

24 October 2007

Caution in commodity markets calls the shots

Base metals: Rising LME stocks and global macroeconomic fears continue to weigh on copper ([page 2](#)). Prices have stabilized — but they keep looking to the wider markets for direction. Power problems continue to support nearby aluminium prices ([page 4](#)). Companies are planning further new capacity, and higher energy prices are supporting prices further down the forward curve. Nickel ([page 6](#)) remains steady, with expectations of increased demand from the stainless steel sector offsetting rising LME inventories. Zinc ([page 8](#)) still looks weak despite recent bullish news on supply disruptions. New production, particularly from the San Cristobal mine, combined with an inflow of LME stocks, has also eroded price support for zinc.

Precious metals: Fundamentally, gold ([page 12](#)) remains well supported. On Monday, we saw profit-taking, resulting in gold coming down from 27-year highs. Despite the favourable fundamentals, there are factors that could expose gold to the downside. Platinum and palladium ([page 14](#)) have come down from their highs of last week. Recent supply problems in South Africa might be over — but future stoppages cannot be ruled out. Although the slowdown in major economies is becoming a reality, demand for ETF's and jewellery continues to support precious metals prices. Platinum and palladium should find support from gold.

Energy: Crude oil ([page 16](#)) has declined from its record highs of last week. We have noticed a rapid decrease in the spread between crude and refined products, putting downward pressure on refinery margins. OPEC indicated that it would start increasing production by 500,000bpd on November 1st — a decision taken at its September meeting.

Walter de Wet CFA*
+27 11 378 7239
Walter.dewet@standardbank.com

Leon Westgate*
+44 207 815 4090
Leon.Westgate@standardbank.com



Copper

Copper fell throughout last week in response to rising LME stocks and sub-prime aftershocks. Prices ended on Friday at \$7,870 — down \$200 on the previous week's close. Prices fell again on Monday as another wave of credit crunch concerns gripped the markets. Copper has since stabilised, closing on Tuesday at \$7,795. Rising exchange inventory continued to be the dominant theme, with LME stocks gaining 10,800mt — to close on Friday at 148,950mt. So far this week, stocks have continued to climb, pushing through the 150,000 level — to close on Tuesday at 151,525mt. Shanghai stocks have also risen since the beginning of October, with stocks gaining 5,335mt in the week ending October 18th, to 63,895mt. Shanghai stocks are still some way below their recent highs of nearly 100,000mt in June.

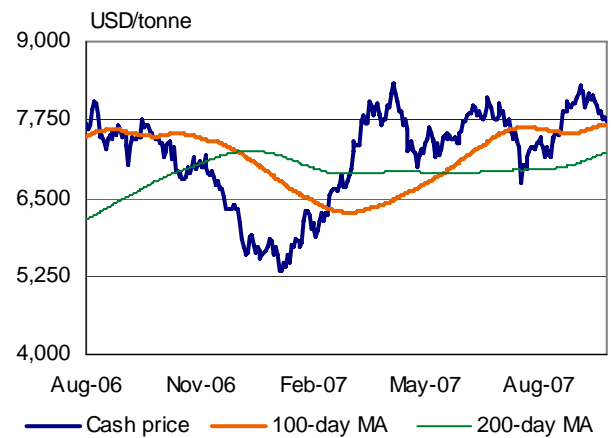
Given the sharp increase in LME stocks and anecdotal evidence of Chinese buying, we may be in the early stages of another round of de-stocking by Chinese consumers. Recent import figures remain most robust, with September's imports of refined metal and alloys coming in at 124,021mt, significantly more than in August. It will be interesting to see if this is the last big purchase, and if the current phase of rising warehouse inventory tallies with lower imports during October.

Sub-prime woes continue to haunt metals, albeit in short bursts rather than prolonged weakness. Comments by the G7 ministers regarding the likely negative impact on global growth stemming from the credit crunch colluded with the 20th anniversary of Black Monday to crank up the fear factor. Combined with fears regarding a worsening macro environment and the aforementioned lack of Chinese buying, it is a testament to copper's strength that prices haven't fallen further.

Looking at supply news, BHP Billiton's attributable production for the third quarter fell by 34,300mt from the previous quarter, due to unplanned smelter maintenance at Olympic Dam and a higher proportion of sulphide ore at Spence, requiring longer leaching time. Codelco is considering the possible expansion of its Radomiro Tomic operation to help compensate for the anticipated decline in ore grades from its Chuquibambilla mine. Finally, the long-awaited review of mining contracts in the Democratic Republic of the Congo has been delivered to the Minister of Mines. The report will now be reviewed by cabinet before any action is taken.

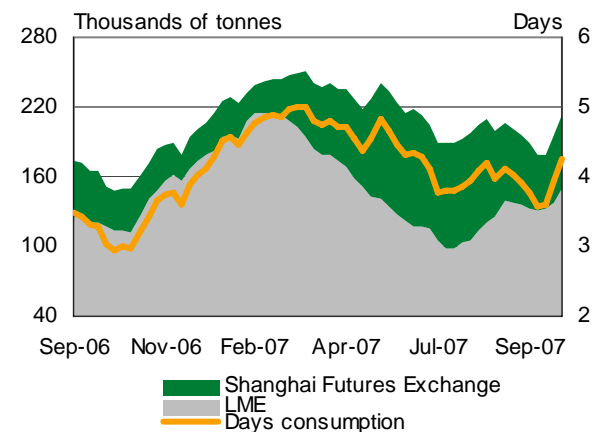
Rising LME stocks and general global macroeconomic fears continue to weigh on copper. Prices have stabilised — but they keep looking to the wider markets for direction.

Price movement



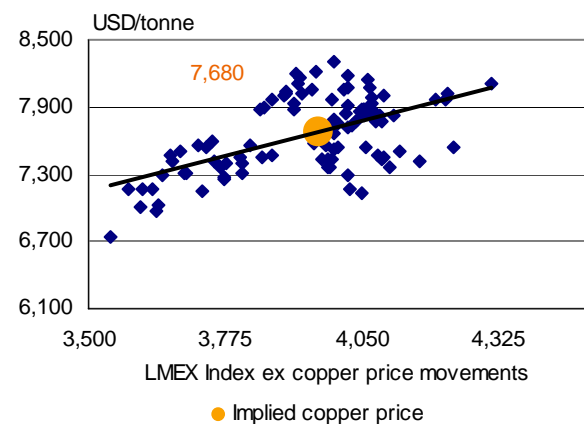
Sources: LME, Standard Bank Group

Copper stock



Sources: LME, SFE, Standard Bank Group

Relative performance to the complex

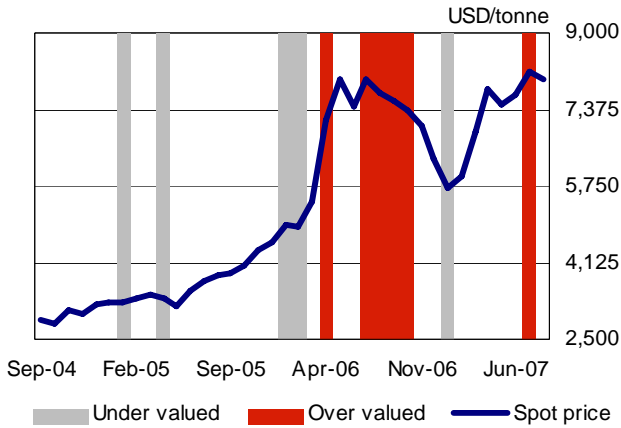


Sources: LME, Standard Bank Group



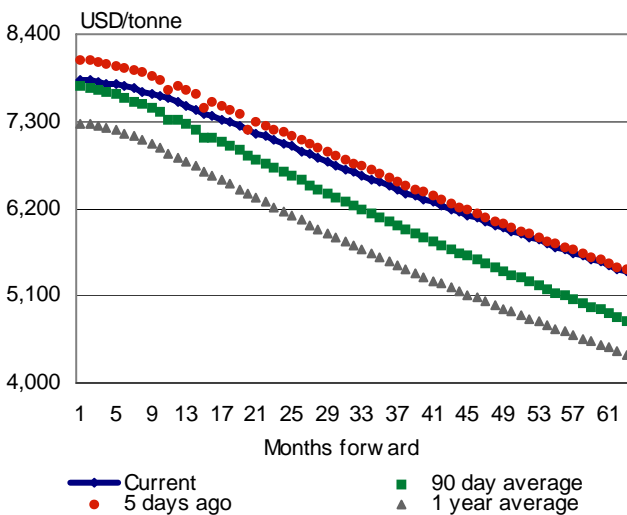
Copper: (continued)

Standard Bank copper market conditions indicator



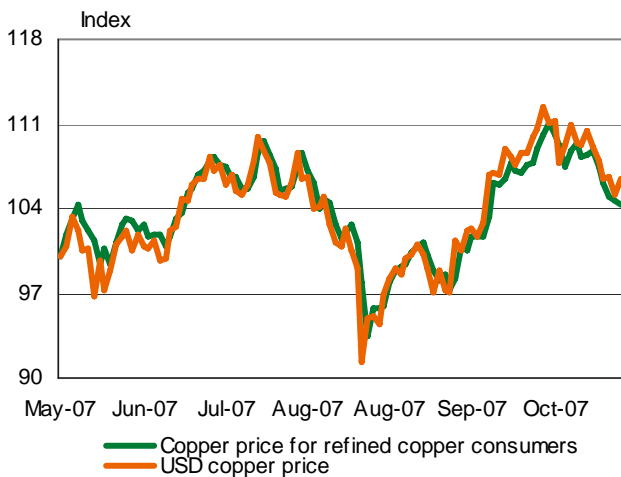
Source: Standard Bank Group

Forward curve



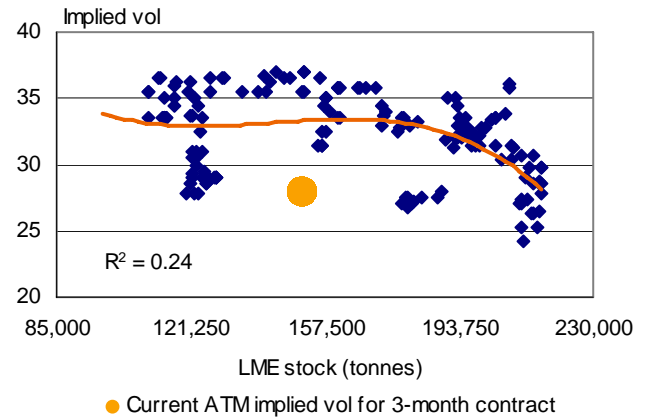
Sources: LME, Bloomberg, Standard Bank Group

Copper consumers' price



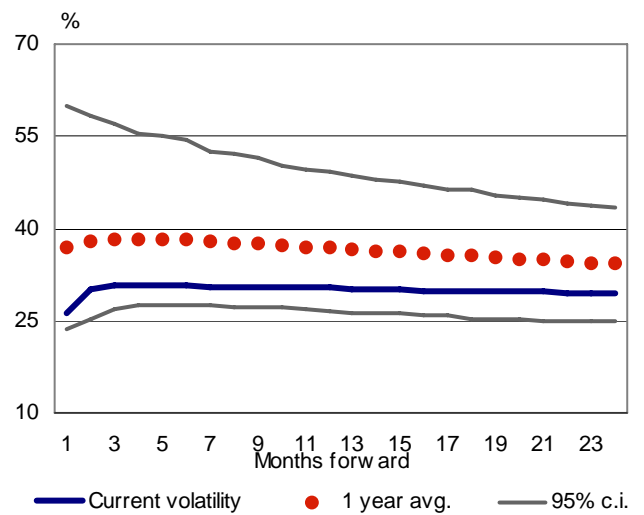
Sources: LME, Standard Bank Group

Volatility vs. stock levels



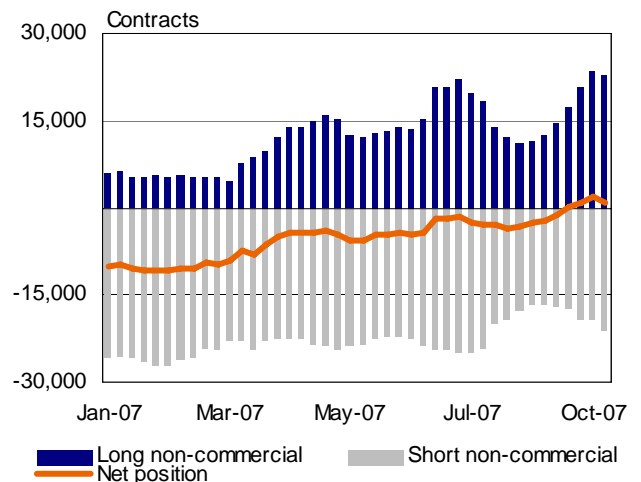
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Speculative positions (COMEX)



Sources: COMEX, Standard Bank Group



Aluminium

Contrary to the falls seen in copper, aluminium posted solid gains last week, closing on Friday at \$2,599, up 3.7% on the previous week's close. Prices have since come down a little due mainly to the same macroeconomic concerns that have affected copper and the rest of the metals, closing on Tuesday at \$2,522. Prices are currently stable but lacking direction.

Power problems continue to affect aluminium production facilities in South Africa and Mozambique, the main operations being BHP Billiton's Hillside and Bayside smelters in Richards Bay and the Mozal smelter near Maputo. Eskom, South Africa's state-owned power company, warned key industrial users on Friday to prepare for more load-shedding after technical problems at the Kriel plant. Ultimately, no cutbacks were required, but with the company operating at almost capacity, the potential for power shortages remains. So far, the impact on aluminium production is reported to be minimal.

