

**FORTIS  
BANK**

Solid partners, flexible solutions

MERCHANT BANKING

# Fortis Metals Monthly October 2005

Gold, Silver, Platinum, Palladium,  
Aluminium, Copper, Nickel,  
Lead & Zinc, Tin, Plastics.

Virtual Metals Research  
and Consulting

Tom Butler  
Jessica Cross  
Gary Mead  
Andrew Sullivan  
Matthew Turner

Tel: +44 20 7487 3600  
Email: [info@virtualmetals.co.uk](mailto:info@virtualmetals.co.uk)

## Contents

<b>Metals and Plastics – Strategic View</b>	<b>3</b>
<b>Analysis</b>	<b>5</b>
<b>Focus</b>	<b>6</b>
<b>Gold</b>	<b>9</b>
<b>Silver</b>	<b>10</b>
<b>Platinum</b>	<b>11</b>
<b>Palladium</b>	<b>12</b>
<b>Aluminium</b>	<b>13</b>
<b>Copper</b>	<b>14</b>
<b>Nickel</b>	<b>15</b>
<b>Lead &amp; Zinc</b>	<b>16</b>
<b>Tin</b>	<b>17</b>
<b>Plastics</b>	<b>18</b>
<b>Indices</b>	<b>19</b>
<b>Prices</b>	<b>20</b>
<b>Disclaimer &amp; Copyright</b>	<b>23</b>
<b>About Virtual Metals</b>	<b>24</b>
<b>Fortis Commodities Contact List</b>	<b>25</b>

Fortis Metals Monthly is an exclusive precious and base metals research joint venture between Fortis Bank SA/NV and Virtual Metals Research and Consulting.



## Metals and Plastics – Strategic View

---

### Analysts

**Gary Mead**

Tel: +44 20 7487 3600

Email: garymead@onetel.net

**Jessica Cross**

Tel: +44 20 7487 3600

Email: jessica@virtualmetals.co.uk

---

### Introduction

Massive energy price rises inspire inflation anxieties: good news for precious metals perhaps, but a long-term negative signal for the base complex.

### Gold

New highs for gold, clamour builds for assault on \$500/oz.

### Silver

Silver basks in gold's sunshine and tempts back investors.

### Platinum

Energy prices perk-up the promise of more demand for diesel vehicles, to the benefit of platinum, but high prices will dampen Chinese demand.

### Palladium

Norilsk publishes production data and says it intends to reveal stocks data by the end of the year.

### Aluminium

China's new policy tightens growth prospects for its domestic producers, energy costs trouble Europe's smelters.

### Copper

Fresh record prices defy expectations – \$4,000/t for the LME 3-month contract on the cards?

### Nickel

Weaker prospects, steel surplus hangs over the market.

### Lead & Zinc

Lead regained lost ground, zinc becalmed.

### Tin

Malaysia says it wants to mine more tin, prices remain in the doldrums.

### Plastics

Volumes on the LME remain sluggish, crude oil prices push up feedstock costs.

## Forecasts

### Price forecasts

		End-September	1-month	3-month	2 years
<b>Gold</b>	\$ per oz	473.25	448-485	450	350
<b>Silver</b>	c per oz	753	740-820	680	600
<b>Platinum</b>	\$ per oz	929	900-950	>900	850
<b>Palladium</b>	\$ per oz	194	180-195	>190	220
<b>Aluminium (3-month)</b>	\$ per tonne	1,869	1,850-1,950	>1,900	1,700
<b>Copper (3-month)</b>	\$ per tonne	3,798	3,800-4,100	>4,000	2,900
<b>Nickel (3-month)</b>	\$ per tonne	13,650	13,000-14,500	>15,000	13,000
<b>Lead (3-month)</b>	\$ per tonne	938	>1,000	1,000	900
<b>Zinc (3-month)</b>	\$ per tonne	1,408	1,330-1,500	>1,400	1,200
<b>Tin (3-month)</b>	\$ per tonne	6,595	6,000-7,000	>7,000	8,000
<b>Plastic: LL (November)</b>	\$ per tonne	1,355	1,340-1,500	>1,600	1,300
<b>Plastic: PP (November)</b>	\$ per tonne	1,355	1,340-1,500	>1,600	1,300

Source: Virtual Metals

## Analysis

---

### Analysts

#### Gary Mead

Tel: +44 20 7487 3600

Email: garymead@onetel.net

#### Jessica Cross

Tel: +44 20 7487 3600

Email: jessica@virtualmetals.co.uk

---

### Vertiginously high prices

September was the month to be in precious metals, with gold, silver, platinum and palladium all benefiting from a weaker dollar, fears of energy-price-induced economic stagflation, and geopolitical uncertainty. Base metals lagged behind somewhat and for them there began indications that the top of the boom might be with us – or even behind us.

One straw in the wind was the news (14<sup>th</sup> September) that the Swedish mining company Boliden has increased the hedging of its total copper production from 40% to 70% and shifted the hedging out from the previous one year, up to and including February 2007. Boliden said it had signed futures contracts averaging \$3,203/t. It has already hedged part of its lead, silver, and gold production throughout 2006, although its zinc production is, as yet, completely unhedged.

Locking in prices like this is often interpreted as an indicator that the top, or very nearly the top, of an expansionary, high-price cycle has been reached. Jan Johansson, Boliden's chief executive, reportedly said that these new hedging arrangements needed to be understood against the "background of the current record levels of copper prices and the fact that Boliden can now lock future cash flows at price levels substantially higher than our anticipated copper prices." In other words, he did not expect such good prices as have recently been seen to continue for much longer, and he is taking advantage of a situation which, it is implied, he thinks cannot last.

### Top of the cycle?

Johansson can cite the highly respected Australian Bureau of Agricultural & Resource Economics (Abare) in support of his decision to try to lock in what he believes will be a good price for his copper. Abare certainly thinks the copper cycle will turn bearish next year; it has recently projected copper to average \$3,435/t this year (20% higher than 2004) though just \$2,770/t in 2006, almost 20% lower than 2005. If Abare is right, Johansson will deserve his shareholders' handsome gratitude for getting an average \$433/t more than the Australian economists think probable. The other big industrial metal, aluminium, could also be moving into surplus next year. Carmine Nappi, director of industry analysis for Alcan, said at Metal Bulletin's International Aluminium conference in Atlanta that consumption will be less than production in 2006 for the first time since 2003, as higher energy costs dampen economic growth.

Certainly there are plenty of indicators around that the metals' exploration boom has perhaps already peaked. The Metals Economics Group (MEG) published a survey which suggested that mining companies will have spent \$5.1bn on exploration in 2005, almost 35% more than in 2004 and almost twice as much as they spent in 1997, the peak of the last exploration frenzy, with gold, nickel, copper and zinc exploration budgets leading the pack. With the biggest exploration budgets for almost a decade and the highest prices for almost two decades – maybe it is time to start booking some profits.

The great hope for future strong demand for most metals, base and precious, comes from the developing economies such as China and India; copper demand in the USA and other fully-industrialised regions is about 20% less today than what it was five years ago. But even though the Chinese appetite is big, it is asking too much to expect it to swallow any amount of metal, at any price. By the end of September, with cash copper prices a cat's whisker away from \$4,000/t, anecdotal evidence suggested that industrial demand in Asia had all but disappeared. At what price will it return?

## Focus

---

### Analyst

Gary Mead

Tel: +44 20 7487 3600

Email: garymead@onetel.net

---

### Copper: the Icarus of the base metals

*Copper set a fresh record high on the LME in September, but the higher it goes, the more sharply divided becomes opinion over when (rather than if) the bubble will pop. There is evidence on both sides but common-sense dictates that, in the context of considerably increased energy prices, economic growth will slow and cut demand for base metals – and copper will suffer most.*

When just about everyone began to feel it might be high time to turn bearish, fresh signs came along that it could be premature to call time on copper's scintillating run. From China came reports that its imports of refined copper and copper alloys rose by 64% in August (year-on-year) to 126,437t, according to data from the country's customs department, and up by 19% on July – at prices which many traders said were already too high and which had reportedly been choking demand. Clearly not. In the first seven months of 2005 China – which consumes about 20% of world copper – imported 2.2 Mt of copper concentrate, 45.4 % more than the same period in 2004. With seasonal demand in China traditionally stepping up at this time of year, this sign that China's appetite has far to go before being quenched perked-up those who feel that the copper price bubble is not yet at bursting point.

In the USA, the devastation caused by Hurricane Katrina wrecked tens of thousands of homes. A substantial part of the probable \$200bn reconstruction bill will inevitably be spent on copper, 182 kg of which is required for kitting out an average American home. According to David Lereah, chief economist of the US National Association of Realtors, total housing, commercial and public property losses as a result of Katrina amount to roughly \$100bn. Construction costs and house prices will rise and long-term mortgage rates will rise even more slowly – he reduced his forecast for the average 30-year fixed rate mortgage from 6.2% to 5.9% for Q4 of 2005. The stimulus this gives to demand for new homes should mean, he argued, that total housing starts in the USA for 2005 will be 2.04m, the highest since 1973. On average, and discounting the use of scrap metal, that means more than 370,000t of copper demand just for the domestic housing market in the USA alone. The National Association of Home Builders in the USA reported at the beginning of September that it estimated more than 200,000 homes in the city of New Orleans alone have been damaged beyond repair after Katrina. If only half of these homes are reconstructed and require new plumbing and wiring, that alone would consume more than 18,000t of copper.

For those who read the runes of exchange stocks, supply disruptions, setbacks of one kind and another for bullish signals, September provided a rich harvest other than hurricanes and houses. Fresh figures released by the International Copper Study Group (ICSG) suggested that global supply from primary and scrap metal lagged demand by 219,000t in the first half of 2005. World mine production rose by 4.5% over the same period in 2004, and refined production grew by 5.1%, but demand grew by 12% in India, 13% in China and 16% in Russia, according to the ICSG. Chile's copper production, accounting for about one third of global output, has fallen in four out of the first seven months of the year and in July was down 12% year-on-year, to 420,000 tonnes; in August the country's total output was 466,855t, but this was only 0.4% higher than August 2004's figure, hardly enough to deter bullish enthusiasts.

Copper stocks in the leading metal exchanges have recently risen by more than 150% since their lowest point for 31 years, touched on 22nd July this year, but on 23<sup>rd</sup> September this trend seemed to go into reverse when the Shanghai Futures Exchange said its stocks of copper fell a remarkable 22% to 32,883t, the lowest level for three weeks. Three days later the LME's copper warehouses

were depleted by 200t – a tiny quantity, relatively, but reversing an upward trend which had been building since mid-Summer, and the first decline since 12<sup>th</sup> September. By 27<sup>th</sup> September the combined stocks of the LME, Comex and Shanghai were 124,882t, sufficient for a few days' global demand and more than 7% lower than four days earlier. As one memorable quote from an anonymous trader on Dow Jones on 23<sup>rd</sup> September put it: "There is no end in sight of the wads of money coming in" to copper. In a perfect example of a self-fulfilling prophecy, the LME's 3-month benchmark contract rose inexorably to its seventh consecutive daily high on the 28<sup>th</sup>, hitting \$3,825/t, up 1.2% on the previous day's late kerb trading, though at this heady level volumes traded were extremely thin.

