

Monday Mining Minutes

Switch from Precious to Industrial

■ Industry Overview

- **MACRO** — The official China PMI recorded 50.6 for November, an increase of 0.4 ppt over October, the highest since April 2012 although lower than expectations. The increase is more significant given that the index usually declines in November. The expansion of PMI in October and November provides further support for a mild rebound in China's economic growth. In the US, the ISM Composite Index fell more than expected to 49.5 in November from 51.7 in October, consistent with soft output growth in 4Q.
- **METALS** — De Beers recently hosted a site visit to their sorting office in London and outlined an expectation of 35% global diamond demand growth from 2011 to 2016, driven largely by India and China. They believe these two countries could account for half of global demand by 2025 (up from 12% in 2008). No material new production is expected in the near future and there is declining output from ageing mines and peak global production was reached in 2006. There have been few discoveries of major new deposits during the past two decades. Consequently, a structural supply demand gap is expected to emerge throughout this decade.
- **MINERS** — Mining sector statistics continue to indicate over-investment post the 2009 downturn. Capex/global GDP, Capex/Sales and Capex/Depreciation are showing well above-average investment by global mining companies. Our proprietary Mining Capex model (based on around 35 companies world-wide) now points to capex growth of c.14% Y/Y in 2012E followed by a 7.5% decline in 2013E and a 13% decline in 2014E.
- **MUSINGS** — Our nutshell fundamental view on the miners is that below-par global economic growth in 2013E and 2014E should ensure an unexciting metal price outlook, resulting in poor returns on newly invested (incremental) capex. This backdrop implies mining equities rising in line with an improving equity market but not significantly outperforming other sectors. In today's article we examine whether the charts are sending the same message.

Jon H Bergtheil

+44-20-7986-4453
jon.bergtheil@citi.com

Heath R Jansen

+44-20-7986-3921
heath.jansen@citi.com

David B Wilson

+44-20-7986-6908
david.b.wilson@citi.com

Thomas O'Hara
thomas.joseph.ohara@citi.com

Michael E Flitton
michael.flitton@citi.com

Jatinder Goel, CFA
jatinder.goel@citi.com

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

MACRO

The official China PMI recorded 50.6 for November, an increase of 0.4 ppt over October, the highest since April 2012 although lower than expectations. The increase is more significant given that the index usually declines in November. The expansion of PMI in Oct and Nov provides further support for a mild rebound in China's economic growth. The production index improved 0.4ppt and reached 52.5, while the new order index rose 0.8ppt and reached 51.2. The PMI for new export orders entered expansionary territory for the first time since May 2012, increasing from 49.3 to 50.2. The improvement in the export PMI since July has been consistent with China export performance, indicating that export growth remained robust in November.

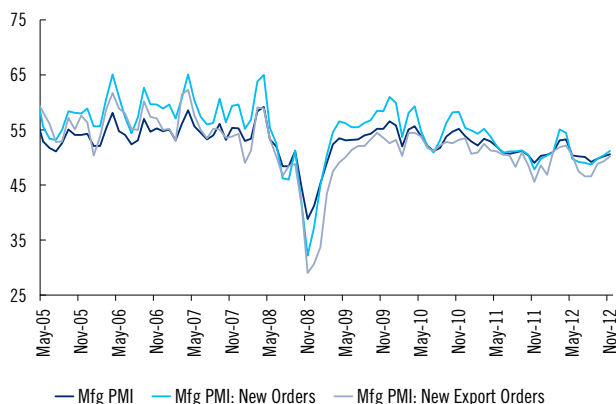
China's upward growth momentum has been confirmed by final demand, by the supply chain and by the bottom-line (industrial profit). With continued policy support and local government investment impulse, we expect the rebound to last into 1H next year. With destocking gradually giving way to restocking, we expect a mild rebound of GDP growth to 7.8%YoY in 4Q.

Supported by accelerated implementation of government projects, better home sales and accommodative macro policies, we believe that YTD FAI growth may have remained stable at 20.8%YoY in November.

In the US the ISM Composite Index fell more than expected to 49.5 in November from 51.7 in October, consistent with soft output growth in 4Q. Production rose to 53.7 from 52.4 while new orders fell to 50.3 from 54.2. New export orders weakened slightly while imports strengthened a hair. The inventories index fell a sharp 5 index point to 45, but employment also fell to 48.4 from 52.1. This was the lowest employment index reading since September 2009.

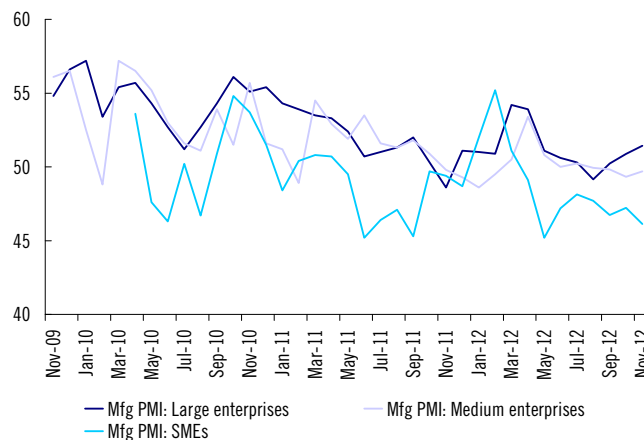
While producers won't 'decouple' from consumers for very long, there's perhaps a bit of evidence that business caution on inventories and investment will impact employment too before the year is out. The sharp decline in the inventories index is consistent with a drag on output in 4Q, and sub 1% real GDP growth. In contrast, construction spending in October was stronger than expected, rising 1.4% despite some likely Sandy impact at the turn of the month. Residential investment readings were particularly strong and widespread across categories. Net revisions to August and September were upward, suggesting some small boost to 3Q GDP and a good start to 4Q in this (narrow) growth component.

Figure 1. New Export Order Index Rose Above 50



Source: CFLP, NBS and Citi Research

Figure 2. SMEs Continued to Face Difficulties

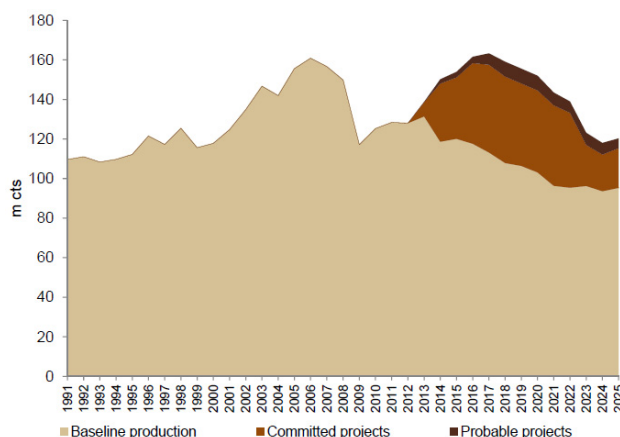


Source: CFLP, NBS and Citi Research

METALS

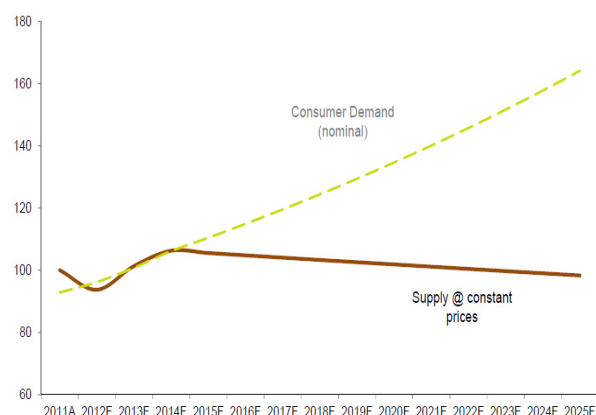
De Beers recently hosted a site visit to the London sorting office and stressed that diamonds are luxury goods, not commodities, arguing that growth in the emerging markets middle class should drive diamond demand. De Beers expects 35% demand growth from 2011 to 2016, driven largely by India and China. With 31% of Chinese brides receiving a diamond ring today compared with 77% in Japan and 80% in the US, there is scope for expansion in China. De Beers argues that robust demand growth is being led by the emerging consumer middle class in developing economies, particularly China and India. They believe these two countries could account for half of global demand by 2025 (up from 12% in 2008).

