
Commodities outlook

This is an extract from the *Global Outlook – Implications for financial markets*,
December 2006

Commodities outlook

The Commodities Research team

- Summary**
- *Price volatility continues in the base metals markets amid concerns of a macroeconomic slowdown. However, supply-side issues, with labour action, strikes and declining inventories, all serve to highlight a constrained supply side, while order levels in most markets suggest to us a still-healthy picture for underlying demand outside the US, where the picture is weak for now. We are bullish on copper price prospects and believe markets are underestimating the impact of current raw material market tightness on refined production. Positively, Chinese imports of refined copper picked up in October. Price risk is still to the upside in nickel and also in zinc, in our view, where, at current withdrawal rates, LME inventory levels are on course to fall to nothing early next year.*
 - *The recent negative breakdown in the dollar has prompted renewed investor interest towards gold, helping prices to recover from the lows reached in October. Our expectations of a recovery in oil prices, coupled with the potential for continued dollar weakness in the short term should benefit gold. Physical demand remains vulnerable to further price rises, while factors other than macroeconomics have turned more bearish in recent months. In particular, the pace of producer de-hedging has decelerated significantly recently, and hence overall we expect gold prices to trade largely sideways at recent higher levels.*
 - *We remain positive on price prospects for the corn market in light of its tight fundamentals, with demand buoyed by robust feed demand from China in tandem with strong US ethanol demand. We also view cotton with a positive bias due to China's rising cotton import demand due to its expanding textile industry.*
 - *There are now some tentative signs that negative sentiment might be easing in oil markets, though it still seems unlikely that speculators will start to play oil consistently from the long side anytime soon. Our view is that the swing down in prices has been overdone, and incorporates a far too pessimistic view of the economy, a too optimistic view of non-OPEC supply and a too benign view of geopolitics. Despite the market's scepticism as to the effectiveness of OPEC action, the primary danger remains that short-term price weakness and a perception of oversupply could lead OPEC to overtighten the market. In US natural gas, we view the recent sharp recovery at the front end of the curve as overdone, and expect to see another downward adjustment before too long.*

Commodities markets continue to be constrained by significant macroeconomic pessimism among key market players

Commodities markets have continued to be constrained by the existence of a significant degree of macroeconomic pessimism among key market players. However, while that pessimism is still rife, there has in general been something of a shift away from holding commodities positions on the basis of some of the more extreme scenarios of macroeconomic weakness. As a result, some of the more aggressive shorts in the market do appear to have modified strategy to a large enough extent to allow some prices (eg, energy) to define their lows and then begin to rally, and allow others, (eg, several base metals) to resume their upwards drift. Some of the most significant price advances across the commodities space in Q4 have been made by agricultural products, indeed the table of price changes across Q4 is heavily biased towards base metals and agriculture. The best performing commodity of all in price terms, namely corn, which has risen by 35% in Q4-to-date, was one of the two agricultural products we expressed a preference for in the previous edition of the *Global Outlook*.

Figure 90: Commodity futures ranked by Q4 price changes (as of 8 Dec)