### **The ever-receding balance**

For most of 2005 market commentators and analysts have widely agreed that a return to a more balanced supply-demand picture is coming (a view from which it would be foolish to diverge), but the only trouble is, this return to balance has proved to be something of a mirage, permanently receding the closer one approaches.

Yet there are indications of a slowing-down in overall demand. The ICSG figures showing double-digit demand growth in China, India and Russia need to be placed in the context of a global slowdown in demand of 2.1% for the first half of 2005. The knowledge that developing economies' hunger for copper has been so strong in the first six months of the year has tempted the wave of hedge fund money that has driven LME prices so high to stick around for longer than anyone anticipated at the start of the year, and has even persuaded others belatedly to join the party. Yet we think the party has reached the stage where the guests have run out of conversation and the sandwiches are curling at the edges. Most observers of the copper world increasingly believe that during 2006-2008 the global market will accelerate towards a large surplus, in excess of 1 Mt.

Refineries which have been out of operation are now coming back on-stream, and smelting capacity in China could soar to as much as 3 Mt annually within five years, as opposed to about 2 Mt a year today. Certainly a number of key copper producers believe prices will come down next year and thereafter. Jean-Paul Luksic, chairman of Antofagasta, said in September he expects copper to average \$2,976/t in 2006 and \$2,535/t in 2007. The Chilean miner Codelco, the world's biggest copper producer, took a slightly more conservative view back in August, positing an average of \$2,866/t for 2006.

This range of forecasts looks quite compelling today, yet information surrounding the fundamentals for copper in 2005 has proved itself to be so contentious, and the propensity of large-scale investment funds to follow market momentum has been so dominant a factor, that this kind of judgement could easily turn out to be little better than crystal ball gazing. After all, back in mid-2004 a Reuters poll of all the base metal markets' leading analysts judged collectively that the average price for 3-months LME copper in 2005 would be \$2,800/t. The average for the year so far (up to the end of August) has been \$3,246.58/t.

### **Lots more supply coming along**

It remains our view therefore that there is still a short-term likelihood of even higher prices, as latecomers to the party fail to realise that some of the guests who came much earlier are thinking about putting on their coats and heading for the exit. Although there may be corrective moments, a \$175 surge to \$4,000/t for the LME's 3-month benchmark before the end of 2005 no longer stretches credulity; it would represent after all a shift of only about 4.5% beyond the high already touched so far this year.

Yet while more volatility seems inevitable in the short-term, there is little doubt that copper is destined to be in much more plentiful supply, probably from mid-2006. Of the 431 copper mining projects currently under consideration around the world, according to data from the Raw Materials Group, the majority, 164, are expansions of already existing operations, mostly in major producing countries such as Australia, Chile, Peru, Mexico and the USA, with some \$8.4bn of investment already committed. Only another 20 projects are currently under construction, at a combined capital expenditure of \$5.4bn. Of the total projects, 44% (190) are still at the conceptual or pre-feasibility stage, implying they are still a long way off and indeed an untold number of these may of course never reach production, depending on how far and how hard the price will eventually plummet. But with the possibility that continued high energy prices could slow global economic growth and thus dent demand for all base metals, copper included, the conclusion has to be that this time next year the whole world of copper could – in fact should – look very different, and traders will then be fondly reminiscing about the days when it hit \$4,000/t.

---

**Copper projects**

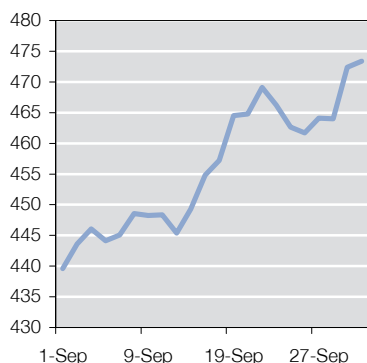

---

Stage	Number of projects	Capital \$bn	Additional Metal (m tonnes)
Conceptual	146	n/a	n/a
Construction	20	5.4	n/a
Feasibility	51	14.2	n/a
Prefeasibility	44	7.3	n/a
Expansions	164	8.4	0.8
Restart	6	0.5	18.0
<b>Total</b>	<b>431</b>	<b>35.8</b>	

Source: Raw Materials Group

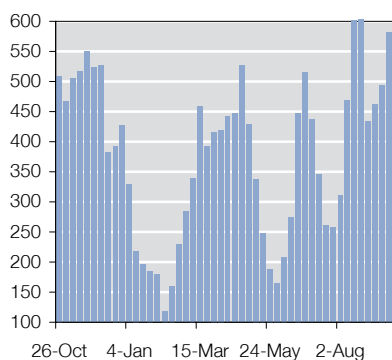
# Gold

Gold price (\$/oz)



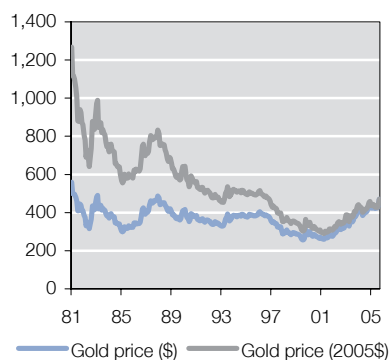
Source: London Bullion Market Association

Comex: Non-commercial net position (tonnes)



Source: Virtual Metals

Gold price since 1981



Source: Virtual Metals

## News

- Sept 28<sup>th</sup>: Newmont said it expects total gold sales for 2005 to be 8.5 Moz. Pierre Lassonde, Newmont’s president and current chairman of the World Gold Council, forecast gold will rise to \$525/oz in 2006.
- Sept 15<sup>th</sup>: Rio Tinto approves its 40% share of the development of the Cortez Hills project in Nevada, and will spend \$182m on it; Placer Dome holds the other 60% of the project.
- Sept 6<sup>th</sup>: Australia’s gold production slipped in Q4 of the fiscal year ended 30<sup>th</sup> June, to 63t vs. 66t for the same period the previous year, according to the Australian Bureau of Agricultural & Resource Economics.

## Analysis

- 17-year high price brings out the bulls

Higher energy costs and signs of sluggish global economic growth prompted investors to go for gold mid-month, with Comex gold futures zipping up \$4/oz on 16<sup>th</sup> Sept, 0.9% on the day and later that week reaching \$479/oz. A retracing followed, to \$467.20/oz on Nymex on 23<sup>rd</sup>, leaving gold up 6.6% since the end of August. Many commentators picked up on the buzz and started predicting \$500/oz by Christmas, though we remain confident that our prediction at the start of 2005 of a peak London pm fix of \$472/oz (the am fix of 22<sup>nd</sup> Sept was \$472.75/oz) remains accurate.

Presently at 17-yr highs, an 18-yr high would need gold to surpass its level of 8<sup>th</sup> January 1988 of \$483.90/oz. If it gets over \$500/oz it will be at a 22-yr high. In any case the question is perhaps not “how high can it go?” but “what do these highs mean in real terms?” In real terms, ie after adjusting for the declining value of the US dollar, the current level of \$460/oz is not that high. That 1988 high of \$483.90/oz is equivalent to \$850/oz today, whereas the all-time high of \$850/oz in January 1980 would be worth \$2,142/oz today.

Norilsk said it had purchased three gold assets in the far eastern region of Yakutia from Alrosa, the Russian diamond mining monopoly, with a final price tag of \$285m. It said that total estimated reserves from all three assets could be more than 28 Moz (about 870t), with varying degrees of certainty according to Russian geological appraisal standards. Barrick said it aims to acquire or merge with other South American gold and silver producers but may also consider other opportunities. Barrick’s Lagunas Norte open-pit mine has just opened in Peru; it is expected to produce some 550,000 ozs in 2005 and in the first three years production is anticipated to average 800,000 ozs annually.

## Outlook

**The London pm fix moved steadily up through the month, starting on the 1<sup>st</sup> at \$439.60/oz, breaking through \$450/oz to fix at \$454.80/oz on the 15<sup>th</sup> and ending on the month’s high at \$473.25/oz on the 30<sup>th</sup>. Tighter fundamentals and a speculative feeding frenzy could perpetuate this momentum well into October, though some profit-taking must be anticipated. Short-term: \$448-\$485/oz.**

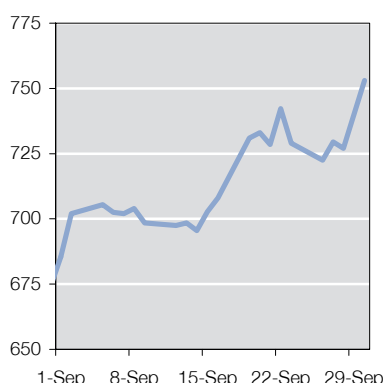
## Market data (September unless stated)

Prices	US\$/oz	Euro/oz	Rand/kg	ETF investment	Ounces	Lease rates	1m	3m	6m	12m	Option volatility (end month)
Average	456	353	93,386	US	483,385	Average	0.44	0.46	0.46	0.52	1-month 16.8%
High	473	393	96,990	UK	(406)	High	0.47	0.50	0.52	0.60	3-month 15.5%
Low	440	372	88,949	Aus	798	Low	0.41	0.43	0.35	0.48	6-month 15.1%
				S.Africa	0						12-month 14.9%

Source: Prices: London Bullion Market Association, Others: Virtual Metals

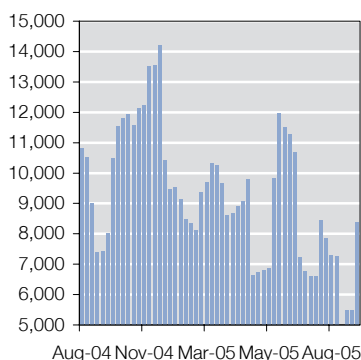
# Silver

Silver price (cents/oz)



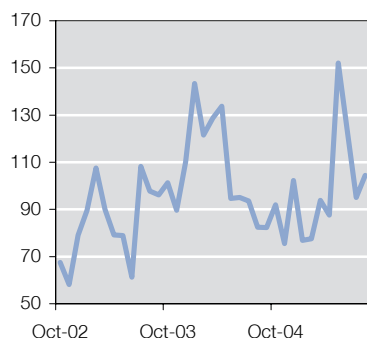
Source: London Bullion Market Association

Comex: Non-commercial net position (tonnes)



Source: Comex

LBMA clearing (tonnes)



Source: LBMA

## News

- Sept 8<sup>th</sup>: Perilya, the Australian lead-zinc producer, reported the sale of its in-ground silver to Coeur d'Alene Mines, for \$36m in cash. Coeur expects an additional 2.3 Moz of silver production annually as a result of the deal, approximately a 17% increase in its anticipated 2005 production of 13.5 Moz.