Figure 3. Global Diamond Production in Carats



Source: De Beers

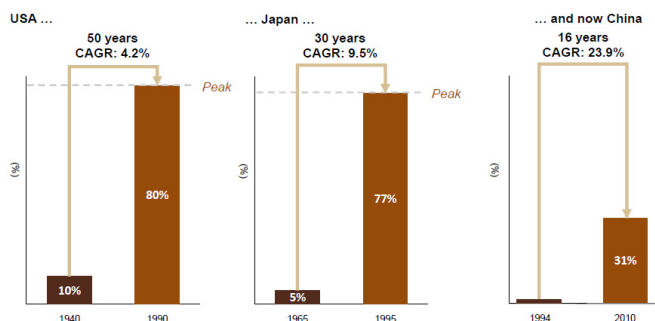
Figure 4. Supply Demand Gap



Source: De Beers

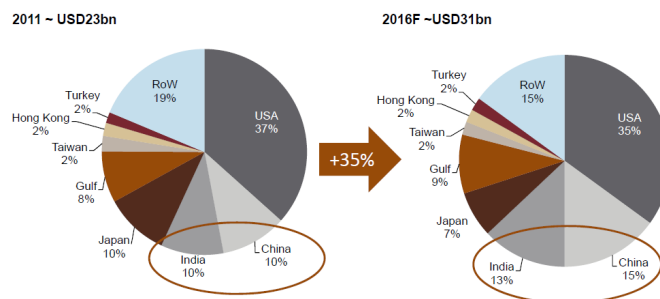
Rough diamond supply is structurally constrained, with no material new production expected in the near future. There is declining output from ageing mines and peak global production was reached in 2006. There have been few discoveries of major new deposits during the past two decades. Consequently, a structural supply demand gap is expected to emerge throughout this decade with rough diamond production unable to keep pace with new demand. The rough diamond industry now requires investment in new projects even to maintain production. In the next few years, additional production from Gahcho Kue, Argyle and Petra mines is likely to bring production back to (but not above) pre-downturn levels.

Figure 5. % of First Time Brides Who Receive a Diamond Only Engagement Ring



Source: De Beers

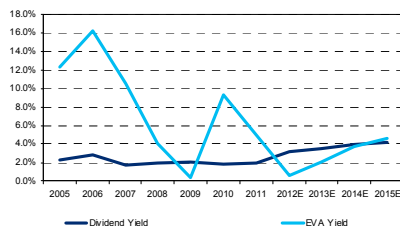
Figure 6. Consumer Demand Forecasts (Nominal Polished sales)



Source: De Beers

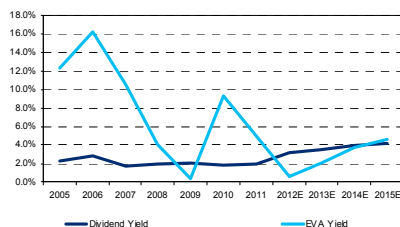
MINERS

Figure 7. EVA Yield Vs. Dividend Yield – Mining



Source: Company data, Citi Research estimates

Figure 8. EVA Yield Vs. Dividend Yield – Mining



Source: Company data, Citi Research estimates

Mining sector statistics continue to indicate over-investment post the 2009 downturn. Capex/Global GDP, Capex/Sales and Capex/Depreciation are showing well above-average investment by global mining companies. Our proprietary Mining Capex model (based on around 35 companies world-wide) now points to capex growth of c.14% Y/Y in 2012E followed by a 7.5% decline in 2013E and a 13% decline in 2014E.

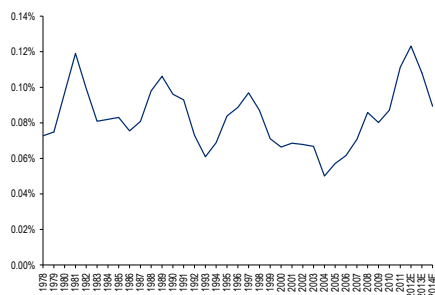
Plotting EV over IC against 2015E returns profiles (ROIC over WACC) for the mining sector vs. the oil sector highlights that both sectors are trading in line with their expected returns. Since 2007 the oil and gas companies have deployed capital more efficiently, delivering an average return on new capital of ~10% versus the miners at around 2%. However, the large miners have, on average, deployed capital at the lower end of the cost curve, which should allow the companies to defend margins. We forecast the mining companies to lift their ROIC from 2014 to 2015 at a higher rate than the oil companies.

The big oil and gas companies are currently trading on a forward dividend yield of around 6%, versus the mining companies at around 3.5%. The key concern is dividend certainty and whether the oil and gas sector can maintain its dividends. Comparing dividend yields to EVA yields (ROIC-WACC) highlights that it is likely to be increasingly difficult for the oil and gas companies as they struggle to generate a sufficient return on new capital to sustain their dividend payments. This is likely to result in companies shrinking their capital bases or having to cut capex to defend their dividends.

Historically, the miners have delivered slightly higher volume growth than the oil and gas sector and we are forecasting the miners to deliver a 2012-20E CAGR of 4.2% versus the oil and gas companies at 2.3%. Mining growth has come at a considerable cost, however; the miners are going through a capex hurdle and capex cutbacks are a defining reason why we prefer the large miners over the large oil companies.

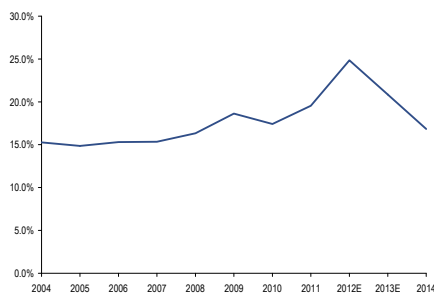
In the steel sector, we still do not feel yet able to advocate a Buy rating on ArcelorMittal (ISPA.AS; €12.36; 2). The risk of the company reinvesting cash from divestments has increased, in our view, while the group has ~\$4bn of bond debt maturing in 2013 and this is against a backdrop of persistently weak steel earnings. We may see some restocking activity in Q1, but we think the impact on earnings will be small and 2013 will be another tough year. We see a risk that cash from divestments is invested into steel rolling capacity that is up for sale in Alabama.

Figure 9. Global Mining Capex – Cumulative Fall and Growth in Downturns and Upturns



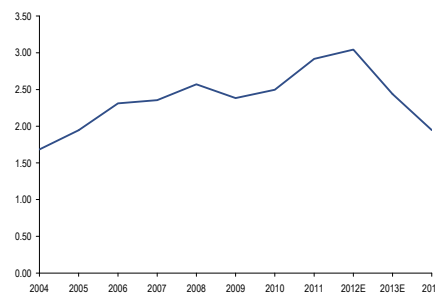
Source: Company data, Citi Research estimates. *Capex is based on around 35 companies world-wide

Figure 10. Global Metals and Mining Sector – Capex*/Sales (2004-14E)



Source: Company data, Citi Research estimates

Figure 11. Global Metals and Mining Sector – Capex*/Depreciation (2004-14E)



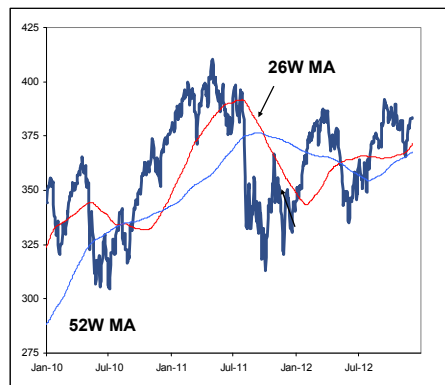
Source: Company data, Citi Research estimates

MUSINGS

Our nutshell fundamental view on the miners is that below-par global economic growth in 2013E and 2014E should ensure an unexciting metal price outlook, resulting in poor returns on newly invested (incremental) capex. This backdrop implies mining equities rising in line with an improving equity market but not significantly outperforming other sectors. In today's article we examine whether the charts are sending the same message.

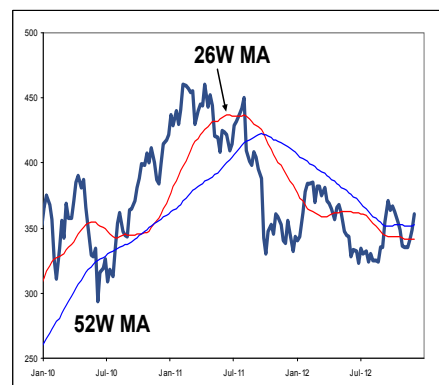
We first look at momentum by using 26-week (26W) and 52-week (52W) moving averages. Figure 12 suggests that the global equity market does indeed have some momentum behind it now, with both 26W and 52W rising, the 26W above the 52W and the global index looking ready to challenge recent highs once more. This is in synch with the fundamental view from our equity strategy team and is helped along by the stabilizing and improving economic trends in China.

Figure 12. Global Equities



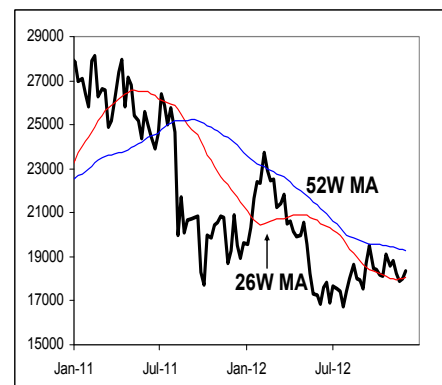
Source: DataStream, Citi Research

Figure 13. Base Metals



Source: DataStream, Citi Research

Figure 14. UK Miners



Source: DataStream, Citi Research

Fundamentally, we believe that metals are still carrying a hangover from the supercycle, in the form of excessive inventories and more-than adequate production expansion. The momentum in metals depicted in Figure 13 is therefore in synch with this 'bland' industrial demand vs. supply view, with the 26W and 52W not yet turning up. However, like gold and silver, base metals DO benefit from their tag as 'hard assets' in an era of money printing, which means that inventory-holders are not necessarily keen sellers while interest rates are low enough to limit their costs of carry.