With power such a key issue in the production of aluminium, and one of the key factors in driving up the far-forward prices of the metal, it is small wonder that companies are looking at integrated power station — smelter projects. Fresh from last week's announcement by UC Rusal that it is considering a 1.05Mtpa capacity smelter in the Saratov region, linked to an expansion of a nearby nuclear reactor, the company is looking at another greenfield smelter-energy complex. The facility will be located in the Sakhalin region, with the proposed 750,000tpa capacity smelter being built in conjunction with a 2300 MW power plant. The power plant would be coal-fired and would take feed from the Soltsevskiy coal mine.

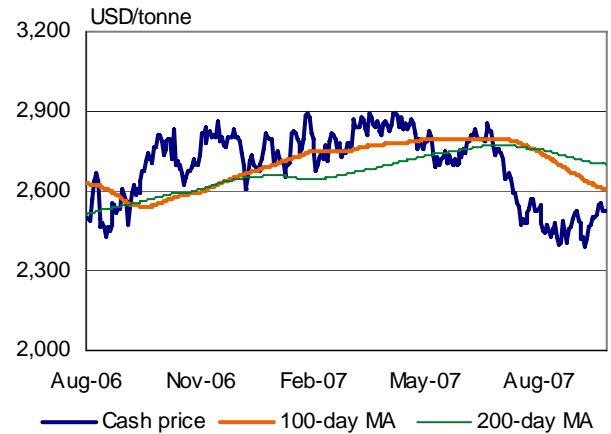
Elsewhere, BHP Billiton is looking at building a \$3 billion smelter in the Bas Congo region of the Democratic Republic of the Congo. The proposed 800,000tpa facility will be constructed in conjunction with the planned Inga 3 hydroelectric power project. Initial studies on both projects have been completed, with work now starting on feasibility studies for the projects. Under the terms of an agreement with the government, BHP Billiton will fund the costs of the Inga 3 study.

In Europe, Rexam plc, the world's largest beverage can maker, is planning to build a \$160 million plant in Denmark. The plant is due to open in 2009 and will be able to produce 1.2 billion cans a year. The company expects the European beverage can market to continue to grow strongly, led by the Nordic region.

Exchange stocks remain high but drawdowns have been increasing. The past seven days have seen stocks fall by 10,150mt — to close on Tuesday at 925,750mt.

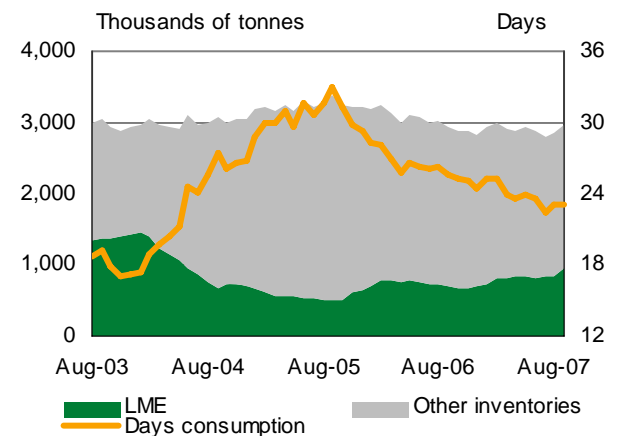
Power problems continue to support nearby prices while companies look to build further new capacity.

Price movement



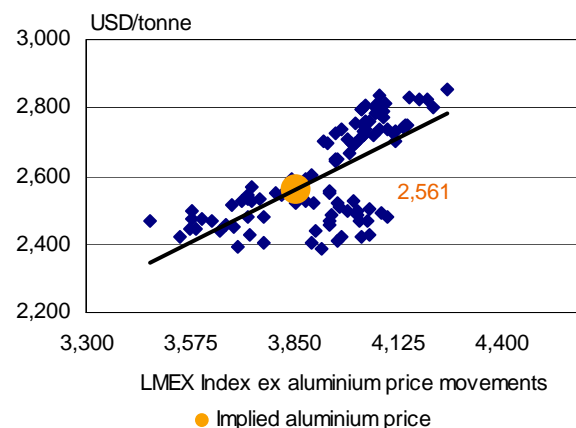
Sources: LME, Standard Bank Group

Reportable aluminium stock



Sources: LME, IAI, Standard Bank Group

Relative performance to the complex

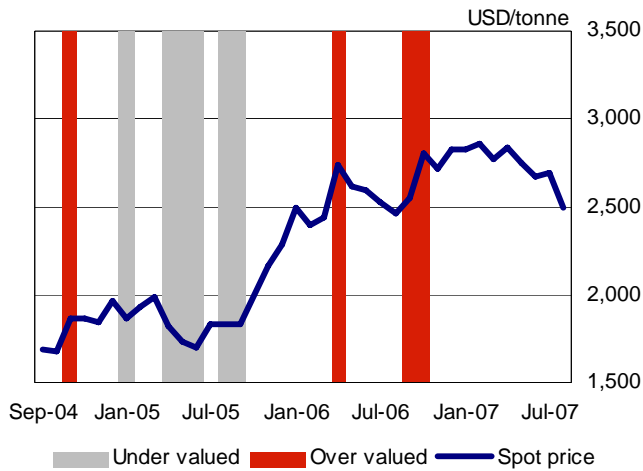


Sources: LME, Standard Bank Group



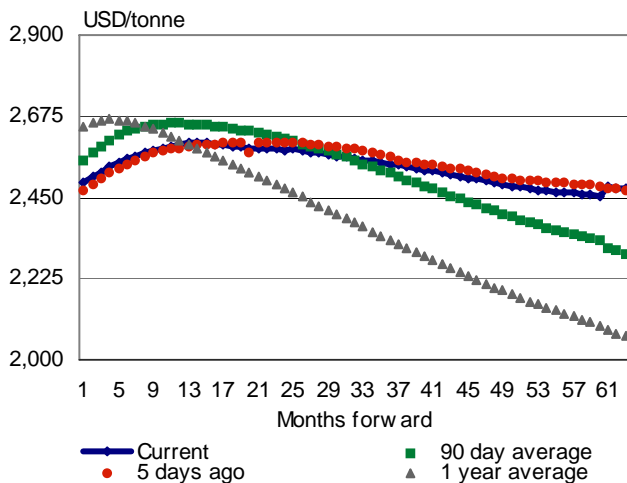
Aluminium: (continued)

Standard Bank aluminium market conditions indicator



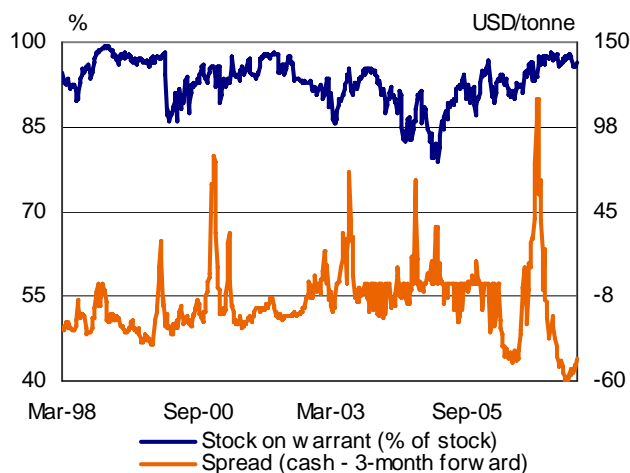
Source: Standard Bank Group

Forward curve



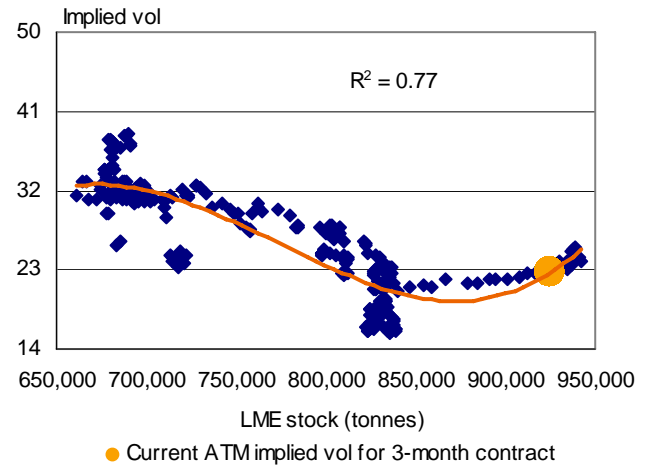
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



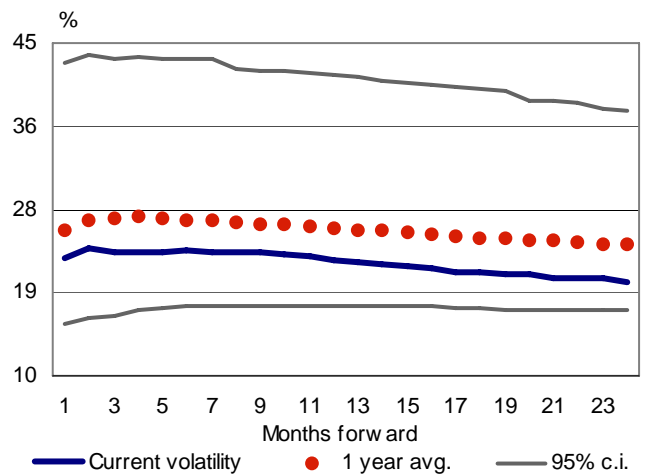
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



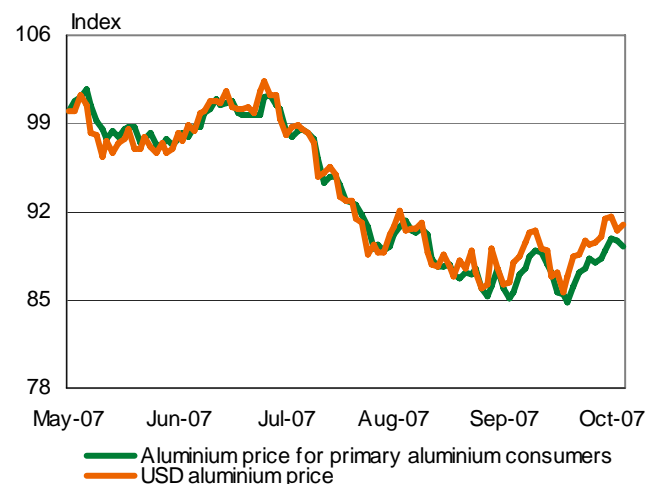
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Price for aluminium consumers



Sources: LME, Bloomberg, Standard Bank Group



Nickel

Nickel continues to remain firm, with optimism on the metal returning after a poor few months. Prices closed on Friday at \$32,250, up around \$150 on the previous week's close. Nickel has traded within a fairly narrow range and continues to be well supported above the \$31,000 level. So far this week, prices have stayed stable, closing on Tuesday at \$31,800.

The main reason for the positive sentiment has been announcements by stainless steel companies that they are cranking up production again. Nippon Steel & Sumikin Stainless Steel Corp, Japan's largest stainless steel producer, is returning to full production from November, after cutting production at its Hitari plant by 20% in August and 25% in September. South Korean producer Posco also expects to see stainless demand recover over the rest of this year and into 2008. The production cutbacks by stainless steel companies during the summer was one of the main reasons for nickel's relatively poor performance.

The expected increase in nickel demand from the stainless sector is one of the main reasons that steadily increasing LME inventory levels have been ignored. The rate of stock inflows has fallen away, gaining 354mt last week, but stocks continue to increase — reaching a recent high of \$37,206 on Tuesday.

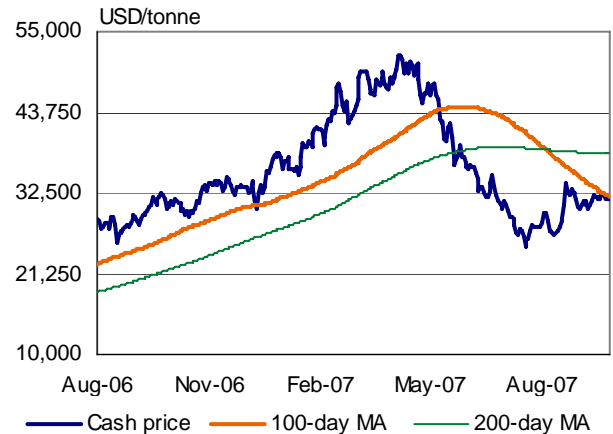
BHP Billiton's Q3 nickel production fell sharply from the previous quarter due mainly to a scheduled 15-day shutdown at the Kalgoorlie smelter and a 14-day shutdown at the Yabulu refinery. Overall, Q3 production was 38,600mt compared to 47,700mt in Q2-2007 and 44,500mt in Q3-2006.

Meanwhile, BHP Billiton expects its Ravensthorpe nickel project to start production in Q1-2008. The facility was originally scheduled to enter production in the middle of this year, but was delayed due to late delivery of key equipment and shortages of skilled labour (common problems for all base metals). Construction and pre-commissioning work at the 50,000tpa capacity project are now essentially complete, with commissioning at the plant already underway.