## Analysis

- Silver basks in gold's sunshine

Silver rose 3% on the 16<sup>th</sup>, following the upwards progress of gold as the yellow metal touched a 17-year high, with investors sensing that dramatically increased energy prices portended higher inflation. On Comex silver futures rose that day 21 cents to \$7.288/oz, the highest since 3<sup>rd</sup> August.

There were suggestions that the US Securities and Exchange Commission (SEC) had turned down the application by Barclays Global Investors (BGI) to launch a silver exchange traded fund or ETF, though this was swiftly denied by BGI. "The rumour is false. There is no news to report. Nothing has happened with the filing," according to a BGI spokeswoman, quoted by Reuters on 15<sup>th</sup> Sept. BGI filed for approval in June 2005; it pointed out that it took roughly a year from the filing for its gold ETF before it gained SEC approval.

Apex Silver Mines and Apogee Minerals announced they had reached agreement to form a joint venture to exploit the Pulacayo-Paca silver-zinc-lead project in south west Bolivia. The Pulacayo silver mine is Bolivia's second biggest, after the Cerro Rico de Potosi and has produced more than 206 Moz of silver since first discovered in 1883.

Coeur d'Alene said its new Australian purchase of the Broken Hill mine in New South Wales from Perilya will increase its overall reserves by 15 Moz. Perilya said it regarded the silver as a by-product of its lead and zinc operations and that the sale will help it boost development of its core mining. Coeur's total Australian silver production is now 3.6 Moz annually as a result of the deal. The deal is in the context of its key mine in Nevada being due to reach the end of its profitable life in mid-2007.

Phillips Baker, President and CEO of Hecla Mining, which expects to produce a total of 6.5-7 Moz at a cash cost of \$2.50/oz in 2005, said he expected industrial demand from China to be robust and continue growing for the foreseeable future.

## Outlook

Silver recovered its vivacity in September as the London daily fix shifted steadily up from its lowest, of \$6.855/oz (on the 1<sup>st</sup>) to end the month at its highest, of \$7.53/oz. If the current global economic context remains favourable to gold's perceived anti-inflationary strengths, silver will do well too, possibly even fixing at above \$8/oz for the first time this year. Short term: \$7.40/oz-\$8.20/oz.

Market data (September unless stated)

Prices	c/oz	e/oz	p/oz	Imports	kg	Lease rates	1m	3m	6m	12m	Option volatility (end month)	
Average	715	584	396	USA (June)	452,734	Average	0.90	1.18	1.73	2.72	1-month	25.5%
High	753	625	426	Japan (July)	281,656	High	1.23	1.47	2.32	3.52	3-month	25.5%
Low	686	553	379	Switzerland (Aug)	4,769	Low	0.29	0.48	0.80	1.60	6-month	25.0%
											12-month	24.8%

Source: Prices: London Bullion Market Association, Others: Virtual Metals

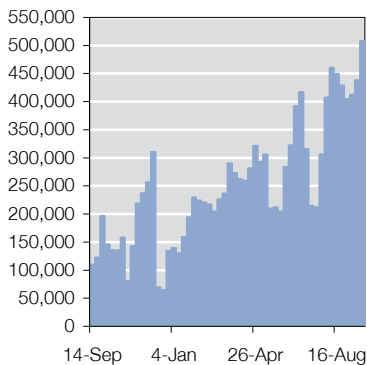
# Platinum

Platinum price (\$/oz)



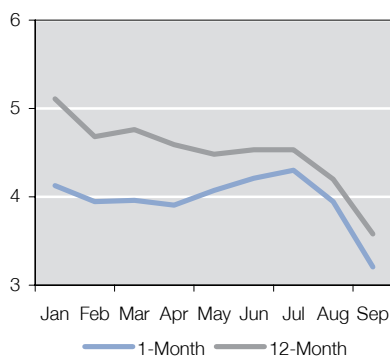
Source: London Platinum & Palladium Market

Nymex: Non-commercial net position (ounces)



Source: Nymex

Platinum lease rates (2005) (%)



Source: Virtual Metals

## News

- Sept 28<sup>th</sup>: Norilsk reported 1H 05 production of 355,000oz; full year output was forecast by the company to be 700,000oz.
- Sept 24<sup>th</sup>: Implats and Aquarius Platinum announced they will go ahead with a \$14m expansion of their joint venture Mimosa platinum mine in Zimbabwe. The expansion will raise Mimosa’s annual production to 168,750 pgm ozs as against the current 135,000 pgm ozs.
- Sept 16<sup>th</sup>: Lonmin said it was preparing to bid for the remaining share of Messina; it already holds a 91.5% share of the company following its takeover of Southern Platinum earlier this year.
- Sept 1<sup>st</sup>: Zimplats reported annual pgm production of 176,000 oz for the current year, almost unchanged from the previous full year results. Turnover was up 2% at \$112.48m and revenues up by 12%.

## Analysis

- Platinum price trend remains positive

Angloplat’s chief executive, Ralph Havenstein, said he believed the USA’s diesel market was poised for major growth, benefiting platinum demand. He attributed the incipient expansion to high oil prices as consumers turned increasingly to more energy-efficient vehicles, including diesel. Figures from the UK’s Society of Motor Manufacturers and Traders showed overall new car registrations were down 5.7% during August vs. August 2004, but the diesel market grew by 5.7% the same month.

Aquarius Platinum and Implats gave details of a 25% production increase at their Mimosa mine in Zimbabwe. Production of pgms will rise from 135,000 oz to 168,750 oz, following a \$14m expansion project starting in October this year. Reports from Zimbabwe suggested Zimplats, the country’s main miner, could close, following disputes with the Zimbabwean Revenue Authority. The reports were denied by Implats, the South African holding company of Zimplats.

Sales of large LCD panels reached a new high in July according to the research firm Databank. Monthly shipments were 17m units, 10.6% up from June, showing consumers to be increasingly interested in large-size panels for domestic TV purposes. China’s biggest jewellery manufacturer, the Sun and Moon Jewellery Group, said it will promote platinum over other precious metals. The group’s sales are expected to reach the equivalent of \$308m by the end of 2005, 25% up on 2004.

## Outlook

Platinum’s London pm fix rose from the month’s low of \$897/oz on the 1<sup>st</sup> to \$930/oz on the 20<sup>th</sup>, whereupon it stalled and fell back, ending the month at \$929/oz. Investors are still keen however and short-term if gold leads the way, higher prices for other precious metals, including platinum, are feasible. But these high prices potentially spell more gloom for Chinese jewellery demand. Short term: \$900-\$950/oz.

Market data (September unless stated)

Prices	US\$/oz	Lease rates	1m	3m	6m	12m	Trade (kg)	Imports	Exports	Option volatility (end month)
Average	914.0	Average	3.2	3.3	3.5	3.6	USA (June)	8,992	2,761	1-month 11.8%
High	930.0	High	3.9	4.0	4.1	4.1	Japan (July)	6,220	887	3-month 12.5%
Low	897.0	Low	3.0	3.1	3.2	3.4	China (July)	3,379	0	6-month 13.8%
							Switzerland (Aug)	6,858	2,709	12-month 15.5%
							Hong Kong (June)	1,450	1,399	24-month 24.5%

Source Price: London Platinum and Palladium Market, Others: Virtual Metals

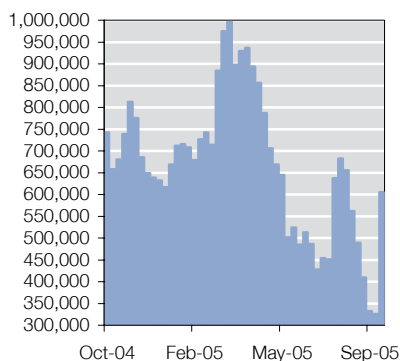
# Palladium

Palladium price (\$/oz)



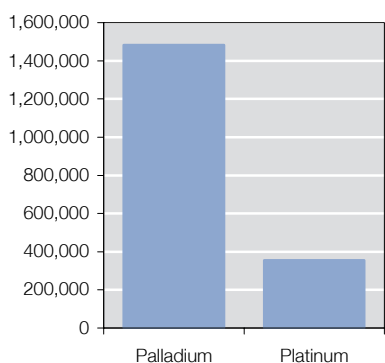
Source: London Platinum & Palladium Market

Nymex: Non-commercial net position (ounces)



Source: Nymex

Norilsk's production of PGMs (ounces)



Source: Norilsk

## News

- Sept 28<sup>th</sup>: Norilsk reported 1H 05 output at 1.483 Moz and forecast full year production at 3 Moz.

## Analysis

- Investors surge back on Nymex

For the first time the market is now able to get a clearer handle on the production of the world's biggest palladium producer. Norilsk, the Russian company which is estimated to account for 50% of total world palladium output, finally revealed details of its pgms output, following a decree promulgated by President Putin at the beginning of this year which declassified information concerning Russia's pgms and diamonds. Norilsk also said it would in future release quarterly production statistics for pgms as well as nickel and copper.

Norilsk kept observers hanging on, however, for what might be even more interesting information, concerning precise details as to the amount of palladium stocks it is sitting on. It said it 'expected' to disclose full data concerning its pgms reserves by the end of the year; which is not necessarily the same as cast-iron commitment to reveal all. There is quite widespread belief in the market that Norilsk's inventories are substantial.

West European new car sales in August rose by 7.5% year-on-year, according to figures from the European Automobile Manufacturers Association. However new sales are still down by 0.5% for the first 8 months of 2005 compared with the same period in 2004.

Canada launched its first palladium coin, the \$50 face value Maple Leaf. It was unveiled alongside a new \$50 face value gold coin and a silver \$1 piece.

## Outlook

Palladium was given a boost in September by the resurgence in speculative interest in precious metals, but lease rates at near zero suggest a continuing belief that global stocks remain more than comfortable. The London pm fix drifted lower until mid-month (12<sup>th</sup>-14<sup>th</sup>) saw the trough, at \$182.50/oz, before moving up to the peak of \$210/oz on the 20<sup>th</sup>. Final pm fix of the month was \$194/oz. What is remarkable about palladium at the moment is the intense devotion it inspires among the investment community on Nymex, which in the week ending 20<sup>th</sup> September saw a substantial return to the net longs by a huge 228,900 oz. There are no fundamental reasons why palladium should be higher than \$180/oz right now, though expect some greater volatility as we move closer to Norilsk showing the world what it has. Short term: \$180/oz-\$195/oz.

