

17 October 2007

Investment demand drives commodities higher

Base metals: Copper ([page 2](#)) is still hunting for direction. Nearby support has been eroded by rapidly increasing inventory stocks and the end of strike action in Peru. However, our longer-term outlook remains bullish, with a tight concentrates market underpinning prices. Aluminium ([page 4](#)) is still dominated by nearby selling and far-forward buying. Power supply problems in South Africa and expectations of higher electricity costs in China are supporting prices. After extreme volatility during the summer, nickel ([page 6](#)) prices remain pretty solid — above the \$30,000 level. Bearish sentiment and concerns over producer stocks continue to weigh on zinc ([page 8](#)). Zinc continues to look to the rest of the complex for direction.

Precious metals: Although gold ([page 12](#)) jewellery demand appears to be slowing, it remains robust, supporting gold on the downside. Investor demand for gold has been rising steadily, with non-commercial contracts reaching an all-time high on COMEX. For now, it appears as if gold is finding some resistance at US\$760. Platinum and palladium ([page 14](#)) have seen good support recently, pushing platinum to as high as US\$1,425 on Monday. Recent platinum supply concerns have disappeared, but safety issues remain a concern in terms of production output. Investor demand for platinum is strong, as indicated by the net long speculative positions on NYMEX. Of course, this makes the metals more vulnerable to sudden changes in investor sentiment.

Energy: Crude oil prices ([page 16](#)) reached new record highs this week, with WTI and Brent trading well above US\$87 and US\$84 respectively. Tensions in the Middle East are growing between Turkey and Iraq, fueling supply concerns. The low US crude inventories combined with low capacity utilisation rates of US refineries should also continue to provide decent nearby support for crude prices. Investors remain bullish, with record high net long non-commercial positions for WTI on NYMEX.

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Copper

The past few weeks have been characterised by erratic copper prices as the red metal battles for direction. Copper continues to be volatile intraday; however, prices have since stabilised somewhat, closing on Tuesday at \$8,055 — down slightly on Friday's close of \$8,070.

Looking back, much of the volatility was due to the start of LME week coinciding with China's return to the market after the Golden Week holiday. The previous week had seen copper reach a high of \$8,315 on October 3rd, before closing on Friday 5th at \$8,275. The market appeared to be anticipating renewed Chinese buying; however, heavy Chinese selling in the face of high prices stopped the rally in its tracks. Prices falling heavily last Monday, closing at \$7,965. Copper managed a tentative recovery and steadily gathered momentum, reaching a high of \$8,229 on Thursday; however, profit-taking, rising LME stocks and poor economic data saw prices tumble back towards the \$8,000 level.

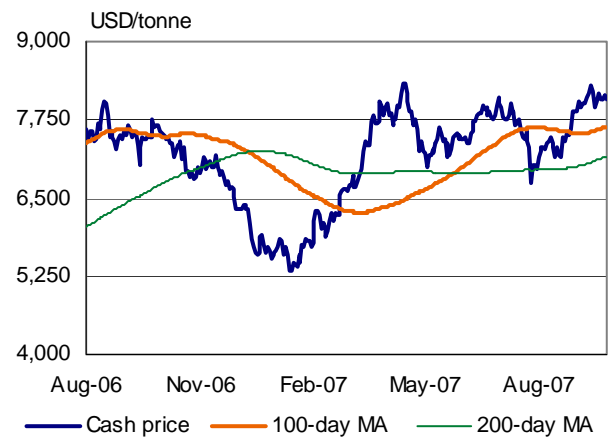
Given the annual negotiations regarding Treatment and Refining charges (TC/RCs) for concentrates taking place at this time of year, rumours were flowing thick and fast. The consensus is for TC/RCs, the charges which miners pay smelters to turn the concentrate into refined metal, to be settled at around \$45/t and 4.5¢/lb, with no price participation (PP), compared to the mid-year settlement of \$47/4.7¢ with no PP. Rumours are circulating that some annual deals have been done at less than \$40/4¢ — again with no PP. Whatever the outcome, continuing tightness in the concentrates market and the removal of price participation points to a very tough year ahead for the smelting industry. Conversely, the risk of potential smelter closures should serve to keep refined prices well supported over the medium term.

Conversely, a background of rising LME inventory continues to eat away at nearby support for copper. Last week saw LME stocks gain 6,375mt — to finish on Friday at 138,150mt. That trend has continued this week, with stocks gaining a further 2,375mt, to close on Tuesday at 140,525mt.

The main supply-side news has been the end of strike at Southern Copper's Peruvian operations. The 8-day strike ended on October 10th after union and company representatives agreed to allow the Ministry of Labour to resolve the remaining issues. According to the company, production was not affected by the industrial action.

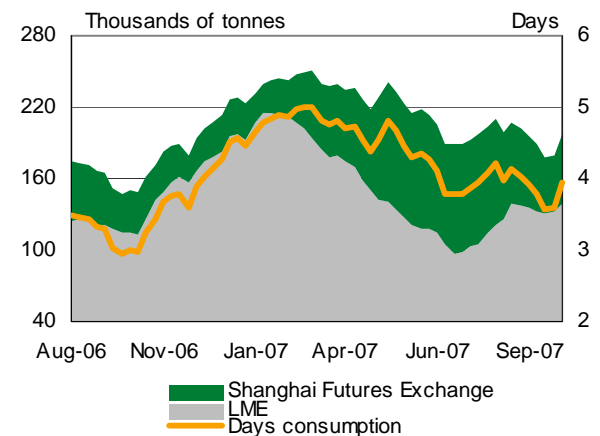
Copper is still hunting for direction. Nearby support has been eroded by rapidly increasing inventory stocks and the end of strike action in Peru. Our longer-term outlook remains bullish, with a tight concentrates market underpinning prices.

Price movement



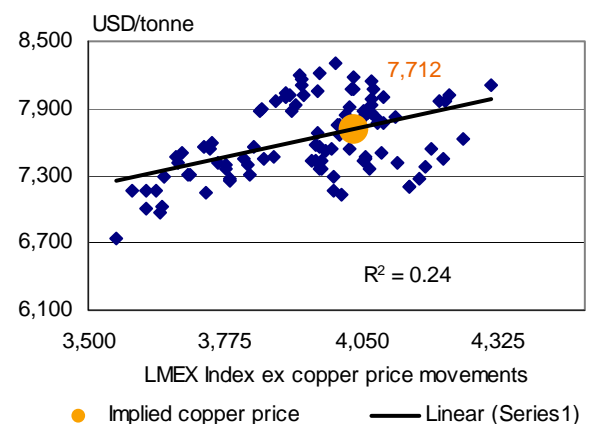
Sources: LME, Standard Bank Group

Copper stock



Sources: LME, SFE, Standard Bank Group

Relative performance to the complex

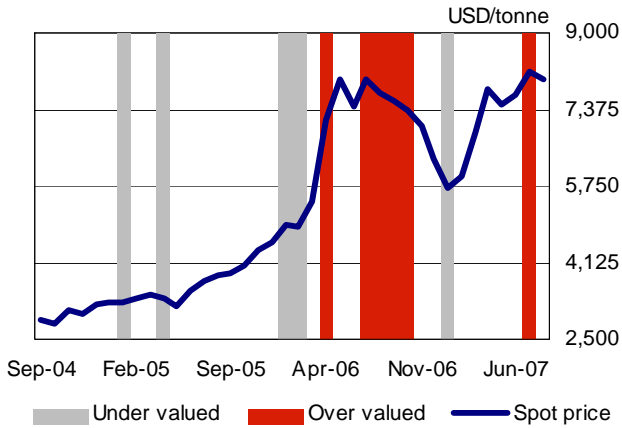


Sources: LME, Standard Bank Group



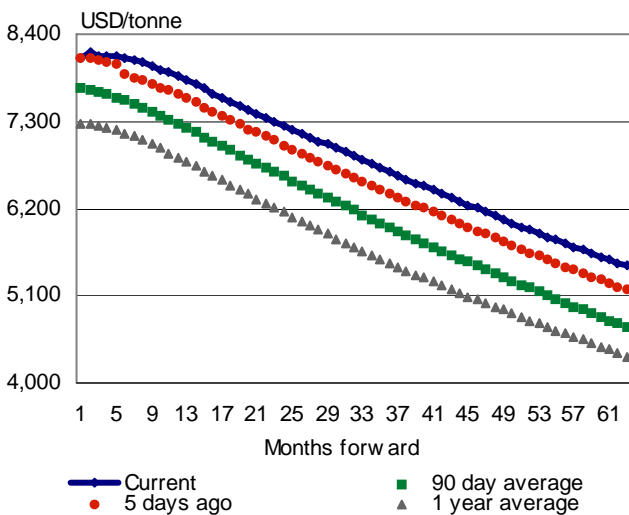
Copper: (continued)

Standard Bank copper market conditions indicator



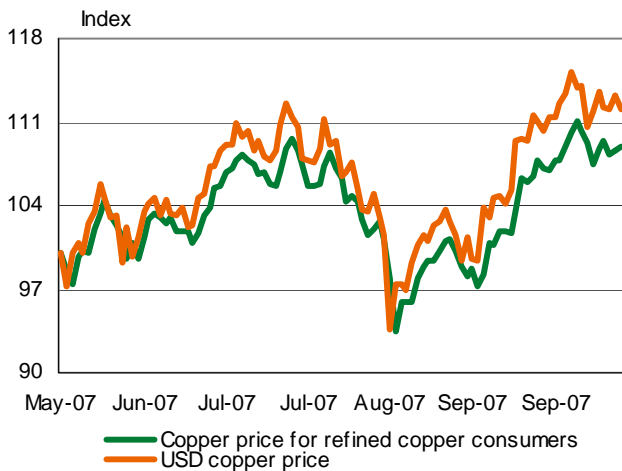
Source: Standard Bank Group

Forward curve



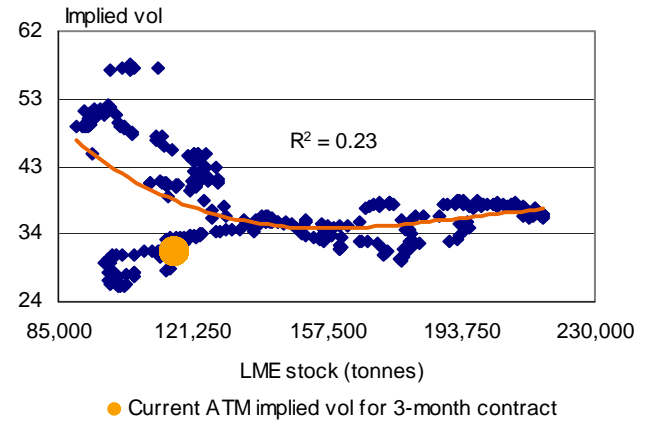
Sources: LME, Bloomberg, Standard Bank Group

Copper consumers' price



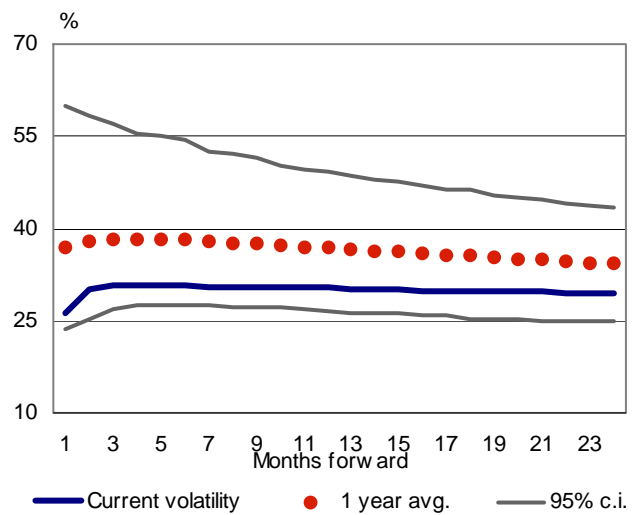
Sources: LME, Standard Bank Group

Volatility vs. stock levels



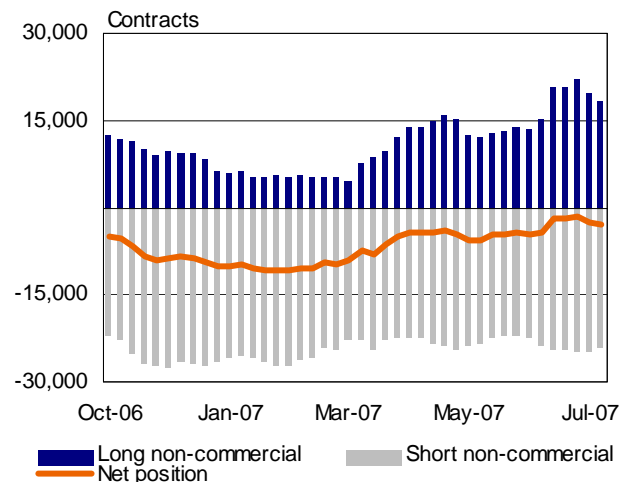
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Speculative positions (COMEX)



Sources: COMEX, Standard Bank Group



Aluminium

Aluminium had a strong LME week, surging upwards from a low of \$2,387 on Monday, to finish last week at \$2,506, up 5% from Monday's low and up 3% from the previous week. The rally was driven by fresh investment buying and also a sense that the sell-off had been overdone. So far this week, aluminium's mini-recovery has stalled, with prices closing on Tuesday at \$2,500.

