Insight: Although upward pressure is increasing, gold needs momentum

- **Insight (page 2):** Recently, returns from gold investment have been low for investors with a buy-and-hold strategy compared to the returns the metal has generated over the last two years. This is so despite the historical weakness of the US dollar against the euro. Although there is still an upside bias to the gold price, taking advantage of this upside will probably be difficult. Other investments should compete successfully for money from a risk/return perspective, especially for a long-term investor.

- **Base metals:** In the short term, the copper (page 4) price is still being governed by the interplay between disruption news and LME stock movements. The impact of Chinese consumers staying away from the market may boost prices later in the year. Aluminium (page 6) continues to trade around $2,800. Project pipelines are beginning to take shape, with significant new capacity due over the next few years. Nickel (page 8) is still suffering production cutbacks at Asian steel mills. Prices have found support, however, and early signs indicate that sentiment is turning, with one eye on an anticipated increase in consumption towards the end of the year. Zinc (page 10) has stalled after a short covering rally. News of capacity increases and increasing TC’s continues to add to the bearish outlook, but this is being mitigated by falling stocks. Lead (page 12) remains at record levels while tin (page 13) is trading sideways.

- **Precious metals:** The dollar was trading at US$1.3827 against the euro on Wednesday morning. This weakness in the dollar will support gold (page 14) – but only to some degree. Currently, the US dollar is losing value faster than the gold price can rise. This makes it less attractive for non-dollar gold investors. From a technical perspective, we see current resistance at US$674 and support at US$662. As expected, platinum (page 16) continued its good form this week while palladium traded mainly sideways. While platinum was fixed at US$1,309/oz in London on Tuesday afternoon, it rallied overnight on renewed US dollar weakness. Supply disruptions from Lonmin and continued wage negotiations continue to provide support on the upside.

- **Energy:** WTI and Brent (page 18) prices remain high. As expected, the increase in refinery capacity resulted in a sharp drop in gasoline crack spreads. However, increased capacity utilization should support crude demand on the upside. Speculators, as evident from net long positions, also continue to believe that there is still upside left in the crude oil market.
Insight: Although upward pressure is increasing, gold needs momentum

Compared to the returns gold has generated over the last two years, recent returns from gold investment have been low, especially for a buy-and-hold strategy. Despite the rally in the gold price this month, rising from USD$649/oz at the end of June to a fix of USD$666.50/oz on Tuesday afternoon, it appears as if the yellow metal finds it difficult to break through key resistance levels and hold onto gains. This is happening despite the historical weakness of the US dollar against the euro. Before the record low of the US dollar against the euro, the lowest level of the US dollar was USD$1.3651 (during the last week of April 2007). In the same week, the gold price rallied to a high of USD$691. Now, with the US dollar trading at USD$1.3826 against the euro on Wednesday morning, the gold price seems content to trade around only USD$665 despite the short-term support gold is receiving from record high crude oil prices, which raises the question: what has changed since April?

Apart from physical consumption of gold via jewellery fabrication and industrial use, gold is being held as an investment. Reasons to hold gold vary. Firstly, gold is linked to the dollar through the international financial system, and both gold and the US dollar are generally considered substitute assets for store of value. Therefore, if the dollar loses value, demand for gold should increase. Secondly, gold is seen as an hedge against inflation. If inflation increases (and the dollar loses value), the price of gold should generally also increase, retaining real value for investors. Thirdly, gold is held as an asset class for portfolio diversification. And lastly, gold can be held for purely speculative purposes.