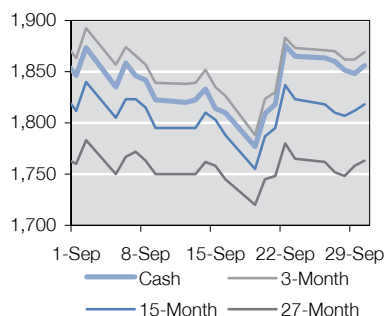
Market data (September unless stated)

Prices	US\$/oz	Lease rates	1m	3m	6m	12m	Trades (kg)	Imports	Exports	Option volatility (end month)	
Average	188.7	Average	0.63	0.66	0.70	0.73	USA (June)	10,202	4,602	1-month	25.0%
High	201.0	High	0.74	0.82	0.90	1.00	Japan (July)	290	1,022	3-month	26.0%
Low	182.5	Low	0.52	0.54	0.56	0.60	China (July)	372	248	6-month	27.5%
							Switzerland (Aug)	2,413	10,355	12-month	29.0%
							Hong Kong (June)	2,247	126	24-month	31.5%

Source: London Platinum and Palladium Market, Others: Virtual Metals

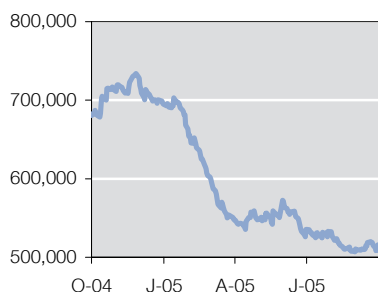
## Aluminium

### Aluminium price (\$/tonne)



Source: London Metal Exchange

### Aluminium stocks (tonnes)



Source: London Metal Exchange

### Quote of the Month

**“At current electricity prices every location is at risk”**

**Michael Peter Steffan, Norsk Hydro, on aluminium smelters in Germany**

### News

- Sept 26<sup>th</sup>: The International Aluminium Institute reported global stocks rose by 126,000t to 3.398 Mt in August vs. (a revised figure of) 3.272 Mt in July.
- Sept 22<sup>nd</sup>: Alcoa, the world’s biggest aluminium producer, warned that falling prices and higher energy costs may cut its profits by more than one third in the current quarter.
- Sept 9<sup>th</sup>: Rusal, Russia’s biggest aluminium producer, plans to invest more than \$1bn in construction of the Rogunskaya hydroelectricity plant in Tajikistan.
- Sept 8<sup>th</sup>: Russian exports of primary metal to non CIS countries rose in Jan-July 11.1% to 2.419 Mt (vs. the same period for 2004), with a value of \$3.182bn, 25% higher than the previous year.

### Analysis

- Energy costs trouble producers

China’s State Council approved in principle a new policy to regulate the country’s aluminium producers. It includes a tightening of the entry conditions for new projects; further controls over expansion plans; and calls for integration between primary metal producers and downstream activities, and between aluminium companies and electricity plants. The policy could see a wave of mergers in the industry’s 150+ individual aluminium plants. China’s total aluminium output in 2005 will reach 7.5 Mt, 14% higher than in 2004, according to Beijing Antaika Information Development Company, the state-sponsored research institute. Alcoa got the green light from China to form an aluminium-producing venture, with 73% ownership, with China International Trust & Investment, at the Bohai plant in Qinhuangdao; Alcoa plans to invest some \$200m to expand the mill, which should be in production by 2008.

Alcoa said it will invest some \$1.6bn in Brazil to upgrade its upstream operations including a 2.1 Mt a year expansion (to total 3.5 Mt per year) of its Alumar consortium alumina refinery in Sao Luis, Maranhao. It will also create a bauxite mine in Juruti (also Brazil) to produce an initial 2.6 Mt annually, and it will modernise its Pocos de Caldas aluminium smelter in Minas Gerais. Norsk Hydro warned that the future of its smelter at Neuss in Germany is under threat from high electricity prices. The current energy supply contract expires 1<sup>st</sup> January 2006 and the 230,000t annual production at Neuss could go. Norsk will close its Stade and Hamburger Aluminium Werke smelters in Germany by the end of 2005, citing high electricity costs as the reason. Les Echos reported Alcan will shut its Lannemezan smelter in France at the end of 2007, citing higher electricity costs; it produces 50,000t annually.

### Outlook

**Aluminium averaged \$1,854.14 on the LME in September (3-month contract, mean), \$34.95 lower than the average for August which, given the seasonal increased demand which begins in September, did not augur well for the rest of 2005. Short term: \$1,850/t-\$1,950/t.**

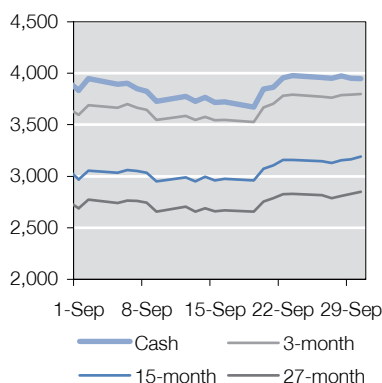
### Market data (September unless stated)

Prices (\$/t)	Cash	3-month	15-month	LME stocks	Tonnes	Prod (kt)	July	August	LME Open Interest (contracts)	
Average	1,839	1,853	1,808	End-Aug	506850	Europe	728	722	Aluminium	660,586
High	1,876	1,893	1,840	End-Sep	514025	Americas	670	672		
Low	1,856	1,869	1,818			Asia	272	275		
						Other	339	334		
						Total	2,009	2005		

Source: London Metal Exchange, except Production: International Aluminium Association

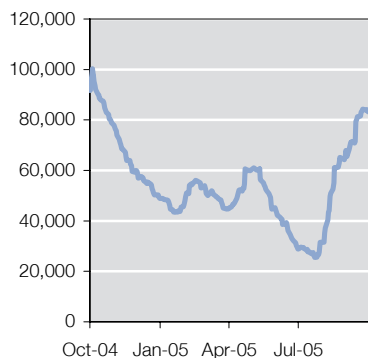
# Copper

Copper price (\$/tonne)



Source: London Metal Exchange

Copper stocks (tonnes)



Source: London Metal Exchange

### Quote of the Month

**“Fund players in London will keep pushing world copper prices higher”**

**Qian Rongjin, Chairman of the Shanghai Futures Association**

### News

- Sept 13<sup>th</sup>: Antofagasta reported 1H 05 net profits of \$367.5m vs. \$207.5m for 1H 04, with total group copper production forecast to reach almost 470,000t in 2005.
- Sept 8<sup>th</sup>: Codelco, the Chilean copper producer, said it will invest \$560m into its El Salvador mine to prolong its life by up to 20 years. It expects group production to be some 1.74 Mt of copper in 2005 vs. 1.84 Mt in 2004.
- Sept 8<sup>th</sup>: Southern Peru Copper said it expects sales to reach some \$3.8bn in 2005.

### Analysis

- New record prices – yet again

Copper lost 6% in the first week of September but recovered ground later in the month and by 20<sup>th</sup> the LME’s 3-month contract was trading at \$3,668.50/t, \$45.50 higher than the previous day. Upward pressure was however tempered by stock inflows into global exchanges, with the LME’s warehouses adding 4,250t (to 75,100t) and Shanghai’s putting on 2,858t (to 42,529t) by 13<sup>th</sup> September. The rejection by union leaders on 13<sup>th</sup> September of Asarco’s latest contract offer meant that the strike at the Arizona and Texas copper plants dragged on into its 3<sup>rd</sup> month, helping to prop up prices.

Qian Rongjin, chairman of the Shanghai Futures Association, was in a bullish mood when he spoke to Dow Jones on 9<sup>th</sup> September, forecasting copper prices in China to hit fresh peaks in 2H 2005. He said he expected the LME 3-month copper contract to erupt through \$4,000/t later this year, as fund managers stay interested and China’s industrial demand remains vigorous. He also felt that copper futures’ trading volumes on the Shanghai Futures Exchange would be down by as much as 30% this year as a result of recent high prices. The latest figures of the International Copper Study Group (ICSG) showed the refined copper market in a 65,000t global deficit in June, with a Jan-June deficit of some 219,000t.

Commenting on Antofagasta’s six monthly results, Jean-Paul Luksic, chairman, took note of the recent historically high prices but pointed out that “visible inventory levels remain low at around 120,000t representing less than three days of world consumption. The copper market remains volatile, against a background of strong global economic growth, a weak dollar, smelting constraints and supply disruption.” Antofagasta expects copper to average \$2,976/t in 2006 and \$2,535/t in 2007.

### Outlook

**In August we forecast \$4,000/t 3-month price sooner rather than later; a fresh record for the LME’s benchmark 3-month contract was set again on 29<sup>th</sup> September as it touched \$3,835/t before closing at \$3,810/t, the cash price having already breached \$4,000/t. The 3-month contract ended the month at \$3,798/t. Short term: \$3,800/t-\$4,150/t.**

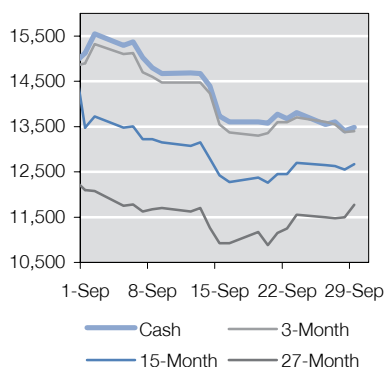
Market data (September unless stated)

Prices (\$/t)	Cash	3-month	15-month	27-month	LME stocks	Tonnes	LME Open Interest (contracts)
Average	3,854	3,668	3,058	2,748	End-Aug	65,675	Copper 329,912
High	3,977	3,798	3,190	2,850	End-Sep	83,250	
Low	3,948	3,798	3,190	2,850			

Source: London Metal Exchange

## Nickel

### Nickel price (\$/tonne)



Source: London Metal Exchange

### Nickel stocks (tonnes)



Source: London Metal Exchange

### Quote of Month

**“The mid-term strategy is for Posco's survival, as the market for general materials is being taken over by the Chinese”**

**Kang Chang-ok, President, Posco**

### News

- Sept 8<sup>th</sup>: Russia's nickel exports for 1H 05 were 136,100t, 5% higher than the same period for 2004, with revenues 22% up at \$2.1bn, according to the Russian Federal Customs Service.
- Sept 8<sup>th</sup>: Eramet, the French producer of nickel alloys, reported net profits of EUR 196m for 1H 05, 56% higher than the same period for 2004. The company said the global supply/demand balance could shift into surplus for the full year, due to collapsed stainless steel production in 2H 2005.

### Analysis

- Steel surplus dampens expectations

Sumitomo Metal Industries and Nippon Steel Corporation both revised upwards their projections for profits for their fiscal years ending in March, citing high steel prices. Sumitomo also said it was considering expanding production capacity at its joint venture smelter (the Coral Bay Nickel Corporation) in the Philippines in response to increased demand from China. According to Japanese reports, Sumitomo is weighing up the possibility of doubling annual production capacity to 20,000t by 2007. Estimates vary but China's consumption of nickel may be running at some 140,000t annually. According to the latest figures from its National Bureau of Statistics, China's nickel production in Jan-August this year was 62,282t, 14% higher than the same period in 2004.