Berong Nickel Corp. a Philippines based nickel laterite producer, is looking to vertically integrate its operations through the acquisition of steel making facilities to produce both nickel pig iron and stainless steel. The company has entered into a letter of intent with two Chinese companies to form a joint venture looking at the possibility, while an existing steel plant in Guangxi Province has already been identified as a potential target. The Guangxi plant will be converted to produce nickel pig iron and then stainless steel, with Berong supplying the estimated 1.2 million tonnes of laterite ore a year needed by the plant.

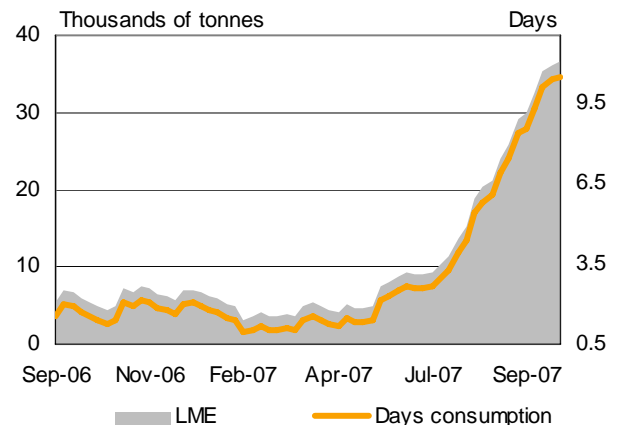
Nickel remains steady, with expectations of increased demand from the stainless steel sector offsetting rising LME inventory.

Price movement



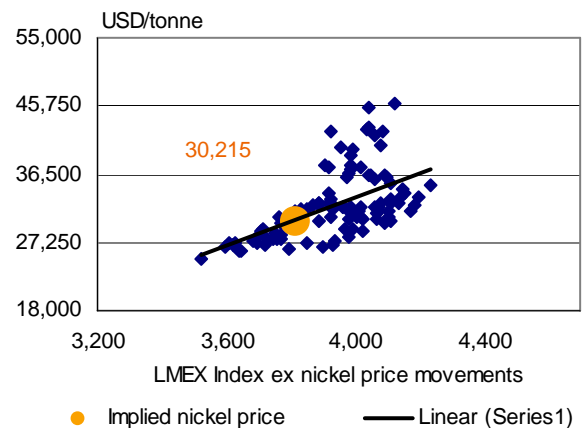
Sources: LME, Standard Bank Group

LME Stock



Sources: LME, Standard Bank Group

Relative performance to the complex

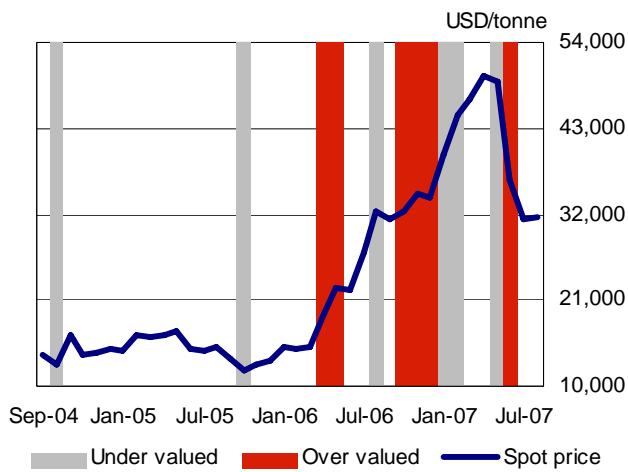


Sources: LME, Standard Bank Group



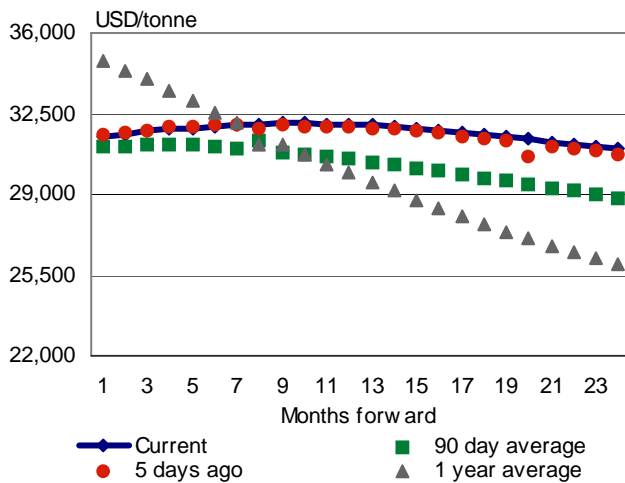
Nickel: (continued)

Standard Bank nickel market conditions indicator



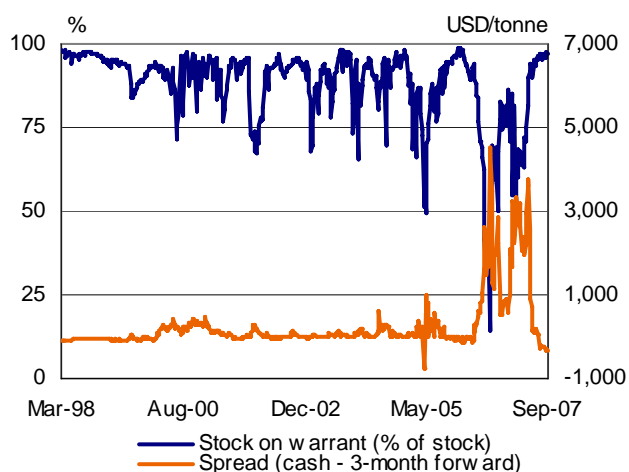
Source: Standard Bank Group

Forward curve



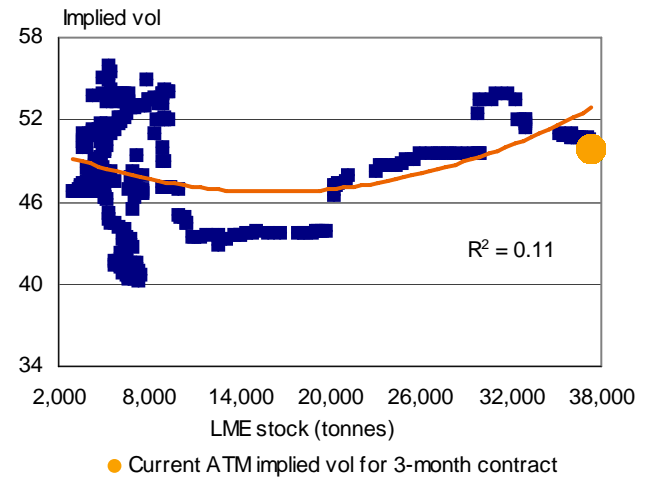
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



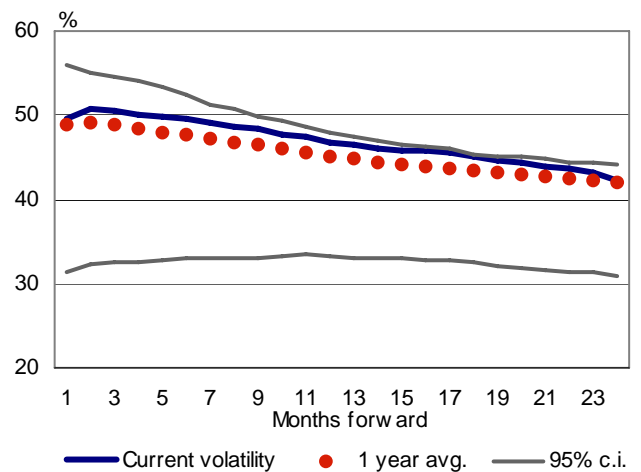
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



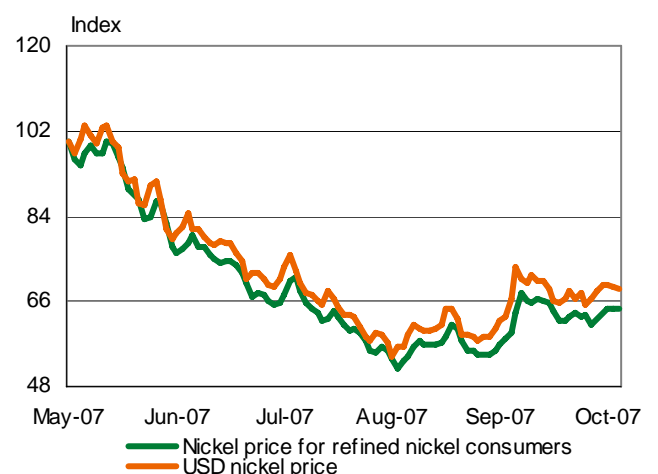
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Nickel consumers' price



Sources: LME, Standard Bank Group



Zinc

After a strong LME week, zinc abruptly returned to earth, coming under heavy selling pressure. Prices closed on Friday at \$2,955, down 5.6% from the previous week's close. Prices have stabilised somewhat, along with the rest of the complex, closing on Tuesday at \$2,912, but sentiment on the metal remains negative. Day to day, zinc is still tending to take direction from copper and the rest of the complex.

One of the main sources of weakness for the metal has been the anticipated supply response — as confirmed when Apex Silver Mines Ltd announced it had made the first shipment of zinc concentrate from its large San Cristobal Silver-Lead-Zinc mine in Bolivia. Around 9,100mt of zinc concentrate was shipped from the Chilean port of Mejillones on October 18th to smelters in Asia. San Cristobal, when fully ramped up, will produce in the region of 220,000tpa of zinc concentrate plus significant amounts of silver and lead.

On a more bullish note, zinc has not been immune to supply-side problems, with a problem at the tailings dam at Breakwater Resources Mochito mine leading to a suspension of the concentrator until further notice. The mine produced 37,600mt of zinc last year.

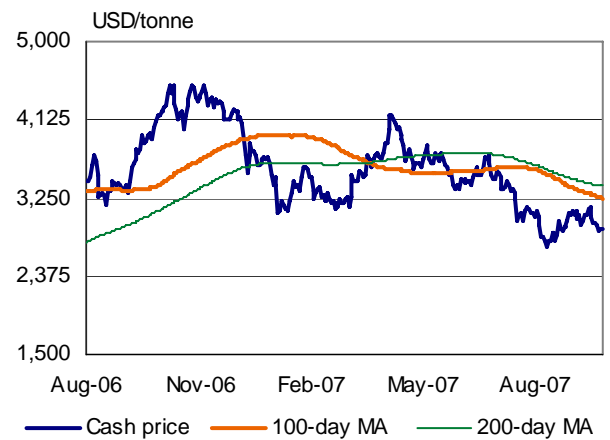
The Breakwater news adds to the stoppage at the Mt Isa mine which is expected to result in a 25,000mt loss of zinc, while, production at Kazakhmys has also fallen, with production for the first nine months of this year coming in at 101,200mt down around 6% on the same period last year. The impact of these stories has been largely ignored by the market.

After falling steadily, LME stocks appear to have turned a corner, further eroding price support. LME stocks reached a recent low of 58,100 on October 16th, but they have since gained, closing on Friday at 60,275mt. Stocks have remained fairly stable since, closing on Wednesday at 60,325mt. While falling stocks had a limited impact on the price, rising stocks could put pressure on prices.

Zinc stocks remain fairly abundant; the market doesn't feel as tight as LME stocks would suggest. Coupled with the impending production from large scale new zinc mines, plus restarted operations, bullish news and supply disruptions are largely being ignored.

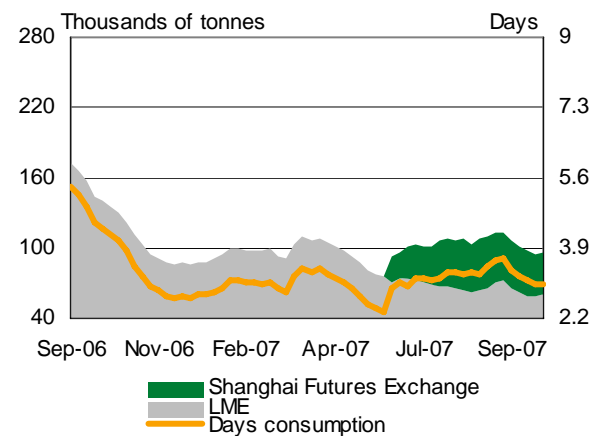
Zinc continues to appear weak in spite of supply disruptions. New production, particularly from the San Cristobal mine, combined with an inflow of LME stocks has further eroded price support.