Aluminium continues to be dominated by nearby selling on the three-month contract and forward buying, particularly around the December-11 contract. Longer-term aluminium prices are seen as a play on higher energy prices going forward. Conversely, high exchange stocks, currently standing at 935,550mt, are eroding nearby support.

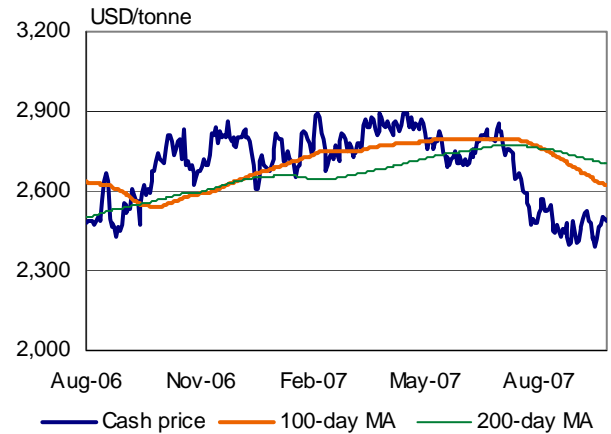
The power issue appeared to be cemented in many analysts minds last week with news that power shortages and rolling blackouts across South Africa had affected several aluminium smelters both in South Africa and also the neighboring Mozambique. The problem comes as Eskom, the state-owned power company, is struggling to meet demand, which has increased recently due to a cold snap coinciding with maintenance. As a result the company is load shedding in order to try and avert a national blackout. BHP Billiton's Hillside and Bayside smelters in Richards Bay have been affected as has the Mozal smelter in Maputo, Mozambique, totaling around 1.4 Mtpa of production capacity. While none of the smelters have shut completely, production is likely to have been impacted upon to some extent.

Staying with power, China has announced it is to cancel the electricity price discounts for the aluminium and ferro-alloy industries in order to save energy. Discounts for aluminium will be cancelled, in principle, by the end of this year, with the discount for the ferro-alloy sector being scrapped from October 20th. According to a report by Bloomberg, the discount can be the equivalent of up to \$40/tonne of aluminium.

UC Rusal continues to unveil its expansion plans, the latest being the construction of the world's largest aluminium smelter. The 1.05 Mtpa complex will be built in the Saratov region and will include an expansion of the Balakovsky nuclear power plant. UC Rusal will finance both the smelter and also the addition of the 5th and 6th reactor blocks, generating a further 2,000 MW of electricity. The new complex is being built under the terms of a co-operation agreement with the local government, with the agreement becoming effective once the expansion to the reactor is approved by the Federal Nuclear Agency.

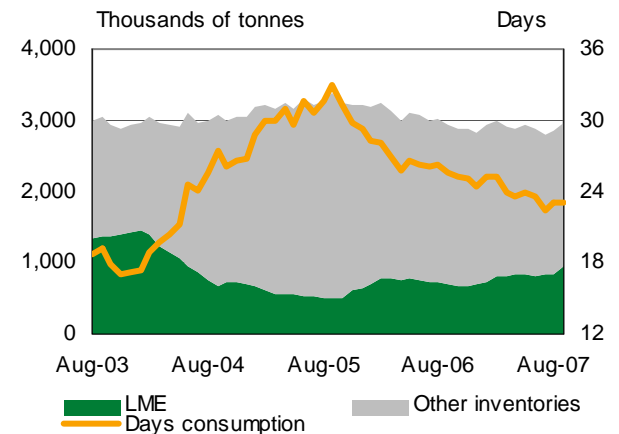
Aluminium continues to be dominated by nearby selling and far-forward buying. But power supply problems in South Africa and expectations of higher electricity costs in China, are supporting prices.

Price movement



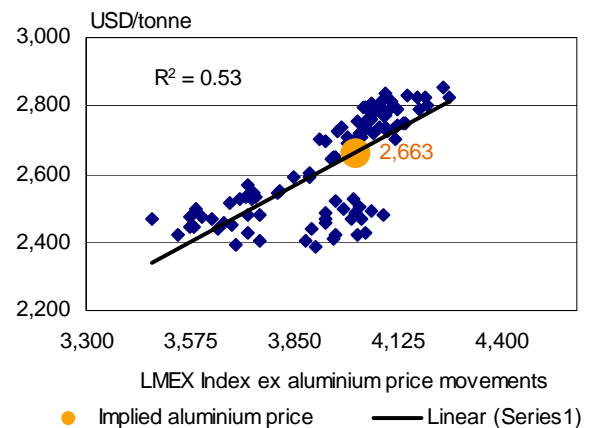
Sources: LME, Standard Bank Group

Reportable aluminium stock



Sources: LME, IAI, Standard Bank Group

Relative performance to the complex

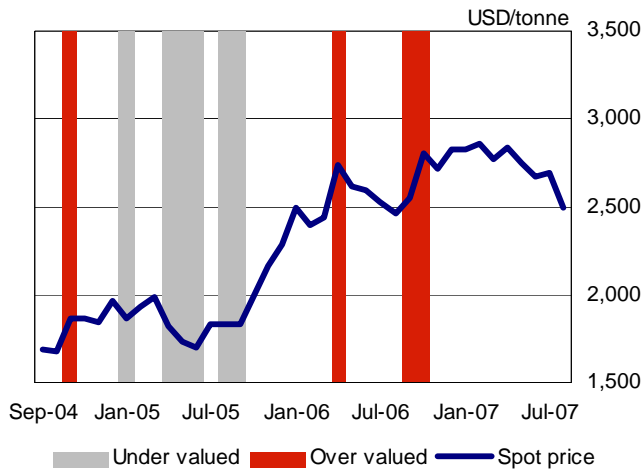


Sources: LME, Standard Bank Group



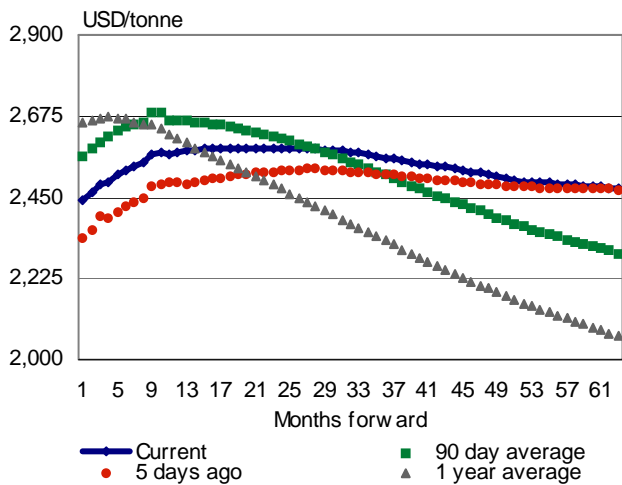
Aluminium: (continued)

Standard Bank aluminium market conditions indicator



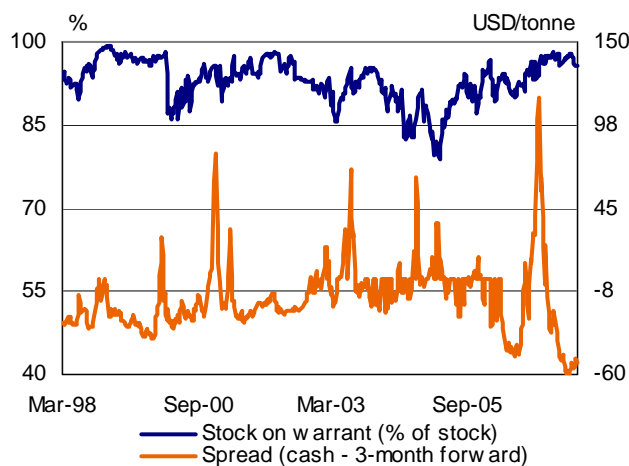
Source: Standard Bank Group

Forward curve



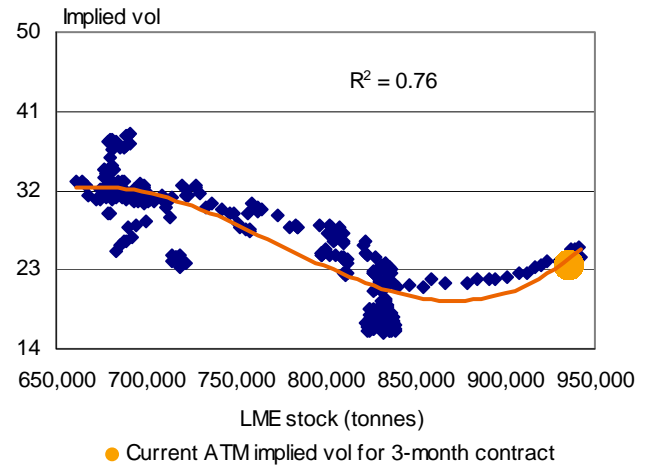
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



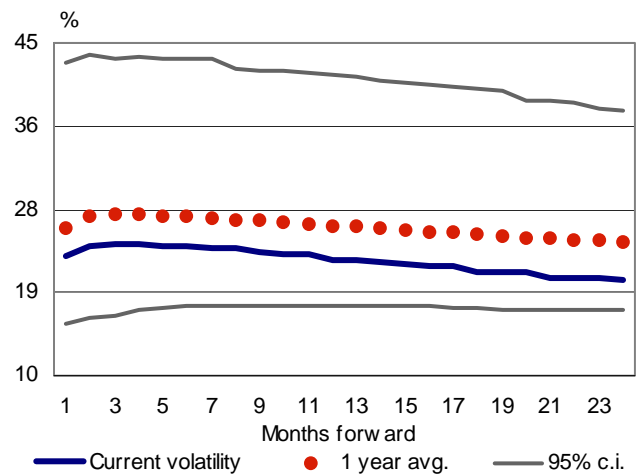
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



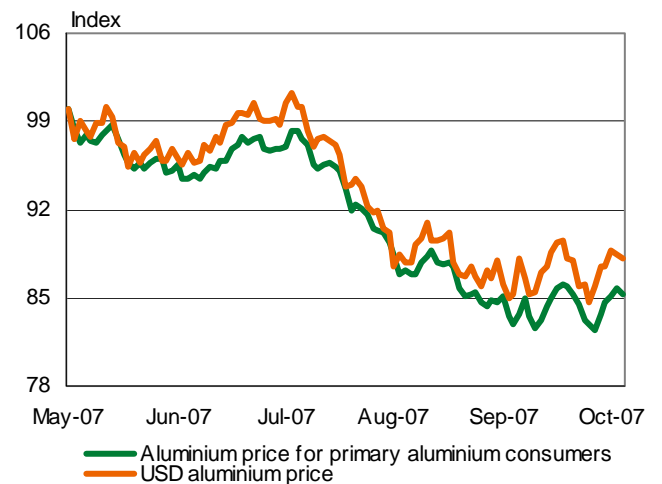
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Price for aluminium consumers



Sources: LME, Bloomberg, Standard Bank Group



Nickel

Like the rest of the complex, nickel posted solid gains, closing on Friday at \$32,100, up 2.2% on the previous week. The week-on-week gain would have been greater had it not been for a rather irrational \$1,700 dollar jump upwards on Friday 5th, essentially on news that the LME had relaxed the tougher lending rules for nickel that it had imposed in May.

So far this week nickel has held on pretty well, closing on Tuesday at \$31,800. Prices certainly appear to have consolidated above the \$30,000 level with the anticipation of increased demand from the stainless steel sector helping to support prices. The cancellation of power discounts for the ferroalloys sector, as reported in the aluminium section, may also lend support to prices going forward.

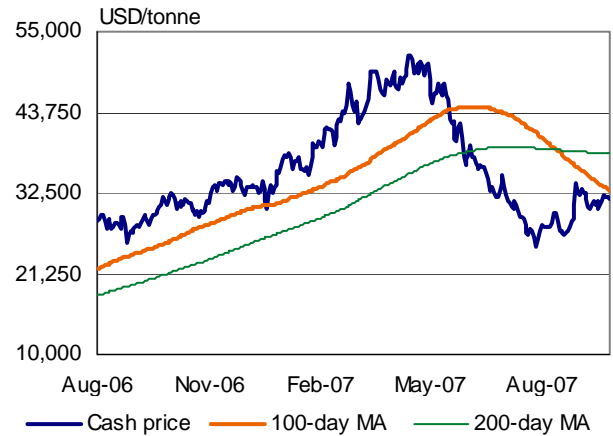
LME stocks continue to remain at a high level, though overall the impact has been virtually nil. Stocks gained 930mt last week to close on Friday at 36,180mt. Exchange stocks have fallen back a little this week, closing on Tuesday at 35,964mt.

CVRD is planning to raise its nickel production capacity massively over the next few years. The company is looking to boost production from around 260,000mt this year to 507,000mt in 2012. The decision is based on the belief that metals prices will continue to remain firm and that there has been a structural change in the demand for minerals and metals. The key nickel projects due on-stream during this period are Goro, a 60,000 tpy capacity operation in New Caledonia due to start up in late 2008; Onça Puma, a 58,000 tpy project in Brazil due to start in 2009; Vermelho another earlier stage project in Brazil; Totten, an 8,200 tpy capacity mine in the Sudbury area of Canada, due on stream in 2011, plus a 50,000 tpy refinery at its Voisey's Bay complex in Labrador, with the refinery expected to start up in late 2011.

On the production side, Norilsk Nickel announced its production figures for the third quarter. Production of saleable nickel came in at 75,000mt during Q3, bringing production for the first nine months of the year to 214,000mt. Production forecasts for 2007 remain unchanged at between 295-300,000mt of nickel. Heavy rain in Cuba saw the suspension of nickel mining operations in the Holguin province. Nickel production from Cuba totaled 74,000mt in 2006.