Currently, we believe gold is struggling to fulfill the first and second function, with the result that many investors remain on the sideline. So far this year, gold has been struggling in its role as store of value and inflation protector. On a year-to-date basis, gold has returned less than 5% for the investor. Similarly, monthly US dollar returns from gold, measured year-on-year, have fallen below 5% since April. Subtract inflation, and it provides real returns of less than 3%. For an investor whose domestic currency is euro, returns are even worse. In euro, gold provided negative monthly returns (both real and nominal) in the last four months. Compared to the spectacular monthly (y/y) returns from gold in both US dollar and euro in 2005 and 2006, current returns are unappealing. Of course, part of the reason for the current low year-on-year return is because gold is measured against a high base in 2006. Therefore, unlike in 2005 and 2006, a simple buy-and-hold strategy would probably deliver unsatisfactory short-term returns. This is reflected in the decline of the net speculative long position in gold. Although the net speculative position remains convincingly long (indicating that people
still see upside in gold), it has been declining steadily, recording negative growth since September last year. This has coincided with the decline in the monthly return in the gold price. What also appears from the speculative positions is the fact that there are currently few changes in the net position, indicating little new interest in gold. For any substantial change to take place in the gold price, there will have to be renewed interest in gold. Since 2004 and the advent of the gold ETF’s, interest in gold has grown dramatically but seems to have slowed down of late. And as long as gold provides the low returns we have seen so far this year, especially in currencies other the US dollar, it will struggle to fulfill its role as value of store.

Given the low return, gold is also currently not providing the best hedge against inflation. Once again, based on monthly (y/y) real returns of gold, US inflation-linked bonds are delivering just as good, or better, returns than gold since April. Given the fact that inflation-linked bonds are very low risk, and their yield provides real return above expected inflation, they do provide a good hedge against inflation. And, over the last four months, it has outperformed gold at much less risk.

Given that gold is currently struggling to fulfill its inflation hedge and store of value function, what is the outlook? We believe that there is still an upside bias to the gold price. However, taking advantage from the upside is likely to be more difficult than it was since 2004. Given increased risk aversion worldwide and gold’s high base of 2006, the growth in the gold price will have to be so much higher to justify new investments, especially in ETF’s. That said, given gold’s higher volatility than, for example inflation-linked bonds, it also provides opportunity for good returns to be made from active trading strategies. Also, over the longer term, gold should still provide a useful diversification function in any portfolio, keeping interest in the metal alive. But at least for now, other investments could compete successfully for money from a risk/return perspective. This is especially the case for non-US dollar investors as well as the long-term investor.

Lately, returns from gold investment have been low for a buy-and-hold strategy compared to the returns the metal has generated over the last two years. This is the case despite the historical weakness of the US dollar against the euro. Currently, we believe gold is struggling to fulfill its function as hedge against inflation. Although we believe that there is still an upside bias to the gold price, taking advantage of this upside will probably be difficult.
The past week has seen copper lose some of its support as some strikes in the industry have ended, while a net increase in LME stocks of 1,850 tonnes during the first two days of this week also hurt sentiment towards the metal. Copper ended last week at $7,880, up $20 on the previous week. It has since fallen so far this week, closing at $7,770 on Tuesday.

The strike action at Collahuasi ended on Friday, after a five-day walk-out, while Southern Copper Corp reached an agreement on a new contract with unions at its Peruvian operations. A wildcat strike at Kansanshi on Wednesday was over by Friday. Codelco re-opened its Andina division over the weekend, however, heavy snowfall has again cut off access to the mine on Tuesday. The strike at CCR is still ongoing, while Codelco’s subcontractors are still in dispute and have closed the Salvador mine. The threat of strike action at Grupo Mexico is still rumbling but the strike deadline has been deferred to July 30th.

Shanghai copper stocks rose sharply, up 8,911mt in the week to Thursday, bringing stocks there up to 92,001mt. The increase in Shanghai was followed by a sharp increase in LME stocks, particularly in South Korea. As of Tuesday, LME stocks stood at 99,400mt, up 1,850mt from Friday.

According to reports, the nine-member China Smelter Purchase Team met over the weekend to discuss measures to improve profits, including the possibility of cutting imports of copper concentrates, and therefore production, in order to achieve better spot TC/RC’s and improve profitability. However, we believe that any potential impact will be limited. While some smelters are reported as operating at reduced capacity utilization rates already, Jiangxi Copper and Xiangguang Copper will be bringing a combined total of 400ktpy of capacity online over the next two weeks.

Rather than the action of Chinese smelters, of greater importance is the behavior of Chinese consumers. The recent outflow of copper from China, particularly to LME warehouses at Busan and Gwangyang in South Korea, plus other anecdotal evidence that China has plentiful supplies, suggests that consumers are unwilling to buy copper at current levels. Imports during the first few months of this year suggest that consumers restocked to some extent, after last year’s bout of de-stocking. Running those stocks down now, ahead of the expected pick-up in demand after the summer, may leave them vulnerable going forward if prices continue to remain high.