Price movement



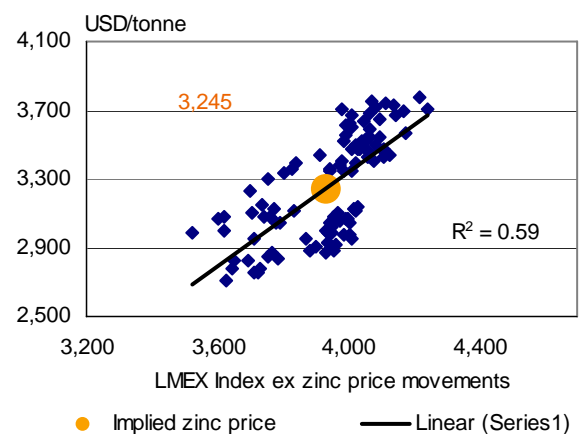
Sources: LME, Standard Bank Group

Zinc stock



Sources: LME, SFE, Standard Bank Group

Relative performance to the complex

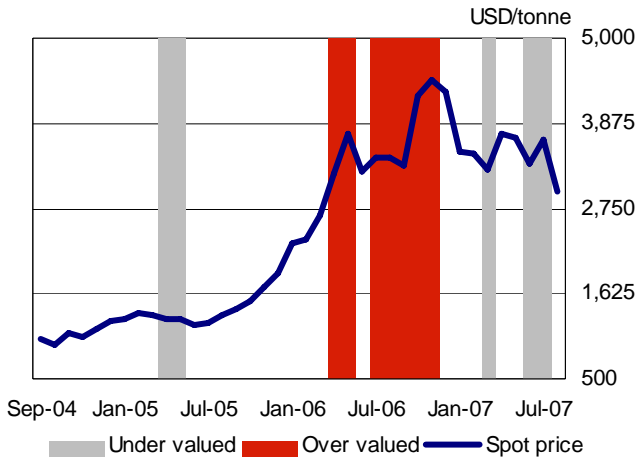


Sources: LME, Standard Bank Group



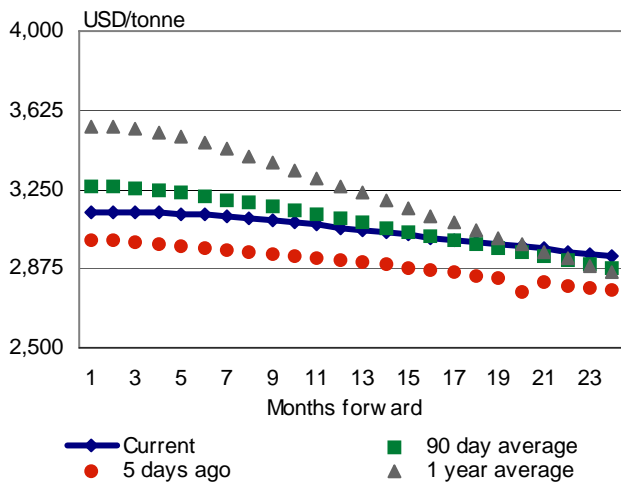
Zinc: (continued)

Standard Bank zinc market conditions indicator



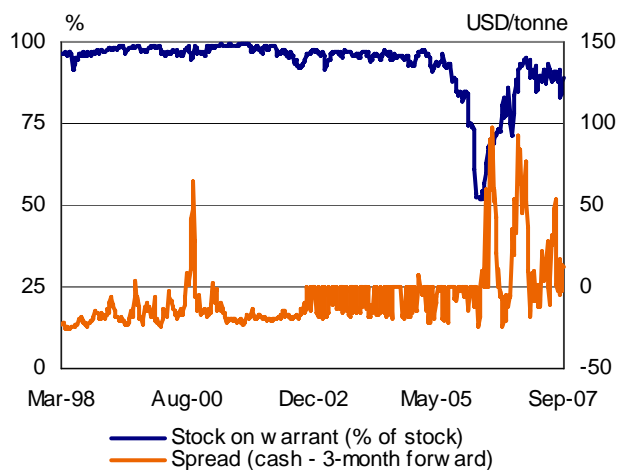
Source: Standard Bank Group

Forward curve



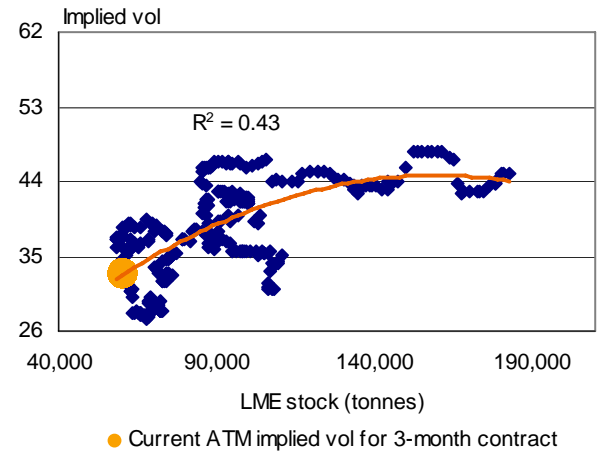
Sources: LME, Bloomberg, Standard Bank Group

LME stock on warrant



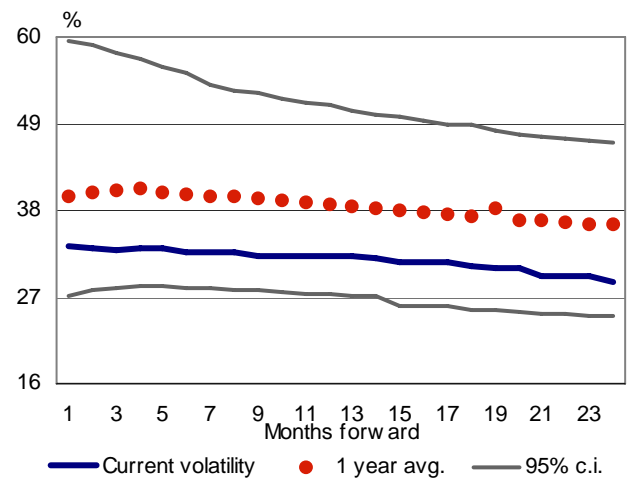
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



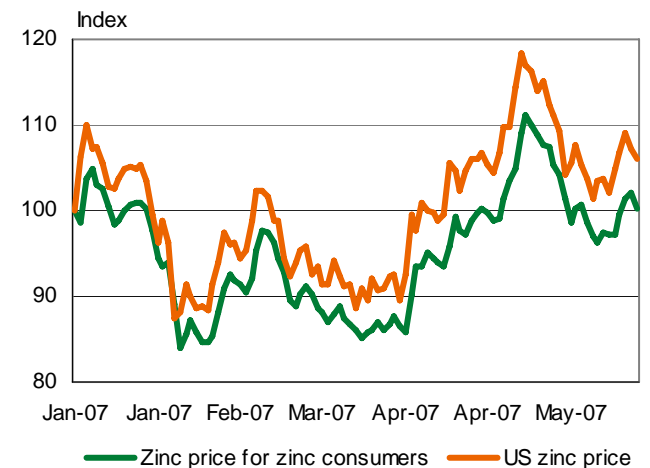
Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group

Zinc consumers' price

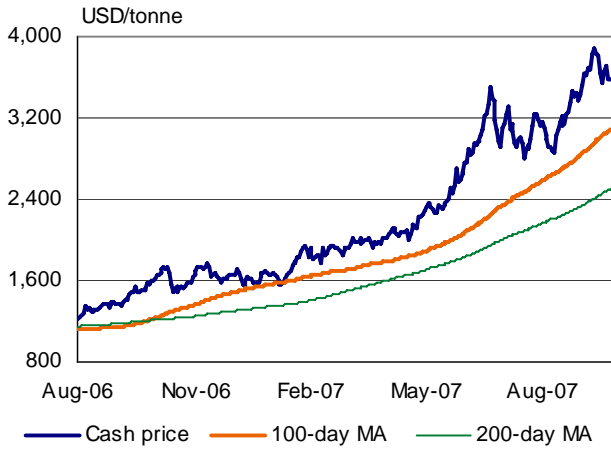


Sources: LME, Standard Bank Group



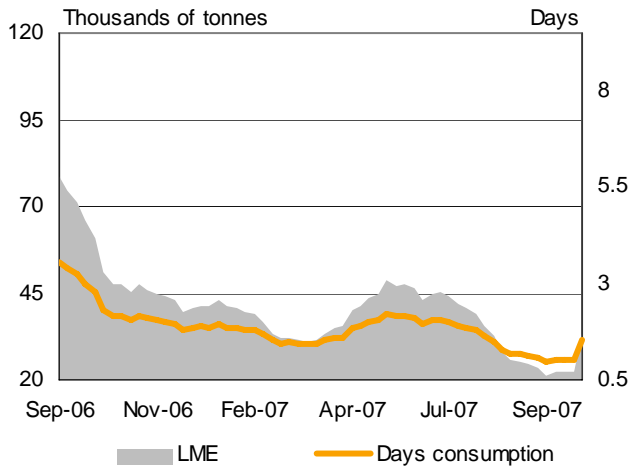
Lead

Price movement



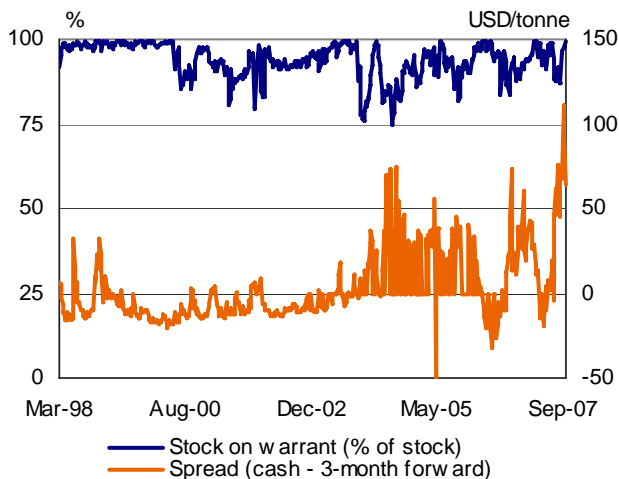
Sources: LME, Standard Bank Group

Lead stock



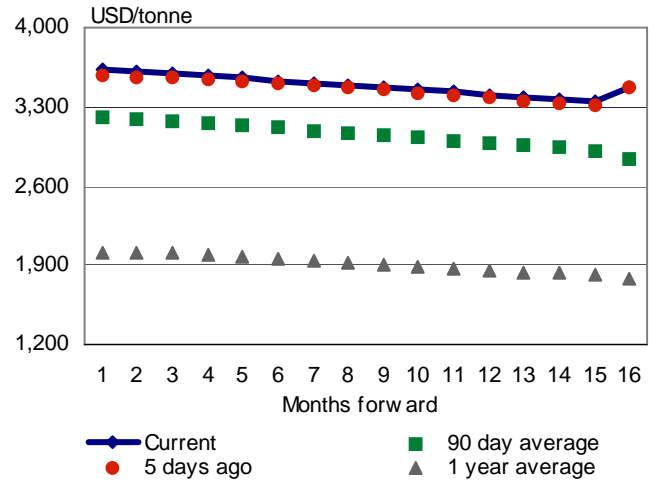
Sources: LME, Standard Bank Group

LME stock on warrant



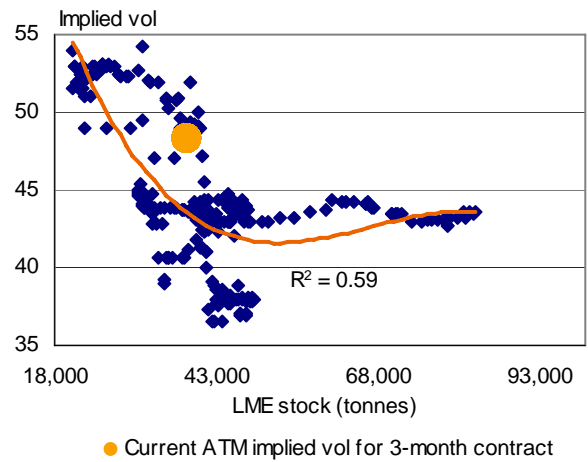
Sources: LME, Bloomberg, Standard Bank Group

Forward curve



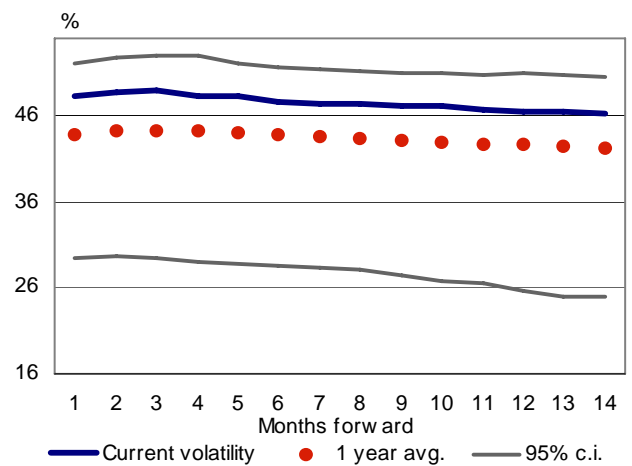
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