Commodity	Q4 % change	Price as at 8 Dec	Units	Exchange
Corn	35.0	354.25	cts/56 lb bu	CBOT
Zinc	28.9	4330	\$/tonne	LME
Ethanol	27.7	2.235	\$/gal	CBOT
Lead	23.6	1762	\$/tonne	LME
Tin	21.5	11050	\$/tonne	LME
Orange juice	20.7	208.15	cts/lb	NYCE
Silver (NY)	18.9	1371.9	cts/Troy oz	COMEX
Canola	18.7	365.7	C\$/tonne	WCE
Silver (Tokyo)	16.8	511	¥/10 grammes	TOCOM
Soybeans	16.7	656	cts/60 lb bu	CBOT
Soybean oil	16.7	28.28	cts/lb	CBOT
Soybean meal	13.4	185.4	\$/ton	CBOT
Arabica coffee	13.2	121.85	cts/lb	CSCE
Nickel	10.8	34900	\$/tonne	LME
Aluminium (Tokyo)	10.1	332.4	¥/kg	TOCOM
Aluminium (London)	9.6	2820	\$/tonne	LME
Cocoa (NY)	8.5	1597	\$/tonne	CSCE
Milk	6.8	13.42	cts/lb	CME
Rapeseed	6.1	277.25	euros/kg	MATIF
Kerosene	6.1	61490	¥/kilolitre	TOCOM
Wheat (Chicago)	5.9	469	cts/60 lb bu	CBOT
Aluminium alloy	5.7	2325	\$/tonne	LME
Palladium (NY)	4.2	329.55	\$/Troy oz	NYMEX
Gold (NY)	3.6	626.1	\$/Troy oz	COMEX
Gold (Tokyo)	2.4	2344	¥/g	TOCOM
Lean hogs	2.4	62.32	cts/lb	CME
Propane	1.2	1.002	cts/gal	NYMEX
Palladium (Tokyo)	0.7	1221	¥/g	TOCOM
Lumber	-0.1	261.8	\$ per 1000 ft	CME
Gasoil (London)	-0.1	556.5	\$/tonne	ICE
Sugar (London)	-0.4	349.5	\$/tonne	LIFFE
Cocoa (London)	-0.7	843	£/tonne	LIFFE
Pork bellies	-1.1	91.05	cts/lb	CME
Dubai/Oman average	-1.8	43400	¥/kilolitre	TOCOM
Cotton	-2.2	52.73	cts/lb	NYCE
Robusta coffee	-2.5	1451	\$/tonne	LIFFE
Natural gas (US)	-3.1	7.561	\$/mmbtu	NYMEX
Live cattle	-3.2	86.95	cts/lb	CME
Sugar (NY)	-3.2	11.37	cts/lb	CSCE
RBOB gasoline	-3.7	161.71	cts/gal	NYMEX
Platinum (NY)	-3.7	1107.8	\$/Troy oz	NYMEX
Brent	-4.1	62.2	\$/b	ICE
Platinum (Tokyo)	-4.3	4143	¥/g	TOCOM
Gasoline (Tokyo)	-4.4	52310	¥/kilolitre	TOCOM
WTI	-4.6	62.03	\$/b	NYMEX
Rubber (Tokyo)	-5.0	199.6	¥/kg	TOCOM
Fuel oil	-5.1	2815	Yuan/tonne	SHFE
Heating oil	-5.6	175.73	cts/gal	NYMEX
Rubber (Shanghai)	-6.6	17660	Yuan/tonne	SHFE
Feeder cattle	-7.4	100.42	cts/lb	CME
Copper (Shanghai)	-7.6	64840	Yuan/tonne	SHFE
Coal	-8.0	42.85	\$/ton	NYMEX
Copper (London)	-10.1	6830	\$/tonne	LME
Copper (NY)	-10.2	310.7	cts/lb	COMEX
PJM electricity	-19.3	51.27	\$/MWh	NYMEX
Natural gas (UK)	-43.7	43.06	p/therm	ICE

Source: Barclays Capital and futures exchanges as listed. All changes are calculated for comparable delivery months.

Key :

 Energy
 Base metals
 Precious metals
 Agriculture/livestock

**We remain positive
on corn prices**

Despite the strong rise during Q4, we remain positive on corn prices due to the continuing pattern of strengthening Chinese feedstock demand and the association of corn with the strength in the ethanol market (ethanol prices have also risen by nearly 30% in Q4). The other soft commodity we expressed a preference for in the last *Global Outlook* has performed less well. Cotton prices have moved sideways in Q4 as a whole, but have staged a strong recovery off their intra-quarter lows as the speculative shorts in the market have begun to break. We remain convinced of the strong prospects for cotton in 2007, led again by Chinese demand, and hence as before our two picks from agriculture, livestock and soft commodities remain corn and cotton.

In precious metals markets, gold has shown a fairly volatile but sideways trajectory across Q4. The alignment of price-determining factors is now relatively balanced, implying that this sideways path may continue for a while yet. On the negative side, sentiment is weakening a little, especially that which is influenced by gold fundamentals. In particular, gold demand has proved highly vulnerable to current price levels, and the pace of producer dehedging has slowed markedly. On the positive side, the prospects for gold are buoyed by the combination of forecasts for dollar weakness and oil price strength, and in addition we do not expect that the geopolitical environment is likely to become more benign in the short to medium term. Overall, while we expect gold to retain most of its recent gains, we would expect that the chances for a significant further upwards move are currently bounded, short of an even more dramatic weakening in the value of the dollar.