**In summary, the short-term copper price is still being governed by the interplay between disruption news and LME stock movements. Longer term, the impact of Chinese consumers staying away from the market may boost prices later in the year.**
Copper: (continued)

Standard Bank copper market conditions indicator

Source: Standard Bank Group

Forward curve

Sources: LME, Bloomberg, Standard Bank Group

Copper consumers’ price

Source: 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

After peaking at $2,841 during trading on Thursday, aluminium declined, closing on Friday at $2,792 before recovering slightly this week to close at $2,800 on Tuesday. With lead continuing to power upwards, the novelty of aluminium prices trading at a discount to lead has worn off. Instead, focus has been on consolidation within the aluminium industry.

Rio Tinto announced a $38.1bn all-cash offer for Canadian producer Alcan, with the two companies also agreeing to a mutual $1.05bn break fee. Rio Tinto will focus on the mining and metals elements of the company and is looking to divest Alcan’s Packaging division. The bid represents nearly a 33% premium on Alcoa’s hostile bid. In response, Alcoa decided to drop its bid for Alcan, instead saying it would look toward more organic growth programmes. Now the focus is: what will happen to Alcoa? Both BHP Billiton and Brazil’s CVRD are now rumoured to be weighing up bids for the company.

One of the reasons for Rio’s bid was Alcan’s project pipeline. One of these pipeline projects is the COEGA smelter project in South Africa. Alcan has signed a $100m contract for the front-end engineering design for the first phase of the project. The first phase will have a 360kt/tpy capacity and is due online in 2010. A second phase, bringing production capacity up to 720kt/tpy, is also in development. A long-term power contract with Eskom was signed last year. Elsewhere, Alcan has also awarded the feasibility study for the planned expansion of its Kitimat smelter in British Columbia. The company had previously announced that it was looking at lifting capacity from the current 270kt/tpy, to 400kt/tpy between 2009 and 2011.

Staying with the theme of increased capacity, the Quatalum joint venture, between Norsk Hydro and Quatar Petroleum, has awarded the contract for the project’s power plant to a consortium of General Electric and Doosan Heavy Industries Construction. The 1250MW plant will use natural gas from Quatar Petroleum. The 585kt/tpy capacity greenfield smelter project is expected to produce its first metal in December 2009. As with COEGA, the plant is designed to allow an expansion, this time up to 1.2m/tpy.

LME stocks continue to rise, closing at 838,275mt on Friday, with the main location for the stock inflow being Singapore. Stocks have fallen so far this week however, down 1,425mt, to 836,850mt on Tuesday. Shanghai stocks also increased, up by 3,775mt, to 31,429mt in the week to Thursday.

In summary, aluminium continues to trade around $2,800, with the focus still on industry consolidation rather than price moves. The project pipeline is beginning to take shape, with significant new capacity due over the next few years.
Aluminium: (continued)

Standard Bank aluminium market conditions indicator

Volatility vs. stock levels

ATM implied volatility

Price for aluminium consumers
Nickel

Nickel continued to fall last week but has, so far at least, stabilised this week. The metal closed on Friday at $32,600, down $2,705 on the week. Nickel appeared to find support on Monday, while prices remained virtually unchanged on Tuesday, with the price closing at $32,000. LME stocks continue to increase, rising by 948mt last week to finish on Friday at 10,314mt. Stocks increased again this week, closing on Tuesday at 10,524mt.

Steel cutbacks continue to assert downwards pressure on the metal, with Posco, Asia’s third-largest steelmaker, planning to reduce stainless-steel output by as much as 100,000t in the second half of this year, with most of the cuts falling in July and August. Production was cut by 40% to 50% in July. Meanwhile, the International Stainless Steel Forum estimates that global stainless steel output recorded a 0.7% quarter-on-quarter increase in the first quarter of this year. Given that this was before the production cutbacks implemented by European manufacturers in the second quarter and the current raft of production cutbacks in Asia, it doesn’t paint a good picture for nickel demand this year.