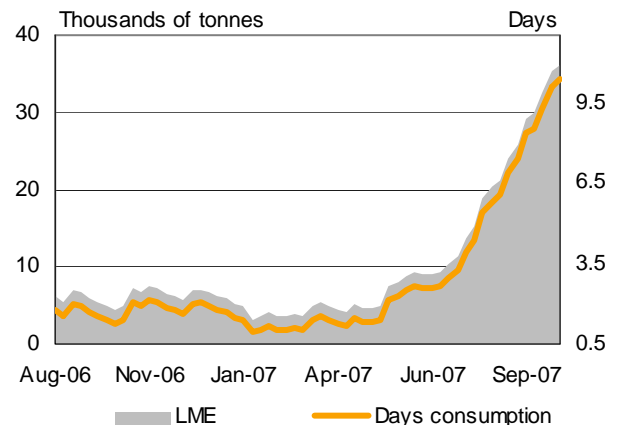
After the extreme volatility seen during the summer, nickel prices remain pretty solid, stabilising above the \$30,000 level. The project pipeline continues to firm up, though the absence of large imminent projects should support prices, with the Chinese stainless industry continuing to rely on nickel laterite ore over the medium term.

Price movement



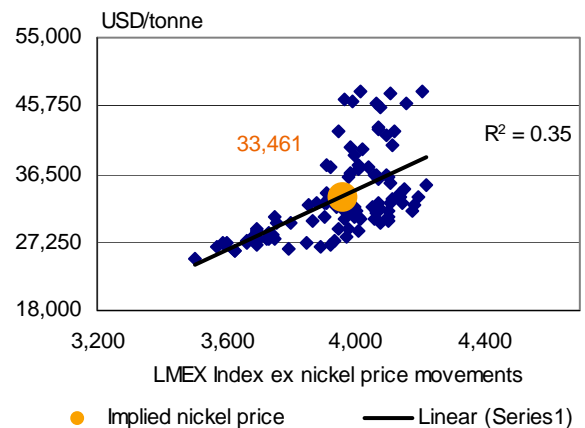
Sources: LME, Standard Bank Group

LME Stock



Sources: LME, Standard Bank Group

Relative performance to the complex

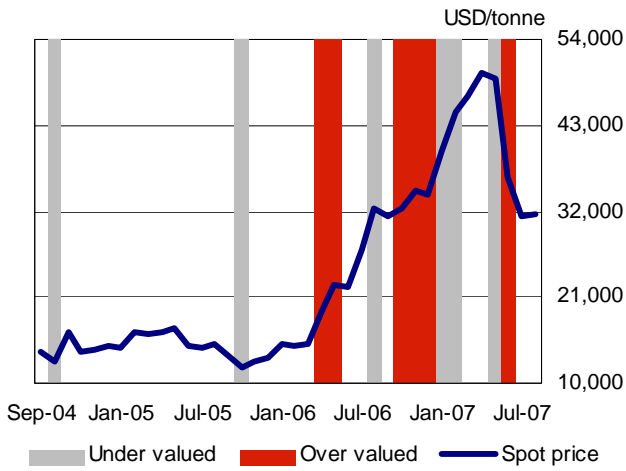


Sources: LME, Standard Bank Group



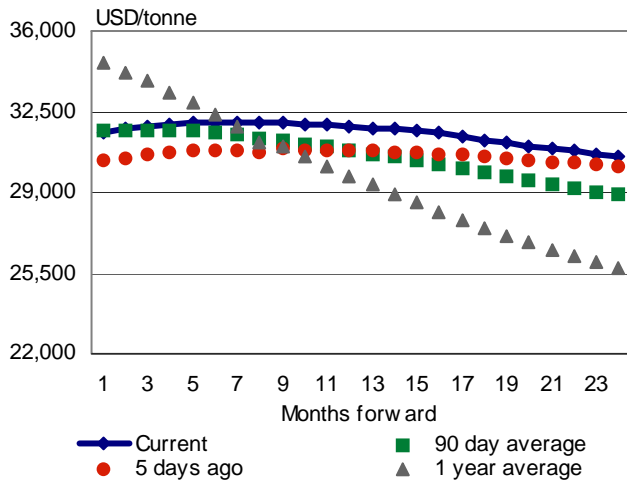
Nickel: (continued)

Standard Bank nickel market conditions indicator



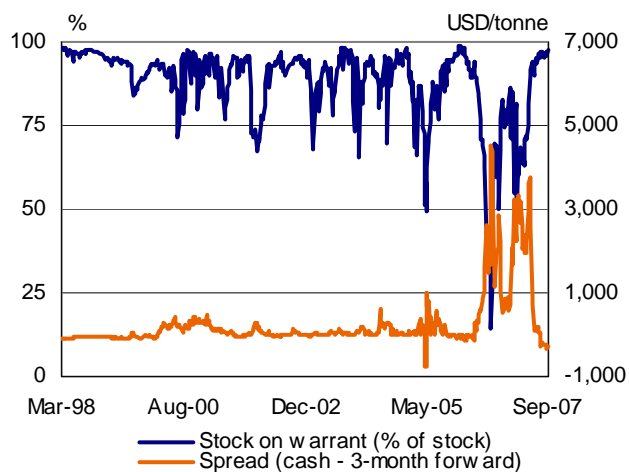
Sources: Standard Bank Group

Forward curve



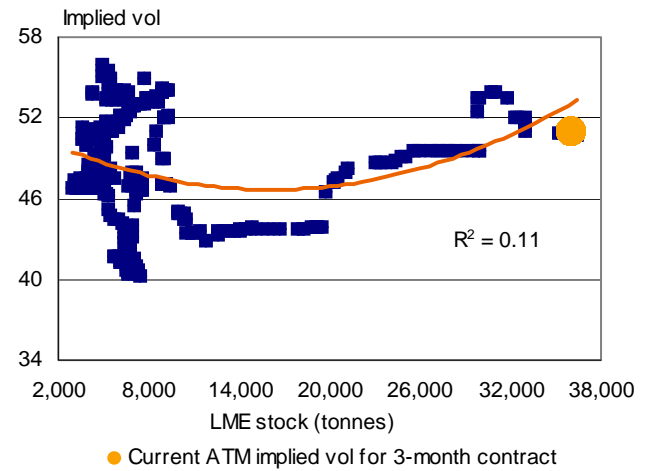
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



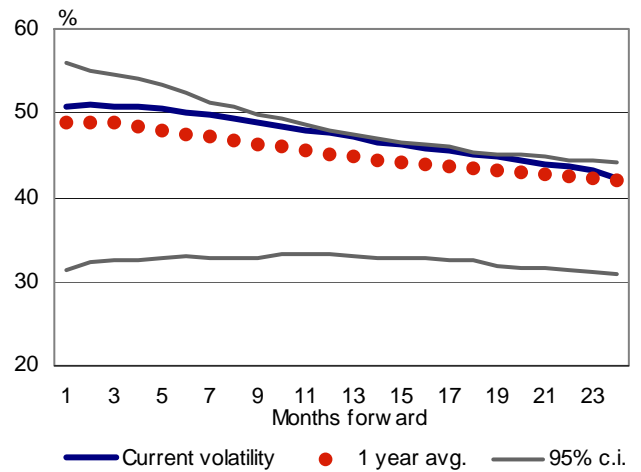
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



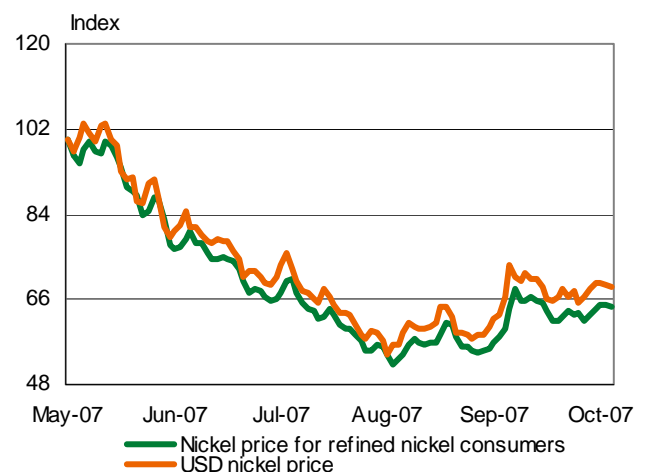
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Nickel consumers' price



Sources: LME, Standard Bank Group



Zinc

After falling heavily at the beginning of last week, zinc proceeded to recover strongly, ending the week at \$3,130, up 2.45% from the previous week's close and also up a massive 6.10% from last Monday's close of \$2,950. That momentum appears to have deserted the metal this week. Prices stalled on Monday before falling on Tuesday, to close at \$3,045.

There remains much bearish sentiment towards zinc from many quarters. As mentioned in previous weeks, much of that bearish sentiment is due to a relatively smooth supply response to recent high prices.

Adding to the general feeling of increased supply and a lack of tightness is the latest announcement from the UK-listed Vedanta Resources. Vedanta Resources has announced that it was in the final stages of completion for its new 170,000 tpa capacity smelter at Chanderiya. Commissioning is now expected to take place in December this year, three months ahead of schedule.

Thai producer Padaeng Industry, is facing delays in getting a renewal for its mining licence for the Mae Sot mine. The mine has received cabinet approval, however, approvals are also required from several other government departments including Forestry, Mines and also from provincial authorities. As a result, Padaeng are preparing to halt production. The company's 110 ktpa smelter is unlikely to be affected as there is enough stockpiled feed to last until the end of this year.

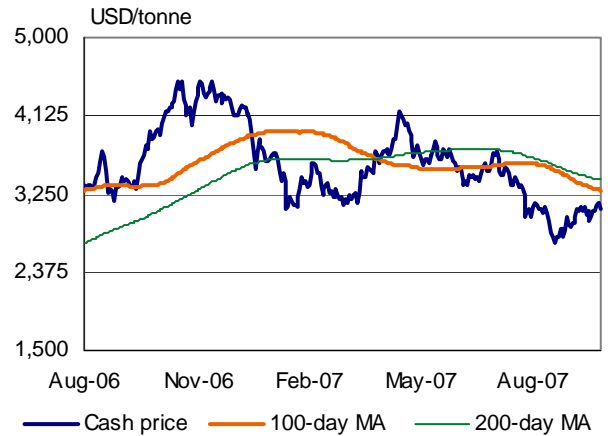
Exchange stocks continue to decline with LME inventory falling 1,000mt last week to close on Friday at 58,400mt. Stocks have continued to fall this week, falling a further 300mt to 58,100mt on Tuesday.

While falling exchange stocks have lent some support to prices, persistent rumours of large levels of other stocks, held either by consumers or merchants, or both, have undermined prices. As a result, changes in exchange stocks have had very little impact on prices, with direction instead coming from the rest of the complex, copper in particular.

An up-tick in galvanized steel production should support prices, though signs of a turnaround in that sector are still pretty faint at the moment. Looking further ahead, Arcelor Mittal Eisenhüttenstadt is planning to build a new 400,000 tpy hot-dip galvanizing line. The new line will focus on automotive industry and is expected to come online in mid-2009.

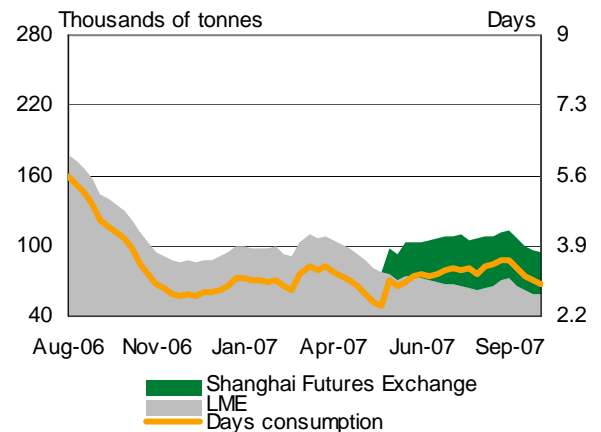
Bearish sentiment and concerns over producer stocks continue to weigh on zinc prices. Zinc continues to look to the rest of the complex for direction.