Companhia Vale do Rio Doce (CVRD, the Brazilian iron ore producer), launched a C\$790.4m takeover bid on 16<sup>th</sup> Sept for Canico Resources Corporation, the Vancouver-based mining company which is planning a \$1bn nickel project in Brazil. Canico's shares rose 35% on the bid to C\$19.75, vs. the C\$17.50-a-share offer by CVRD. Canico's Onca-Puma nickel project in northern central Brazil is expected to produce annually almost 40,000t of nickel in its first ten years. There were expectations that other bids might be flushed out, perhaps from Xstrata, which owns 20% of another big nickel producer, Falconbridge. Consensus grew during the month that Falconbridge might itself become subject to a takeover bid.

The impact of China's low-cost, substantial steel production made itself felt in one of its main Asian competitors, South Korea, where Posco, the leading South Korean steel producer, reduced prices of 11 of its cheaper products by 6%-9% of its lower-priced products in response to inventories piling up as a result of massively increased imports of relatively cheaper Chinese imports. According to Posco, Chinese steel exports to South Korea for the Jan-Aug period exceeded 4.9 Mt, 600,000t more than the total imports for 2004. Posco said it will concentrate on producing higher-grade steel.

### Outlook

**The LME 3-month contract ended weakly at \$13,650/t against an average for the whole month of \$14,070.80/t. With global steel prices softening and Chinese production still growing the outlook for nickel is softer. Short term: \$13,000/t-\$14,500/t.**

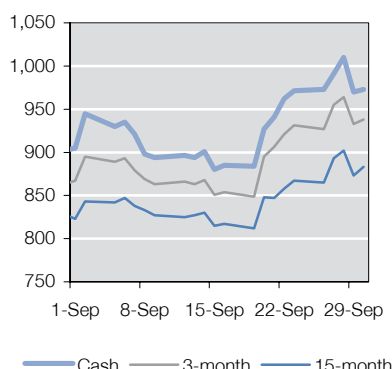
### Market data (September unless stated)

Prices (\$/t)	Cash	3-month	15-month	27-month	LME stocks	Tonnes	LME Open Interest (contracts)
Average	14,224	14,066	12,870	11,519	End-Aug	9,522	Nickel 65,661
High	15,545	15,320	13,725	12,100	End-Sep	13,206	
Low	13,550	13,650	12,925	12,025			

Source: London Metal Exchange

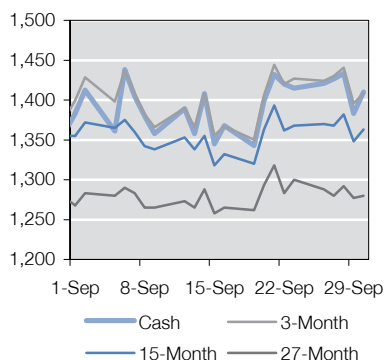
## Lead & Zinc

### Lead price (\$/tonne)



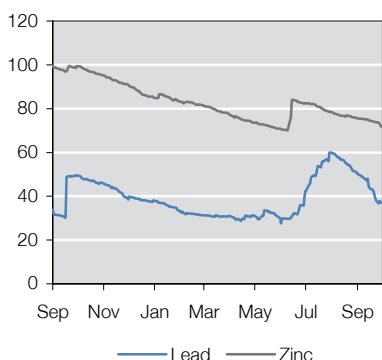
Source: London Metal Exchange

### Zinc price (\$/tonne)



Source: London Metal Exchange

### Stocks on LME (Jan. 1st = 100)



Source: Virtual Metals from LME

### News

- Sept 6<sup>th</sup>: Teck Cominco, the Vancouver-based zinc producer, reported it had taken a 15% stake in the Fort Hills oil sand project as a way of diversifying its core metals earnings. The Fort Hills project is estimated to contain 2.8bn barrels of bitumen resource, with initial state-up planned for 2010. The Fort Hills operators (UTS Energy Corporation and Petro-Canada) will receive \$475m from Teck Cominco in return for the stake.

### Analysis

- Zinc survives hurricane fall-out

Early confusion over whether or not zinc in the LME's New Orleans warehouses was damaged or retrievable perked-up prices on the LME early in the month but they dropped back following confirmation that the metal was undamaged and in deliverable condition. The New Orleans stocks account for almost half of the LME's total but local reports indicated little or no substantial damage to the metal contained in the more than 20 warehouses (accounting for some 225,000t of zinc altogether) in the hurricane-affected area.

The International Lead and Zinc Study Group (ILZSG) released their latest data showing refined zinc production was 6.06 Mt between Jan-July, vs. 5.848 Mt for the first seven months of 2004. Consumption was 6.162 Mt, 77,000t higher than the same period in 2004. Western world consumption was 4.233 Mt, slightly down from the 4.309 Mt figure for last year. The Australian Bureau of Agricultural & Resource Economics (Abare) forecast global zinc stocks to fall throughout the rest of 2005 thanks to continued strong demand from Asia and limited production growth. Abare anticipated average prices of \$1,295/t in 2005, up by 2% in 2006 to average \$1,315/t.

Wang Jianjun, managing director of China's Zhuzhou Smelter, said zinc prices could go to their highest in 15 years, topping 1997's peak of \$1,670/t, in the next 12 months thanks to increasing demand from China. He added that Zhuzhou would produce 300,000t of zinc ingots and alloy in 2005, 20,000t more than in 2004, and that the company's 2005 exports could be half of 2004's 50,000t

The strike at the Trail lead and zinc smelter in British Columbia, Canada, owned by Teck Cominco, which began in mid-July, dragged on although both sides continued negotiations at the end of the month. Workers at Falconbridge's Kidd Creek zinc and copper operations started industrial action; the Canadian plant produces some 130,000t of copper and 135,000t of zinc annually.

### Outlook

**The LME 3-month benchmark for zinc was tightly range-bound in September but industrial disputes and investment fund interest could see a break-out to a higher range shortly. Short term: \$1,330/t-\$1,500/t. Lead improved and may do so further as the northern hemisphere winter sets in. Short term: >\$1,000/t.**

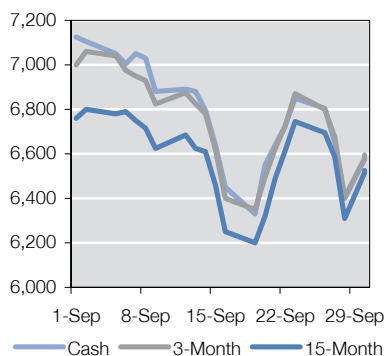
### Market data (September unless stated)

Prices (\$/t)	Cash	Cash	3-month	3-month	LME stocks	LME Open Interest (contracts)			
	Lead	Zinc	Lead	Zinc		Lead	Zinc		
Average	931	1,395	894	1,402.39	End-Aug	54,200	9,522	Lead	83,678
High	1,010	1,438	964	1,444.00	End-Sep	39,750	13,206	Zinc	220,584
Low	973	1,410	938	1,408.00					

Source: London Metal Exchange

# Tin

Tin price (\$/tonne)



Source: London Metal Exchange

Tin stocks (tonnes)



Source: London Metal Exchange

### Quote of the Month

**“We want State governments to study the possibility of reviving tin mining”**

**Datuk Seri Najib Razak, Deputy-Prime Minister of Malaysia**

### News

- Sept 6<sup>th</sup>: Australia’s tin mine production was sharply up in the fiscal year ending 30<sup>th</sup> June, almost 37% higher at 2,095t vs. 1,533t for the previous year, according to the Australian Bureau of Agricultural & Resource Economics (Abare). Refined tin was however 20% lower at 445t.
- Sept 1<sup>st</sup>: PT Timah, the largest producer in south-east Asia, announced results for 1H of 2005, with refined tin up by 27.2% to 19,214t. Net profits for the company were Rupiah 96.5bn (equivalent to \$9.32m), an increase of 49% from the same period in 2004.

### Analysis

- Exchange stocks weigh down on price

Inventories on the LME have been steadily building since June, more than doubling from the year’s low of 3,220t to well over 7,000t by the beginning of September, and ending the month at 8,530t. The lack of fund interest in the LME tin contract was evident in the lackadaisical price movements.

Despite the crackdown in Indonesia on small-scale illegal smelting, it is clear that the major producers are going full steam-ahead. The increased output by PT Timah – as well as its refined tin production growing rapidly in the first six months of the year, its production of tin-in-concentrate rose by 35% to 23,298t – was matched by Malaysia Smelting Corporation, which also announced its own 1H 05 output, of 24,500t, with its annual target of 50,000t. Prices have slid in consequence; according to PT Timah the first half of the year’s world tin market average was \$8,221/t (vs. \$7,771/t for 2004) but is likely to be much lower for the second half of 2005.

The Indonesian government said (22<sup>nd</sup> September) it would merge three majority state-owned mining companies as part of its efforts to improve the financial performance of 159 state-owned companies. The firms are PT Aneka Tambang (predominantly a nickel producer); PT Batubara Bukit Asam, which mines coal; and PT Timah.

Malaysia’s deputy prime minister, Datuk Seri Najib Razak, said the country’s government was committed to greater exploitation of its mineral resources, including tin: “We know the areas where tin can still be mined and we want state governments to study the possibility of reviving tin mining,” he said.

### Outlook

**Tin has truly missed out on the metals fiesta of the past year and September continued that trend. The LME 3-month contract averaged \$6,755.23/t in September, vs. an average of \$7,140.71 in July and \$7,096.36/t in August. While investment fund activity has driven copper to record heights, speculative interest in tin has been negligible. There is little sign of this changing in the near future. Short term: \$6,000t-\$7,000/t.**

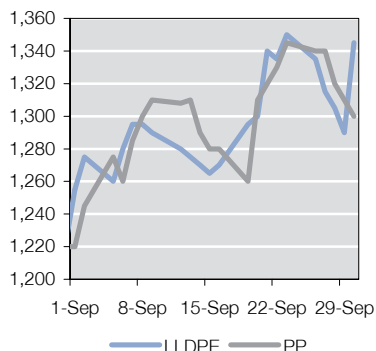
Market data (September unless stated)

Prices (\$/t)	Cash	3-month	15-month	LME stocks	Tonnes	LME Open Interest (contracts)
Average	6,773	6,745	6,584	End-Aug	6,925	Tin 23,751
High	7,125	7,060	6,800	End-Sep	8,530	
Low	6,575	6,595	6,525			

Source: London Metal Exchange

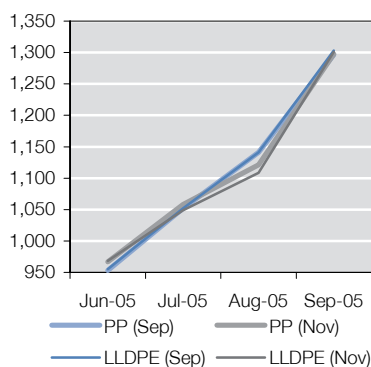
## Plastics

Plastics prices, 3-month contract, LME (\$/tonne)



Source: Virtual Metals from LME

Volume traded, 3-month contract, LME (contracts/day)



Source: London Metal Exchange

### Market data

	LLDPE	PP
<b>Prices (\$/tonne) - September</b>		
Average	1,296	1,303
Max	1,350	1,345
Min	1,255	1,220
<b>Volumes (contracts) - September</b>		
Daily average	15	22

Source: LME

### News

- Sept 19<sup>th</sup>: Belgian chemicals and plastics group Tessenderlo reported sales up by 2.4% to EUR 1.076bn for 1H 05 but operating profits down almost 40% to EUR 31.4m.
- Sept 16<sup>th</sup>: Newell Rubbermaid will close a third of its 80 global manufacturing sites and cut 5,000 jobs, more than 15% of its workforce, to restore profitability; rising raw materials prices, including plastics, are likely to cost the company \$150m more in 2005 than last year.
- Sept 13<sup>th</sup>: BP said it will sell shares worth up to \$1bn in Innovene through an IPO on the New York stock exchange, according to a preliminary filing with the SEC in the USA. Innovene encompasses BP's interests in refineries, polymers and upstream feedstocks.
- Sept 6<sup>th</sup>: BPI, the UK polythene films producer, reported 1H 05 profits up by 31% vs. the same period in 2004, at £10.1m.