Arcelor Mittal and Nippon Steel have signed a MOU on a global strategic alliance and an expansion of their current joint venture businesses in North America. The companies are discussing the expansion of the automotive steel sheet business and hope to reach a definitive agreement soon. Meanwhile, OAO Magnitogorsk Iron & Steel, Russia’s third-largest steelmaker, is reportedly considering building a plant in Ohio to produce steel for car makers. The project is in the process of being reviewed but essentially involves a mill to produce cold-rolled steel. The mill would operate a full steel cycle operation.

There are early signs that the negative sentiment towards nickel might be turning the corner; for instance, increasing fears from ferrochrome producers that, should nickel prices continue to fall, stainless producers that have been able to substitute ferrochrome for nickel will switch back to nickel. There is an increasing sense that nickel may well have found fair value at current levels, and that the speculative froth has dissipated. Technical factors continue to rule in terms of short-term price moves, however, the market is beginning to look beyond the summer slowdown and what will happen once the Asian steel mills begin to crank up steel output towards the end of the year.

In summary, nickel is still being hurt by production cutbacks from Asian steel mills. However, prices have found support and there are early signs that sentiment is turning, with an increase in consumption anticipated towards the end of the year.
Nickel: (continued)

Standard Bank nickel market conditions indicator

Volatility vs. stock levels

Forward curve

ATM implied volatility

LME stock on warrant

Nickel consumers’ price
After languishing in the doldrums at the beginning of last week, zinc rose strongly on the back of some short-covering to close the week at $3,591, up $146 from the previous week. So far, prices have run out of momentum, closing at $3,515 on Tuesday and trading in an increasingly narrow range. Given the strong performance of lead over the past few days, however, and an absence of any fresh short-covering rallies, it may not be too long before lead overtakes zinc, too.

Technical factors continue to dominate the zinc price, but support is being lent by falling LME stocks. Stocks fell by 2,500mt last week to close on Friday at 42,025mt. Stocks have continued to fall this week, reaching 41,950mt on Tuesday. Cancelled tonnage has also increased, with the ratio of cancelled tonnage standing at 13.5% as of Tuesday, suggesting further outflows.

One of the issues weighing on the zinc price has been the increase, and forecast increase, in mine and metal production. On this note, India’s Hindustan Zinc has announced that it would commission its 170ktpy smelter three months ahead of schedule. The smelter will now enter production in December rather than in March as had been planned.

Increased mine supply has started to feed through to higher spot TC’s for the metal. Spot TC’s are currently around $300/t compared to a low of around $20/t seen in early 2006. The seemingly abundant supply of zinc concentrates has been one of the reasons for the negative sentiment towards the metal, yet LME stocks continue to fall.

In summary, zinc has stalled after a short-covering rally. The price failed to penetrate the $3,600 level and has since dropped back. News of capacity increases and increasing TC’s continues to add to the bearish outlook but is mitigated by falling stocks. Technical factors continue to dominate, with falling stocks starting to temper the nearby bearish sentiment towards the metal. Prices are still generally trading sideways.
Zinc: (continued)

**Standard Bank zinc market conditions indicator**

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

**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

![Price movement graph]

Sources: LME, Standard Bank Group

Tin stock

![Tin stock graph]

Sources: LME, Standard Bank Group

LME stock on warrant

![LME stock on warrant graph]

Sources: LME, Bloomberg, Standard Bank Group

Forward curve

![Forward curve graph]

Sources: LME, Bloomberg, Standard Bank Group

Volatility vs. stock levels

![Volatility vs. stock levels graph]

Sources: LME, Standard Bank Group

ATM implied volatility

![ATM implied volatility graph]

Sources: LME, Bloomberg, Standard Bank Group
Gold

Gold managed to stay above US$660/oz during the past week but failed to gather enough momentum to extend the rally beyond US$670/oz. Throughout the week, the yellow metal traded in a range around the 100-day moving average, currently set at US$665. Since the gold price fix of US$663 in London last week Wednesday, it managed to gain US$3.50/. On Tuesday afternoon, gold was fixed at US$666.50 in London.