Price movement



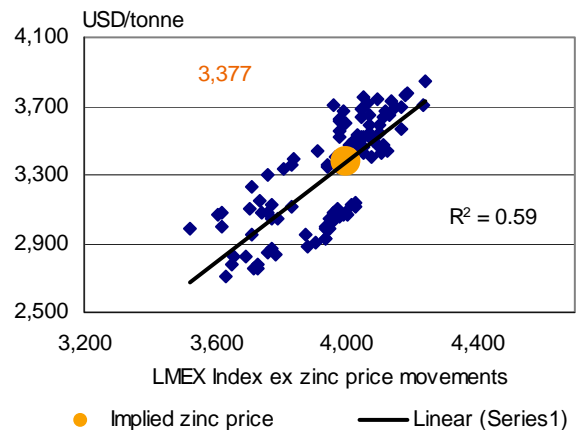
Sources: LME, Standard Bank Group

Zinc stock



Sources: LME, SFE, Standard Bank Group

Relative performance to the complex

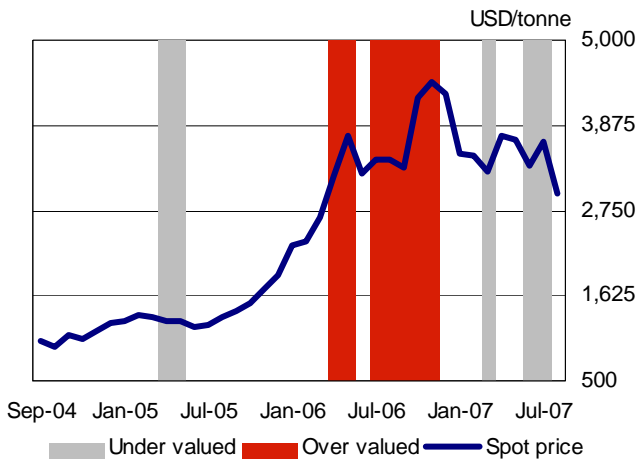


Sources: LME, Standard Bank Group



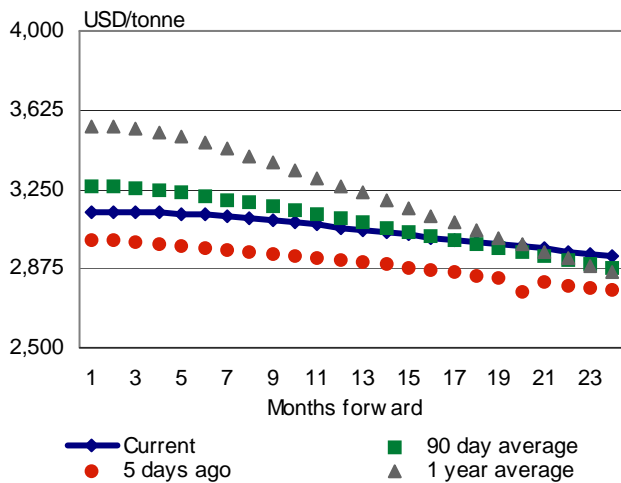
Zinc: (continued)

Standard Bank zinc market conditions indicator



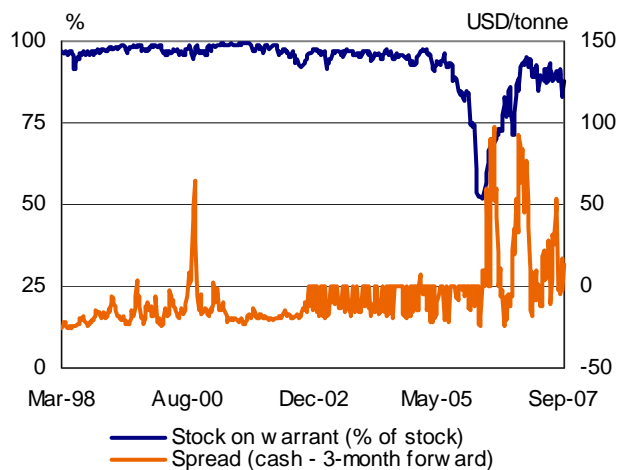
Source: Standard Bank Group

Forward curve



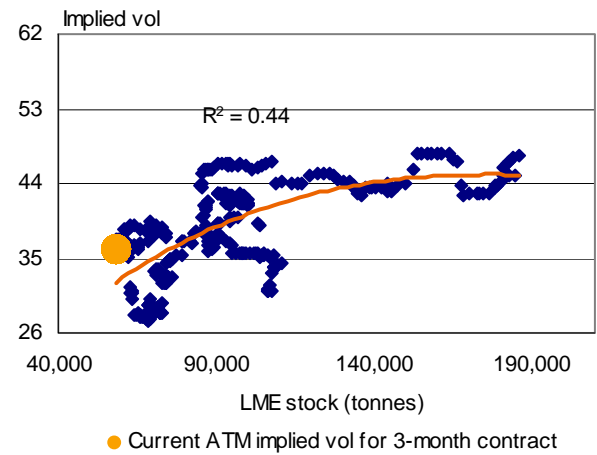
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



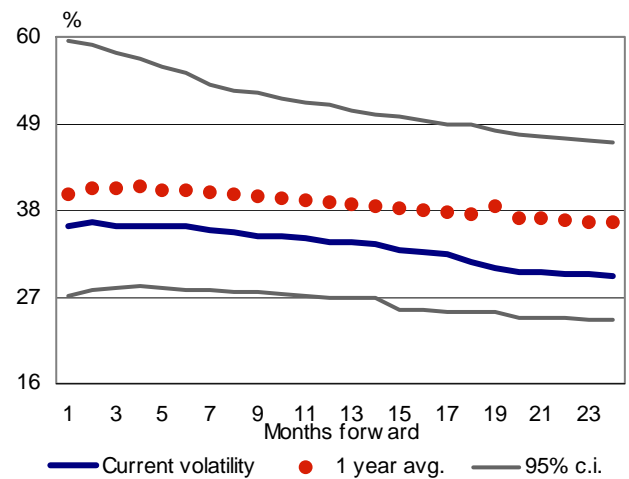
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



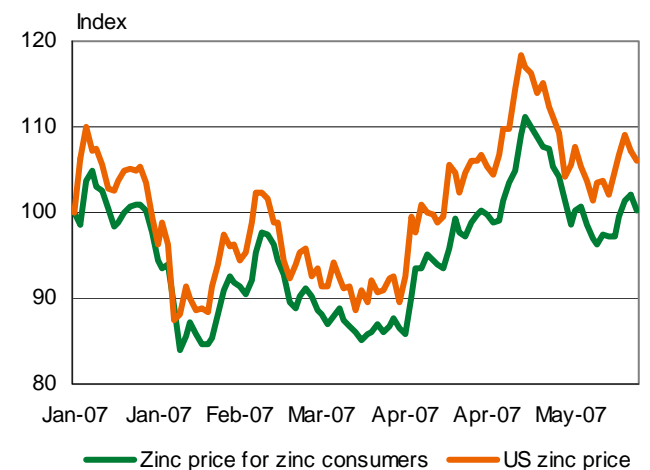
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Zinc consumers' price

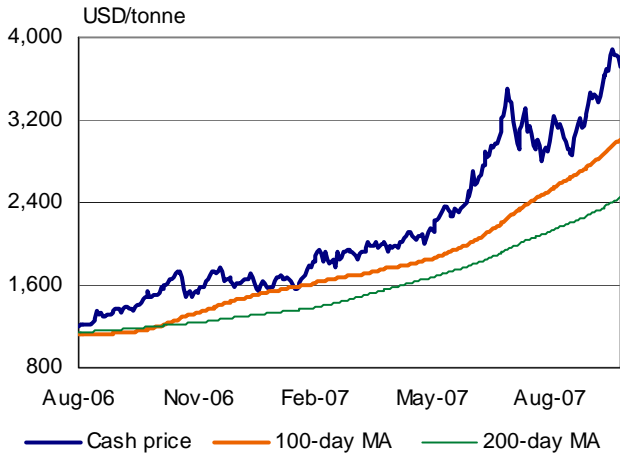


Sources: LME, Standard Bank Group



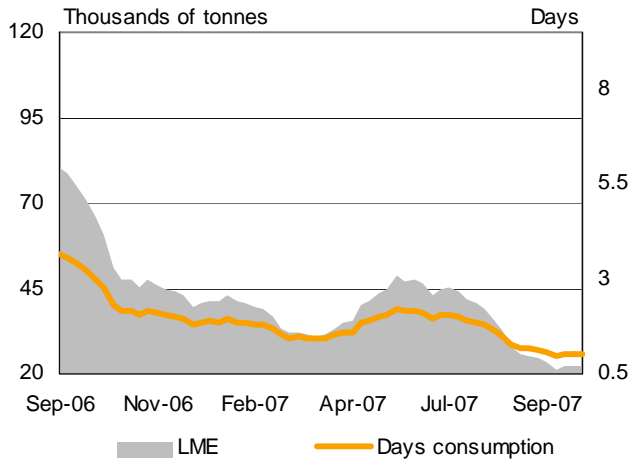
Lead

Price movement



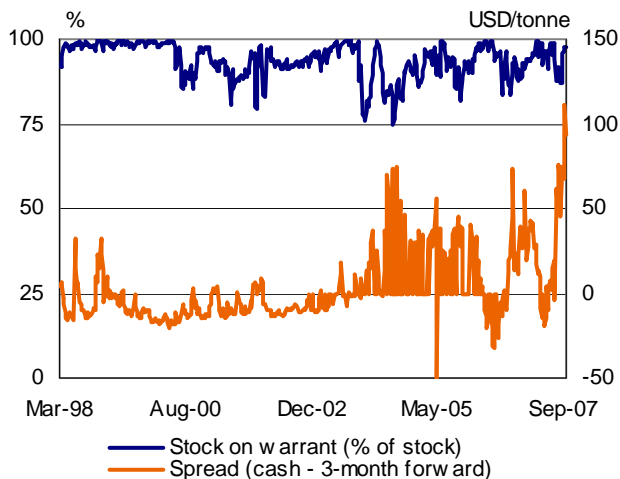
Sources: LME, Standard Bank Group

Lead stock



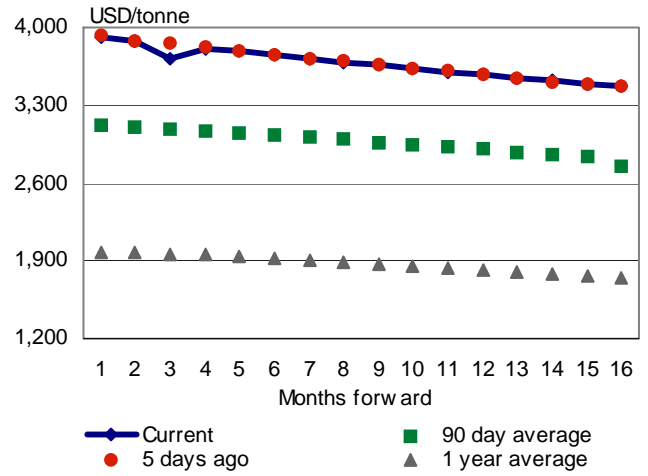
Sources: LME, Standard Bank Group

LME stock on warrant



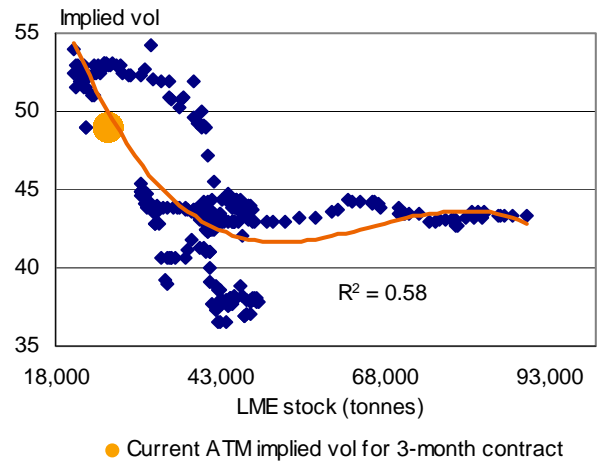
Sources: LME, Bloomberg, Standard Bank Group

Forward curve



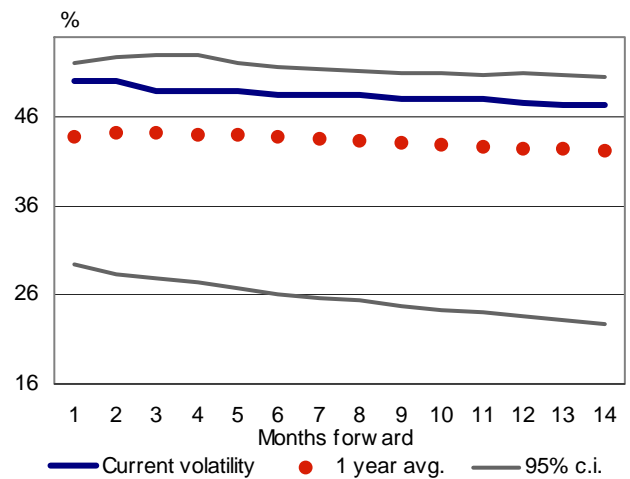
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