Currently the spot base metal index is above the 26W and 52W and we think this 'hard-asset' support, along with improving Chinese economic data, could soon see the 26W and 52W move up for the first time since their downturn in mid-2011. Indeed, it is hard to see metal prices declining while global equity indices are rising. If anything, the fundamentals suggest to us that metal prices will rise but the rise will be anaemic and will underperform equities.

While the global equity index and the spot metal index are currently each above the 26W and the 52W, this is not the situation for the UK miners, as depicted in Figure 14. This is therefore consistent with our view that mining equities will be a laggard relative to global equities and may even be a laggard relative to metals (with high opex and capex costs eating away at the small advantage of a possibly insipid rise in metal prices).

Figure 15. Base Metals / GSCI



Source: DataStream, Citi Research

Figure 16. Iron Ore / GSCI



Source: DataStream, Citi Research

Figure 17. Gold / GSCI

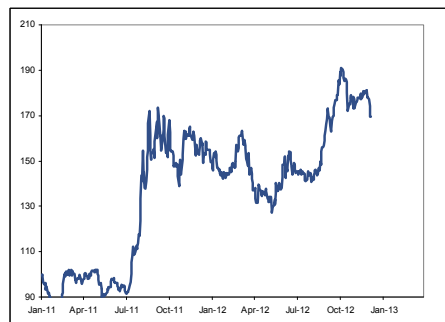


Source: DataStream, Citi Research

While the outlook for the mining sector as a whole relative to global equities looks unexciting, there is likely to be interesting action in the sub-categories of the industrial metal miners vs. the precious metal miners. Figures 15 and 16 show that base metals and iron ore have been poor performers relative to the broader GSCI commodity index, while gold (Figure 17) has been a star performer, as has silver. However, in 2013 and 2014 the boost to gold and silver as 'insurance metals' (protection against systemic global financial risk) should start to fade at the same time as continued improvement in China and a stabilization in mature economies should help industrial metals.

In the charts below we have grouped Fresnillo and Randgold ('precious') into an index and have done the same for RIO and BHP Billiton ('diversified'), Antofagasta and Kazakhmys ('base metals') and Aquarius and Lonmin ('Platinums'). 'Precious' has been a strong out-performer of 'diversified' and 'base metals' right through the past two years and 'precious' has been a very strong out-performer over platinum equities since the SA mining labour difficulties around mid-2012.

Figure 18. FRES & RRS / RIO & BLT



Source: DataStream, Citi Research

Figure 19. FRES & RRS / ANTO & KAZ



Source: DataStream, Citi Research

Figure 20. FRES & RRS / AQP & LMI



Source: DataStream, Citi Research

If we are correct in assuming that the 'insurance-metals' (gold and silver) will fade relative to industrial metals (e.g. 'base metals' and platinum, the latter very much an 'auto sector' metal), the long-running outperformance of the precious metals equities may be in the process of peaking. We believe the timing of a switch from precious to industrial metal equities is likely to be the key sub-sector call of 2013.