At current levels, physical demand tends to be lackluster. However, like last week, two factors support gold on the upside. The first is the US dollar’s ongoing record slump against the euro. The dollar was trading at US$1.3827 against the euro on Wednesday morning. This is a new all-time low. It is almost one cent weaker than last week Wednesday’s level. The greenback was also trading more than two cents weaker against the pound, at US$2.0542. This weakness in the dollar will support gold, but only to some degree. Currently, the US dollar is losing value faster than the gold price rises. This makes it less attractive for non-dollar investors to invest in gold as the value of gold in, for example euro, grows only marginally or decreases.

Another factor that still supports gold on the upside in the short term is the record high crude oil prices we’re witnessing. Brent crude has reached an all-time high this week when it traded above US$79.64 a barrel on Friday last week. However, given the risk of investing in gold, and the return gold provided year-to-date, the metal has been competing with alternative hedge vehicles such as inflation-linked bonds (also see Insight, page 2). This resulted, in part, that fewer funds are flowing to gold than would otherwise be the case.

On Wednesday and Thursday this week, US Federal Bank Chairman Ben Bernanke will give his congressional testimony. This will be closely watched by the market to determine what the inflation outlook is going forward. Standard Bank does not expect any change in the current hawkish stance on inflation.

From a technical perspective, we see the current resistance level at US$674 and support at US$662. In summary, the dollar was trading at US$1.3827 against the euro on Wednesday morning. This is a new all-time low. The weakness in the dollar will support gold, but only to some degree. Currently, the US dollar is losing value faster than the gold price rises. This makes it less attractive for non-dollar investors to invest in gold. Another factor that still supports gold on the upside in the short run is the record high crude oil prices we’re currently witnessing. From a technical perspective, we see resistance at US$674 and support at US$662.
Gold: (continued)

Standard Bank gold market conditions indicator

Gold lease rates (spread over LIBOR)

Gold vs. USD

Gold vs. base metals
Platinum group metals

Current conditions remain supportive of platinum. As expected, platinum continued its good form this week while palladium traded sideways. While platinum was fixed at US$1,309/oz in London on Tuesday afternoon, it rallied overnight on renewed US dollar weakness. On Wednesday morning, the spot price was trading at US$1,313.50. Palladium was fixed at US$666/oz on Tuesday afternoon, down US$1 from a week ago.

On the production side, Lonmin Plc announced that it is likely to delay the sale of between 70,000 to 90,000 oz of platinum to the market until September. Although this should support the current spot price of platinum on the upside, it should also provide some relief to the very tightly matched demand and supply forecasts for the last quarter of 2007. Lonmin is the world’s third largest producer of platinum. Also still supporting prices are the wage disputes that continue at platinum mines throughout South Africa. In the latest development in wage negotiations, Northam Platinum Holdings Ltd indicated that its revised wage offer has been rejected by unions, raising the possibility of a strike. Anglo-Plats, the world’s largest producer of platinum, and Impala Platinum, the second-largest, are currently both locked in talks with unions.

Apart from the supply disruptions and concerns mentioned above, platinum also continues to find support from gold. With the recent rally in the US dollar to US$1.3827 on Wednesday morning, precious metals should see renewed interest from investors. However, as with gold, given the fact that the US dollar is depreciating faster than what platinum and palladium are rising, there is not much incentive in the short term for non-dollar investors to consider precious metals as an investment vehicle. We therefore believe that for now, interest will be limited to the US.

From a technical perspective, current support is at US$1290 for platinum, with strong resistance at US$1340. Palladium sees support at US$360 and resistance at US$380.

*In summary, platinum continued its good form this week while palladium traded mainly sideways. While platinum was fixed at US$1,309/oz in London on Tuesday afternoon, it rallied overnight on renewed US dollar weakness. Supply disruptions from Lonmin and continued wage negotiations continue to provide support on the upside. Platinum also continues to find support from gold and precious metals investors. However, we believe that for now, interest will be limited to the US. From a technical perspective, there is support at US$1290 for platinum, with strong resistance at US$1340.*
Platinum group metals: (continued)

Standard Bank platinum market conditions indicator

![Platinum market conditions indicator graph](image1)

Source: Standard Bank Group

Platinum speculative positions (COMEX)