Sources: LME, Standard Bank Group

ATM implied volatility

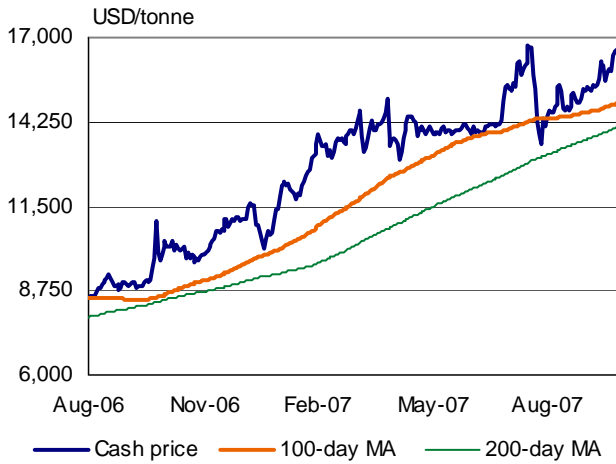


Sources: LME, Bloomberg, Standard Bank Group



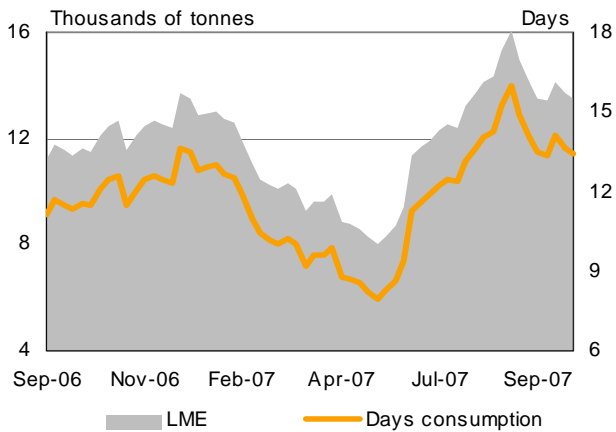
Tin

Price movement



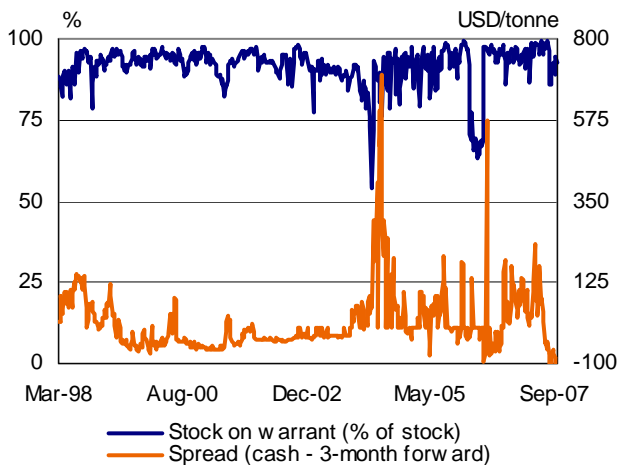
Sources: LME, Standard Bank Group

Tin stock



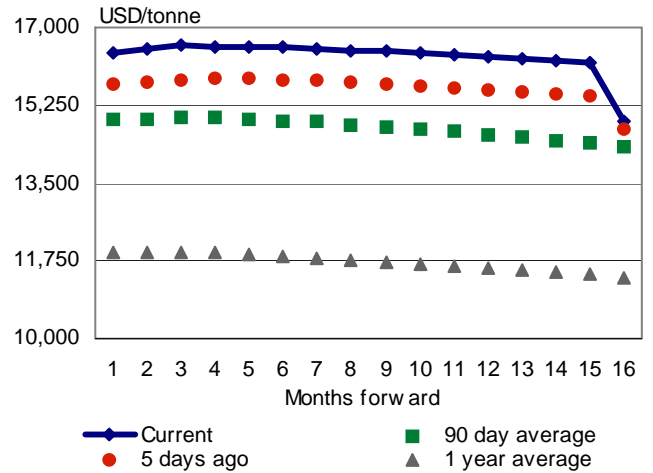
Sources: LME, Standard Bank Group

LME stock on warrant



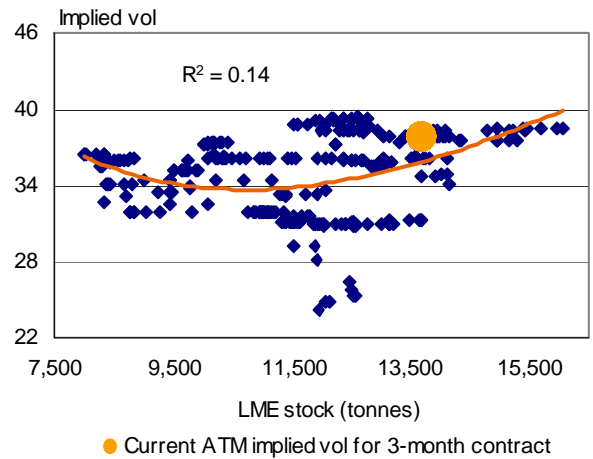
Sources: LME, Bloomberg, Standard Bank Group

Forward curve



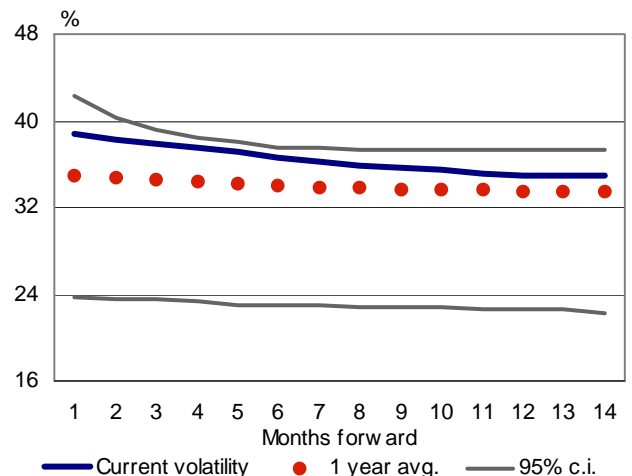
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group



Gold

Gold rallied to US\$760 this week, its highest level since January 1980. There was a frenzy of buying, with gold finding support from any bullish news whatsoever.

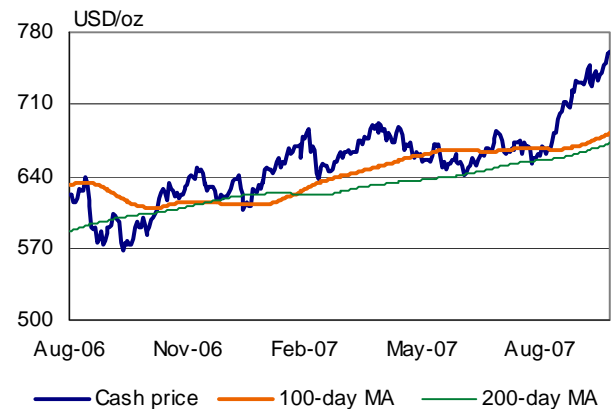
After a period that saw the US dollar reaching all-time lows against the euro, the greenback has strengthened somewhat, settling between US\$1.4150 and US\$1.4220. Currently the forex market is waiting to see what the stance of monetary policy will be going forward in major economies. Initially, after the last Fed meeting in September, the market priced in another 50bp cut in the Fed target rate. This has since changed with a 64% probability of no change in interest rates, according to the Fed Fund Futures in the US. It also appears that rate hikes in Europe and UK might be delayed, with some people even seeing a rate cut in these economies. All these factors should support the US dollar for now. But despite the fact that the dollar has been trading slightly stronger against the euro, gold has been climbing steadily.

Good physical demand for gold jewellery, which traditionally is high in India this time of the year, supported gold even further this week. India is the world largest gold consumer. Although the US dollar gold price is very high, the Indian rupee has seen a substantial appreciation against the greenback, offsetting some of the price impact in India. That said, on Monday the World Gold Council cut its forecast for India's gold consumption this year. Initially it was predicted that Indian gold consumption would rise by 40% in 2007. Estimated consumption is now between 800 to 900 tonnes, instead of the initial estimate of 1,000 tonnes.

Another factor that has increased investor demand for gold, is the rise of crude oil prices to record highs this week. Brent crude has been trading well above US\$84, while WTI has breached US\$87. Together with the strong performance of other commodity prices, such as base metals, those we believe that gold remains a good hedge against inflation, has pushed higher the price of the yellow metal. The recent buying frenzy of gold has increased the speculative money in the gold market, which makes current positions more risky. This is evident from the rise in the net long non-commercial positions on COMEX. The net longs has reached an all time high last week since the data publication started. Although this may be indicative of the current bullish sentiment towards gold, it also indicates that when sentiment changes, gold could fast decline to lower levels.

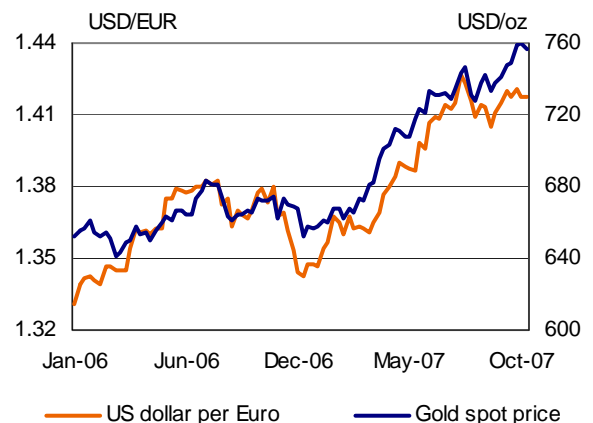
Although gold jewellery demand appears to be slowing, it remains robust, supporting gold on the downside. Investor demand for gold has been rising steadily, with non-commercial contracts reaching an all-time high on COMEX. For now, it appears gold is finding some resistance at US\$760.

Price movement



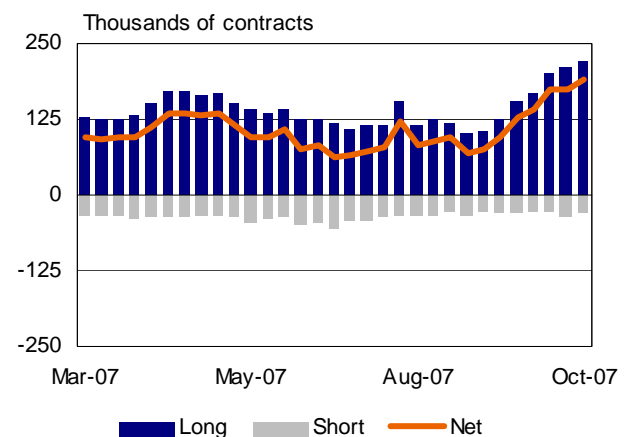
Sources: Bloomberg, Standard Bank Group

Gold price and US dollar movements



Sources: Bloomberg, Standard Bank Group

Speculative positions (COMEX)

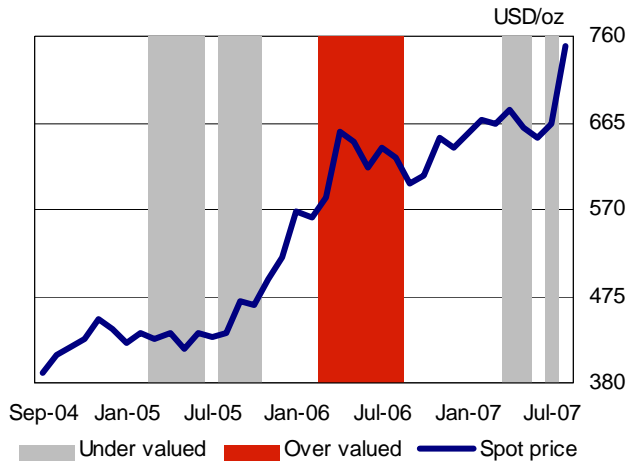


Sources: COMEX, Standard Bank Group



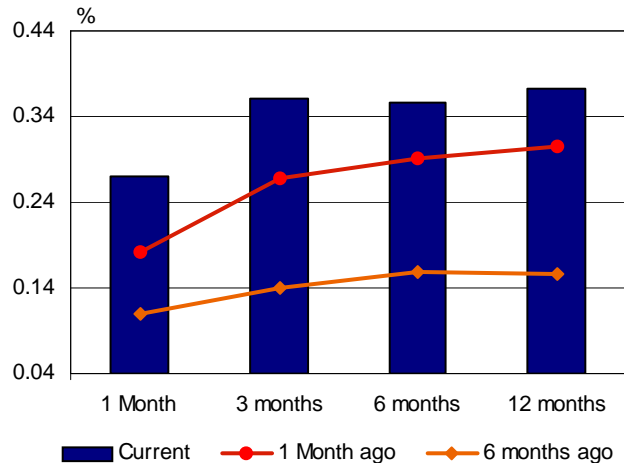
Gold: (continued)

Standard Bank gold market conditions indicator



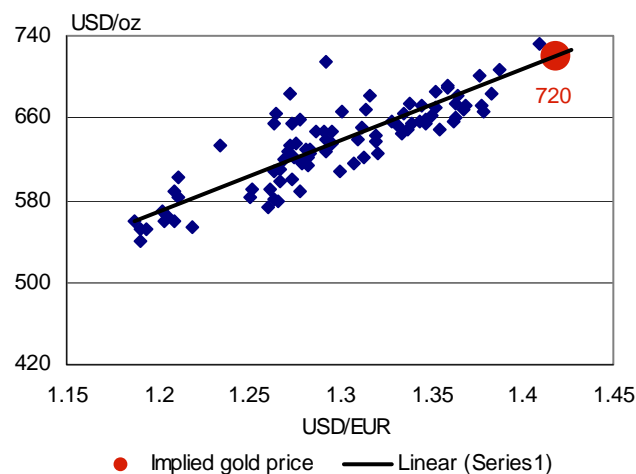
Source: Standard Bank Group

Gold lease rates (spread over LIBOR)