Appendix

Figure 21. Metals & Mining | Comparable Valuation Sheet

Company Name	Reuters Code	Rating	Market Cap USD \$m	Ccy	Share Price	Target	Upside	2011A	2012E	2013E	P/E (x)	2011A	2012E	2013E	EV/EBITDA (x)	2011A	2012E	2013E	Dividend yield (%)	2011A	2012E	2013E	Free cash flow yield (%)	2011A	2012E	2013E	ROCE (%)	2011A	2012E	2013E	
UK/Europe																															
Anglo American PLC	AALL.L	2	40,452	GBP	18.12	20.00	10%	9.2	14.5	11.3	5.2	5.9	4.6	1.6	2.8	3.3	8.2	-19.4	6.5	14.6	6.7	8.0									
African Barrick Gold Plc	ABGL.L	3	2,758	GBP	4.19	4.39	5%	12.4	12.2	8.6	5.6	5.2	3.8	2.0	1.7	2.3	6.1	1.6	10.1	11.7	8.8	11.2									
African Minerals Ltd	AMlq.L	1H	1,341	GBP	2.52	4.70	86%	-128.9	-14.5	5.7	-64.2	-10.9	2.1	0.0	0.0	0.0	-38.1	-59.3	-21.6	-1.4	-10.2	22.7									
Antofagasta	ANTO.L	3	21,159	GBP	13.37	9.40	-30%	14.7	16.1	16.4	5.7	5.8	6.2	2.1	2.2	2.1	3.2	7.5	5.8	28.7	28.5	24.5									
Aquarius Platinum Ltd	AQP.L	1	346	GBP	0.44	0.59	33%	120.6	-14.1	14.2	20.2	12.3	5.4	0.4	0.0	0.0	-1.9	3.2	16.1	4.3	0.3	4.0									
BHP Billiton PLC	BLT.L	1	184,143	GBP	20.14	22.00	9%	9.7	11.4	11.6	6.1	6.3	6.3	3.0	3.6	4.0	1.5	-0.8	3.7	27.4	17.0	14.2									
Boliden AB	BOL.ST	3	5,021	SEK	121.8	93.00	-24%	8.9	10.0	10.2	5.8	6.2	6.5	3.6	3.4	3.3	-0.0	5.6	3.7	12.3	11.1	10.0									
Centamin Egypt Limited	CEY.L	1	887	GBP	0.50	1.36	171%	11.5	4.7	2.9	8.6	2.9	1.7	0.0	0.0	0.0	3.8	1.7	24.6	32.8	25.3	34.2									
First Quantum Minerals Ltd	FQM.L	2	9,578	GBP	12.79	12.80	0%	17.9	19.6	13.5	8.1	8.5	5.8	0.8	0.8	1.4	-6.7	-9.3	-3.8	19.2	11.5	13.3									
Fresnillo Plc	FRES.L	2	22,642	GBP	19.67	20.08	2%	20.4	24.5	21.3	11.4	13.3	11.5	4.0	1.8	2.2	3.4	0.9	2.7	49.3	52.3	55.7									
Ferrexpo PLC	FXPO.L	1	2,135	GBP	2.26	3.20	42%	6.4	10.6	7.5	4.6	5.9	4.8	1.1	1.8	1.8	2.3	-10.1	1.0	52.0	17.0	17.6									
Gem Diamonds	GEMD.L	2	339	GBP	1.53	1.99	30%	7.5	9.9	10.5	2.7	2.7	3.4	0.0	0.0	0.0	6.3	-22.6	-21.1	23.4	10.6	8.5									
Hochschild Mining Plc	HOCM.L	2	2,530	GBP	4.66	5.22	12%	16.9	28.1	21.1	4.8	5.7	5.2	0.7	0.7	0.9	9.0	-5.6	-1.8	30.7	18.3	19.8									
Kazakhmys Plc	KAZ.L	1	6,241	GBP	7.43	9.00	21%	6.9	7.7	6.8	3.0	0.8	1.4	1.5	1.3	1.4	1.9	1.3	-16.2	20.3	11.4	10.5									
Lonmin PLC	LMIL.L	2	2,344	GBP	2.57	2.64	3%	28.6	131.3	43.5	10.8	10.4	10.6	0.9	0.2	0.3	-6.1	-25.5	-4.6	4.2	0.7	1.6									
London Mining	LOND.L	1	257	GBP	1.16	1.90	64%	-10.6	-5.1	6.2	-16.2	-94.9	4.0	0.0	0.0	0.0	-36.3	-96.0	-43.2	-21.0	-4.5	10.3									
Nordgold	NORDNq.L	1	1,772	USD	4.94	6.77	37%		7.2	7.0		3.5	2.9		3.5	3.6		2.6	13.6	14.6	15.4	14.6									
Norsk Hydro ASA	NHY.OL	3	10,138	NOK	27.70	26.00	-6%	19.5	48.5	24.3	3.4	6.6	5.3	2.0	1.4	1.2	-2.0	-0.4	6.4	9.4	0.2	2.7									
New World Resources	NWRR.L	2	1,147	GBP	2.70			15.7	-41.1	26.1	5.7	8.5	5.9	3.1	1.8	1.9	3.8	-15.0	-5.1	14.5	1.9	6.6									
Nyrstar NV	NYR.BR	1	969	EUR	4.40	6.10	39%	23.1	-14.8	8.7	7.2	7.2	3.8	1.9	3.6	3.6	-59.5	-0.1	15.3	5.9	0.9	6.9									
Petropavlovsk PLC	POG.L	1	1,000	GBP	3.32	5.79	75%	10.9	6.6	3.1	6.2	3.9	2.9	0.6	1.5	1.5	-21.6	-29.5	32.7	11.3	8.4	12.8									
Polymetal	POLYP.L	3	6,548	GBP	10.66	10.78	1%	21.5	12.4	8.1	11.1	7.2	5.4	1.3	1.8	1.9	-0.3	3.7	12.7	14.4	26.1	29.6									
Rio Tinto PLC	RIO.L	2	90,446	GBP	32.37	33.00	2%	7.5	10.6	8.5	3.9	4.9	3.9	2.3	3.4	3.9	2.0	-7.1	5.3	18.3	10.3	10.6									
Randgold Resources Ltd	RRSL.L	2	9,442	GBP	63.95	80.00	25%	22.4	20.7	14.9	13.7	12.5	8.9	0.9	1.0	1.3	1.4	-0.2	3.8	26.6	25.6	29.5									
Sirius Minerals	SXX.L	1H	474	GBP	0.22	0.80	264%	-2.9	-20.2	-95.2	-1.1	-10.9	-34.6	0.0	0.0	0.0	-11.4	-4.7	-15.1	-68.3	-27.3	-4.2									
Talvivaara Mining Company	TALV.L	2	407	GBP	0.93			-109.9	-4.9	50.4	20.1	56.1	7.6	0.0	0.0	0.0	-16.0	-38.4	-14.9	2.9	-1.5	4.8									
Vedanta Resources Plc	VED.L	2	4,777	GBP	11.18	12.50	12%	16.8	10.8	7.3	5.7	5.3	4.8	1.9	3.2	3.4	-65.2	-26.9	25.6	8.2	7.4	8.1									
Zanaga Iron Ore Company	ZIOC.L	2	152	GBP	0.34			-131.7	-92.5	-92.5	-210.6	50.6	49.6	0.0	0.0	0.0	-0.5	-1.1	-1.1	-2.5	-0.9	-0.9									
Eastern Europe, South Africa & Latin America																															
United Company Rusal	0486.HK	2	9,488	HKD	4.84	5.18	7%	80.5	62.0	6.3	7.6	12.1	5.7	0.0	0.0	0.0	7.8	9.7	16.9	5.5	4.8	10.9									
Anglo American	AGLJ.J	2	40,707	ZAR	254.0	270.0	6%	9.2	14.6	11.4	5.2	5.9	4.7	1.7	2.8	3.2	8.2	-19.3	6.5	14.6	6.7	8.0									
ALBA (GDR)	ALBBHq.L	2	1,780	USD	5.70	5.80	2%	5.7	14.5	14.3	5.3	6.6	6.1	8.6	6.5	4.6	18.8	18.3	17.2	18.1	4.5	4.7									
Anglo American Platinum Ltd	AMSJ.J	3	12,863	ZAR	414.0	420.0	1%	45.1	101.9	39.3	12.8	20.0	12.8	1.1	0.0	0.8	2.6	-0.3	-0.4	6.1	0.3	3.8									
AngloGold Ashanti Ltd	ANGJ.J	2	11,610	ZAR	262.9	290.0	10%	13.5	9.8	9.3	6.4	5.1	4.7	1.2	1.7	1.3	6.6	-0.7	11.9	18.2	15.4	13.4									
African Rainbow Minerals	ARIJ.J	2	4,414	ZAR	177.8	180.0	1%	12.2	13.5	14.8	5.5	5.6	5.6	2.4	2.9	3.2	1.8	1.6	4.0	13.9	10.6	9.3									
Assore Limited	ASRJ.J	3	6,208	ZAR	386.0	240.0	-38%	6.8	13.6	16.5	4.7	10.1	12.1	2.4	1.7	2.2	7.4	4.5	3.8	33.5	25.6	17.8									
Buenaventura	BVN.N	2	9,096	USD	33.09	41.00	24%	12.3	10.6	9.3	12.9	14.5	12.1	1.3	1.8	1.1	0.1	-1.5	0.1	35.0	25.7	26.4									
CCX Carvao da Colombia	CCXC3.SA	2H	189	BRL	2.31	5.00	116%		-55.2	-28.2		-26.6	-10.4		0.0	0.0		-7.1	-29.2		-2.7	-2.4									
Eurasian Natural Resources Corporation PLC (ENRC)	ENRC.L	2	5,856	GBP	2.83	3.50	24%	8.3	8.0	6.7	4.9	4.4	5.1	2.1	2.3	2.7	-0.3	-47.5	3.3	16.8	6.0	6.0									
Gold Fields Ltd	GFIJ.J	3	8,372	ZAR	99.58	90.00	-10%	11.8	9.9	9.7	4.7	4.3	4.1	2.8	3.0	3.0	-3.0	4.7	11.8	15.5	11.7	10.3									
Grupo Mexico	GMEXICOB.MX	2	27,341	MXN	45.20	37.90	-16%	10.4	12.3	15.4	5.3	6.4	7.2	5.0	4.1	3.2	4.6	5.2	4.2	32.8	25.0	19.4									
Norilsk Nickel	NKELYq.L	1	33,550	USD	17.60	23.00	31%	9.7	10.0	7.7	6.6	7.0	5.5	2.6	2.5	3.3	6.3	4.7	3.3	30.9	20.1	23.7									
Harmony Gold Mining Co. Ltd	HARJ.J	3	3,270	ZAR	65.20	57.00	-13%	25.1	12.4	14.7	12.7	5.3	4.6	0.5	1.3	1.0	1.1	6.9	8.3	4.5	6.0	5.7									
Impala Platinum	IMPJ.J	1	11,063	ZAR	152.0	185.0	22%	20.8	19.7	16.0	10.6	9.5	7.8	2.1	1.6	2.1	0.7	1.1	3.3	10.8	8.2	9.9									
Jastrzębska Spółka Węglowa	JSW.WA	2	3,300	PLN	89.50	99.00	11%	5.8	11.3	8.5	3.2	4.8	3.9	2.7	6.0	2.7	9.7	5.0	6.1	28.0	10.9	13.6									
Kuzbass Fuel Company	KBTK.MM	1	378	RUB	117.9	247.6	110%	9.8	4.6	3.9	5.8	2.8	2.3	2.6	5.5	6.4	4.8	1.4	21.6	22.4	23.2	23.9									
KGHM Polska Miedz SA	KGH.WA	3	11,335	PLN	180.5	136.1	-25%	2.9	7.1	9.7	1.5	3.0	4.5	8.9	15.7	7.2	37.0	-24.4	1.1	84.9	25.0	12.9									
Exxaro Resources Limited	EXXJ.J	2	6,587	ZAR																											