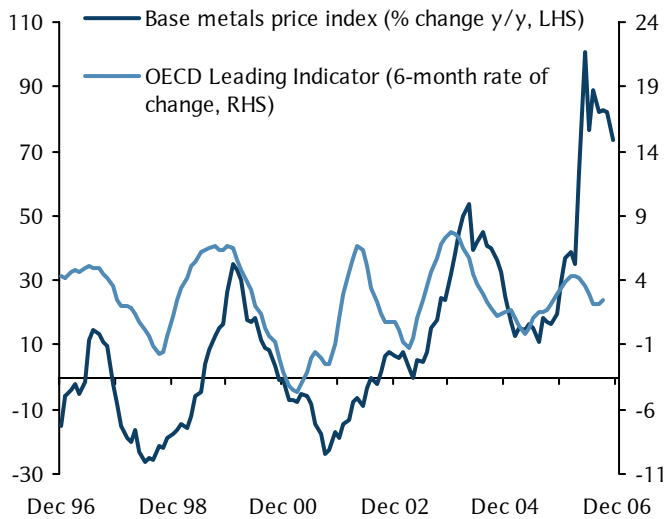
**Base metal prices
have become less
sensitive to the OECD
industrial cycle**

In base metals, markets have continued strongly despite the recent deterioration in US growth prospects. This is in contrast to the usual patterns, which have in the past tended to see the performance of the complex tied very closely to the twists and turns of the OECD economic cycle and in particular, the fortunes of the US economy. Despite leading indicators for key OECD countries turning significantly lower, plus rapid declines in the level of activity in the metals-intensive US residential construction sector, base metals markets have continued to make significant gains in Q4, with prices for several setting fresh highs. Copper has been the only base metal to see consistently weaker prices during Q4, as expectations of further strike-related supply problems and a big recovery in Chinese cathode buying both failed to materialise.

**Much of China's demand
growth is non-cyclical**

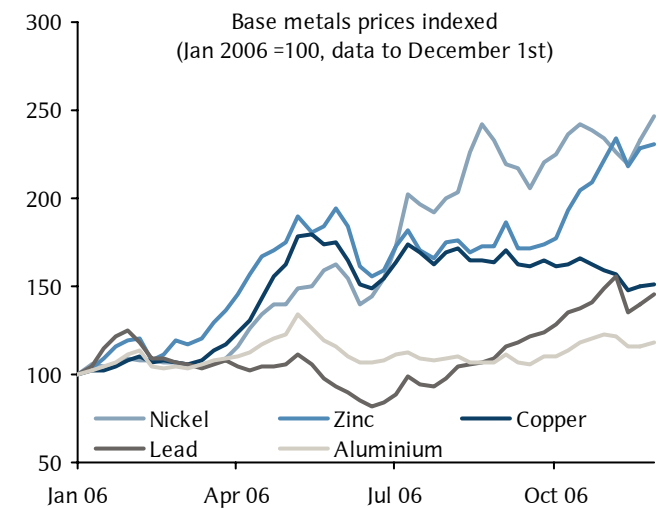
Two key factors have served to loosen the traditionally strong link between the performance of the mature industrialised economies and metals prices: the rise to primacy of China in global metals demand and the perilously low level of inventory now prevailing in most metals markets, itself a symptom of a constrained supply side that is still struggling to keep up with demand growth. Of these, the most significant development is the rise of China to its current position not only as the world's largest metals consumer, but more importantly the pre-eminent driver of global demand growth. Importantly, the share of China's metals demand that is harnessed to domestic drivers is growing rapidly relative to the proportion that is dependent on the export led-manufacturing sector which kick-started the nation's dramatic rise during the early part of this decade. Trends such as mass urbanisation, development of the transport network and investment in power generation and transmission all serve to provide a base-load level of consumption that is relatively immune from the vagaries of the business cycle. Furthermore, the 2007 macroeconomic outlook for China is promising, with the recent phase of monetary tightening now over and GDP growth expected to stay at close to 10%.