Sources: LME, Standard Bank Group

ATM implied volatility

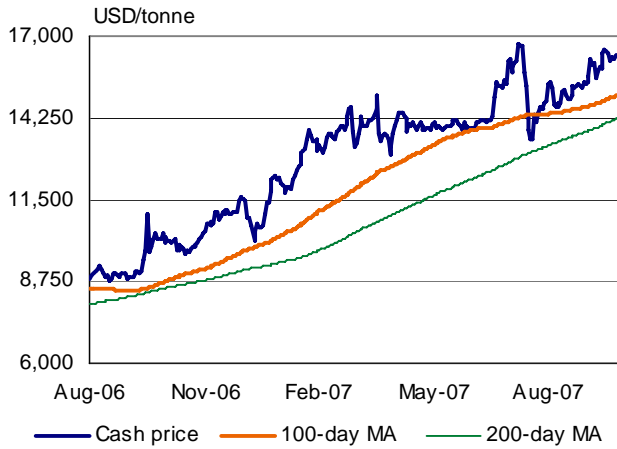


Sources: LME, Bloomberg, Standard Bank Group



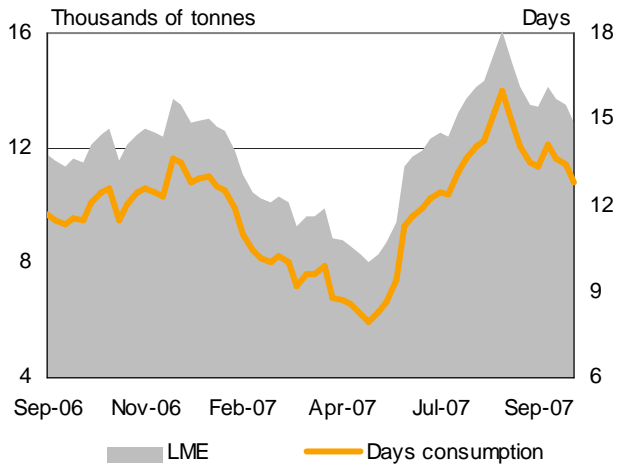
Tin

Price movement



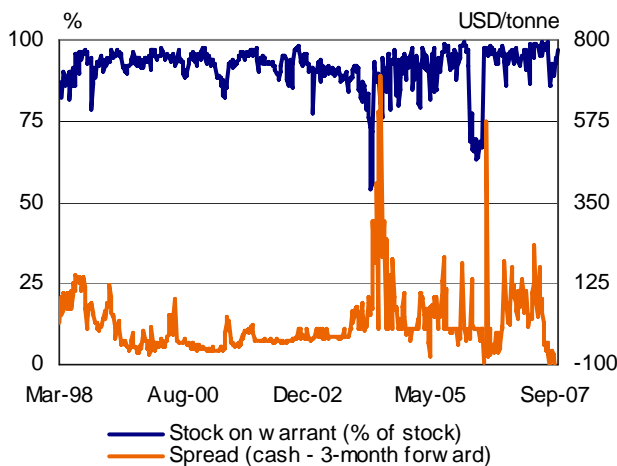
Sources: LME, Standard Bank Group

Tin stock



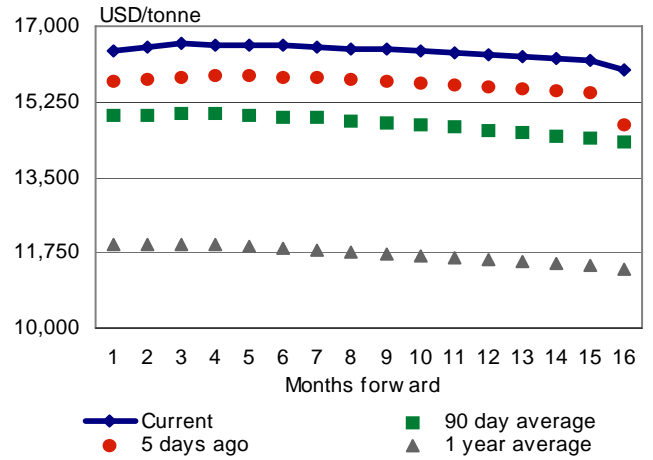
Sources: LME, Standard Bank Group

LME stock on warrant



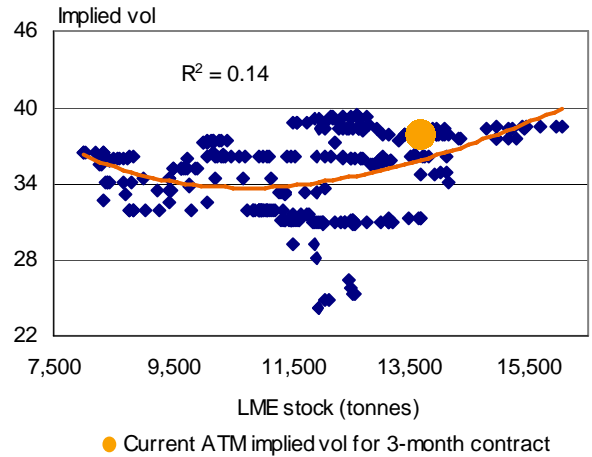
Sources: LME, Bloomberg, Standard Bank Group

Forward curve



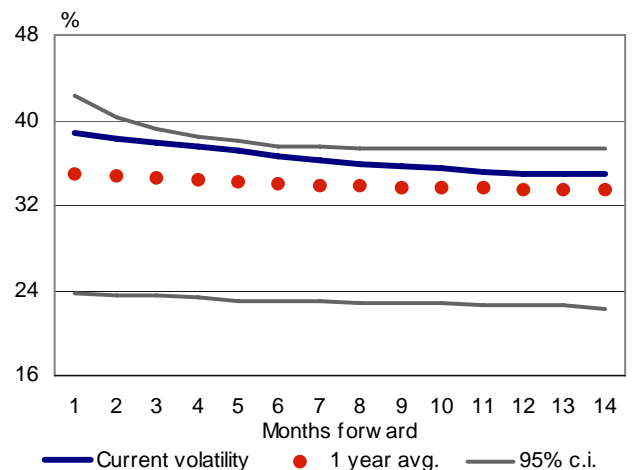
Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels



Sources: LME, Standard Bank Group

ATM implied volatility



Sources: LME, Bloomberg, Standard Bank Group



Gold

Gold has seen good support over the past week, reaching a high of US\$771.10 on Friday. However, there has since been a sell-off as market participants took profit amid renewed economic uncertainty. Gold remains well bid around the US\$760 level, supported by high seasonal gold jewellery demand as well as by sound investor interest.

We saw an increase in risk aversion since last week, which resulted in nervous markets in the wake of the next round of interest rate decisions by major central banks across the globe — most notably the Federal Reserve Bank next week. Only a week ago, according to the Fed Fund futures, the probability of no rate cut in the US was set at 62%. This week, the probability that rates will be kept on hold is only 12% — the other 88% goes to a 25 bps cut. Off course, this change in sentiment, as well as the increased hawkish tone towards inflation by ECB officials has seen the US dollar, in anticipation of increased interest rate differentials, reaching all-time lows against the euro on Friday.

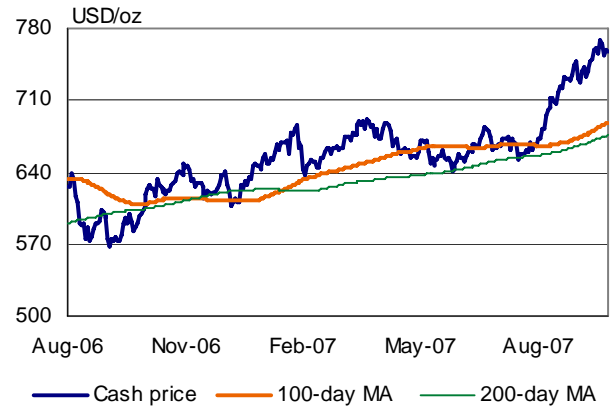
Despite good fundamentals for gold, two factors remain that potentially expose the downside to gold: Firstly, the net speculative position on COMEX has seen a massive increase, which indicates a vulnerability to the downside should we see a rise in liquidity problems as in late August. That said, the chances of this happening has decreased, but cannot be discounted completely yet. Compared to past spreads, current Libor rate spreads over official target rates remain high in the US, UK and Europe despite the recent narrowing. We have seen recently that not even gold is a safe haven during periods of extreme risk aversion.

Secondly, the Fed might decide not to cut by 25 bps, but instead keep rates constant. This is likely to see a sell-off in equities, and possibly an appreciation of the US dollar, as more US treasuries will be bought. As far as the gold price track the US dollar, this should see some selling of gold. Of course, there is also the outside possibility of a 50 bps cut, which should be bullish for gold as more dollar depreciation can then be expected.

Gold remains well supported fundamentally on the downside, but we believe the possibility of some correction towards US\$72 – US\$730 remains after the large rally since September.

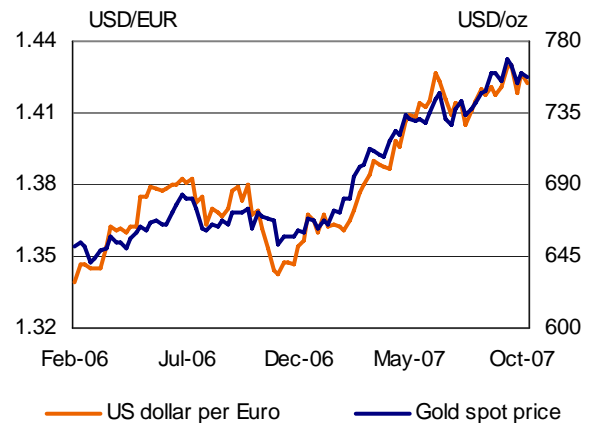
Gold has seen good support over the past few weeks. On Monday, we saw profit-taking, resulting in gold coming down from its 27-year highs. Despite fundamentals that support gold, there are still factors that potentially expose gold to the downside.

Price movement



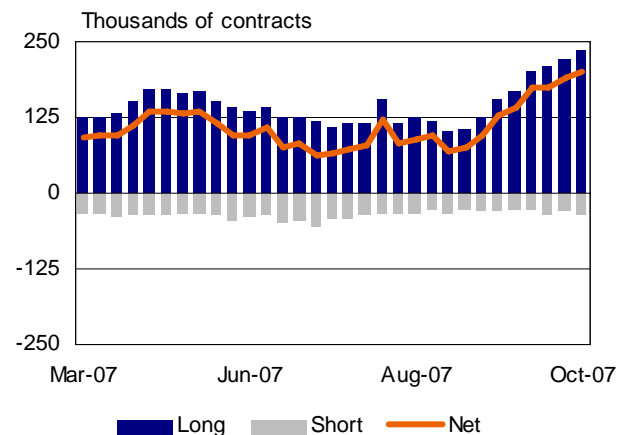
Sources: Bloomberg, Standard Bank Group

Gold price and US dollar movements



Sources: Bloomberg, Standard Bank Group

Speculative positions (COMEX)

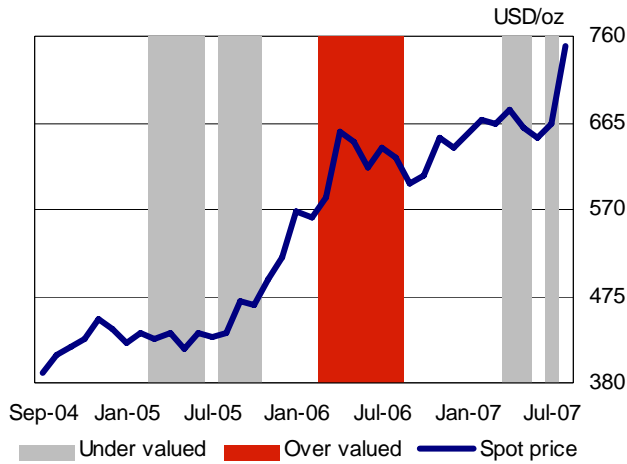


Sources: COMEX, Standard Bank Group



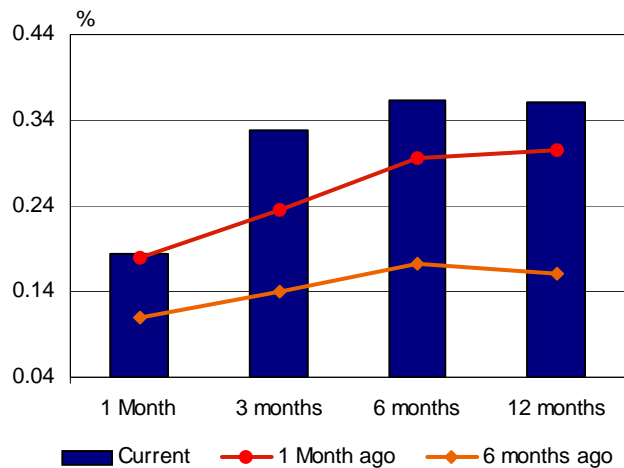
Gold: (continued)

Standard Bank gold market conditions indicator



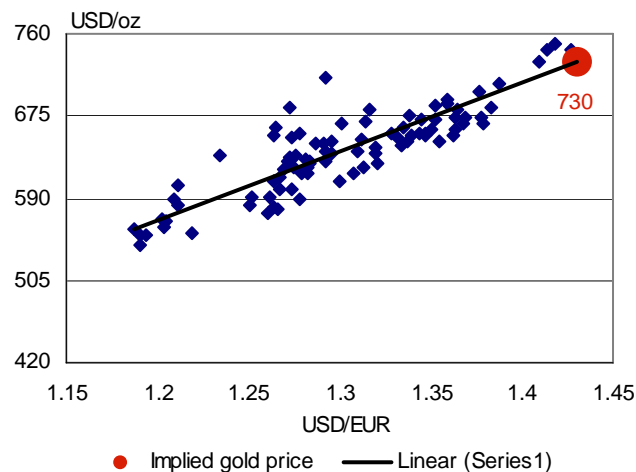
Source: Standard Bank Group

Gold lease rates (spread over LIBOR)