Figure 22. Metals & Mining | Comparable Valuation Sheet

Company Name	Reuters Code	Rating	Market Cap USD \$m	Share				P/E (x)			EV/EBITDA (x)			Dividend yield (%)			Free cash flow yield (%)			ROCE (%)		
				Ccy	Price	Target	Upside	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E
Australia																						
Alumina Ltd	AWC.AX	3	2,392	AUD	0.94	0.60	-36%	39.1	-38.5	-91.0	13.1	28.6	13.8	2.9	0.0	0.0	-0.6	-7.9	-10.3	5.0	-2.5	0.3
Beadell Resources Ltd	BDR.AX	1	864	AUD	1.11	1.70	53%	-14.4	-64.8	4.1	-13.9	199.0	3.1	0.0	0.0	0.0	-16.0	-8.9	24.1	-59.0	-0.3	130.2
BHP Billiton Ltd	BHP.AX	1	184,143	AUD	34.41	36.00	5%	11.8	12.8	12.9	6.1	6.3	6.3	2.5	3.3	3.6	1.2	-0.7	3.4	27.4	17.0	14.2
Gryphon Minerals	GRY.AX	1H	227	AUD	0.54	1.00	85%	-68.0	-13.6	-11.5	-44.7	-8.5	-9.8	0.0	0.0	0.0	-7.9	-46.2	-78.4	-12.6	-11.6	-7.1
Iluka Resources Ltd	ILU.AX	1	3,728	AUD	8.49	16.80	98%	10.9	7.9	4.6	5.8	3.9	2.4	5.3	5.3	10.6	9.9	2.4	24.1	32.4	23.9	38.6
Kingsgate Consolidated Limited	KCN.AX	1	736	AUD	4.62	5.90	28%	18.0	8.4	7.7	9.6	4.9	4.6	2.1	4.3	4.3	-4.3	-13.5	-3.0	9.6	9.5	8.9
Mirabela Nickel Ltd	MBN.AX	1H	391	AUD	0.43	0.70	65%	-12.7	-5.3	17.7	520.3	14.8	4.7	0.0	0.0	0.0	-15.9	-15.7	19.3	-4.3	-3.0	6.5
Medusa Mining Ltd	MML.AX	1	1,165	AUD	5.88	7.00	19%	17.3	12.8	8.4	15.1	10.8	5.7	1.2	1.1	1.4	0.1	3.2	10.4	36.0	31.0	41.1
Newcrest Mining Ltd	NCM.AX	2	19,355	AUD	24.10	25.60	6%	25.2	16.3	12.7	14.1	8.8	7.0	1.1	1.7	1.9	-2.9	-3.1	3.2	8.3	6.7	8.0
OceanaGold	OGC.AX	1	773	AUD	2.80	4.30	54%	17.9	87.1	9.8	4.5	7.3	3.2	0.0	0.0	0.0	1.2	-18.6	16.0	8.1	4.5	15.6
OZ Minerals Ltd	OZL.AX	2	2,310	AUD	7.26	8.50	17%	12.1	12.6	16.7	5.2	3.7	4.5	4.7	3.0	3.6	6.5	1.3	11.6	15.3	7.3	4.9
Paladin Energy Ltd	PDN.AX	1H	702	AUD	0.80	1.50	88%	-312.3	-161.5	-24.0	87.1	20.7	13.9	0.0	0.0	0.0	-15.0	-20.8	12.2	1.8	2.1	1.1
PanAust Limited	PNA.AX	1	2,078	AUD	3.27	3.60	10%	18.2	12.0	8.8	8.5	6.1	4.4	0.0	1.7	2.3	-2.4	2.5	14.4	19.7	20.5	24.6
Perseus	PRU.AX	1	1,080	AUD	2.25	3.00	33%	85.4	14.4	6.2	51.4	8.3	3.5	0.0	0.0	0.0	-7.9	-2.6	8.3	5.8	20.2	35.8
Resource Generation	RES.AX	1H	88	AUD	0.32	0.80	150%	-74.5	-24.7	-8.5	-38.9	-4.9	-2.5	0.0	0.0	0.0	-9.9	-164.9	-372.2	-3.6	-2.4	-3.2
Rio Tinto Ltd	RIO.AX	1	92,980	AUD	59.92	73.00	22%	9.5	12.8	10.3	4.0	5.1	4.0	1.8	2.8	3.2	1.6	-5.9	4.4	18.3	10.3	10.6
Regis Resources	RRL.AX	2	2,684	AUD	5.40	5.40	0%	22.4	19.5	11.3	14.6	12.4	6.7	0.0	1.9	5.0	-1.5	1.9	8.5	31.9	48.1	69.3
Resolute	RSG.AX	2H	1,153	AUD	1.71	2.10	23%	10.1	6.6	7.5	4.0	3.4	3.1	1.8	4.4	5.8	8.3	13.3	7.3	19.5	32.6	25.0
St Barbara Limited	SBM.AX	1	839	AUD	1.64	2.00	22%	7.0	6.0	6.5	3.7	3.3	2.5	0.0	0.0	0.0	7.4	-3.6	1.6	23.7	25.8	28.6
Sandfire Resources NL	SFR.AX	2	1,283	AUD	8.01	8.50	6%	-35.7	12.3	5.1	-22.0	7.8	3.1	0.0	0.0	0.0	-18.8	-3.7	22.3	-24.3	33.7	62.2
Whitehaven Coal Ltd	WHC.AX	1	3,180	AUD	2.99	4.15	39%	46.4	52.5	59.9	18.9	20.4	15.5	0.9	0.6	0.4	5.1	0.1	-10.9	4.6	2.5	2.8
Western Areas NL	WSA.AX	1	724	AUD	3.84	5.60	46%	12.5	21.0	14.1	5.1	5.1	4.6	3.0	2.2	2.6	5.5	0.7	13.6	25.9	11.6	14.2
Yancoal Australia Ltd	YAL.AX	2H	897	AUD	0.86	1.50	74%		1.6	4.8		4.7	7.4		0.0	0.0		-47.9	-61.4		14.5	5.6
North America																						
Alcoa Inc.	AA.N	2	9,146	USD	8.57	10.00	17%	18.8	36.8	17.1	7.4	9.3	6.8	0.9	1.4	1.4	2.3	-3.2	-0.9	4.7	1.4	3.1
Barrick Gold	ABX.N	1	33,452	USD	33.43	54.00	62%	10.5	8.4	6.4	7.0	6.4	4.8	1.0	2.2	2.4	-15.4	-8.3	3.4	13.1	9.1	11.6
Arch Coal	ACI.N	1	1,533	USD	7.22	9.00	25%	22.5	-15.8	-11.1	8.4	9.4	9.2	1.7	2.8	1.7	-52.9	16.2	-1.4	6.9	4.5	2.1
Peabody Energy	BTU.N	1	7,072	USD	26.35	33.00	25%	14.1	13.2	13.8	8.7	6.4	6.0	0.6	1.3	1.3	-15.3	0.2	8.2	11.0	7.3	6.6
CONSOL Energy	CNX.N	1	7,553	USD	33.16	37.00	12%	15.2	49.5	24.6	9.8	12.2	11.4	0.9	1.5	1.5	9.2	-1.3	0.3	9.5	4.5	4.9
Freeport-McMoRan Copper & Gold Inc.	FCX.N	2	29,249	USD	30.81	35.00	14%	9.7	10.1	7.3	4.9	4.9	3.5	3.2	3.9	4.1	9.1	1.5	6.0	26.2	16.1	18.1
Goldcorp Inc	GG.N	2	29,877	USD	36.82	45.00	22%	22.0	18.3	13.4	12.7	10.0	7.2	0.8	1.5	1.5	2.0	-1.6	1.4	5.7	6.3	7.5
Kinross Gold Corporation	KGC.N	1	10,976	USD	9.63	12.00	25%	20.3	12.7	11.4	8.7	5.9	5.7	0.7	1.7	1.7	-3.8	-10.8	-4.5	6.0	5.1	6.3
Newmont Mining	NEM.N	2	21,770	USD	44.29	57.00	29%	13.7	11.7	9.6	10.5	6.4	5.7	2.0	3.2	3.4	-5.1	-4.3	4.9	6.4	9.4	10.7
Noranda Aluminum Holding Corporation	NOR.N	1H	406	USD	5.99	10.00	67%	4.1	56.3	10.0	3.8	7.3	5.8	8.2	23.5	2.7	26.0	-7.0	7.5	19.5	2.2	6.6
Natural Resource Partners LP	NRP.N	2	1,930	USD	18.20			16.0	11.1	11.6	12.0	9.1	9.6	6.9	12.1	12.1	5.7	3.7	13.6	17.9	15.9	14.7
Oxford Resource Partners, LP	OXF.N	2	111	USD	5.35			-41.5	-7.9	-15.4	10.9	7.1	5.7	8.1	28.3	15.0	0.1	4.6	5.5	0.7	-7.3	1.2
Pretium Resources	PVG.TO	1H	1,284	CAD	13.42	22.00	64%	-54.2	-69.0	-48.3	-49.7	-127.5	-132.6	0.0	0.0	0.0	-5.3	-2.4	-6.4	-3.6	-2.0	-1.9
RTI International Metals, Inc.	RTI.N	1	753	USD	24.82	29.00	17%	140.6	35.8	20.8	15.0	8.7	8.0	0.0	0.0	0.0	-25.3	-5.5	1.1	3.5	4.9	5.8
Walter Energy	WLT.N	1H	2,085	USD	33.35	43.00	29%	15.5	54.3	12.3	9.5	11.4	6.6	0.5	1.5	1.5	-33.3	4.8	9.7	11.5	3.2	6.4

Source: Citi Research, dataCentral priced as at 07 December 2012

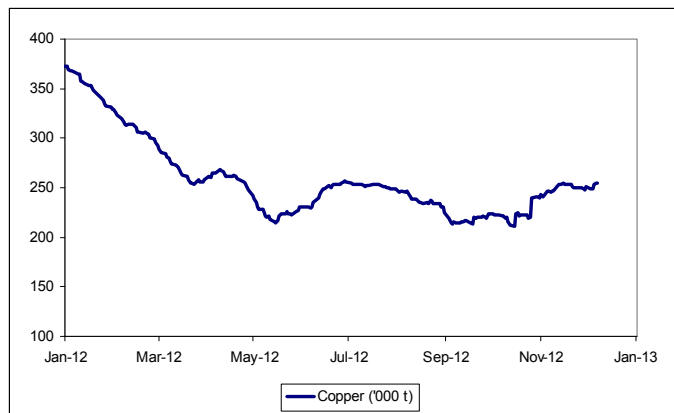
Figure 23. Metals & Mining | Comparable Valuation Sheet