![Platinum speculative positions graph](image2)

Sources: COMEX, Standard Bank Group

Platinum vs. gold

![Platinum vs. gold graph](image3)

Source: Standard Bank Group

Platinum vs. base metals

![Platinum vs. base metals graph](image4)

Source: Standard Bank Group

Standard Bank palladium market conditions indicator

![Palladium market conditions indicator graph](image5)

Source: Standard Bank Group

Palladium speculative positions (COMEX)

![Palladium speculative positions graph](image6)

Sources: COMEX, Standard Bank Group

Platinum vs. base metals

![Platinum vs. base metals graph](image7)

Source: Standard Bank Group
Although WTI and Brent prices remain high, they have come down from the historical highs we witnessed last week. Brent spot reached an all-time high on Friday, trading at US$79.64 per barrel. It then retracted to trade at US$78.32 on Wednesday morning. WTI reached a high on Monday when it traded at US$74.15. By Wednesday morning, it was trading at US$74.02.

The recent price spikes in Brent come after BP Plc announced that it was performing routine maintenance at North Sea operations. With high demand driven by increased world economic growth, supply remains a critical issue for the world oil market. Apart from BP’s maintenance, the Shell announcement on Tuesday evening that an oil pipeline feeding its export terminal in Bonnie, Nigeria, was on fire, set alight be protestors angry with the company. At this stage it is unclear whether there will be any supply disruptions. However, the event is likely to send some jitters through the oil market.

The tightness in the refined product market seems to have eased slightly as refineries in the US managed to increase capacity utilisation to 90.4%. This news also supported WTI crude, as the market now expects greater demand for crude on the back of higher refined production. We do expect refineries to continue to raise its capacity utilisation this week, which should support WTI on the upside. Also, as expected, this increase in refinery capacity resulted in a sharp drop in gasoline crack spreads. The active-month gasoline spread on Nymex dropped to US$14.318 per barrel on Tuesday, down more than US$12 from a week earlier.

Speculators continue to believe that there is still upside left in the crude oil market. Long speculative positions in the market have increased over the past two weeks. The latest NYMEX commitment of traders report indicates that non-commercial long positions increased 26% in two weeks, while short positions increased by only 5%.

In summary, although WTI and Brent prices remain high, they have come down from the historical highs we witnessed last week. The tightness in the refined product market seems to have eased slightly as refineries in the US managed to increase capacity to 90.4%. As expected, this increase in refinery capacity resulted in a sharp drop in gasoline crack spreads. However, increased capacity utilisation should support crude demand on the upside. Speculators also continue to believe that there is still upside left in the crude oil market.
Energy — WTI crude

Standard Bank WTI market conditions indicator

Sources: 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)

Sources: Standard Bank Group

Spread (WTI crude — NY Gasoline)

Sources: 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**

Index

<table>
<thead>
<tr>
<th></th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglo Plats</td>
<td>186</td>
<td>161</td>
<td>136</td>
<td>111</td>
<td>86</td>
<td>84</td>
<td>90</td>
</tr>
<tr>
<td>Impala Platinum</td>
<td>186</td>
<td>161</td>
<td>136</td>
<td>111</td>
<td>86</td>
<td>84</td>
<td>90</td>
</tr>
<tr>
<td>Lonmin</td>
<td>186</td>
<td>161</td>
<td>136</td>
<td>111</td>
<td>86</td>
<td>84</td>
<td>90</td>
</tr>
<tr>
<td>Northam</td>
<td>186</td>
<td>161</td>
<td>136</td>
<td>111</td>
<td>86</td>
<td>84</td>
<td>90</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Standard Bank Group

**Gold stock/gold price**

Index

<table>
<thead>
<tr>
<th></th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrick</td>
<td>124</td>
<td>109</td>
<td>94</td>
<td>79</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Newmont</td>
<td>124</td>
<td>109</td>
<td>94</td>
<td>79</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
<tr>
<td>Anglo Gold</td>
<td>124</td>
<td>109</td>
<td>94</td>
<td>79</td>
<td>64</td>
<td>64</td>
<td>64</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Standard Bank Group