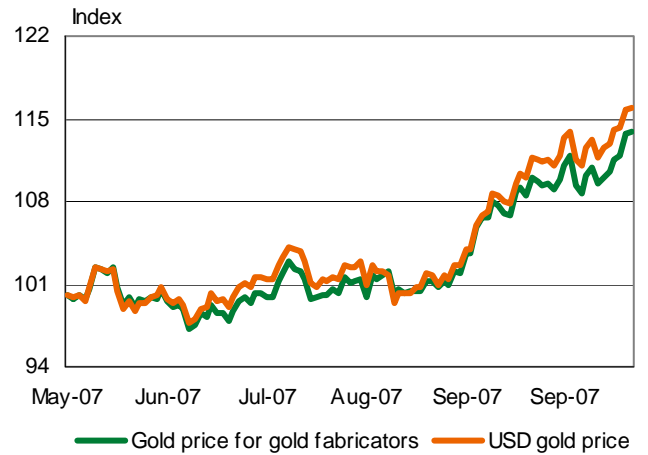
Sources: LBMA, Standard Bank Group

Gold vs. USD



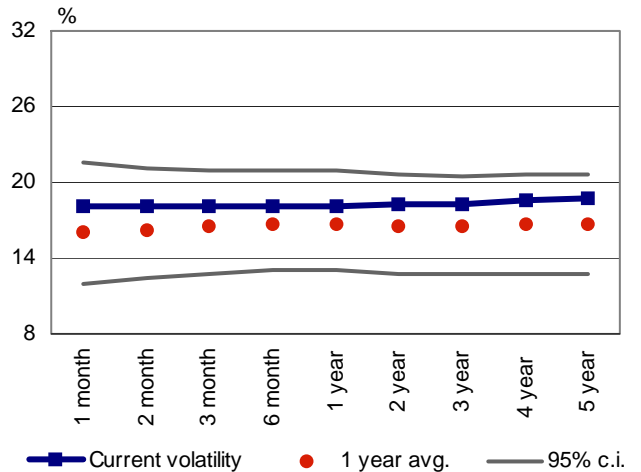
Sources: Bloomberg, Standard Bank Group

Gold price for gold fabricators



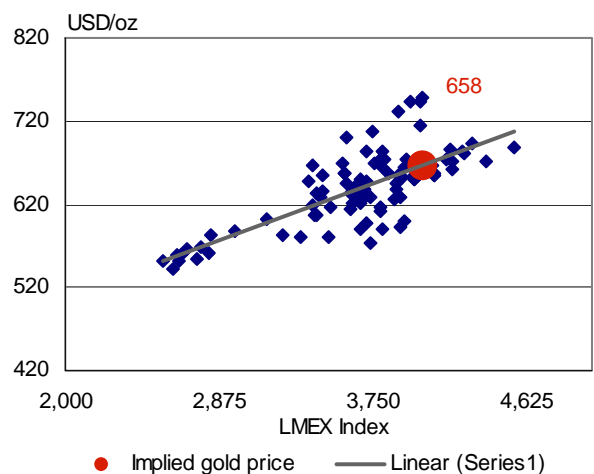
Source: Standard Bank Group

ATM implied volatility



Source: Standard Bank Group

Gold vs. base metals



Sources: LME, Bloomberg, Standard Bank Group



Platinum group metals

Platinum and palladium continue to find good support from gold as investor demand for precious metals increase. As with gold, the net long non-commercial contract positions on NYMEX has increased substantially over the past few weeks. But apart from the investor demand for precious metals, platinum has also been supported by a number of supply factors over the past week.

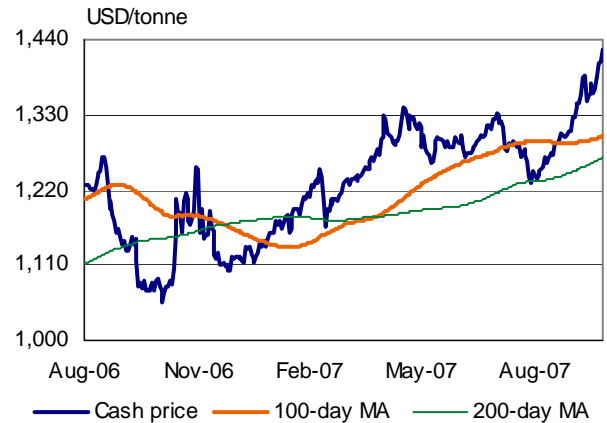
Initially it was feared that power cuts in South Africa would affect mining and smelter activity of major platinum producers. However, Anglo Platinum, Lonmin and Impala Platinum all stated this week that they would be largely unaffected by the power cuts. Apart from the power cuts, Lonmin, the world's third largest platinum producer, started with wage negotiations at their mines in South Africa. The National Union of Mineworkers (NUM), which represent the majority of workers, has signed a deal already on behalf of their members, while the much smaller union Solidarity, has rejected the wage offer from the mine. We do believe that disruptions at Lonmin will be minimal, if any, even if Solidarity members decide to strike.

Safety issues at mines in South Africa remains a general concern. A number of deaths have occurred, mainly at gold mines though. However, increased pressure from the government as well as labour unions may force some mine closures as safety audits continue. If this is confined to gold miners, there should be no problem as above ground stock for gold remains sufficient. Should closures be forced upon platinum mines it might create supply shortages as stock levels are very low for platinum. However, we do not believe that this would be the case, and production should continue as normal.

On the demand side, consumption seems to be holding up well. Despite an expected slowdown in the US and EU economies, the lost demand for industrial use of PGM's, is offset by good jewellery demand, as well as ETF buying. As with gold, the high level of non-commercial contracts does make platinum and palladium vulnerable to large sell-offs should sentiment towards precious metals, and PGM's in particular, turn bearish.

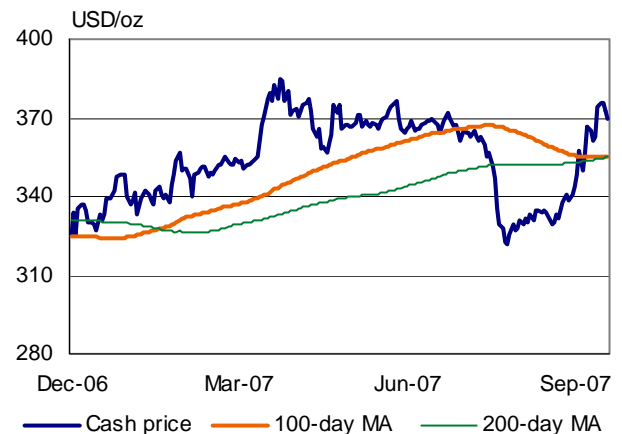
Platinum and palladium has seen good support recently, pushing platinum to as high as US\$1,425 on Monday. The recent platinum supply concerns has disappeared, but safety issues still remains a concern in terms of production output. Investor demand for the metal are strong as indicated by the net long speculative positions on NYMEX. This does make the metals more vulnerable to sudden changes in investor sentiment.

Platinum price movement



Sources: Bloomberg, Standard Bank Group

Palladium price movement



Sources: Bloomberg, Standard Bank Group

Spread (Platinum - Palladium)

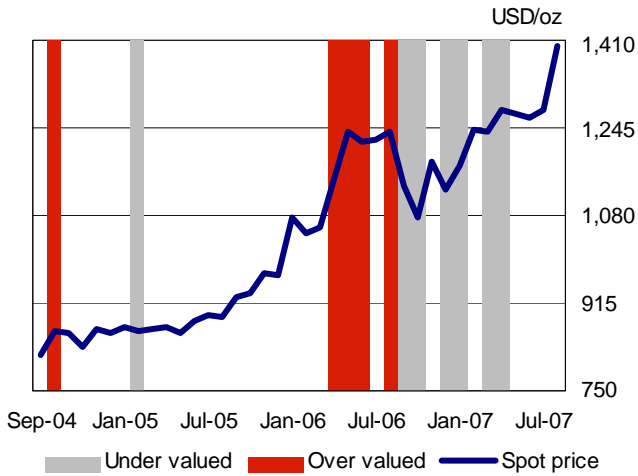


Source: Standard Bank Group



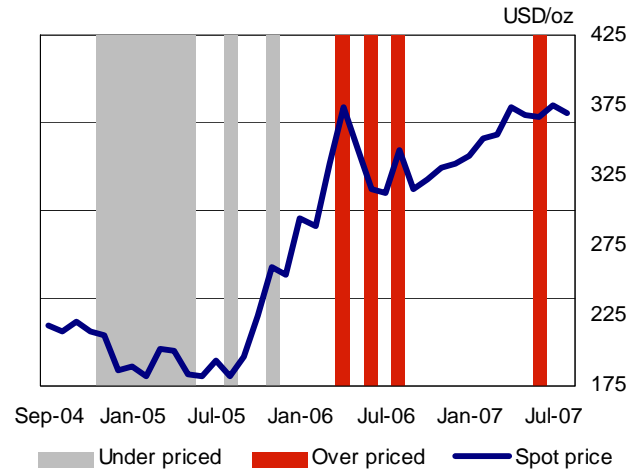
Platinum group metals: (continued)

Standard Bank platinum market conditions indicator



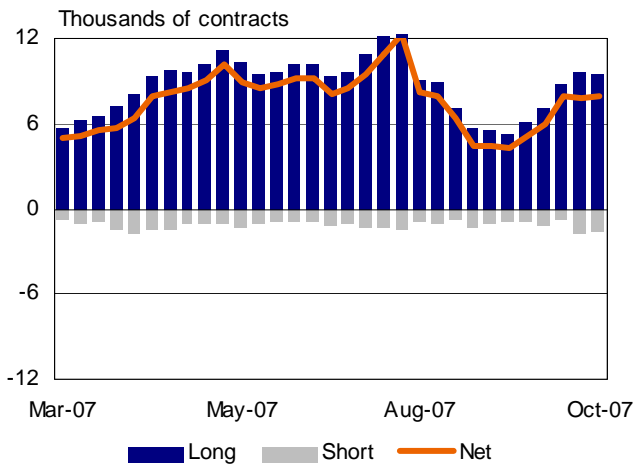
Source: Standard Bank Group

Standard Bank palladium market conditions indicator



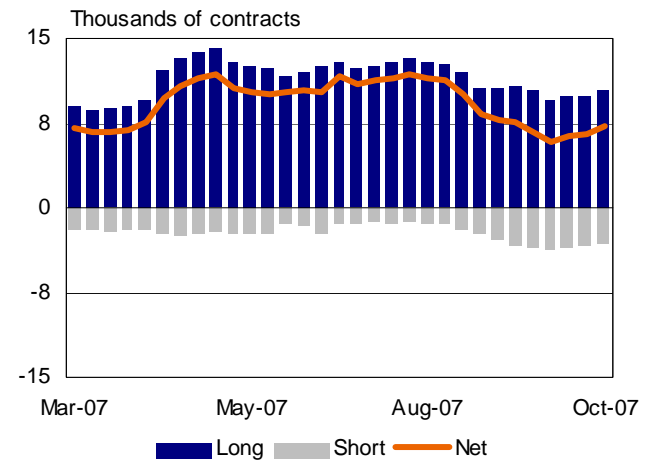
Source: Standard Bank Group

Platinum speculative positions (COMEX)



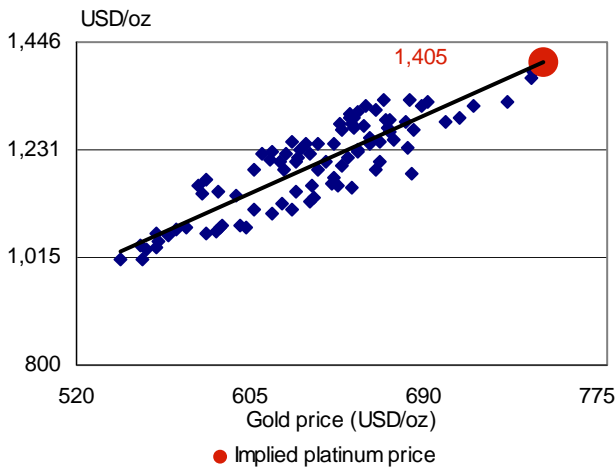
Sources: COMEX, Standard Bank Group

Palladium speculative positions (COMEX)



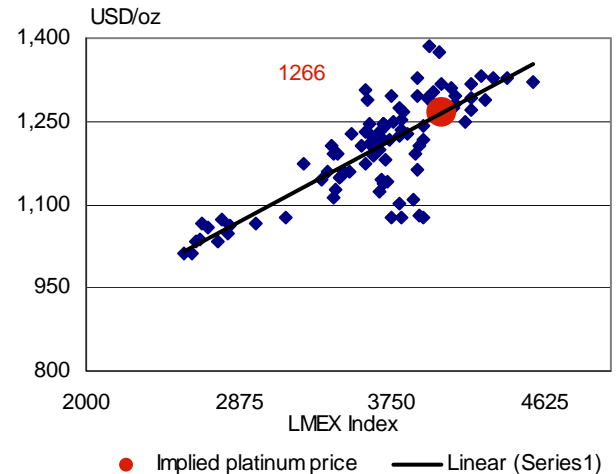
Sources: COMEX, Standard Bank Group

Platinum vs. gold



Source: Standard Bank Group

Platinum vs. base metals



Source: Standard Bank Group



Crude oil

Crude oil rallied to new highs this week amid growing political tensions in the Middle East. WTI closed at US\$87.61 on Tuesday, while Brent crude was trading well above US\$84 on Wednesday morning.

Tensions between Turkey and Kurdish separatists in northern Iraq have seen a rapid rise over the weekend as Turkey accuse the Kurds of carrying out cross border attacks on Turkey. This has increased supply worries in the global crude market.

Combined with the tension in the Middle East, crude inventories in the US has been low for some time. Measured in terms of weeks' consumption, inventories have decreased to well below the 10-year average since the beginning of September. Although we have seen a slight rise of inventories in terms of weeks' consumption, it remain low compared to levels earlier in the year. What makes the drop in inventories even more worrying, is the fact that it coincides with US refinery capacity utilisation that is low, currently only at 87.8%. Normally, a drop in refinery capacity utilisation would imply that less crude stock is used, resulting in a rise in stock levels. However, currently stock levels are falling despite low capacity utilisation rates. This may put further pressure on crude prices as the US tries to build up crude stock levels and capacity utilisation rates also start to rise.

