Call on OPEC			
	Q1	May	Q1 ³⁾	Q2	Q3	Q4
IEA	30.2	30.1	30.5	<i>29.8</i>	<i>31.5</i>	<i>32.3</i>
EIA	30.0	30.0	31.5	<i>30.4</i>	<i>31.6</i>	<i>32.6</i>
OPEC	30.0	30.0	31.1	<i>29.5</i>	<i>30.6</i>	<i>31.0</i>

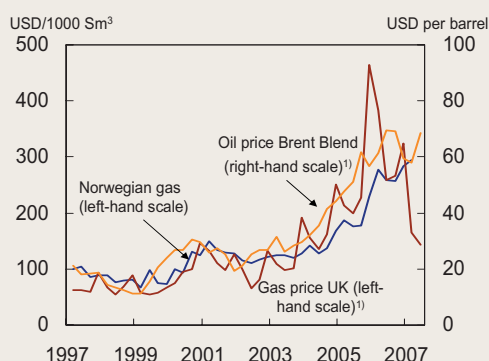
1) The projections are based on the reports published by the different institutions in June.

2) Call on OPEC is the difference between global demand and non-OPEC supply. Non-OPEC supply includes crude oil, NGL (including from OPEC), condensates and oil from non-conventional sources.

3) The figures may vary as the institutions use different data sources.

Sources: Oil Market Report, International Energy Agency, June 2007; Short-Term Energy Outlook, Energy Information Administration, June 2007; Monthly Oil Market Report, OPEC, June 2007 and Norges Bank

Chart 5 Average prices for crude oil (USD per barrel) and natural gas (USD per 1000 Sm³). Quarterly figures. 97 Q1 – 07 Q2



¹⁾ The figures for 07 Q2 are the average of the daily figures so far in the period

Sources: Statistics Norway, Reuters (EcoWin) and Norges Bank

what lower than implied by futures prices. One year ahead, the forecast is just over USD 5 lower than implied by futures prices.

Prices for Norwegian gas are generally linked to prices for petroleum products, through indexing with a certain time lag in long-term sales contracts. A share of the gas is also sold in the UK spot market, where prices have fallen substantially (see chart 5). In the next few quarters, the price of Norwegian gas may reflect the fall in oil prices in 2006 Q4 and 2007 Q1. However, the recent rise in oil prices and stabilisation of gas prices in the UK will probably keep the average price of Norwegian gas at a high level.

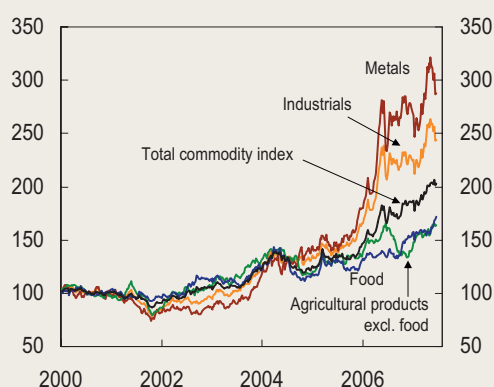
Other commodities

Prices for commodities excluding energy have increased considerably since 2002 (see Chart 6). The rise in prices was particularly pronounced in spring 2006, when metal prices soared by a full 45% from March to May. Metal prices stabilised in the second half of 2006, but have increased further in 2007. Prices for food and agricultural products excluding food have also increased in recent years.

The rise in metal prices has been driven primarily by strong global economic growth, particularly in emerging economies. A number of these economies, China in particular, are in a growth phase, with rising demand for commodities (see Table 2). In recent years, investment in new production capacity has also been low, with the result that supply has not increased in pace with demand. Consumption of a number of metals has therefore been higher than production in recent years, resulting in record-low inventories (see Chart 7) and high prices. Low inventories also mean that prices are extra sensitive to changes in the market, as witnessed this winter, when fears of a recession in the US led to a sharp fall in zinc and copper prices. When fears subsided, prices for these metals rebounded.

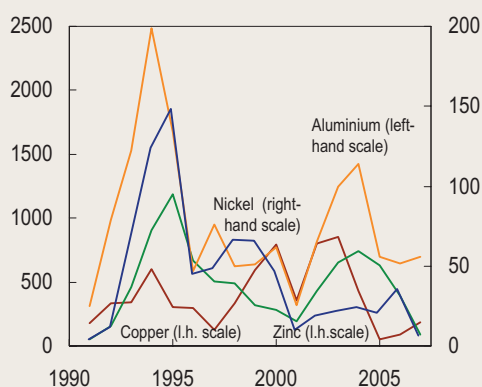
Prices for food and other agricultural products have also risen, partly as a result of higher energy prices, which have raised production costs for a number of agricultural products. In addition, increased prices for traditional energy products and measures to reduce greenhouse gas emissions have led to higher demand for biofuel. Some agricultural products are used as commodities in the production of biofuel. Income growth in emerging economies has probably also led to increased demand for meat, which requires more farmland for fodder production.