Company Name	Reuters Code	Rating	Market Cap USD \$m	Share				P/E (x)			EV/EBITDA (x)			Dividend yield (%)			Free cash flow yield (%)			ROCE (%)		
				Ccy	Price	Target	Upside	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E	2011A	2012E	2013E
Asia Pacific																						
Jiangxi Copper	0358.HK	2	9,003	HKD	20.15	21.20	5%	9.9	10.3	9.9	7.1	7.0	6.7	3.7	1.9	2.0	5.2	1.6	4.1	17.3	13.5	12.8
Mongolian Mining	0975.HK	1	1,788	HKD	3.74	5.20	39%	35.1	149.7	6.9	24.8	26.9	5.1	0.0	0.0	0.0	-8.6	-13.2	15.4	14.6	2.1	19.5
G-Resources	1051.HK	1H	903	HKD	0.37	0.62	68%	-54.4	15.1	5.8	-54.7	8.1	3.1	0.0	0.0	0.0	-23.2	-26.8	7.4	-3.4	7.4	15.8
China Shenhua Energy	1088.HK	1	81,997	HKD	31.95	38.00	19%	12.5	11.1	11.9	7.2	6.7	6.8	3.1	3.5	3.3	2.8	4.1	5.0	21.7	19.2	16.6
Yanzhou Coal Mining	1171.HK	3	7,679	HKD	12.10	8.20	-32%	11.1	9.4	16.6	7.5	8.2	8.5	2.8	2.2	2.0	-7.7	2.9	1.8	13.6	5.2	6.0
MMG	1208.HK	1H	2,054	HKD	3.01	4.60	53%	5.7	7.8	6.6	4.9	3.8	4.0	0.0	0.0	0.0	30.4	-79.0	18.2	14.3	11.7	10.4
Hidili Industry	1393.HK	1H	509	HKD	1.91	3.70	94%	12.7	5.0	4.8	11.0	6.1	5.7	1.5	4.5	3.0	-7.4	-3.9	5.5	7.0	7.2	7.3
SINOMA	1893.HK	1	1,092	HKD	2.37	3.57	51%	11.1	15.2	13.5	5.2	7.1	7.0	1.3	1.0	1.1	-55.0	-51.5	-63.9	11.5	4.7	4.5
China Coal Energy	1898.HK	2	13,242	HKD	7.74	8.30	7%	11.5	9.8	12.2	6.3	5.9	6.1	2.5	3.0	2.4	-18.2	-6.5	9.9	10.8	7.2	6.4
China Polymetallic Mining	2133.HK	1	399	HKD	1.55	3.10	100%	-6.3	6.0	2.4	377.0	2.9	1.1	0.0	0.0	8.4	-16.6	-9.1	23.6	-3.7	45.5	70.9
Aluminum Corporation of China	2600.HK	3	5,811	HKD	3.33	2.50	-25%	278.4	-6.1	-8.4	15.1	50.1	24.8	0.2	0.0	0.0	-10.9	-79.7	-5.9	2.8	-1.5	0.1
China Molybdenum	3993.HK	3	2,122	HKD	3.24	2.60	-20%	20.1	11.9	13.4	11.5	9.1	8.3	0.0	1.6	1.5	2.0	3.4	-1.8	11.3	9.1	8.0
Adaro Energy	ADRO.JK	1	4,560	IDR	1,370	1,650	20%	14.8	11.0	8.9	6.0	5.2	4.4	0.9	3.8	3.1	-4.3	-9.6	12.9	21.0	10.9	11.8
BANPU	BANP.BK	1	3,474	THB	392.0	550.0	40%	9.2	9.9	9.3	7.5	5.4	4.6	2.9	3.5	3.8	10.7	14.8	8.9	11.5	10.4	11.4
Bumi Resources	BUMI.JK	3H	1,232	IDR	570.0	600.0	5%	30.9	-2.0	154.2	7.4	7.3	7.7	1.5	14.7	1.7	0.6	-153.5	14.7	13.4	4.5	7.8
Coal India	COAL.BO	1	42,276	INR	363.0	400.0	10%	16.0	14.1	12.8	10.8	9.3	8.0	2.4	3.0	3.0	7.3	8.7	9.4			
Hindalco Industries	HALC.BO	3	4,342	INR	123.0	118.0	-4%	7.4	6.5	7.8	6.9	6.8	7.2	0.9	1.2	1.1	-14.9	-21.0	-14.8	7.3	6.0	5.5
Harum Energy	HRUM.JK	3	1,435	IDR	5,100	5,100	0%	16.3	9.9	10.0	9.7	5.3	5.0	2.1	3.5	3.5	5.9	13.4	12.6	102.0	86.1	92.6
Hindustan Zinc	HZNC.BO	2	10,802	INR	138.7	141.0	2%	10.2	9.7	8.7	6.8	7.0	5.8	1.6	1.8	1.9	7.4	8.3	9.8	41.6	36.4	35.9
Indo Tambang Raya Megah	ITMG.JK	2	4,668	IDR	39,700	44,000	11%	10.7	10.3	10.1	7.0	5.9	5.9	3.5	8.8	7.3	8.4	7.3	8.8	106.9	77.7	66.1
National Aluminium	NALU.BO	3	2,302	INR	48.45	45.00	-7%	23.3	14.6	12.0	13.8	7.1	5.8	1.3	2.2	2.4	4.3	0.5	1.7	3.4	2.4	3.7
Tambang Batubara Bukit Asam	PTBA.JK	2	3,369	IDR	14,050	16,500	17%	14.7	11.1	9.6	10.3	6.5	5.4	2.4	5.2	5.0	5.0	8.0	9.1	101.1	81.2	88.9