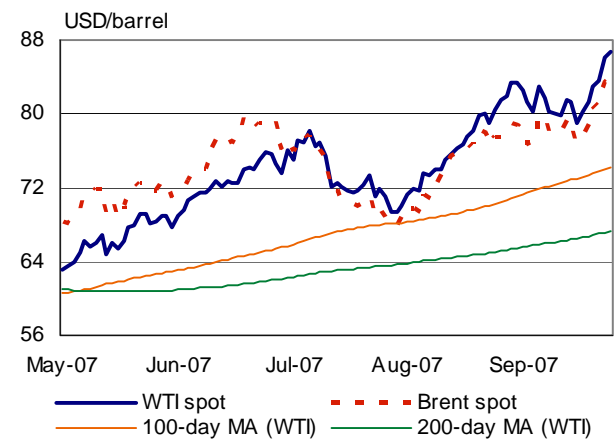
Currently all indications are that oil demand is not slowing down, despite a slowing US and European economy. With the majority of new growth for energy coming from China, a drop in demand much be accompanied by a much greater US economic slowdown than what is anticipated currently.

Speculators and investors remain bullish on commodity prices, and crude oil in particular. Similar to what we have been witnessing in gold, net long non-commercial futures positions for WTI on NYMEX remain at record highs. This do increase the chance of a rapid correction should sentiment towards crude oil turn negative.

On a slightly different note, BP Plc, announced that they believe that biofuels may replace as much as 24% of diesel and gasoline demand by 2030. They estimate that biofuels consumption may grow by between 85bn and 195bn gallons a year.

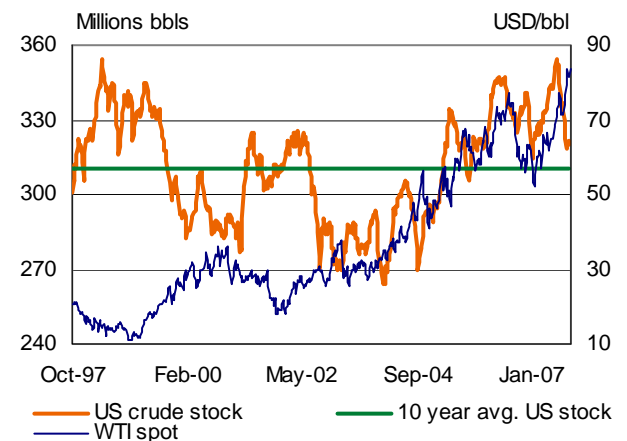
Crude oil prices have reached new record highs this week, with WTI and Brent trading well above US\$87 and US\$84 respectively. Tensions in the Middle East are growing between Turkey and Iraq, fueling supply concerns. The low US crude inventories combined with low capacity utilisation rates of US refineries should also continue to provide decent nearby support for crude prices. Investors remain bullish, with record high net long non-commercial positions for WTI on NYMEX.

Price movement



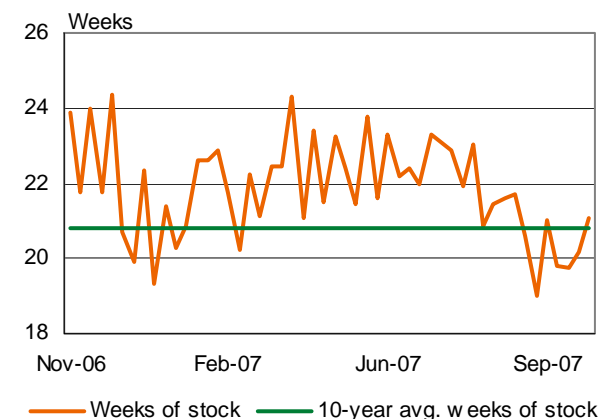
Sources: Bloomberg, Standard Bank Group

US crude oil stock



Sources: Bloomberg, Standard Bank Group

Weeks worth of US crude stock

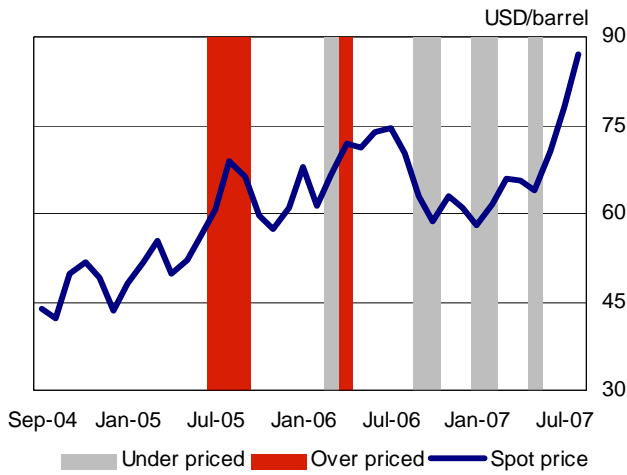


Source: Standard Bank Group



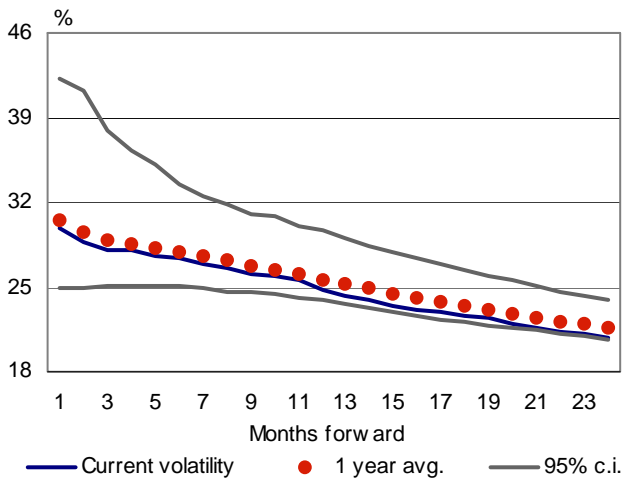
Energy — WTI crude

Standard Bank WTI market conditions indicator



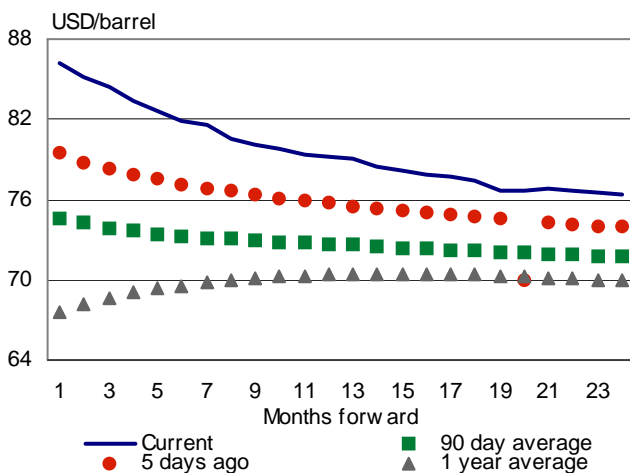
Source: Standard Bank Group

WTI ATM implied volatility



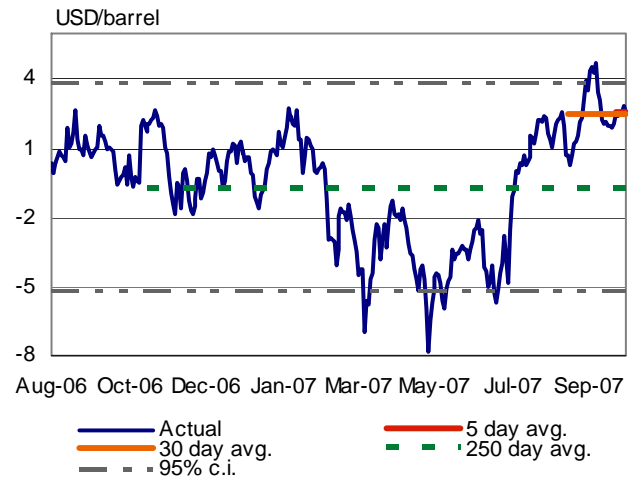
Sources: Bloomberg, Standard Bank Group

WTI Forward curve



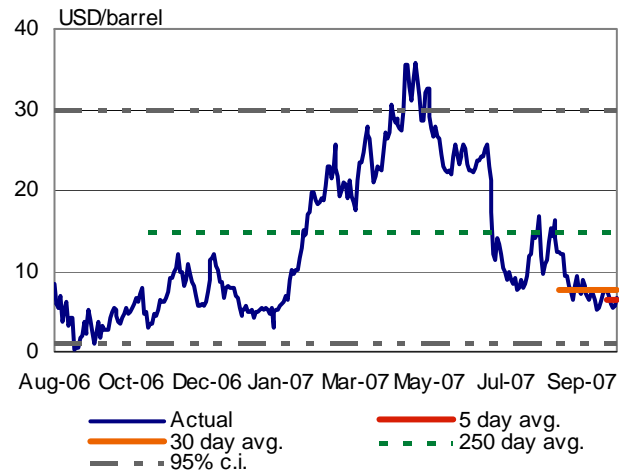
Sources: Bloomberg, Standard Bank Group

Spread (WTI crude — Brent crude)



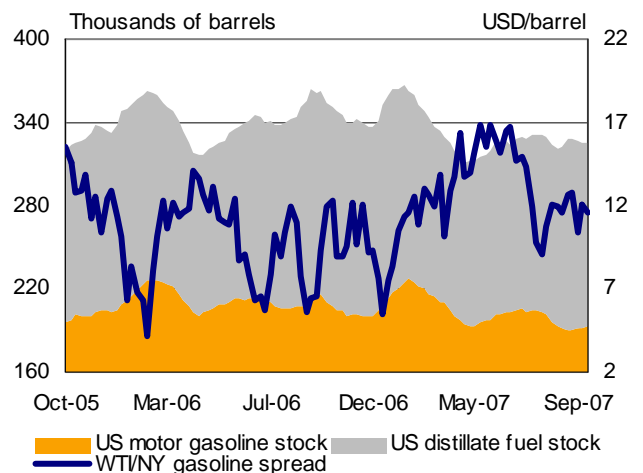
Source: Standard Bank Group

Spread (WTI crude — NY Gasoline)