Figure 91: The link between metals prices and the OECD economic cycle has become less influential



Source: OECD, EcoWin.

Figure 92: Only copper prices have traded consistently lower in Q4



Source: EcoWin.

Slower domestic Chinese metals production growth is likely in future

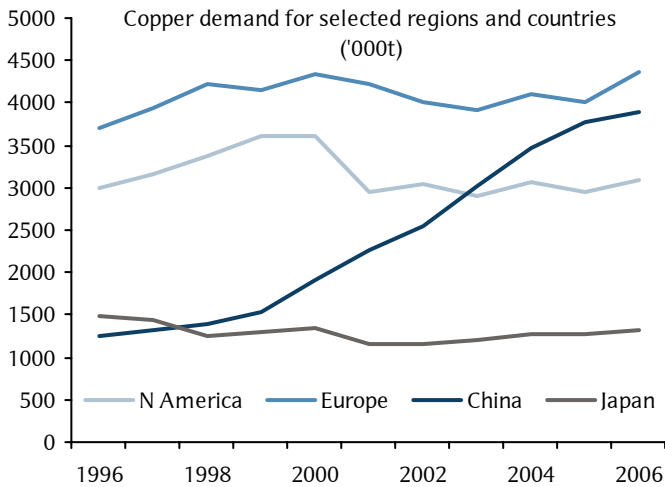
China's importance as a metals producer should not be forgotten either and here too positive developments are under way. Low input prices, the rapid growth of local markets, plus tariff protection for local producers has stimulated rapid growth in local metals output over the past 10 years to such an extent that China is now the world's largest producer of aluminium, lead and zinc and a significant net exporter of these metals to international markets. However, a desire to reduce energy-intensive exports for which China has no comparative advantage has led to the government recently introducing significant changes to the tax and duty structure on exports of refined metals and of semi-fabricated products, with the intention of reducing the incentives to continue expanding local output and exports of these metals. It may take time before a slowing of investment in new production by local producers becomes apparent, but we regard these changes as extremely positive in helping to slow supply growth in the medium term.

Low inventory levels are insulating metals markets from a cyclical slowdown in growth

The second factor which has helped loosen the link between metals prices and the industrialised world business cycle is the extremely low levels to which global metals inventories have shrunk. This is a symptom of the difficulty that the mining industry has had in increasing output in order to keep up with demand and is the result of a lack of investment throughout the supply chain over an extended period during the 1990s. We have written about this factor on numerous occasions before, suffice it to say here that the supply response in 2007 is still looking anaemic. Over the past few weeks alone there have been announcements of delays to several major new nickel mining projects that had been expected to contribute significantly to supply in 2007.

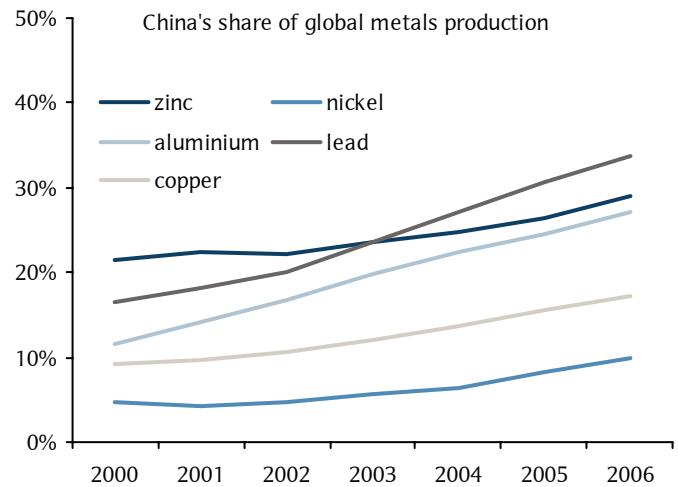
Metals inventory has continued to trend lower during Q4 06, with the exception of copper; though even here, the modest upward trend in refined metal inventory is offset by big draws in stocks of intermediate raw materials. Low levels of inventory are expected to persist throughout 2007, since we do not expect any major base metals market to move decisively into surplus. With the ability to fill in gaps that could open up in the supply chain therefore tightly constrained, all the metals markets will be extremely vulnerable to the kind of supply problems that are endemic to an industry that is working flat out to increase output at existing operations.