Chart 6 International commodity prices in USD. Index, 2000 = 100. Weekly figures. Week 1 00 – Week 25 07



Sources: Reuters (EcoWin) and The Economist

Chart 7 Stocks of metals on the London Metal Exchange at year-end. In 1000s of tons. Annual figures. 1990 – 2006



Source: Reuters (EcoWin)

The *Economist's* commodity price index has risen by 8% since the previous *Report*. All the sub-indices have increased during this period. The sub-index for industrial metals has risen by 8%, for non-food agriculturals 7%, and for food 10%. Production disruptions such as mining strikes in Peru, Indonesia and Canada led to a further rise in the price of metals early in the period, while new rules for trading on the London Metal Exchange have led to a sharp fall in the price of nickel in recent weeks. The rise in food prices since the previous *Report* is mainly due to adverse weather conditions, which have pushed up prices for wheat and coffee.

Growth in demand for commodities is expected to remain high in the years ahead. An increasing share of demand will come from emerging economies. China is one of a number of countries⁶ that are in a growth phase with increasing demand for commodities. These countries will also play a more important part in commodity markets in the future.

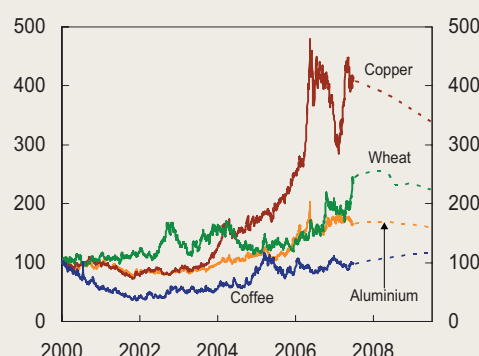
The supply of commodities is also expected to increase in the years ahead as production capacity grows. An important question is whether this will be sufficient to meet growth in demand. In the past, periods of sharply rising commodity prices have tended to be followed by such a pronounced increase in capacity that prices have fallen back to previous levels. Periods of high commodity prices have thus often been of relatively short duration. Futures prices for the most important industrial metals indicate that metal prices will fall back somewhat in the years ahead (see Chart 8) but probably not to the levels recorded in 2002. Futures prices for food indicate that food prices will increase somewhat in the next few years.

¹ OPEC decided in September and December 2006 to cut production by a total of 1.7 million barrels per day - 1.2 million barrels from November 2006, and a further 0.5 million barrels from February this year. Actual production has dropped by about 1.2 million barrels per day, i.e. less than the reduction in the quotas, according to the International Energy Agency.

² The fall in the first quarter of this year is the largest first-quarter fall since 1996.

³ In its June report, the IEA points out that growth in new capacity from the second to the fourth quarter will be around 0.7 million barrels per day. It is also pointed out that effective idle capacity is less than 4 million barrels per day, because Iraq, Indonesia, Nigeria and Venezuela cannot realistically be expected to have the capacity to increase their output beyond what they are actually producing. It is also stressed that a large share of the total effective idle capacity

Chart 8 Commodity prices. Index, 1 Jan 2000 = 100.
Spot price: Daily figures. 4 Jan 00 – 21 Jun 07.
Forward prices from 21 Jun 07 (broken line).
Monthly figures. Jul 07 – Jul 09



Sources: Reuters (EcoWin), Chicago Board of Trade, New York Board of Trade and Norges Bank

Table 2 Consumption of raw materials in China and globally. Per cent.

	China's contribution to global consumption growth	China's share of world consumption	
	2002-2005	2002	2005
Copper	67	18	22
Aluminium	48	16	22
Nickel	87	8	15
Zink	113	19	29
Cotton	89	29	39
Rubber	45	17	22
Oil	28	6	8
Soya bean	59	13	17

Sources: UN Trade and Development Report 2006, IMF World Economic Outlook September 2006, Australian Commodity Statistics 2006 and Norges Bank

comprises low grade oil. Refineries still have limited capacity for refining this type of oil.

⁴ Unlike the IEA and OPEC, the EIA publishes forecasts for OPEC production. They can therefore also forecast developments in oil inventories, which then form the basis for their price forecasts.

⁵ The price of the US benchmark oil West Texas Intermediate has moved on a relatively weak trend recently, as a result of special regional conditions in the US. Whereas previously it was normally USD 1-2 more expensive than Brent Blend, it has at times this spring been up to USD 5 less expensive.

⁶ Among them Argentina, Brazil, Chile, Egypt, the Philippines, India, Indonesia, Malaysia, Mexico, Singapore, Thailand, Turkey, Saudi Arabia and South Africa.