Source: Standard Bank Group

US refined stock

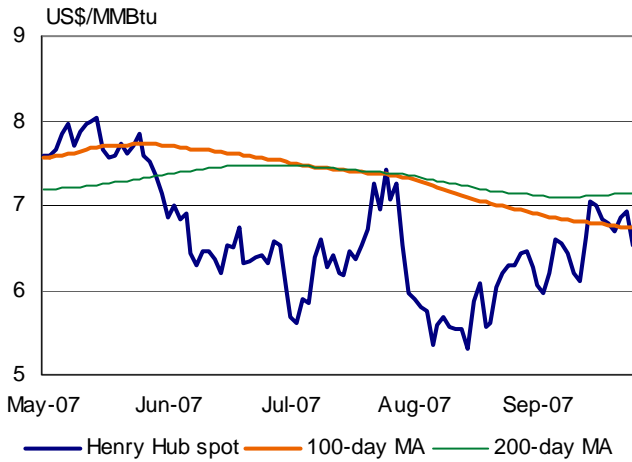


Sources: DOE, API, Standard Bank Group



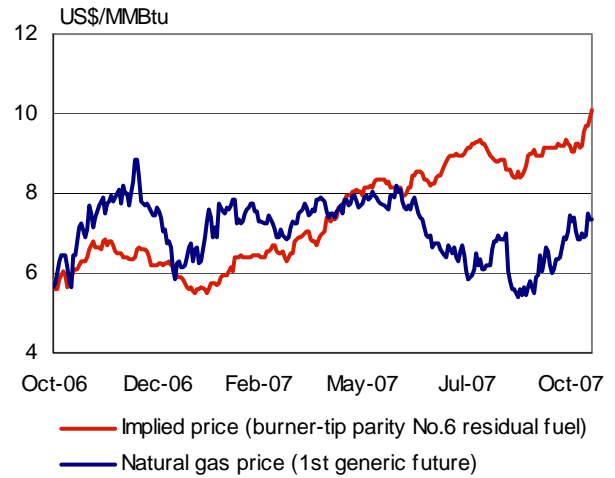
Energy — US natural gas

US natural gas spot price



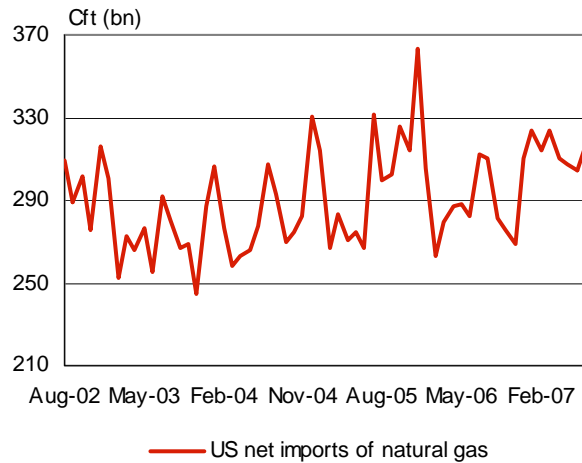
Sources: Bloomberg, Standard Bank Group

Residual fuel equivalent price of natural gas



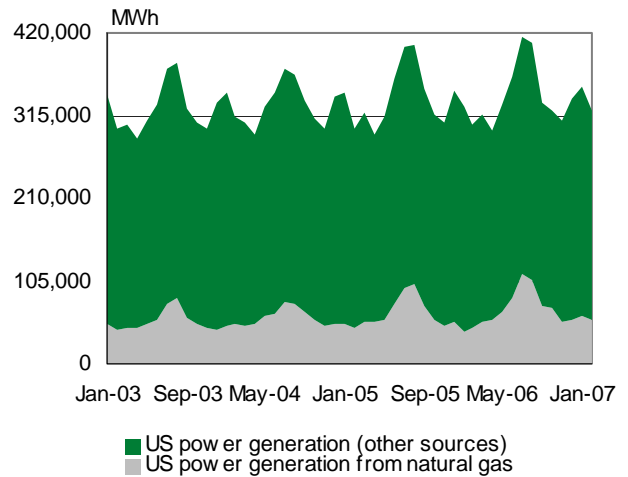
Sources: Bloomberg, Standard Bank Group

US natural gas net imports



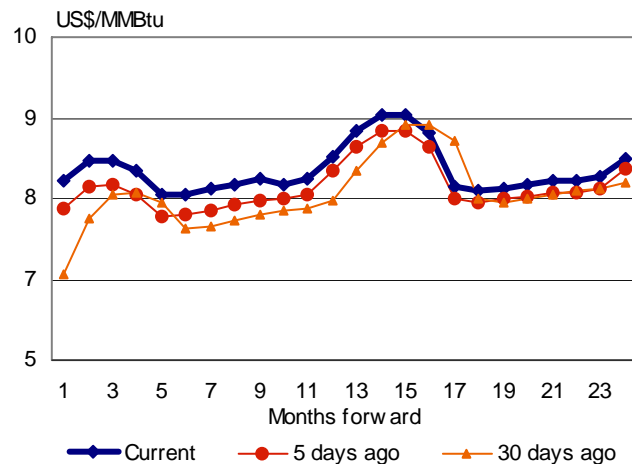
Sources: DOE, Standard Bank Group

US power generation



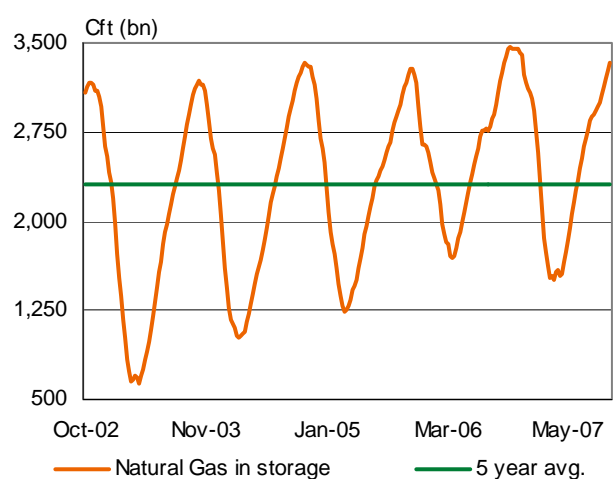
Sources: DOE, Standard Bank Group

Natural gas forward curve



Sources: Bloomberg, Standard Bank Group

US natural gas storage

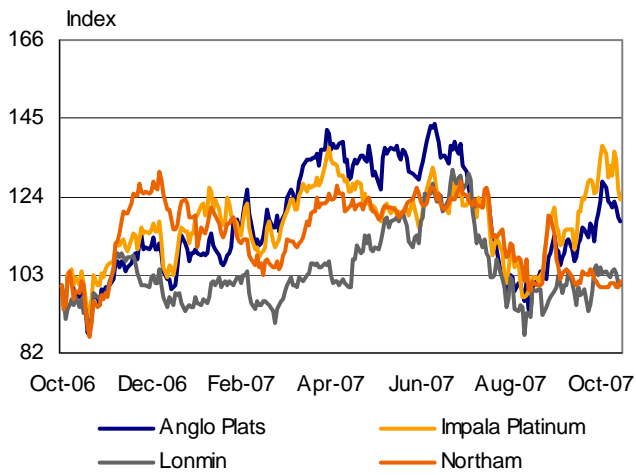


Sources: DOE, Standard Bank Group



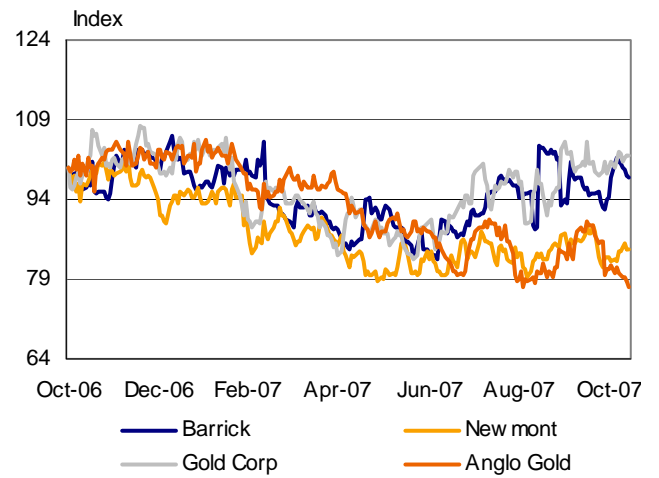
Equity performance

PGM stocks/platinum price



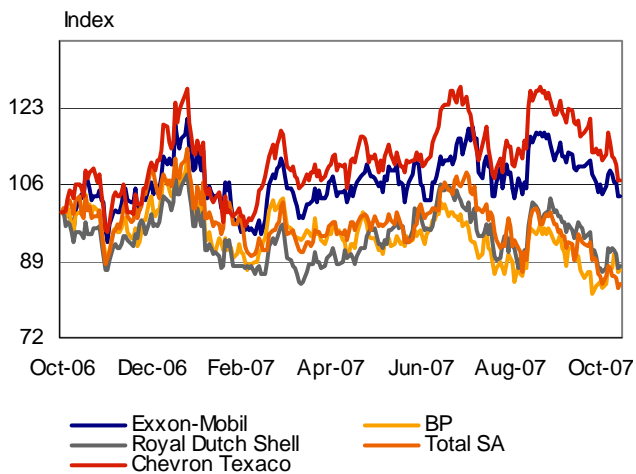
Sources: Bloomberg, Standard Bank Group

Gold stock/gold price



Sources: Bloomberg, Standard Bank Group

Energy stocks/energy BTU equivalent



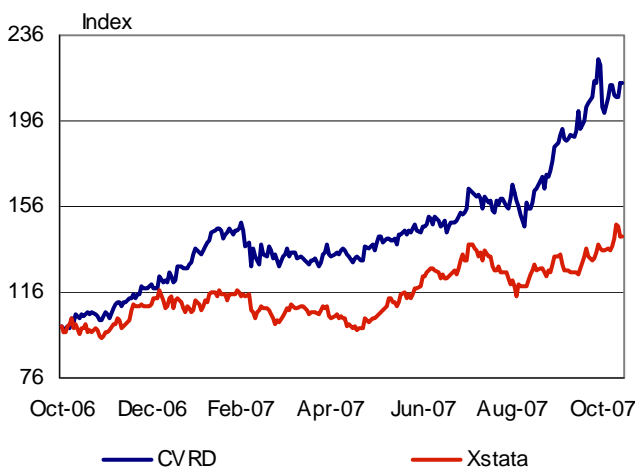
Sources: Bloomberg, Standard Bank Group

Aluminium stocks/aluminium prices



Sources: Bloomberg, Standard Bank Group

Diversified base metals mining stocks/LMEX Index



Sources: Bloomberg, Standard Bank Group



Additional Information/Figure explanations

- **Standard Bank market conditions indicator**

The indicator is based on factors that affects demand for a relevant commodity. Standard multivariate regression analysis is applied to determine a fundamental price for the commodity. The probability of further deviations is determined using historical deviations of the actual price from the estimated fundamental price. When the relevant commodity price falls below the historic 15th percentile of the difference between the actual and fundamental price, the commodity is classified as undervalued. When the commodity price rises above the 85th percentile it is classified as undervalued. The indicators thus show when the spot (cash) price of a commodity is overvalued or undervalued it is due for a correction based on historical probabilities. When the figure shows neither overvalued or undervalued, it implies the commodity is fairly priced based on the estimated fundamental price and prevailing market conditions. The indicator is updated during the first week of each month.

- **Base metal figures**

- **Relative performance to the complex**

The figure measures the performance of a metal relative to the movement of the rest of the complex. The metal's performance is measured relative to the LME index and the index captures the performance of copper, aluminium, nickel, zinc, lead and tin on the LME. The metal's contribution to the LME index is excluded (using standard regression analysis and simulation) from this index to prevent the metal's own movement from explaining itself. Based in this relationship, an implied value for the metal is calculated.

Although each base metal is affected by its own supply and demand factors, in the short run it often happens that the complex moves in unison. Moreover, from a demand perspective most base metals are affected by similar macroeconomic fundamentals and one can expect them to react in a similar fashion to economic news.

- **Volatility vs. stock levels**

The figure plots the ATM implied volatility for the three-month LME contract relative to stock levels in LME warehouses. The figure also provides a polynomial regression line of this relationship, which indicates the historic relationship between volatility and LME stock. The figure therefore is indicative of whether current volatility is high or low compared to the historic relationship. For these figures the last 300 daily observations are used.

- **ATM implied volatility**

The figure provides ATM implied volatility for forward contracts. The figure also provides a 95% confidence interval (c.i.), which is calculated using the historic probability distribution of the volatility based on daily data over the past 600 days.

- **LME stock on warrant**

A warrant allows the carrier of the warrant to take physical delivery of the metal from an LME warehouse. A high percentage of total stock on warrant signals high turnover or metal availability to the market. When the percent of stock on warrant declines (and the percent of cancelled warrants increases), it signals less metal availability in the market. In general, a change in stock on warrant will result in an increase in price volatility.



Additional information on figures: (continued)

• Consumers' price indicator

The consumers' price indicator shows the weighted price of a metal in the currencies of major consumers of the metal and is weighted according to the amount that each country consumed in 2006. For comparison, the US dollar price of each metal is also given. For copper, the price of the metal in Europe, the US, UK, Russia, India, China, Thailand and Japan is used in the calculation. Together these countries consumed 77% of world refined copper in 2006. For aluminium, the price of the metal in Europe, the US, the UK, Switzerland, India, China, Japan, Russia, Thailand, Malaysia, Indonesia, Turkey, Saudi Arabia and Egypt is used in the calculation. Together these countries consumed 83% of world aluminium in 2006. For nickel, the price of the metal in Europe, the US, the UK, India, China and Japan is used in the calculation. Together these countries consumed 80% of world nickel in 2006. For zinc, the price of the metal in Europe, the US, the UK, India, China, Japan, Thailand, Malaysia, Indonesia, and Egypt is used in the calculation. Together these countries consumed 76% of the world's zinc in 2006.

• Precious metals figures

– Gold price for gold fabricators

The gold price for the gold fabricators index shows the weighted price of gold in the currencies of major gold fabricators. The index is weighted according to the amount of gold that each country consumed in 2006. For comparison, the US dollar price of gold is also given. In the calculation the gold price (in local currency) for Europe, Switzerland, the US, UK, Russia, India, Pakistan, China, Japan, Egypt, Saudi Arabia, the UAE, Turkey, Malaysia, Indonesia and Thailand is used. Together these countries constituted 83% of world demand for gold fabrication.

– ATM implied volatility

The figure provides ATM implied volatility for forward contracts. The figure also provides a 95% confidence interval (c.i.), which is calculated using the historic probability distribution of the volatility based on daily data over the past 360 days.

– Gold vs. USD/EUR

The figure plots the gold price relative to USD/EUR exchange rate and it also provides a regression line of this relationship, which indicates the linear relationship between the variables. The figure therefore indicates whether current gold price is high or low compared to the price implied by the historic relationship. For these figures, the last 90 weekly observations are used.

– Gold (platinum) vs. base metals

The figure plots the gold price (platinum price) relative to the performance of base metals (as measured by the LMEX index) and it also provides a regression line of this relationship, which indicates the linear relationship between the variables. The figure therefore indicates whether the current gold price (platinum price) is high or low compared to the price implied by the historic relationship. For these figures, the last 90 weekly observations are used.

– Platinum vs. gold

The figure plots the platinum price relative to the gold price and it also provides a regression line of this relationship, which indicates the linear relationship between the variables. The figure therefore indicates whether the current gold price is high or low compared to the price implied by the historic relationship. For these figures, the last 90 weekly observations are used.

– Platinum/Palladium spread

The figure provides spot price spread between platinum and palladium and it also provides a 95% confidence interval (c.i.) which is calculated using the historic probability distribution of the volatility based on daily data over the past 500 days.



Additional information on figures: (continued)

- **Energy figures**

- ATM implied volatility

The figure provides ATM implied volatility for forward contracts and it also provides a 95% confidence interval (c.i.), which is calculated using the historic probability distribution of the volatility based on daily data over the past 360 days.

- ATM implied volatility

The figure provides the price for forward contracts. It also provides a 95% confidence interval (c.i.), which is calculated using the historic probability distribution of the volatility based on daily data over the past 500 days.

- Spreads: WTI/Brent and WTI/NY Gasoline

The figure provides spot price spread between the applicable variables. It also provides a 95% confidence interval (c.i.), which is calculated using the historic probability distribution of the volatility based on daily data over the past 500 days.

- **Equity performance figures**

The figures provide the performance of equities after accounting for the performance of the underlying commodities that a company mines. A rise in the stock price of a company in the graph shows the company managed to outperform (during the period under display) the underlying commodity. Put differently, after accounting for commodity price movements, the management of the company managed to add additional value to shareholder's wealth. The figures are calculated as follows:

- Energy stock: $\text{Company stock}/(\text{BTU equivalent price of crude} + \text{price of natural gas})$;
- Aluminium, platinum and gold mining stocks: $\text{Company stock}/\text{price of the underlying commodity}$;
- Diversified base metals mining stock: $\text{Company stock}/\text{LMEX Index}$.



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