Source: Citi Research, dataCentral priced as at 07 December 2012

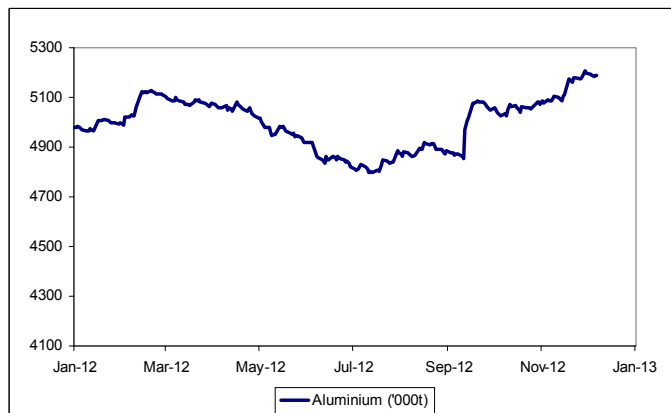
LME Inventory Levels

Figure 24. LME Copper Stocks



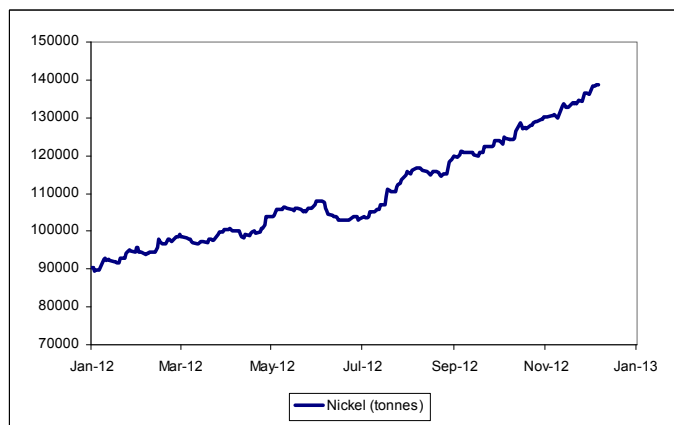
Source: DataStream

Figure 25. LME Aluminium Stocks



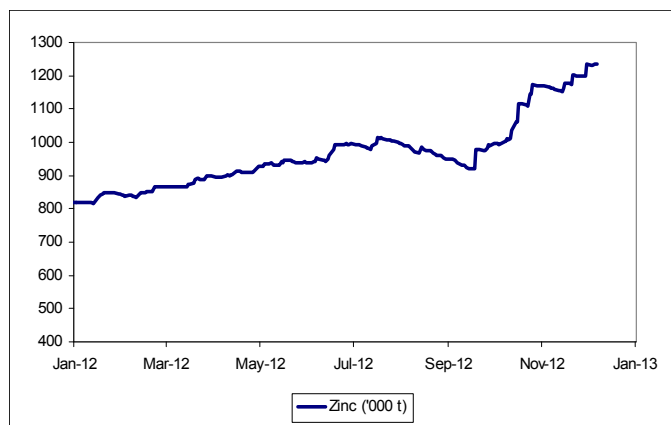
Source: DataStream

Figure 26. LME Nickel Stocks



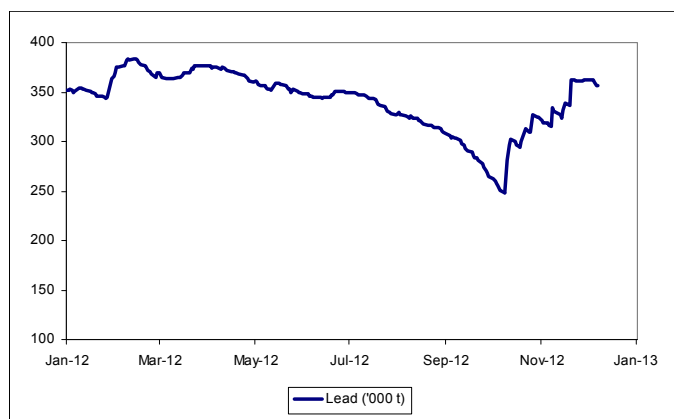
Source: DataStream

Figure 27. LME Zinc Stocks



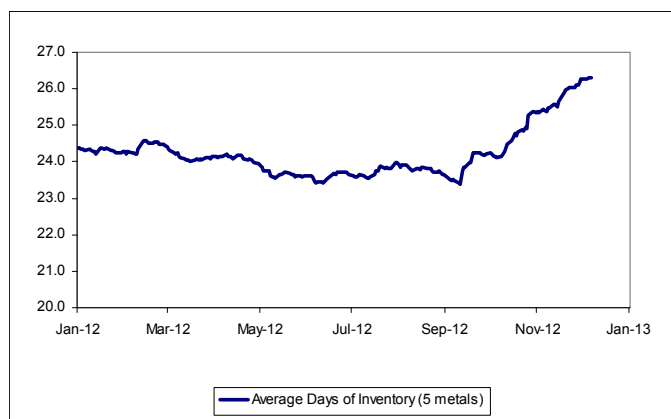
Source: DataStream

Figure 28. LME Lead Stocks



Source: DataStream

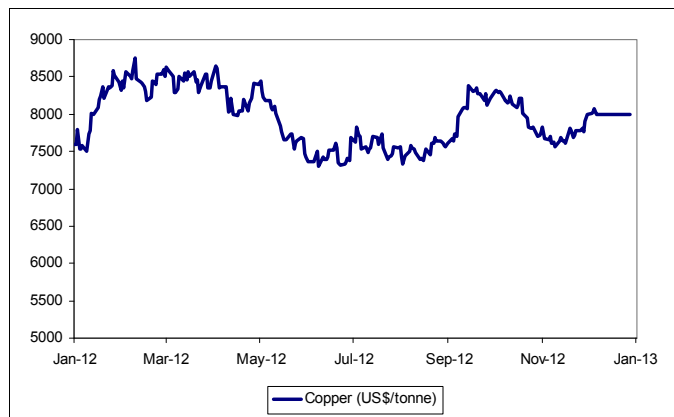
Figure 29. Average Days of Inventory (5 metals)



Source: DataStream

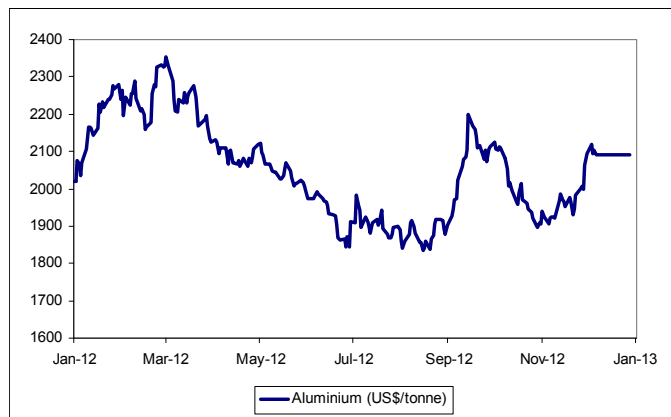
Base Metal Prices

Figure 30. Copper (US\$/tonne)



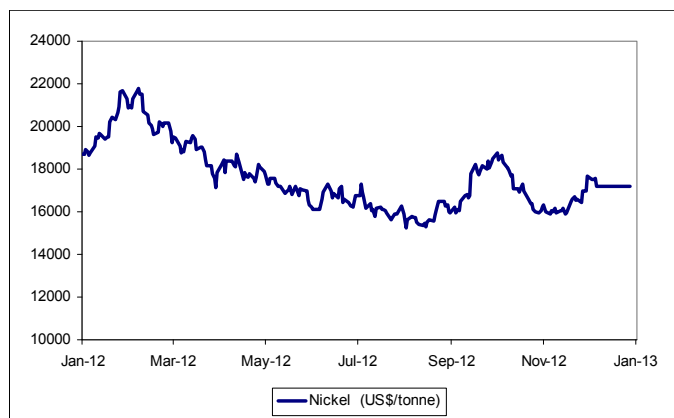
Source: DataStream

Figure 31. Aluminium (US\$/tonne)



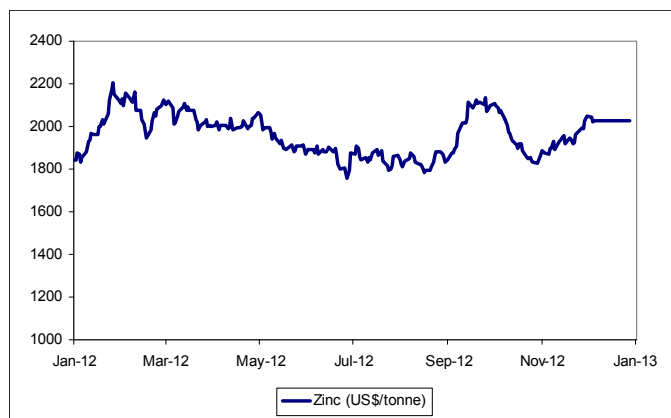
Source: DataStream

Figure 32. Nickel (US\$/tonne)



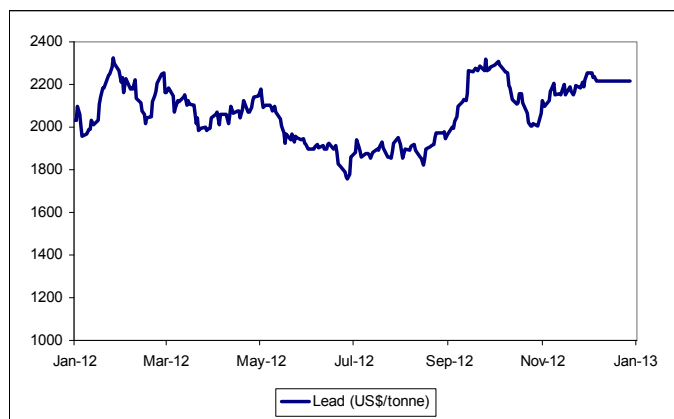
Source: DataStream

Figure 33. Zinc (US\$/tonne)



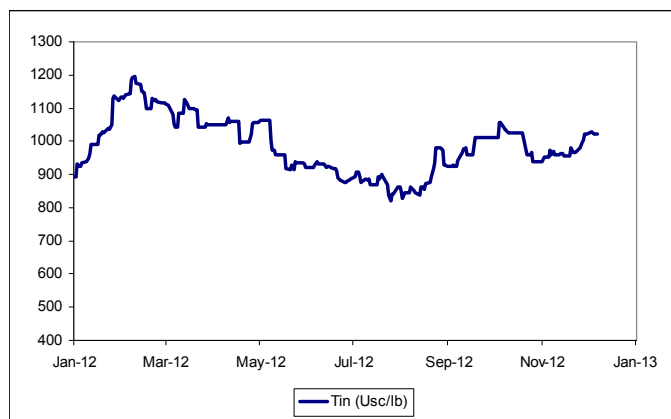
Source: DataStream

Figure 34. Lead (US\$/tonne)



Source: DataStream

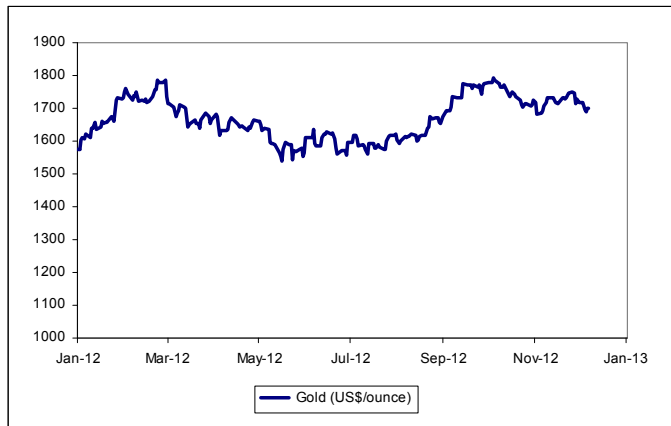
Figure 35. Tin (US\$/lb)



Source: DataStream

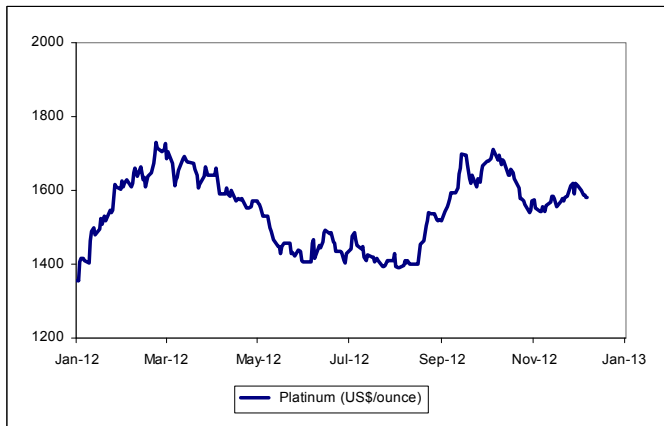
Precious & Energy Prices

Figure 36. Gold (US\$/ounce)