**Energy stocks/energy BTU equivalent**

Index

<table>
<thead>
<tr>
<th></th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exxon-Mobil</td>
<td>148</td>
<td>131</td>
<td>114</td>
<td>97</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>BP</td>
<td>148</td>
<td>131</td>
<td>114</td>
<td>97</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Royal Dutch Shell</td>
<td>148</td>
<td>131</td>
<td>114</td>
<td>97</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Chevron Texaco</td>
<td>148</td>
<td>131</td>
<td>114</td>
<td>97</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Standard Bank Group

**Aluminium stocks/aluminium prices**

Index

<table>
<thead>
<tr>
<th></th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcoa</td>
<td>203</td>
<td>170</td>
<td>137</td>
<td>104</td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>Alcan</td>
<td>203</td>
<td>170</td>
<td>137</td>
<td>104</td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Standard Bank Group

**Diversified base metals mining stocks/LMEX Index**

Index

<table>
<thead>
<tr>
<th></th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVRD</td>
<td>180</td>
<td>154</td>
<td>128</td>
<td>102</td>
<td>76</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>Xstata</td>
<td>180</td>
<td>154</td>
<td>128</td>
<td>102</td>
<td>76</td>
<td>76</td>
<td>76</td>
</tr>
</tbody>
</table>

Sources: Bloomberg, Standard Bank Group
Additional Information/Figure explanations

- **Standard Bank market conditions indicator**
  
  The indicator is based on factors that affect 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 LMEX index. And the index captures the performance of copper, aluminium, nickel, zinc, lead and tin on the LME. The metal’s contribution to the LMEX 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 physical take 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 increase), 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 index**

  The consumer price index (CPI) 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. 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 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 outperformed (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**: Company stock/(BTU equivalent price of crude + price of natural gas);
  - **Aluminium, platinum and gold mining stocks**: Company stock/price of the underlying commodity;
  - **Diversified base metals mining stock**: Company stock/LMEX Index.
# Research Strategy

**Robert J Van Eyden — Global Head**  
robert.vaneyden@standardbank.co.za  +27-11-378-7242

## CEEMEA

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Francis Beddington</td>
<td>Head — Local and Sovereign Strategy</td>
<td><a href="mailto:francis.beddington@standardbank.com">francis.beddington@standardbank.com</a></td>
<td>+44-20-7815-2706</td>
</tr>
<tr>
<td>Stephen Bailey-Smith</td>
<td>Local and Sovereign Strategy</td>
<td><a href="mailto:stephen.bailey-smith@standardbank.com">stephen.bailey-smith@standardbank.com</a></td>
<td>+44-20-7815-3671</td>
</tr>
<tr>
<td>Henry Flint</td>
<td>Local and Sovereign Strategy</td>
<td><a href="mailto:henry.flint@standardbank.co.za">henry.flint@standardbank.co.za</a></td>
<td>+27-11-378-7202</td>
</tr>
<tr>
<td>Dmitry Shishkin</td>
<td>Relative Value Strategy</td>
<td><a href="mailto:dmitry.shishkin@standardbank.com">dmitry.shishkin@standardbank.com</a></td>
<td>+44-20-7815-3181</td>
</tr>
<tr>
<td>Phumelele Mbiyo</td>
<td>Local and Sovereign Strategy</td>
<td><a href="mailto:phumelele.mbiyo@standardbank.co.za">phumelele.mbiyo@standardbank.co.za</a></td>
<td>+27-11-378-7236</td>
</tr>
</tbody>
</table>

## CIS

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega Hatfield</td>
<td>Head — Credit and Securitisation</td>
<td><a href="mailto:omega.hatfield@standardbank.com">omega.hatfield@standardbank.com</a></td>
<td>+7-495-783-3833</td>
</tr>
<tr>
<td>Roman Luchkovsky</td>
<td>Credit and Securitisation</td>
<td><a href="mailto:roman.luchkovsky@standardbank.com">roman.luchkovsky@standardbank.com</a></td>
<td>+7-495-783-3861</td>
</tr>
</tbody>
</table>