Figure 93: China's role as the main driver of metals demand growth is unlikely to diminish...



Source: EcoWin.

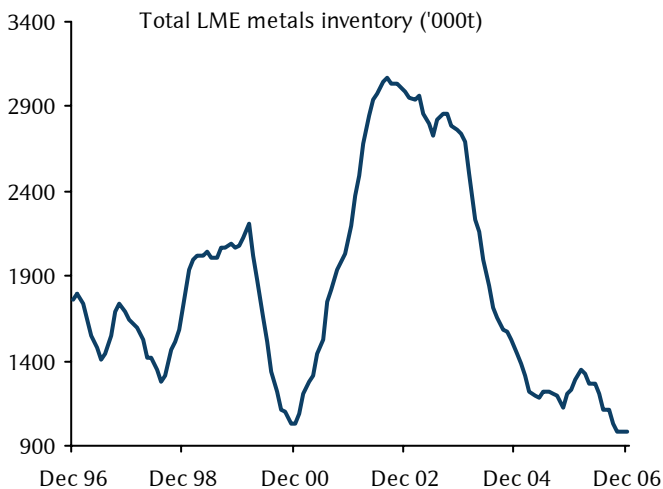
Figure 94: ... though its growth as a metals producer is likely to slow down



Source: Brook Hunt.

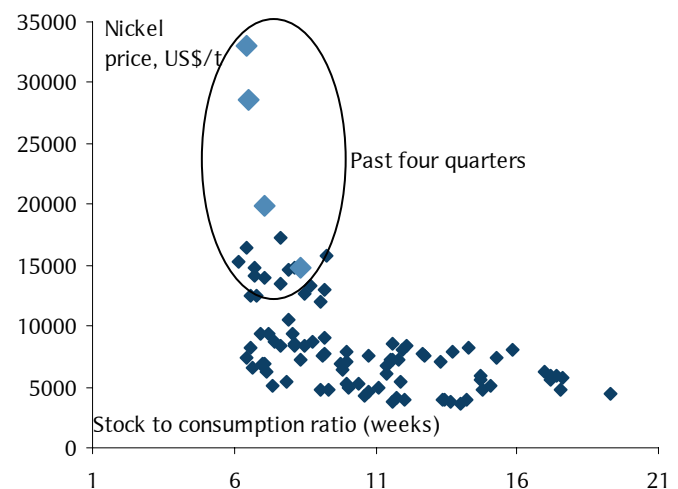
Strong growth in Chinese demand, low inventory levels and vulnerability to supply disruption means that there is still significant price upside in a number of key markets. However, the weak performance of copper during Q4 offers an important pointer to price patterns across the base metals complex in 2007: they are likely to be much more diverse and subject to the varying different supply/demand dynamics specific to each sector, rather than following the broad macroeconomic driven trends of recent years.

Figure 95: LME metals inventory has continued falling to historical lows



Source: EcoWin.

Figure 96: Price: Inventory relationships for most metals are in volatile territory – the example of nickel



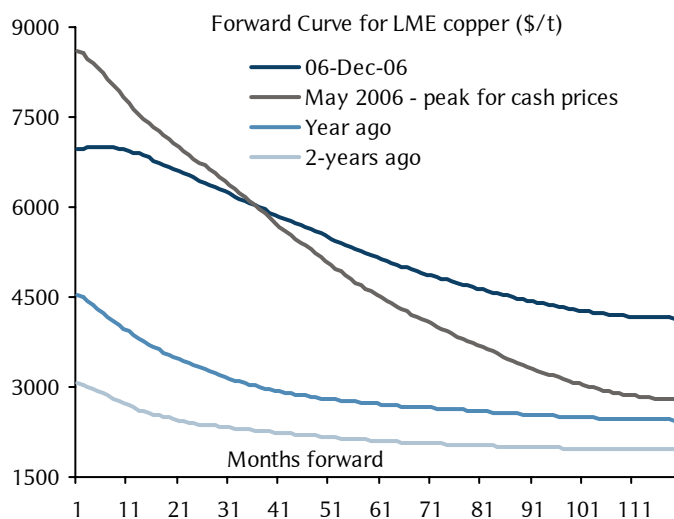
Source: INSG, CRU, Barclays Capital.