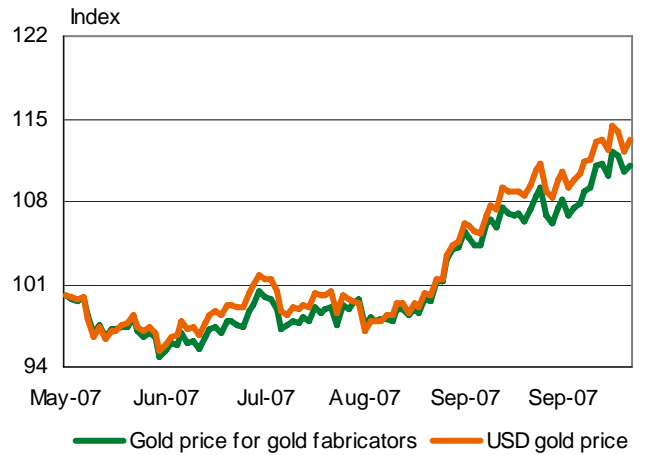
Sources: LBMA, Standard Bank Group

Gold vs. USD



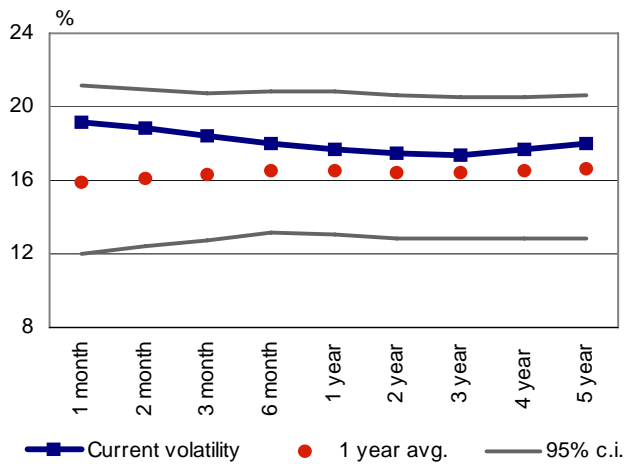
Sources: Bloomberg, Standard Bank Group

Gold price for gold fabricators



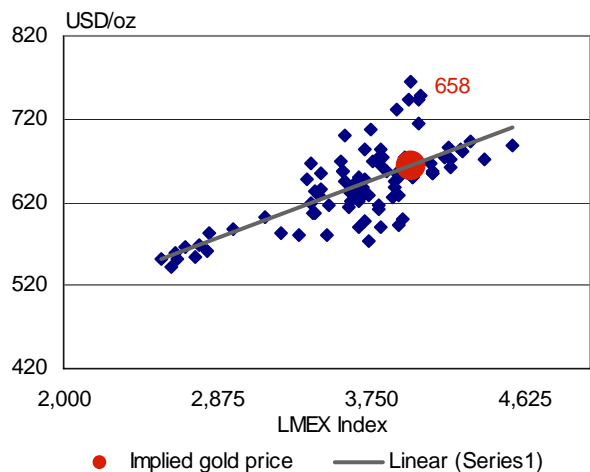
Source: Standard Bank Group

ATM implied volatility



Source: Standard Bank Group

Gold vs. base metals



Sources: LME, Bloomberg, Standard Bank Group



Platinum group metals

Over the past week, platinum reached a high of US\$1,460 on Friday, but saw profit-taking on Monday. Platinum fell to around US\$1,440 — also its current level. Palladium followed suit, rising as high as US\$376.25 on Wednesday last week. Since then, it has declined to around US\$360.

Platinum remains well supported by gold as well as by chronic mine closures. In recent weeks, we had shutdowns at Northam and Anglo Platinum. It was reported this morning that Anglo Platinum and Northam are most likely to resume mining today. However, these closures have seen an estimated loss of around 10,000oz of refined platinum production. A possible one-day strike by mine workers in November might disrupt production again.

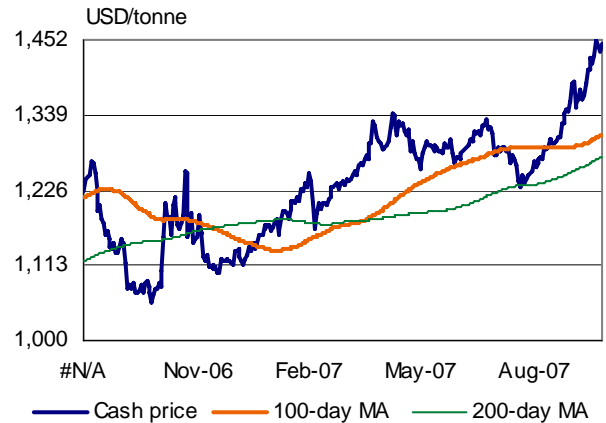
As with gold, we continue to see an increase in net long speculative positions on COMEX for both platinum and palladium, although the increase has been much more moderate. However, although the net position is convincingly long, the shorts has been growing. This speculative position does expose platinum to the down side, especially after the recent rally.

From a manufacturing demand perspective, more evidence are pointing towards a slowdown in the EU. This week has seen new industrial orders in the EU grow 0.3% m/m, while a growth rate of 0.9% m/m was expected. Although this is still positive growth, a fall in demand for platinum might be expected. The same goes for the US, where we continue to see the housing market woes affecting consumer spending. This should ultimately affect palladium demand as well.

But the price of both platinum and palladium should be supported on the downside despite this slowdown in the major economies. As with gold, good seasonal demand for jewellery as well as investor interest via ETF's can be expected to provide price support. However, when all the uncertainty regarding the recent supply problems have been cleared, platinum and palladium should look to gold for direction.

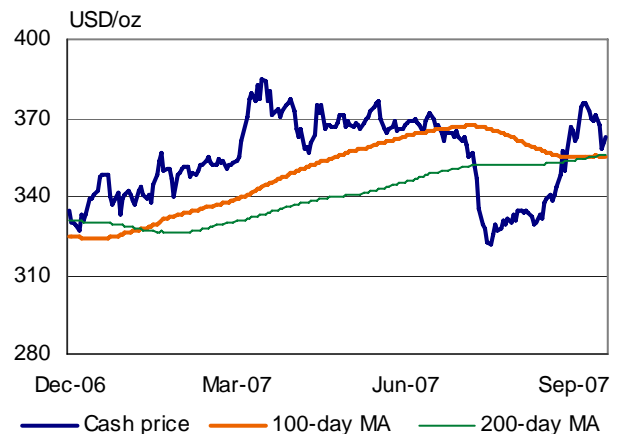
Platinum and palladium has come of their highs of last week. It does appear as if the recent supply problems in South Africa might be over for now. But future stoppages cannot be ruled out. Although the slowdown in major economies are becoming a reality, demand for ETF's and jewellery support prices for now. Platinum and palladium should find support from gold after all the supply uncertainties have been resolved.

Platinum price movement



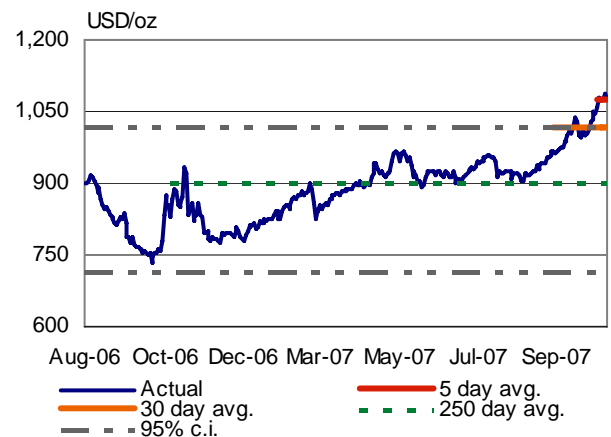
Sources: Bloomberg, Standard Bank Group

Palladium price movement



Sources: Bloomberg, Standard Bank Group

Spread (Platinum - Palladium)

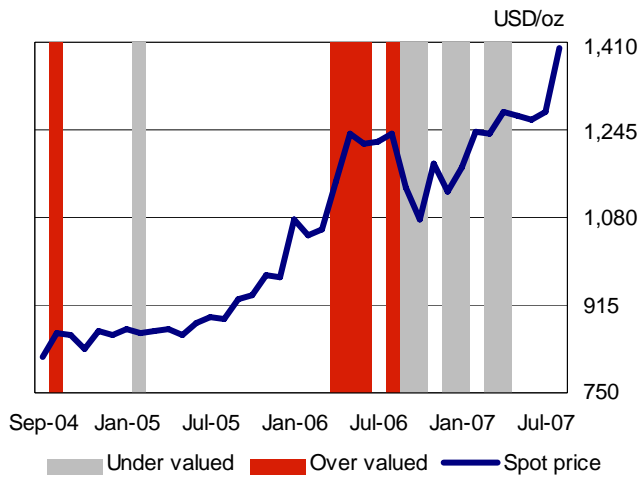


Source: Standard Bank Group



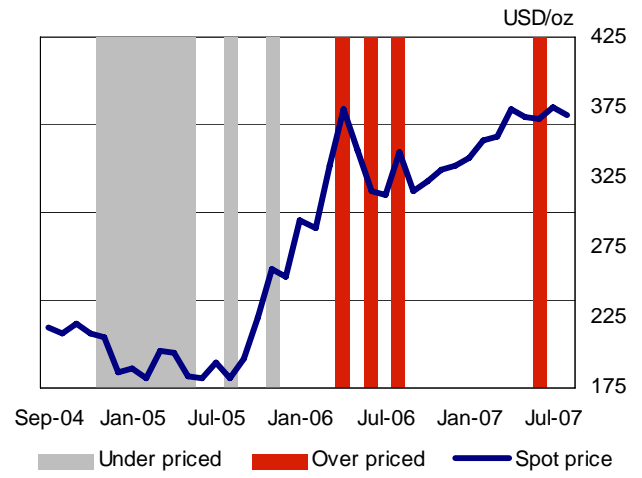
Platinum group metals: (continued)

Standard Bank platinum market conditions indicator



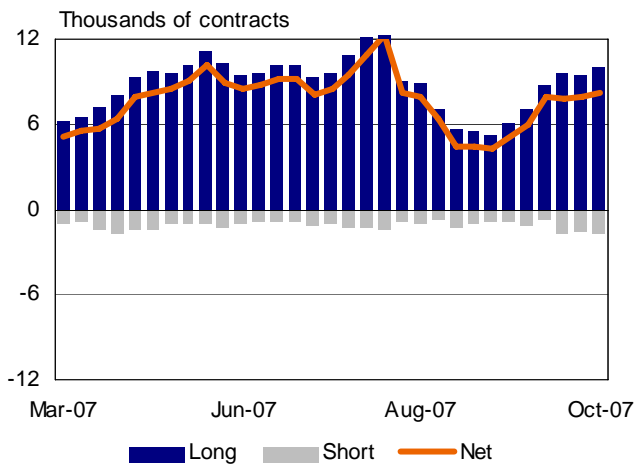
Source: Standard Bank Group

Standard Bank palladium market conditions indicator



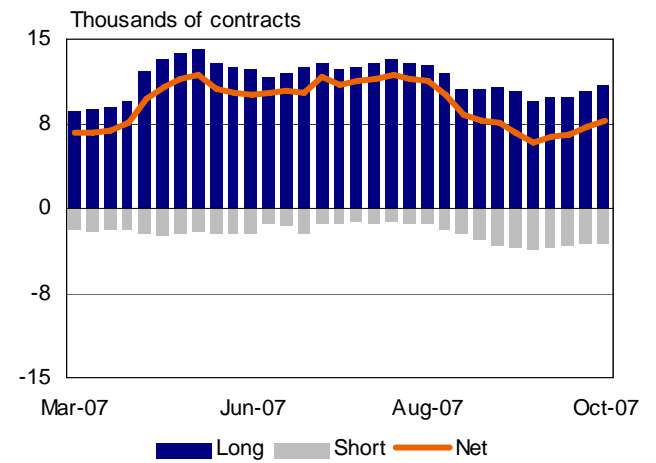
Source: Standard Bank Group

Platinum speculative positions (COMEX)



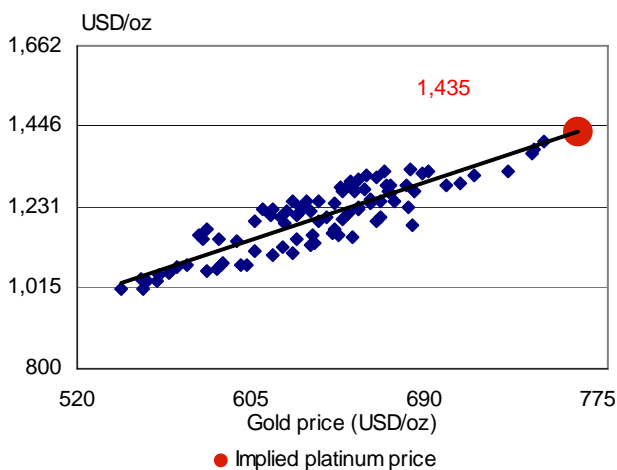
Sources: COMEX, Standard Bank Group

Palladium speculative positions (COMEX)



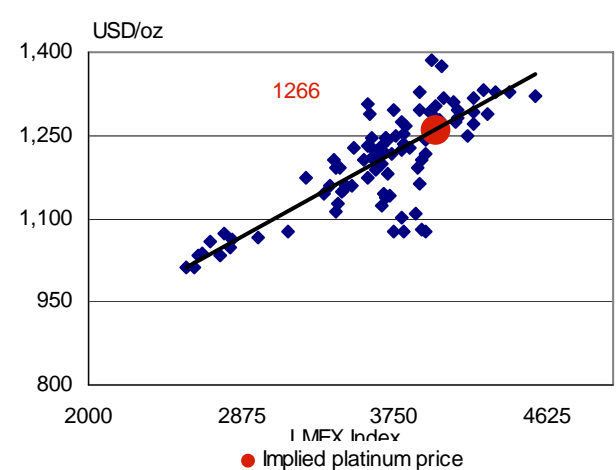
Sources: COMEX, Standard Bank Group

Platinum vs. gold



Source: Standard Bank Group

Platinum vs. base metals



Source: Standard Bank Group



Crude oil

Crude oil has seen record highs over the past week as tensions between Turkey and Kurds in northern Iraq remain unresolved. WTI reached a high of US\$89.47 on Thursday, with Brent reaching US\$85.60 on the same day. Since then, we have noticed a moderation in prices, with WTI and Brent falling to below US\$87 and US\$83 respectively.