### Analysis

- High energy prices begin to bite

The London Metal Exchange acknowledged on 2<sup>nd</sup> September that its new plastics contracts were finding trading conditions slow as it published data showing contract volumes fell 23% in August for the third month in a row. The LLDPE and PP contracts saw total volumes of just 817 lots in August, against 1,060 in July and 1,528 in June; during August alone 5.3m contracts for metals were traded on the LME. Bloomberg quoted LME spokesman Adam Robinson as saying: "It's going to take time and we didn't expect the volumes to be strong in the early months." Commentaries during the month described the new contracts as being in a Catch-22 situation – without greater volumes they could fail to achieve benchmark status, yet without benchmark status they will not attract greater trading volumes.

High energy prices have begun to hit plastics producers across Europe. In the UK the British Plastics Federation published a survey reporting that UK producers are facing average price increases of 56% for electricity and 58% for gas, which it called "indigestible for our industry." In reporting first half results BPI said higher energy bills will squeeze its margins this year. Meanwhile DuPont said mid-September it plans to increase prices across its entire product range, Basell increased its prices (to undisclosed levels) and Sabic Europe increased its polyethylene and polypropylene prices by EUR 100/tonne in late August. Industry reports said polymer demand was very strong in September, with converters stock-building in anticipation of further price increases.

### Outlook

**The greater volatility of energy prices should make the hedging opportunities of the LME's plastics contracts even more compelling for producers and buyers of core polymers, and should provoke an upsurge in trading volumes; if not, the haul could be very long indeed. Short term: LLDPE and PP contracts: \$1,340-\$1,500.**

## Indices

### Precious and base metal prices

(1999 Avg.=base 100) 30 <sup>th</sup> September 2005	Current	Change from					
		1 M	1 Yr	5 Yr			
Gold (spot)	170	9% ↑	155	17% ↑	145	73% ↑	98
Silver (spot)	144	7% ↑	135	18% ↑	122	54% ↑	94
Platinum (spot)	244	3% ↑	237	8% ↑	225	55% ↑	158
Palladium (spot)	54	5% ↑	52	-8% ↓	59	-73% ↓	204
Aluminium (cash)	136	1% ↑	136	8% ↑	127	16% ↑	118
Aluminium (3m)	135	0%	134	8% ↑	125	15% ↑	117
Aluminium (15m)	127	0%	126	9% ↑	116	15% ↑	110
Aluminium (27m)	121	0%	120	10% ↑	110	14% ↑	106
Copper (cash)	251	3% ↑	244	36% ↑	184	101% ↑	125
Copper (3m)	237	6% ↑	224	34% ↑	176	91% ↑	124
Copper (15m)	190	7% ↑	177	29% ↑	147	63% ↑	117
Copper (27m)	166	6% ↑	157	26% ↑	131	49% ↑	111
Nickel (cash)	225	-10% ↓	251	2% ↑	221	57% ↑	144
Nickel (3m)	225	-8% ↓	245	20% ↑	187	62% ↑	139
Nickel (15m)	218	-4% ↓	228	14% ↑	191	77% ↑	123
Nickel (27m)	207	-1% ↓	208	12% ↑	185	77% ↑	117
Zinc (cash)	131	2% ↑	128	45% ↑	91	15% ↑	114
Zinc (3m)	129	1% ↑	128	42% ↑	91	19% ↑	108
Zinc (15m)	125	1% ↑	124	32% ↑	94	20% ↑	104
Zinc (27m)	117	1% ↑	116	22% ↑	96	15% ↑	102
Lead (cash)	194	8% ↑	180	4% ↑	186	100% ↑	97
Lead (3m)	184	8% ↑	170	5% ↑	175	90% ↑	97
Lead (15m)	167	7% ↑	156	12% ↑	150	73% ↑	97
Tin (cash)	122	-8% ↓	132	-27% ↓	166	20% ↑	101
Tin (3m)	122	-6% ↓	129	-26% ↓	165	20% ↑	102
Tin (15m)	120	-3%	125	-23% ↓	156	17% ↑	103

### LME base metals stocks

(1999 Avg.=base 100) 30 <sup>th</sup> September 2005	Current	Change from					
		1 M	1 Yr	5 Yr			
Aluminium	66	1% ↑	65	-28% ↓	91	42% ↑	46
Aluminium Alloy	74	5% ↑	70	20% ↑	62	-45% ↓	135
Copper	11	30% ↑	9	-20% ↓	14	-79% ↓	53
Lead	29	-28% ↓	41	0%	29	-61% ↓	75
Nickel	24	36% ↑	18	0%	24	12% ↑	22
Tin	92	23% ↑	75	48% ↑	62	-27% ↓	126
Zinc	180	-5% ↓	190	-27% ↓	247	139% ↑	75

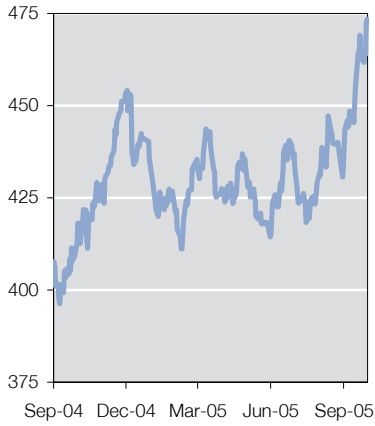
### USD exchange rates

(1999 Avg.=base 100) 30 <sup>th</sup> September 2005	Current	Change from					
		1 M	1 Yr	5 Yr			
European euro	88	2% ↑	87	1% ↑	87	-28% ↓	123
Canadian dollar	78	-4% ↓	81	-11% ↓	88	-22% ↓	100
Great British pound	91	1% ↑	90	1% ↑	90	-19% ↓	113
Japanese yen	100	2% ↑	97	3% ↑	97	6% ↑	94
South African rand	104	-2% ↓	106	-3% ↓	107	-12% ↓	117
Australian dollar	84	0%	85	-8% ↓	92	-28% ↓	117

Source: Virtual Metals & London Metal Exchange

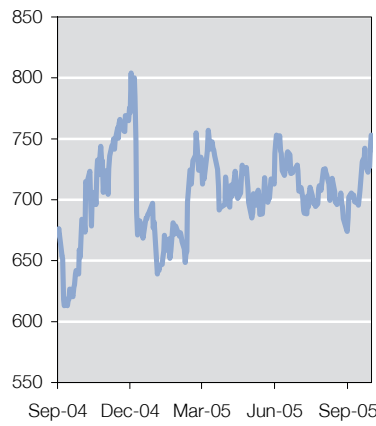
# Prices

**Gold (\$/oz)**



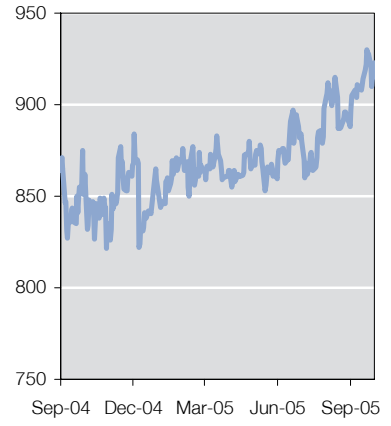
Source: London Bullion Market Association

**Silver (cents/oz)**



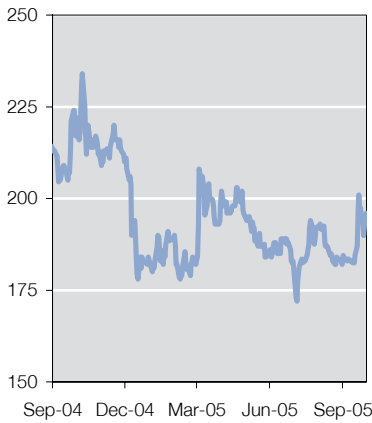
Source: London Bullion Market Association

**Platinum (\$/oz)**



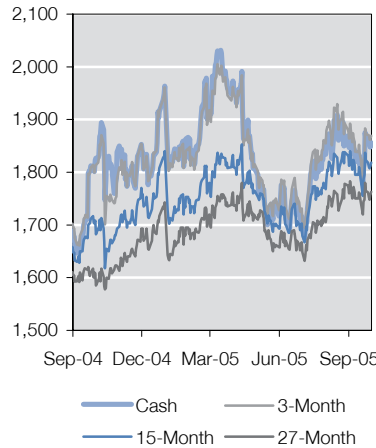
Source: London Platinum & Palladium Market

**Palladium (\$/oz)**



Source: London Platinum & Palladium Market

**Aluminium (\$/tonne)**



Source: London Metal Exchange

**Copper (\$/tonne)**



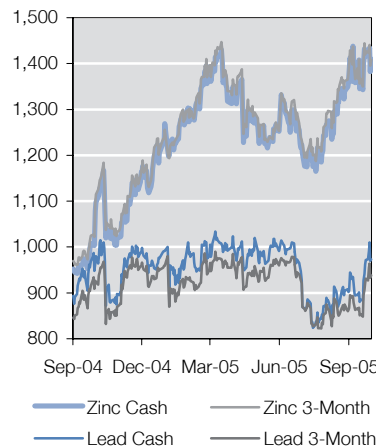
Source: London Metal Exchange

**Nickel (\$/tonne)**



Source: London Metal Exchange

**Lead & zinc (\$/tonne)**



Source: London Metal Exchange

**Tin (\$/tonne)**



Source: London Metal Exchange

# Notes

# Notes

## Disclaimer & Copyright

The information and opinions in this report were prepared by Virtual Metals Research and Consulting (“Virtual Metals”). Virtual Metals has made all reasonable efforts to ensure that all information provided in this report is accurate and reliable at the time of inclusion (the 1<sup>st</sup> of this month unless otherwise stated), however, there may be inadvertent and occasional errors and lack of accuracy or correctness, for which Virtual Metals cannot be held responsible. Virtual Metals and its employees have no obligation to inform the reader when opinions and information contained in this report change.