It is in the zinc and nickel markets that the supply side of the industry appears most tightly constrained over the next few quarters and there is considerable upside price risk in both of these two sectors. In terms of the potential for greatest percentage gains, we would single out the underperforming copper market as being capable of surprising once again to the upside after recent price weakness. Although inventory levels of refined copper have built over the past few months, raw materials markets have continued to tighten. Meanwhile

Chinese imports of refined metal are picking up again following a long period of de-stocking. Trend-following funds are carrying significant short positions in copper and short-covering by these market participants heightens the potential for a price recovery should evidence once again start to emerge of a tightening in market fundamentals.

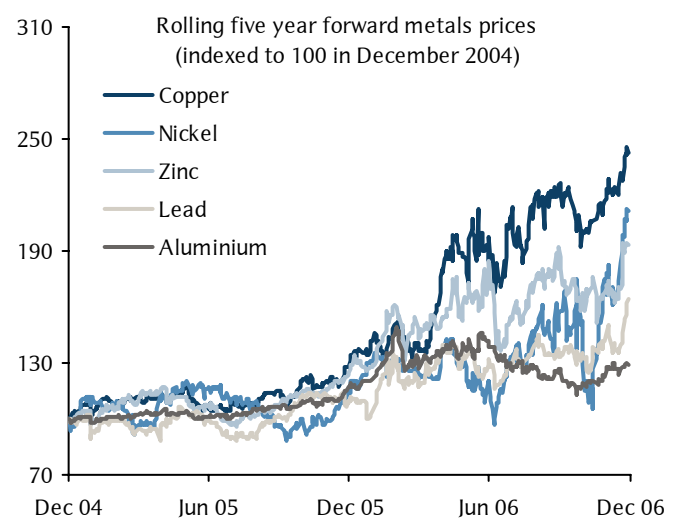
Although aluminium prices have moved up a substantial distance over the past two years, this is one of the few sectors yet to see the kind of parabolic move-up in prices experienced by most other base metals. Its relative lack of recent price appreciation means aluminium is competitively placed to capture new end-use markets from other metals, especially copper, whilst the dominance of energy as an input into the smelting process means its cost base is more exposed than any other metal to the growing structural tightness in power markets. The long-term profile for aluminium prices is therefore one that we would expect to reflect further significant increases in average price levels on a two to three-year horizon. Although our projected market balances for 2007 do not yet justify a significant move up in aluminium prices from current levels just yet, we would sound a note of caution, since anticipatory buying by investors and risk managers could result in much bigger price increases than our base case price forecasts might imply in 2007 on the basis of the fundamentals alone.

Figure 97: After the big move in front-end prices, the back end of the copper curve is now also moving higher



Source: Barclays Capital.

Figure 98: Upward move in far forward base metals prices is most advanced in copper, aluminium is trailing



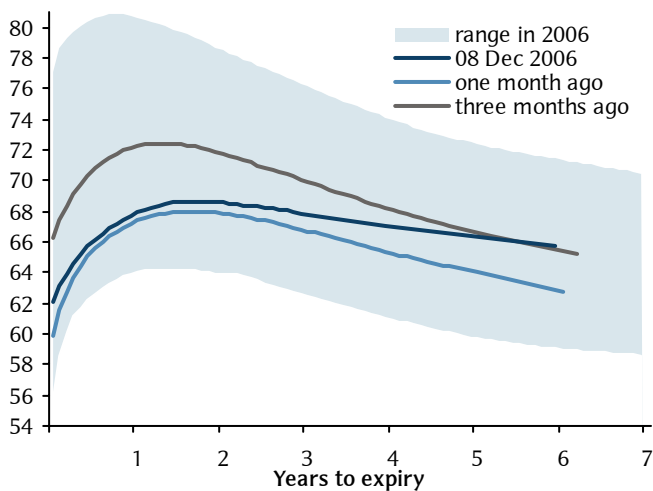
Source: Barclays Capital.