Because of the rapid rise in crude prices, we have noticed a rapid decrease in the spread between the crude and refined products, putting downward pressure on refinery margins. What we have been noticing is that, alongside the decline in refinery margins, we are noticing low capacity utilisation by US refineries. The current rate is around 87.3%, down from the previous week's figure of 87.9%.

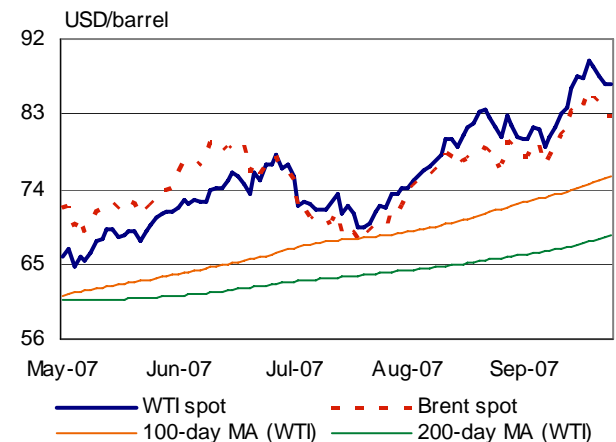
For now, the low capacity utilisation figure should result in smaller draw-downs of crude inventories, providing some downward pressure on prices. We have seen this happening already with Friday's crude inventory data, indicating that US crude inventory levels have actually increased. However, at some stage, refineries will have to increase capacity utilisation again, which may again put upward pressure on crude prices as refineries start increasing demand for crude oil again. The question is whether this will happen after we have seen a decent build-up in US crude inventories again or while inventory levels are low (compared to earlier this year). If the latter holds true, crude prices might spike to new highs.

On the supply side, OPEC indicated that it would start increasing production by 500,000bpd on November 1st. However, this increase in production emanates from the OPEC meeting in September and is not a new increase in quotas for member states. The impact on current prices should therefore not be much.

Two factors may possibly see crude prices coming down. The first is the net long speculative positions that remain in the market, which could see prices fall if bearish news triggers a sell-off. The second factor is the state of the US economy and the Federal Reserve's actions next week. If the US seems headed for a major slowdown, or even a recession, crude demand should also be affected negatively.

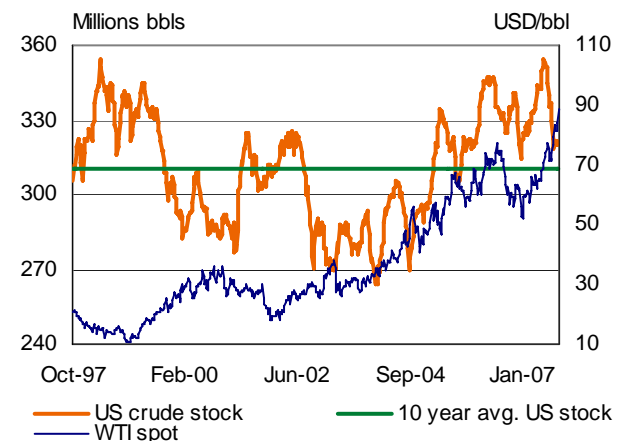
Crude oil has declined from the record highs it has seen last week. We have noticed a rapid decrease in the spread between the crude and refined products, putting downward pressure on refinery margins. OPEC indicated that it would start increasing production by 500,000bpd on November 1st — a decision taken at its September meeting.

Price movement



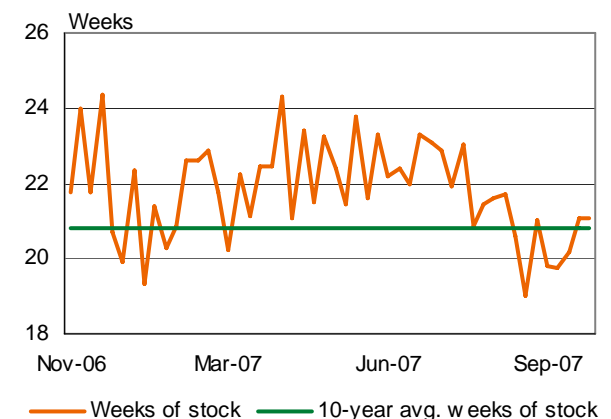
Sources: Bloomberg, Standard Bank Group

US crude oil stock



Sources: Bloomberg, Standard Bank Group

Weeks worth of US crude stock

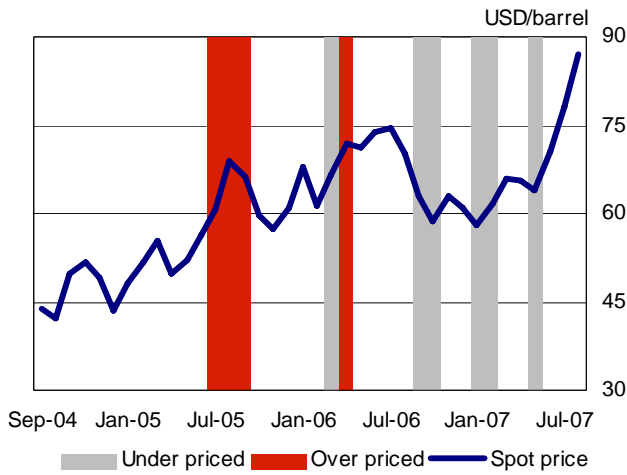


Source: Standard Bank Group



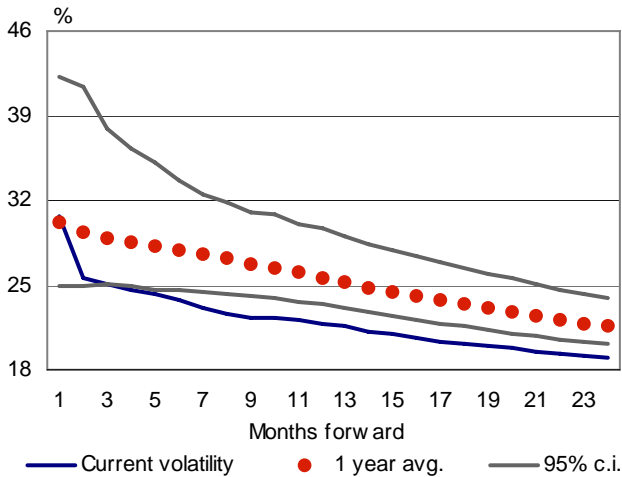
Energy — WTI crude

Standard Bank WTI market conditions indicator



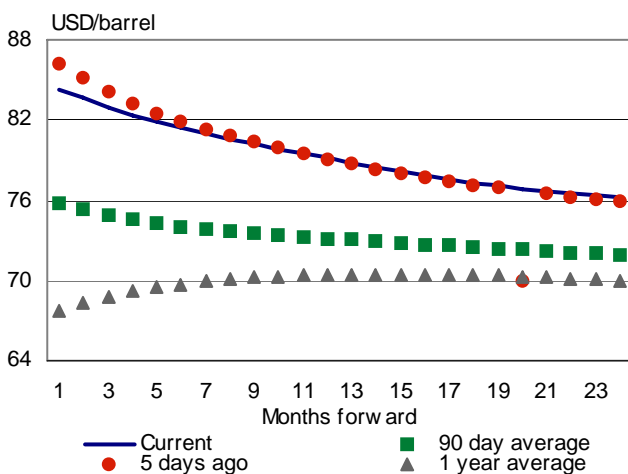
Source: Standard Bank Group

WTI ATM implied volatility



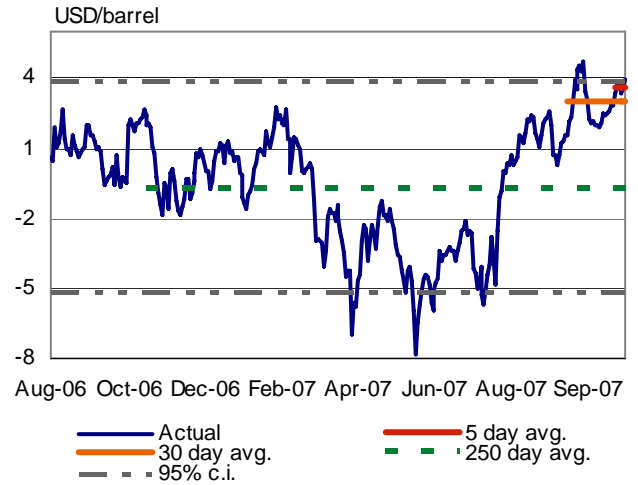
Sources: Bloomberg, Standard Bank Group

WTI Forward curve



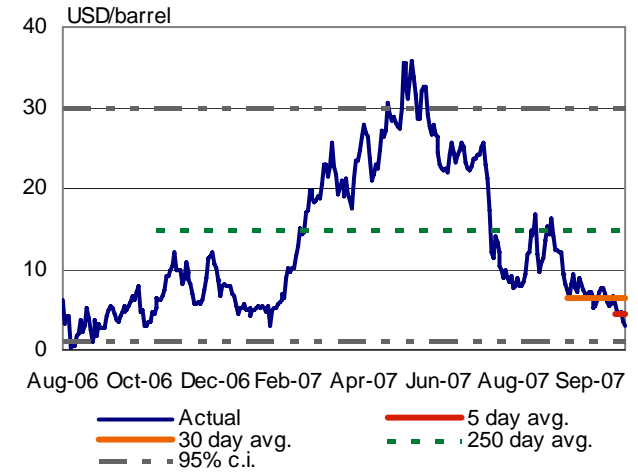
Sources: Bloomberg, Standard Bank Group

Spread (WTI crude — Brent crude)



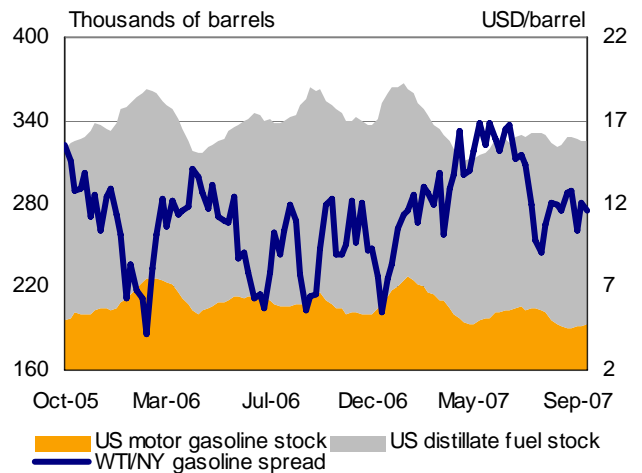
Source: Standard Bank Group

Spread (WTI crude — NY Gasoline)