## LatAm

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruth Mazzoni</td>
<td>Head — Credit and Securitisation</td>
<td><a href="mailto:ruth.mazzoni@standardny.com">ruth.mazzoni@standardny.com</a></td>
<td>+1-212-407-5033</td>
</tr>
<tr>
<td>Jose Bernal</td>
<td>Credit and Securitisation</td>
<td><a href="mailto:jose.bernal@standardny.com">jose.bernal@standardny.com</a></td>
<td>+1-212-407-5056</td>
</tr>
<tr>
<td>Eva Costa</td>
<td>Credit and Securitisation</td>
<td><a href="mailto:eva.costa@standardny.com">eva.costa@standardny.com</a></td>
<td>+1-212-407-5090</td>
</tr>
<tr>
<td>Larry Krohn</td>
<td>Head — Latin American Economic Strategy</td>
<td><a href="mailto:larry.krohn@standardny.com">larry.krohn@standardny.com</a></td>
<td>+1-212-407-5042</td>
</tr>
</tbody>
</table>

## South Africa

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henry Flint</td>
<td>Deputy Head</td>
<td><a href="mailto:henry.flint@standardbank.co.za">henry.flint@standardbank.co.za</a></td>
<td>+27-11-378-7202</td>
</tr>
<tr>
<td>Jason Costa</td>
<td>Unit Head — Credit and Securitisation</td>
<td><a href="mailto:jason.costa@standardbank.co.za">jason.costa@standardbank.co.za</a></td>
<td>+27-11-378-7220</td>
</tr>
<tr>
<td>Walter de Wet</td>
<td>Senior Analyst</td>
<td><a href="mailto:walter.dewet@standardbank.co.za">walter.dewet@standardbank.co.za</a></td>
<td>+27-11-378-8628</td>
</tr>
<tr>
<td>Adriaan du Toit</td>
<td>Analyst</td>
<td><a href="mailto:adriaan.dutoit@standardbank.co.za">adriaan.dutoit@standardbank.co.za</a></td>
<td>+27-11-378-7215</td>
</tr>
<tr>
<td>Maxima Gama</td>
<td>Technical Analysis (Equities)</td>
<td><a href="mailto:maxima.gama@standardbank.co.za">maxima.gama@standardbank.co.za</a></td>
<td>+27-11-378-7235</td>
</tr>
<tr>
<td>Darran Grabham</td>
<td>Technical Analysis</td>
<td><a href="mailto:darran.grabham@standardbank.co.za">darran.grabham@standardbank.co.za</a></td>
<td>+27-11-378-7228</td>
</tr>
<tr>
<td>Michael Keenan</td>
<td>Local Markets Strategy</td>
<td><a href="mailto:michael.keenan@standardbank.co.za">michael.keenan@standardbank.co.za</a></td>
<td>+27-11-378-7246</td>
</tr>
<tr>
<td>Raven Moodley</td>
<td>Credit and Securitisation</td>
<td><a href="mailto:raven.moodley@standardbank.co.za">raven.moodley@standardbank.co.za</a></td>
<td>+27-11-378-7222</td>
</tr>
<tr>
<td>Nhlamhl Ntuli</td>
<td>Quantitative Strategy</td>
<td><a href="mailto:nhlamhl.ntuli@standardbank.co.za">nhlamhl.ntuli@standardbank.co.za</a></td>
<td>+27-11-378-7229</td>
</tr>
<tr>
<td>Ayanda Olifant</td>
<td>Analyst</td>
<td><a href="mailto:ayanda.olifant@standardbank.co.za">ayanda.olifant@standardbank.co.za</a></td>
<td>+27-11-378-7233</td>
</tr>
<tr>
<td>Nicolette Roussos</td>
<td>Quantitative Strategy</td>
<td><a href="mailto:nicolette.roussos@standardbank.co.za">nicolette.roussos@standardbank.co.za</a></td>
<td>+27-11-378-7217</td>
</tr>
<tr>
<td>Seamus Vasey</td>
<td>Local Markets Strategy</td>
<td><a href="mailto:seamus.vasey@standardbank.co.za">seamus.vasey@standardbank.co.za</a></td>
<td>+27-11-378-7213</td>
</tr>
</tbody>
</table>
Email ResearchStrategy@standardbank.co.za if you would like to receive Standard Bank research.

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.