Looking further ahead, and barring the kind of exogenous shock that might result in metals demand declining to recessionary levels, it looks unlikely that metals inventory will be rebuilt substantially prior to the next phase of acceleration in demand growth and the prospect is for a very long period with metals prices trading at multiples of their long-run historical averages. This trend is already apparent in the behaviour of far forward price curves. Copper has led the way with its five-year forward price rising by almost 250% over the past two years and with a large portion of that increase occurring during the course of the past few months. The extent of the copper price gain means that its far forward prices are looking distinctly overvalued in our view and we see a lot more value at the back end of the aluminium curve, where, by comparison, the upgrading of long-term price expectations has barely begun.

US natural gas and oil markets have rebounded from their lows, but we think have different prospects

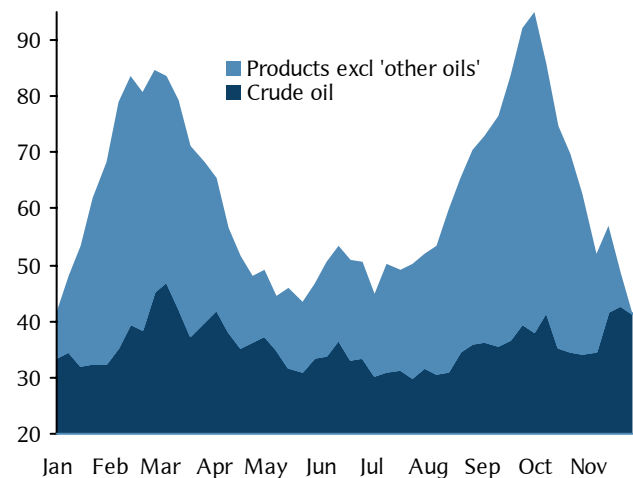
In energy markets, US natural gas and oil have both rebounded from their lows, but have different prospects, in our view. US natural gas is still carrying the burden of the overhang of inventory brought on by mild conditions in key areas at key times last winter. Absent some severe winter conditions, it would be difficult for prices to maintain levels much above \$8 per mmbtu. By contrast, we see further upside in oil, and expect WTI prices to average above \$70 per barrel in 2007. The main drivers of sentiment and strategy in the oil market have remained fairly constant over the past quarter. As before, those drivers are perceptions on the global economy and the US economy in particular, the geopolitical context, the path of non-OPEC supply and the ability of OPEC to defend the margin. In addition to those areas, the short-term gauge remains US oil inventories, and that aspect has helped to support a rally in prices off their intra-quarter lows. Ultimately, we believe that the clouds of market pessimism will break, and that WTI prices will next pass above \$70 per barrel well before they pass below \$50 per barrel. Further, it appears to us that the negativity of market sentiment is deep enough to lead OPEC towards an over-tightening of the supply side of the market. However, we suspect that the gradual move up may not be a particularly linear journey, and it may yet take a while, simply because much of the market (and the remaining speculative shorts in particular) have gone into what we would call “show-me” mode. In other words, “show me in hard data that the economy is doing fine; show me that non-OPEC is disappointing again; show me that geopolitics matter; and show me that OPEC can be effective in defending the downside”.

Figure 99: Prices have been more robust at the back than at the front of the curve. WTI curve, \$/b



Source: NYMEX, Barclays Capital.

Figure 100: US oil product inventories have tightened. Inventories relative to 5 yr averages, mb



Source: Energy Information Administration, Barclays Capital.

By the time the last capitulation on the above points has come, we would expect to find a market that has had to be over-tightened to a significant degree. The International Energy Agency (IEA) currently sees the call on OPEC crude oil falling in 2007. However, it forecasts only a relatively limited fall of 0.5 mb/d, while the US Department of Energy looks for a flat profile and our own projections point towards a 0.2 mb/d rise in the call on OPEC crude. Overall, the balances for next year continue to suggest that the market should be relatively easily controllable in terms of producer defence of a desired price floor above \$60 per barrel. Indeed, the scale of the Y/Y reductions in OPEC crude output is already larger than the most bearish of the main international forecasts for the path of the call on OPEC.