Virtual Metals makes no representation or warranty, express or implicit, as to the accuracy or completeness of contents of this report. This report is not and cannot be construed as an offer to sell, buy or trade any securities, equities, commodities or related derivative products and the report in no way offers investment advice. Therefore Virtual Metals and its employees accept no liability for any direct, special, indirect, or consequential losses or damages, or any other losses or damages of whatsoever kind, resulting from whatever cause through the use of any information obtained either directly or indirectly from this report.

The contents of this report, all the information, opinions and conclusions contained are protected by copyright. This complete report may not be reproduced without the express consent of Virtual Metals. Short extracts may be reproduced but only with the full and appropriate citing of the original source.

## About Virtual Metals

### Virtual Metals Research & Consulting

85 Albany Street  
London NW1 4BT

Tel: +44 20 7487 3600  
Fax: +44 (0)870 051 2261

Virtual Metals comprises a uniquely skilled team, with a collective 50 years' experience in the precious metals markets and all that this implies – a plethora of market contacts and personal networks of long-standing trust and wisdom. Our clients include world-class mining companies, for whom Virtual Metals specialises in proprietary research covering gold, silver and the platinum group metals.

Apart from the mining industry, Virtual Metals has as clients refiners, bullion banks, equity brokers, trading houses and other institutions. Clients in all segments of the mining and metals industries select Virtual Metals for independent outsourced value and experience without adding to corporate overheads.

The Virtual Metals team excels in macro-economic analysis, the generation of supply and demand scenarios, costs analysis, derivative research and price forecasting. Confidentiality, experience and independence are key elements of such advisory roles. Our aim is to assist those in need of external expertise, as well as those who wish to supplement their own in-house resources. With our extensive international contacts, we are able to broaden our services through links with experienced associates in related fields worldwide.

To see further how we can meet your research and consulting requirements, please email [info@virtualmetals.co.uk](mailto:info@virtualmetals.co.uk) or call or fax on the numbers above.

## Fortis Commodities Contact List

### Commodities

Ian Downes (Head)		+44 20 7444 8741
John King (Head of Base & Precious Metals)		+44 20 7444 8330
Gerry Schubert (Director, Precious Metals)		+44 20 7444 8600
Chris Johnson (Head of Agricommodities)		+44 20 7444 8372
Jonathan Parkman (Deputy Director, Agricommodities)		+44 20 7444 8407

### Global Commodities Group

Piet-Hein Ingen Housz (Global Head of Metals)		+31 10 401 67 93
Rotterdam	Silvan Doorenspleet	+31 10 401 97 83
London	Michael Rolfe	+44 20 7444 8450
New York	Edward Aldrich	+1 203 705 57 25

### Structured Commodity Finance

Carl Shipman		+44 20 7444 8785
Singapore	Ng Chuey Peng	+65 65 394 923
Hong Kong	Lee Mei	+852 28 47 94 20
Shanghai	Steven Jin	+862 15 049 88 33

# Global Markets Sales Contacts

## Fixed Income Sales

**Johan Beckers** +32 2 565 98 93  
(Global Head Sales & Marketing Group)

### Institutionals

Ton Roeten (Head)		+31 20 535 74 54
Belgium	Marc Sollie	+32 2 565 74 70
The Netherlands	Bert Veenstra	+31 20 535 74 54
Luxembourg	Paul Wagner	+352 42 10 44 50
France	Ludovic Plas	+33 1 55 67 90 56
Hong Kong	Lionel Kwok	+852 28 23 07 52
Italy	Franco Mora	+39 02 802 812 90
Poland	Mieczyslaw Krzymkowski	+48 22 566 92 53
Singapore	Richard Ng	+65 65 38 03 90
Spain	Pilar Smith	+34 91 436 56 27
United States	Blake Murphy	+1 212 838 37 05

### Retail and Private Banking

Alain Cadron (Head)		+32 2 565 61 09
Belgium	Alain Cadron	+32 2 565 75 50
The Netherlands	Bert Veenstra	+31 20 624 48 41
Luxembourg	Paul Wagner	+352 42 10 45 00
United States	Edmund Kim	+1 212 838 37 05

## Forex & Money Markets Sales

**Johan Beckers** +32 2 565 98 93  
(Global Head Sales & Marketing Group)

Kris De Zeure (Head of FX & MM Sales Europe) +32 2 565 60 81

### Belgium

Financial Institutions	Eddy Naets	+32 2 565 60 25
Fiduciaries		+32 2 565 72 60
Institutionals & Banks		+32 2 565 72 70
Corporate	Ivo Mertens	+32 2 565 72 05
Mid-Caps	Marc Vidts	+32 2 565 71 10
O/W Vlaanderen	Gerrit Bauwens	+32 2 565 78 57
Sud	Stéphane Christiaens	+32 2 565 78 56
Brussels/Public	Jean-Pierre De Coninck	+32 2 565 70 40
VL Brabant/Limburg	Herwig Jaspers	+32 2 565 73 10
Antwerpen/Kempen	Jef Van Camp	+32 2 565 78 48
Derivatives	Luc Borremans	+32 2 565 76 30
Automated Trading System	Geert Blancke	+32 2 565 73 00
IAS Advisory	Vincent Santerre	+32 2 565 84 89

### The Netherlands

Hans van Buijten (Head)		+31 20 527 11 82
Financial Institutions	Onno Priester	+31 20 535 71 66
Corporate	Onno Priester	+31 20 535 71 66
Mid-Caps	Bart Sollefeld	+31 20 535 71 84
Derivatives	Ronald Knibbe	+31 20 535 70 58

### Luxembourg

Marc Rollman (Head)		+352 42 10 49 45
Financial Institutions		+352 42 10 47 00
Corporate		+352 42 10 49 42
Mid-Caps		+352 42 10 46 00

Czech Republic	Tomas Blazejovsky	+42 022 543 60 10
France	Muriel Flasse	+33 1 55 67 90 07
Germany	Reinhold Beisler	+49 221 161 12 25
Hong Kong	Lionel Kwok	+852 28 23 07 52
Italy	Marco Toja	+39 02 57 53 23 71
Norway	Bjorn Kaaber C.	+47 23 11 49 60
Poland	Mieczyslaw Krzymkowski	+48 22 566 99 04
Portugal	Rui Lopes	+351 213 13 93 03
Spain	José Bravo	+34 91 432 67 38
United Kingdom	Simon Law	+44 20 7444 8458
United States	Richard Vullo	+1 212 838 37 05

## Equities Sales

**Johan Beckers** +32 2 565 98 93  
(Global Head Sales & Marketing Group)

### Institutionals

Johan van Megesen (Head)		+32 2 565 96 22
Belgium	Alain Adam	+32 2 565 76 50
France	Philippe Barroso	+33 1 55 67 90 82
Luxembourg	André Wagner	+352 42 10 49 07
The Netherlands	Eddy de Bruin	+31 20 535 70 52
Spain	Manuel Torres	+34 91 436 56 51
United Kingdom	Nils Ten Berg	+31 20 535 73 32
United States	Marc Denatris	+1 212 418 87 14

### Private Banking

Belgium	Vincent Vanhoof	+32 2 565 14 17
---------	-----------------	-----------------

## Commodities

**Didier Giblet** +32 2 565 60 69  
(Global Head Treasury & Commodities Group)

Ian Downes	+44 20 7444 8741
John King	+44 20 7444 8330
Gerhard Schubert	+44 20 7444 8600

## Energy

**Didier Giblet** +32 2 565 60 69  
(Global Head Treasury & Commodities Group)

### Head of Energy Trading & Sales Europe

Stany Schrans	+32 2 565 80 43
---------------	-----------------

### Energy & Environmental Sales Europe

Tim van Doorn (Head)	+31 20 535 73 67
The Netherlands	+31 20 535 73 67
Belgium	+32 2 565 75 60

### Carbon Banking

	+31 20 535 70 20
--	------------------

### Head of Energy US

David Jones	+1 212 838 32 00
-------------	------------------

## Fixed Income/New Issues

**Geert Van der Heyden** +32 2 565 60 50  
(Global Head Fixed Income Group)

Katherine Dior (Head)		+32 2 565 63 08
Belgium	Katherine Dior	+32 2 565 75 70
Luxembourg	Paul Wagner	+352 42 10 44 00
Commercial Paper	Mary José Rodriguez	+32 2 565 75 30

## Structuring Activities

**Geoffrey Rodrigue** +32 2 565 31 39  
(Global Head Equities Group)

**Fixed Income Structuring** +32 2 565 74 70  
Bernard Van Gils (Head) +32 2 565 87 61

**FX & MM Structuring** +32 2 565 76 30  
Luc Borremans +32 2 565 60 39

**Equity Structuring** +32 2 565 78 82  
Fabian de Prey (Head) +32 2 565 91 05

**Credit Derivatives Structuring** +32 2 565 77 20  
Ludovic Plas (Head) +33 1 55 67 90 56

**Structured Product Services** +352 42 42 49 65  
Emmanuel Grimée (Head) +352 42 42 49 25

# Global Markets Research Contacts

Paul Gennart +32 2 565 60 45  
(Global Head Research & Strategy)

## Economic Research

### The Netherlands

Guy Verberne (Head) +31 20 535 73 25  
Elwin de Groot +31 20 535 72 66  
Nick Kounis +31 20 535 71 06  
Aline Schuiling +31 20 535 71 31

### Spain

Estefanía Ponte (Head) +34 91 310 88 05

## Strategy

Françoise Bernard (Head) +32 2 565 83 02  
Frédéric Atlan (Fixed Income) +33 1 55 67 72 81/+32 2 565 86 06  
Carine Brasseur, Ph.D. (Fixed Income) +32 2 565 86 49  
Brecht De Smyter (Fixed Income) +32 2 565 16 21  
Philippe Gijssels (Equities) +32 2 565 16 37  
Michel Karakatsanis (Forex & Money Markets) +32 2 565 63 02  
Nancy Verret (Forex & Money Markets) +32 2 565 55 63  
Filiep Wyseur (Forex & Money Markets) +32 2 565 82 31

## Technical Analysis

Françoise Bernard (Head) +32 2 565 83 02  
Karel De Bie (Fixed Income/Forex/Commodities) +32 2 565 85 46  
Geert-Jan Nikken (Equities/Commodities) +31 20 535 70 79

## Modelling

Dirk-Emma Baestaens, Ph.D. (Head) +32 2 565 85 54  
Alain Cram +32 2 565 60 52  
Sharon Krzentowski +32 2 565 61 98  
Arjen Prinsen +31 20 535 72 97  
Dries Stragier +32 2 565 60 86  
Herman van der Sluis +31 20 535 72 98  
Jurgen Vanhaverbeke +32 2 565 60 53