Source: Standard Bank Group

US refined stock

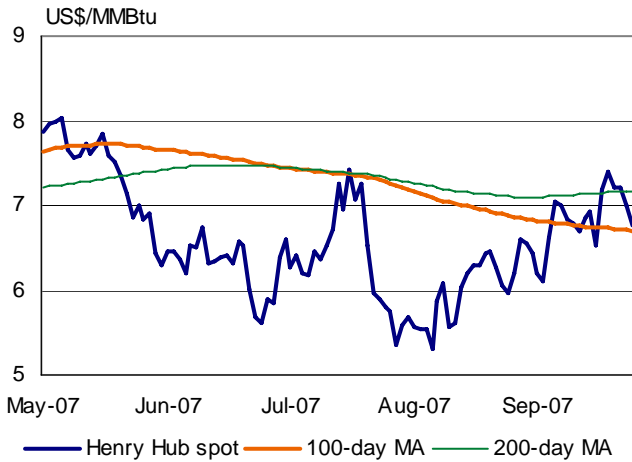


Sources: DOE, API, Standard Bank Group



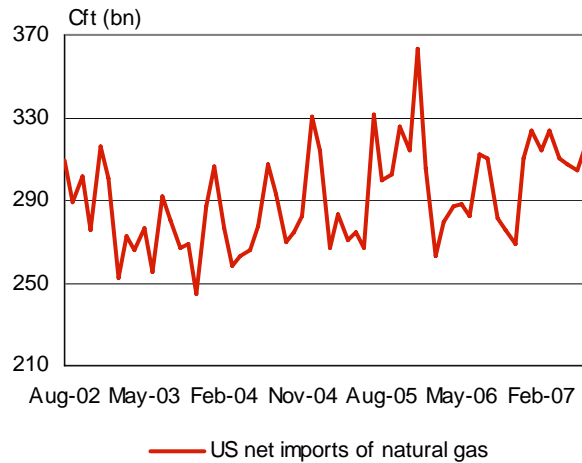
Energy — US natural gas

US natural gas spot price



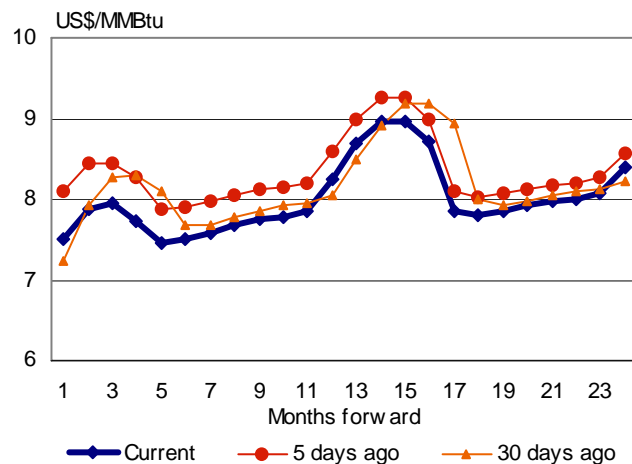
Sources: Bloomberg, Standard Bank Group

US natural gas net imports



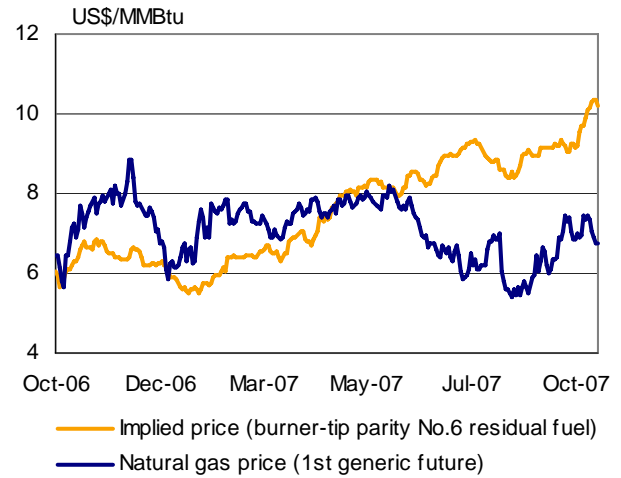
Sources: DOE, Standard Bank Group

Natural gas forward curve



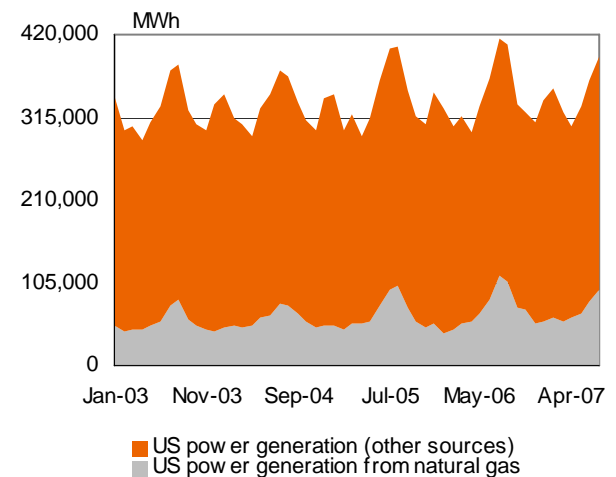
Sources: Bloomberg, Standard Bank Group

Residual fuel equivalent price of natural gas



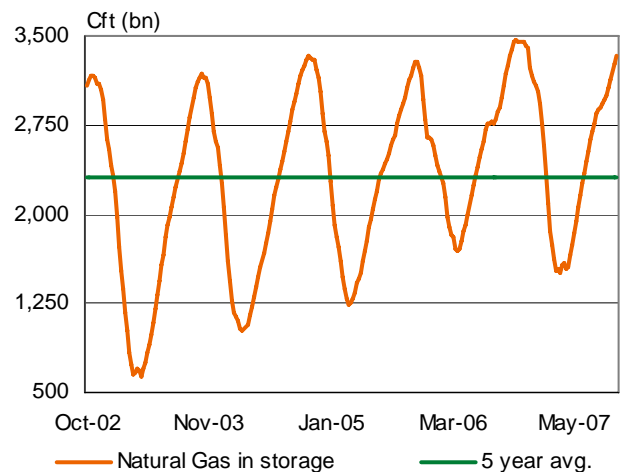
Sources: Bloomberg, Standard Bank Group

US power generation



Sources: DOE, Standard Bank Group

US natural gas storage

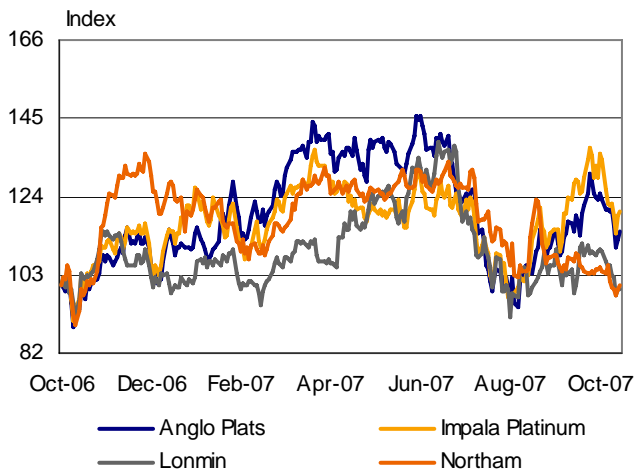


Sources: DOE, Standard Bank Group



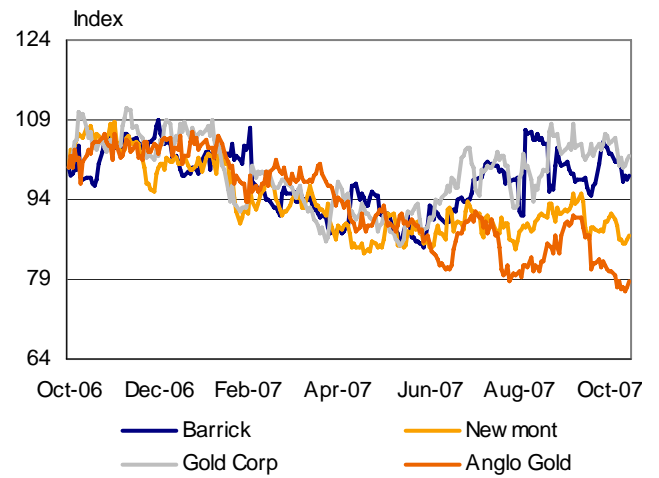
Equity performance

PGM stocks/platinum price



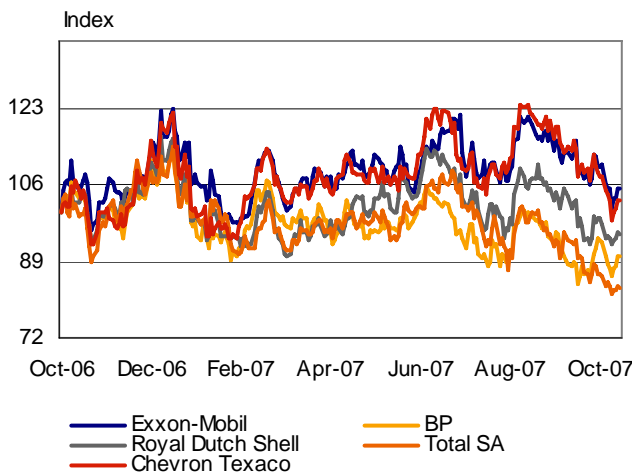
Sources: Bloomberg, Standard Bank Group

Gold stock/gold price



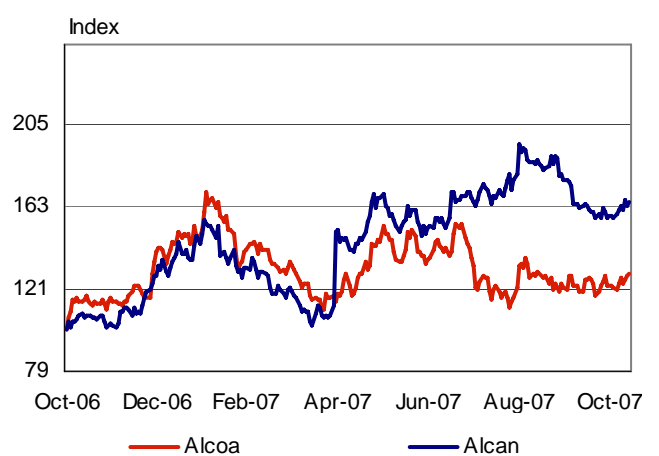
Sources: Bloomberg, Standard Bank Group

Energy stocks/energy BTU equivalent



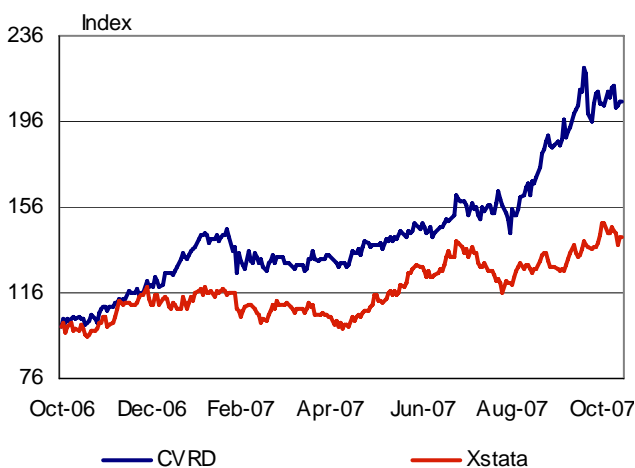
Sources: Bloomberg, Standard Bank Group

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: $\text{Company stock}/\text{LMEX Index}$.



Research Strategy

Robert J Van Eyden — Global Head
robert.vaneyden@standardbank.co.za

Commodities

Walter de Wet (CFA)	Head – Commodities Research	walter.dewet@standardbank.com	+27-11-378-7239
Darran Grabham	Commodities Technical Analyst	darran.grabham@standardbank.com	+27-11-378-7228
Leon Westgate	Commodities Analyst	Leon.westgate@standardbank.com	+(44) 207 815 4090



Email ResearchStrategy@standardbank.co.za if you would like to receive Standard Bank research. Please supply the following details: your name and surname, e-mail address, country and city names, company name, work telephone number and code as well as your position/title in the company.

Analyst certification

The analyst(s) who prepared this research report (denoted by asterisk*) hereby certifies(y) that: (i) all recommendations and views detailed in this document reflect the research analyst(s) personal opinion of the financial instrument or market class discussed; and (ii) no part of the analyst(s) compensation was, is, nor will be, directly (nor indirectly) related to opinion(s) or recommendation(s) expressed in this research report.

Disclaimer

Conflict of Interest: It is the policy of The Standard Bank Group Limited and its worldwide affiliates and subsidiaries (together the Standard Bank Group) that research analysts may not be involved in activities in a way that suggests that he or she is representing the interests of any member of the Standard Bank Group or its clients if this is reasonably likely to appear to be inconsistent with providing impartial research. In addition research analysts' reporting lines are structured so to avoid any conflict of interest. For example, research analysts cannot be subject to the supervisor or control of anyone in the Standard Bank Group's investment banking or sales and trading departments. In this context, the Standard Bank Group Head of Global Markets who is not directly involved in providing Investment Banking Services is not considered to be a member of an Investment Banking Department. However, such sales and trading departments may trade, as principal on the basis of the research analyst's published research. Therefore the proprietary interests of those sales and trading departments may conflict with your interests.

General: This research report does not constitute an offer, or the solicitation of an offer for the sale or purchase of any investment, security or to enter into any agreement, or any advice or recommendation to conclude any transaction. This is a commercial communication and has been prepared solely for information purposes. If you are in any doubt about the contents of this report or the information to which this report relates you should obtain independent advice in respect of any information or product detailed in this report, as Standard Bank Group Limited provides no investment, tax or legal advice and makes no representation or warranty about the contents hereof.

This report is based on information from sources that Standard Bank Group believes to be reliable. Whilst every care has been taken in preparing this report, no research analyst or member of the Standard Bank Group gives any representation, warranty or undertaking (express or implied) and accepts no responsibility or liability as to the accuracy or completeness of the information contained herein. All opinions and estimates contained in this report may be changed after publication at any time without notice.

Members of the Standard Bank Group, their directors, officers and employees may have a long or short position in currencies or securities mentioned in this document or related investments, and may add to, dispose of or effect transactions in such currencies, securities or investments for their own account and may perform or seek to perform advisory or banking services in relation thereto. No liability is accepted whatsoever for any direct, indirect, or consequential loss arising from the use of this report. This report is not intended for the use of private individuals. This report must not be acted on or relied on by persons who are private individuals. Any information to which this report relates is only available to persons other than private individuals and will be engaged in only with such persons. In European Union countries this report has been issued to persons who are investment professionals (or equivalent) in their home jurisdictions. Neither this report nor any copy of it nor any statement herein may be taken or transmitted into the United States or distributed, directly or indirectly, in the United States or to any U.S. person except where those U.S. persons are, or are believed to be, qualified institutions acting in their capacity as holders of fiduciary accounts for the benefit or account of non U.S. persons. The distribution of this report in certain jurisdictions may be restricted by law. Persons into whose possession this report comes are required by the Standard Bank Group to inform themselves about and to observe any restrictions that will be of effect. You are to rely on your own independent appraisal of and investigations into (a) the condition, creditworthiness, affairs, status and nature of any issuer or obligor referred to and (b) all other matters and things contemplated by this report. This report has been sent to you for your information and may not be reproduced or redistributed to any other person. By accepting this report, you agree to be bound by the foregoing limitations. Unauthorised use or disclosure of this document is strictly prohibited. Copyright 2006 Standard Bank Group. All rights reserved.

The Standard Bank of South Africa Limited (Reg.No.1962/000738/06) is regulated by the South African Reserve Bank and is an Authorised Financial Services Provider.