In terms of inventories, in the US in particular, the pattern for the year has been one in which inventories grew sharply relative to normal in Q1, shrank back in Q2, grew sharply again relative to normal in Q3, and again reversed that pattern in Q4. US oil product inventories began Q4 well above their five-year average, but a rate of decline relative to normal of 1 mb/d was sustained for two months, and has completely removed the oil product overhang. Gasoline in particular is not unseasonally tight, and the lack of extra product inventory contrasts with a more stubborn but relatively stable build in US crude oil inventories. Overall, the trend in inventories has been supportive for both absolute prices and for product cracks through Q4. As ever, winter weather patterns are the key variable for the short term, but overall we see the underlying supply-demand dynamics as being increasingly supportive.

Wide range of forecasts for non-OPEC supply growth next year continues

There continues to be a very wide range of forecasts for non-OPEC supply growth next year. The range currently runs from our own forecast of 0.8 mb/d, all the way up through the OPEC Secretariat forecast of 1.8 mb/d and on at the upper end to analyst forecasts as high as 2.3 mb/d. The difference in these views seems to have little to do with expectations about the timing of and volumes from new projects. Indeed, the largest part of the differences comes down to the behaviour of mature areas in the North Sea and North America. Those two areas alone account for 80% of the difference between our forecast and that of the OPEC Secretariat, with the remaining difference being small enough to count as statistical noise. Data from those areas are going to be the key test as to which approach to the market balances is on the right lines next year. In passing, we would note that even those with high forecasts for 2007 are pessimistic about the prospects for non-OPEC in 2008. Even many of those who are supply optimists in 2007 seem to think that the market could get through the year with some strength due to the gathering cloud. The question for 2007 is whether supply growth is a mere chimera, or if it is the last big gasp for much of non-OPEC when it comes to growth this decade. Within that flow of data, what happens in the UK is likely to play something of a totemic part. The projections vary from the Barclays Capital view of what would be the eighth straight annual decline with a further fall of 0.11 mb/d in 2007, to the OPEC Secretariat view of a slight rise of 0.03 mb/d. The 2006 data are still coming in below our monthly projections, and we suspect that our forecast for 2007 is by no means a worst-case scenario for the UK. As before, the culprit is an acceleration in the individual field decline rates, and associated to that, an increase in the duration and severity of maintenance. We remain comfortable with our below-consensus forecasts for non-OPEC supply, and likewise with the associated view of firmer-than-consensus prices through 2007.

To provide a measure of the scale of the weakness in non-OPEC supply relative to forecast, we note that the first forecasts made by the IEA for non-OPEC supply in 2005 and 2006, (made in July of the previous year), were 51.32 mb/d and 52.39 mb/d, respectively. The current IEA estimate for those years is 50.28 mb/d and 50.96 mb/d. In other words, the cumulative downwards revision in non-OPEC supply in 2005 has been 1.04 mb/d, and 2006 has (so far) been revised down by 1.43 mb/d. While there has been some net growth in 2006, the current estimate is still lower than the initial estimate for 2005 was (ie, 50.96 mb/d versus 51.32 mb/d). The bear view is that 2007 will be different, but just four months after the 2007 IEA non-OPEC supply forecast was first introduced at 53.01 mb/d, it has already been revised down by 0.27 mb/d to 52.74 mb/d. We would be surprised if the eventual cumulative downwards revision for the level of 2007 non-OPEC supply did not exceed 1 mb/d, just as has been the case for 2005 and 2006, and we expect that the disappointment relative to consensus will be a key factor for prices and sentiment.

On the geopolitical front, the dangers appear to be growing in several areas. In Iraq, the unravelling of the state appears to us to be accelerating, and the growing diminution of control leads us to expect greater degradation within the oil sector. Beyond the collapse of logistics and infrastructure, the main threat to exports from the South would be a developing schism within the Shia community, and that appears to be in progress. The Iranian nuclear issue has continued to evolve along the lines of an increasingly confident Iranian foreign policy, and an increasingly fractured policy stance from the international community. The stage still appears to us to be set for a period of substantial friction, although increasingly the prospects are for the situation to play out outside of UN and IAEA channels.

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