## Rating Advisory Services

Dirk-Emma Baestaens, Ph.D. (Head) +32 2 565 85 54  
Gerda Cabus +32 2 565 85 91  
Yves Clarenne +32 2 565 35 60

## Credit Research

Stéphane Le Priol (Head/Banks) +33 1 55 67 72 80/+32 2 565 75 85  
Benoit Feliho (Banks) +33 1 55 67 72 95  
Sabrina Marchal (ABS/MBS/CDO) +32 2 565 86 82  
Karine Petitjean (Consumer Goods) +33 1 55 67 72 88  
Benjamin Sabahi (Cyclicals) +33 1 55 67 72 86  
Hélène Séré (Utilities) +33 1 55 67 72 83/+32 2 565 75 87  
Alban Tourrade (Banks/Insurance) +33 1 55 67 72 84/+32 2 565 75 84  
Helmut Van Ginderen (ABS/MBS/CDO) +32 2 565 60 10

## Equity Research

Marc Pauwels (Head) +31 20 527 13 55

### Benelux

Michel Aupers (Head) +31 20 527 28 62  
Wim Lewi, CFA (Co-ordinator Belgium) +32 2 565 62 61  
Felix Oberdorfer (Co-ordinator The Netherlands) +31 20 527 23 28  
Paul Andriessen (Mid & Small Caps) +31 20 527 21 82  
Maarten Bakker (Mid & Small Caps) +31 20 527 23 32  
Ab Barneveld (Temporary Employment) +31 20 527 91 44  
Kenn Curt Daniël, Ph.D. (Biotech) +31 20 527 34 17  
Kurt De Baenst (Banks/Retail) +32 2 565 60 42  
Mark Gevens (Industrials) +32 2 565 60 71  
Bart Jooris (Telecom/Mid & Small Caps) +32 2 565 60 99  
Geraldine O'Keeffe (Biotech) +31 20 527 91 50  
Sebastiaan Schreijen (IT Software & Services) +31 20 527 22 30  
Teun Teeuwisse (Temporary Employment) +31 20 527 13 01  
Michael van Wegen (Insurance) +31 20 527 14 77  
René Verhoef (Mid & Small Caps) +31 20 527 91 45  
Robert Jan Vos (Food Producers/Food Retail) +31 20 527 91 47  
Mariska Zonneveld (Media) +31 20 527 23 23

### France

Philippe Ezeghian (Head) +33 1 55 67 72 29  
Caroline Barbery (Mid & Small Caps) +33 1 55 67 72 41  
Marc Huberty (Mid & Small Caps) +33 1 55 67 72 30  
Aurélie Husson-Dumoutier (Mid & Small Caps) +33 1 55 67 72 32  
Jean-Christophe Lefevre-Moulenq (Construction) +33 1 55 67 72 34

### Spain

Antonio López (Head/Utilities) +34 91 436 56 50  
Fernando Cordero (Mid & Small Caps/Technology/Media) +34 91 436 56 16  
Rafael Fernández de Heredia (Construction/Real Estate) +34 91 436 56 12  
Luis Padrón (Telecom/Media) +34 91 436 56 07  
Sergio Ruiz (Mid & Small Caps) +34 91 436 56 29  
Jaime Sémelas (Mid & Small Caps) +34 91 436 56 84  
María Tristán (Steel/Oil/Leisure/Retail/Tobacco) +34 91 436 56 77

### US

Dan Barrett (Oil Services & Shipping) +1 212 303 48 10  
Gregory Lewis, CFA (Oil Services & Shipping) +1 212 418 87 17  
Brian Lian, Ph.D. (Biotech) +1 212 418 24 66

## Retail Banking and Private Banking Research

Christel Bosch (Industrials/Utilities) +32 2 565 82 34  
Bernard Delhaye (Mid & Small Caps) +32 2 565 62 96  
Rob Goyens (Co-ordinator Bottom-Up/Telecom/Insurance) +32 2 565 51 36  
Bart Ingels (Fixed Income/Forex) +32 2 565 44 07  
Emmanuel Lefèvre (Banks) +32 2 565 51 35  
Geert Ruysschaert (Co-ordinator Top-Down/Publications) +32 2 565 19 58  
Koen Van de Steene (Healthcare) +32 2 565 86 14  
Tom Vermeiren (Technology) +32 2 565 44 05

## Economic, Fixed Income, Forex & Money Markets Research

www.merchantbanking.fortis.com/clientportal  
Bloomberg: FMRS

## Equity Research

www.merchantbanking.fortis.com/clientportal  
Bloomberg: FINV

Please send an e-mail to [clientportal@fortisbank.com](mailto:clientportal@fortisbank.com) to request login/password for Bloomberg and/or website

<b>Fortis Bank S.A./N.V.</b> Montagne du Parc 3 B-1000 Brussels Belgium Tel: +32 2 565 11 11	<b>Fortis Bank Nederland N.V.</b> Rokin 55 (visiting address) P.O. Box 243 1000 AE Amsterdam The Netherlands Tel: +31 20 527 91 11	<b>Banque Générale du Luxembourg</b> 50, avenue J.F. Kennedy L-2951 Luxembourg Luxembourg Tel: +352 42 421	<b>Fortis Bank, Succursale en France</b> 30, quai de Dion Bouton F-92824 Puteaux Cedex France Tel: +33 1 55 67 72 00
<b>Fortis Bank Germany</b> Christophstrasse 33-37 50670 Cologne Germany Tel: +49 221 161 13 30	<b>Fortis Bank Hong Kong</b> 27/F, Fortis Bank Tower 77-79 Gloucester Road Hong Kong Tel: +852 28 23 04 56	<b>Fortis Bank Italy</b> Via Dei Bossi 4 I-20121 Milano Italy Tel: +39 02 802 812 90	<b>Fortis Bank Norway</b> Haakon VII's gate 10 0161 Oslo Norway Tel: +47 23 11 49 50
<b>Fortis Bank Polska S.A.</b> P.O. Box 15 02-676 Warszawa Poland Tel: +48 22 566 90 00	<b>Fortis Bank Portugal</b> Rua Alexandre Herculano 50-6 Andar 1250-011 Lisboa Portugal Tel: +351 213 13 93 16	<b>Fortis Bank Singapore</b> 63 Market Street #21-01 Singapore 048942 Tel: +65 65 38 03 90	<b>Beta Capital S.V., S.A.</b> C/Miguel Angel, 23 28010 Madrid Spain Tel: +34 91 310 88 00
<b>Fortis Bank UK</b> Camomile Court 23 Camomile Street London EC3A 7PP United Kingdom Tel: +44 207 247 80 00	<b>Fortis Bank USA</b> 520 Madison Avenue, 3 <sup>rd</sup> Floor New York, NY 10022 United States Tel: +1 212 418 87 00	<b>Fortis Securities LLC</b> 520 Madison Avenue, 3 <sup>rd</sup> Floor New York, NY 10022 United States Tel: +1 212 418 87 14	

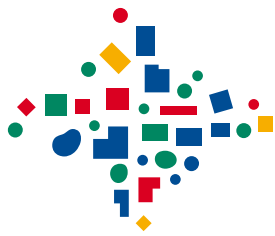
This publication has been prepared by Fortis Bank N.V./S.A. or by an affiliated company for and on behalf of Fortis Bank N.V./S.A. (Montagne du Parc 3, 1000 Brussels, Belgium) and its affiliated companies (together "Fortis Bank") solely for the information of professional clients of Fortis Bank. It is not intended as an offer or solicitation for the purchase of any financial instrument. The information herein has been obtained from, and any opinions herein are based upon, sources believed reliable, but Fortis Bank makes no representation as to its accuracy or completeness and it should not be relied upon as such. All opinions and estimates herein reflect the judgement of Fortis Bank on the date of this report and are subject to change without notice. Fortis Bank and any of its officers or employees may, to the extent permitted by law, have a position or otherwise be interested (including purchasing from or selling to its clients on a principal basis) in any transactions, in any investments (including derivatives) directly or indirectly the subject of this publication. Fortis Bank may perform investment banking or other services (including acting as adviser, manager or lender) for, or solicit investment banking or other business from, any company mentioned in this publication. Neither Fortis Bank nor any officer or employee of Fortis Bank accepts any liability whatsoever for any direct or consequential loss arising from any use of this publication or its contents. Copyright and database rights protection exist in this publication and it may not be reproduced, distributed or published by any person for any purpose without the prior express consent of Fortis Bank. All rights reserved.

Any investments referred to herein may involve significant risks and are not necessarily available in all jurisdictions, may be illiquid and may not be suitable for all investors. The value of, or income from, any securities referred to herein may fluctuate and/or be affected by changes in exchange rates. Past performance is not indicative of future results. Investors are expected to make their own investment decisions without relying on this publication. Only investors with sufficient knowledge and experience in financial and business matters to evaluate the relevant merits and risks should consider an investment in any issuer or market discussed herein.

The information contained in this publication is not available to a person who would be categorised as a private customer under the rules of the FSA.

To the extent that any securities, or any broker-dealer, investment adviser or other services, are deemed to be offered herein for purposes of U.S. law, such securities or services are not being offered in the United States or to U.S. persons absent an exemption under applicable U.S. law. This report is not intended for distribution to, or use by, U.S. persons absent such an exemption. Any U.S. institution receiving this report pursuant to an exemption under applicable U.S. law that wishes to effect a transaction in any securities discussed herein must contact our U.S. affiliate, Fortis Securities LLC to execute such transaction. All such transactions must be booked and confirmed by Fortis Securities LLC.

Fortis Bank: (a) may have managed or co-managed a public offering of the subject company's securities in the past 12 months; (b) may have received compensation for investment banking services from the subject company in the past 12 months; and (c) expects to receive or intends to seek compensation for investment banking services from the subject company in the next 3 months.



# FORTIS BANK

Solid partners, flexible solutions

## Fortis

Fortis is an integrated financial services provider active in the fields of banking and insurance. With a market capitalisation of EUR 26.9 billion (31/01/2005) and over 52,000 employees, Fortis ranks in the top 20 of European financial institutions.

In its home market, the Benelux countries, Fortis occupies a leading position which it aims to develop and bolster. Fortis is drawing on the expertise it has acquired in its home market to realise its European ambitions via growth platforms. Fortis also operates successfully worldwide in selected activities. In specific countries in Europe and Asia it effectively exploits its know-how and experience in bancassurance.

Sustainable economic growth and social responsibility are important considerations for the way in which Fortis operates.

Fortis' commitment to the welfare of its millions of customers means the company is deeply rooted in the local community.

Fortis is listed on the exchanges of Amsterdam, Brussels and Luxembourg and has a sponsored ADR programme in the United States.

## Fortis Bank

*Merchant Banking*

Montagne du Parc  
Warandeberg 3  
B-1000 Brussels  
Belgium

[www.merchantbanking.fortis.com](http://www.merchantbanking.fortis.com)