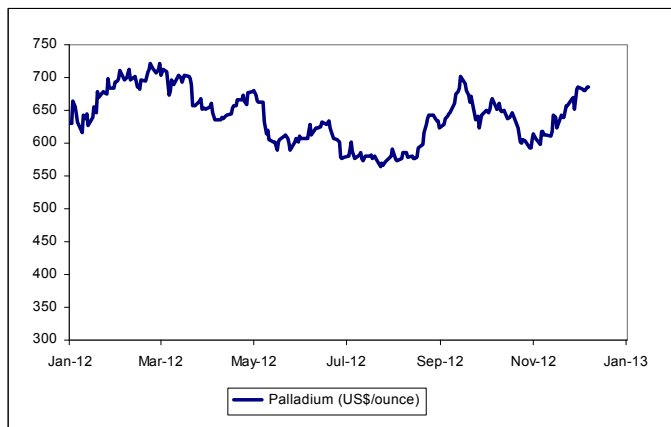
Source: DataStream

Figure 37. Platinum (US\$/ounce)



Source: DataStream

Figure 38. Palladium (US\$/ounce)



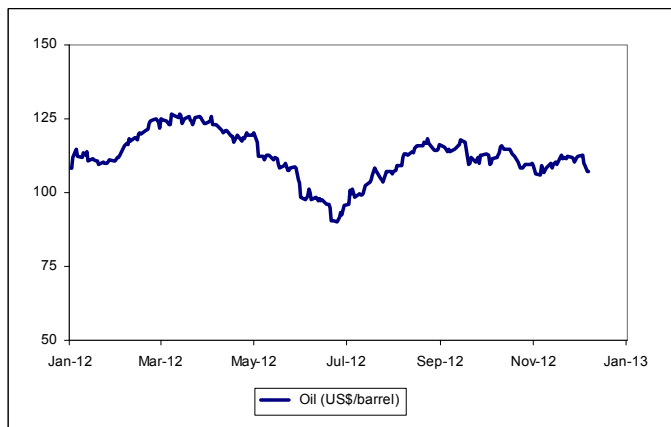
Source: DataStream

Figure 39. Silver (US\$/ounce)



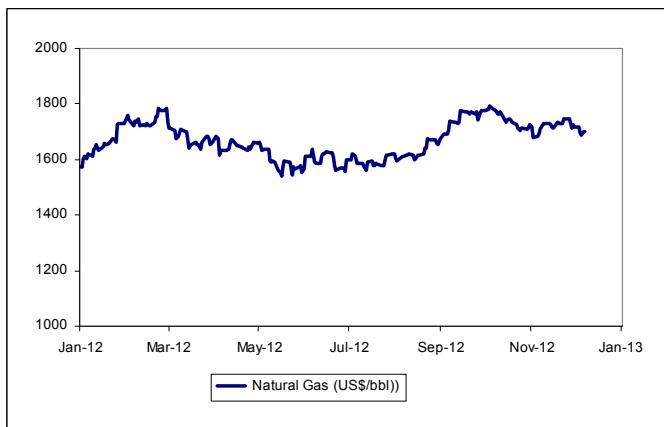
Source: DataStream

Figure 40. Brent Oil (US\$/barrel)



Source: DataStream

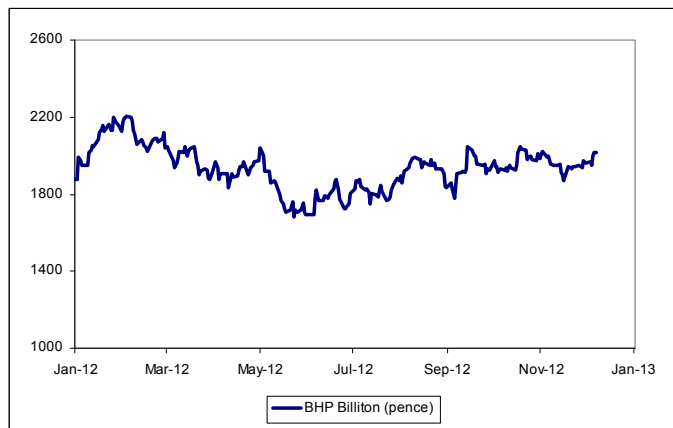
Figure 41. Natural Gas (US\$/bbl)



Source: DataStream

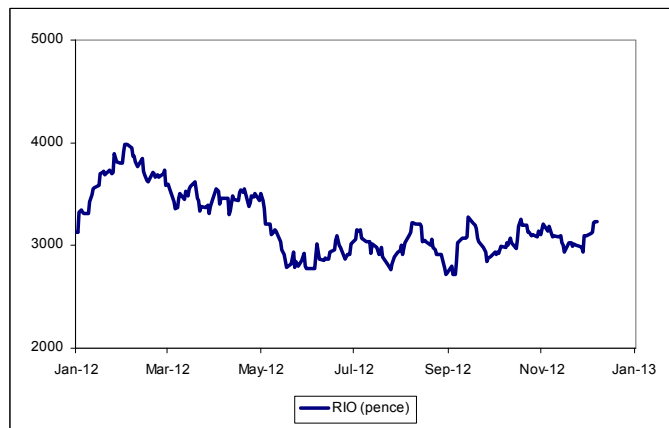
Diversified Miners

Figure 42. BHP Billiton Share Price (pence)



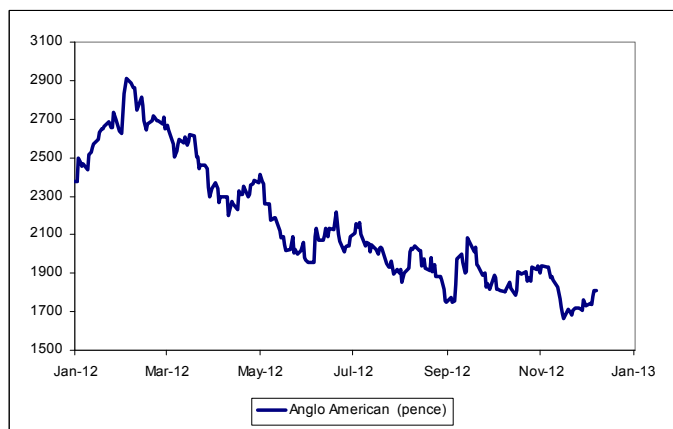
Source: DataStream

Figure 43. RIO Share Price (pence)



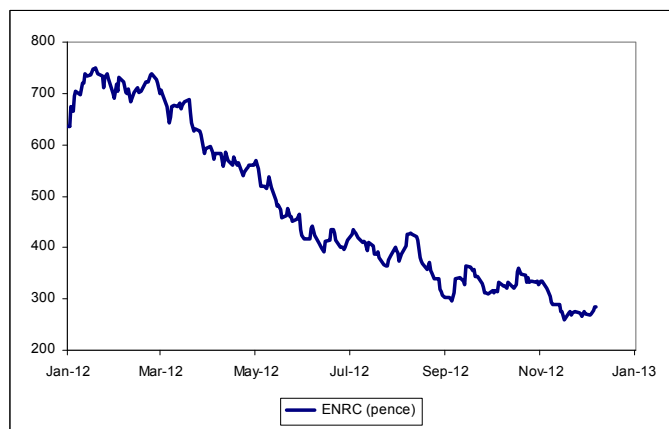
Source: DataStream

Figure 44. Anglo American Share Price (pence)



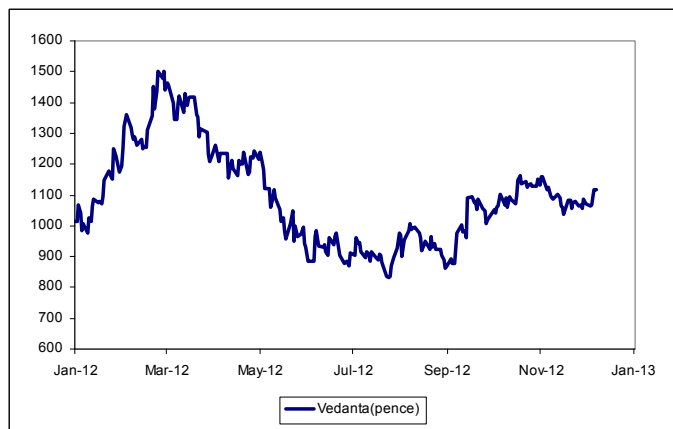
Source: DataStream

Figure 45. ENRC Share Price (pence)



Source: DataStream

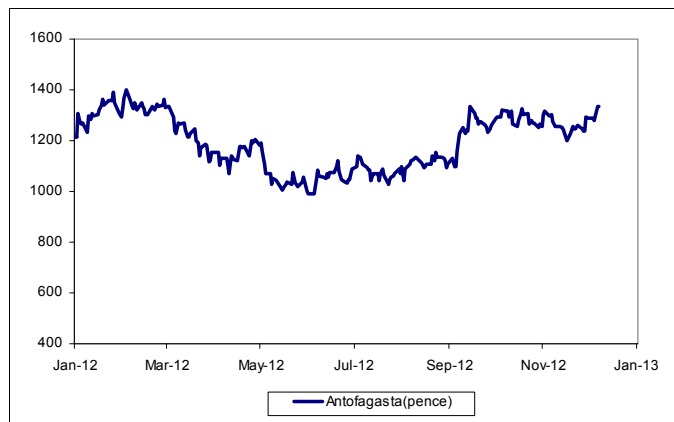
Figure 46. Vedanta Share Price (pence)



Source: DataStream

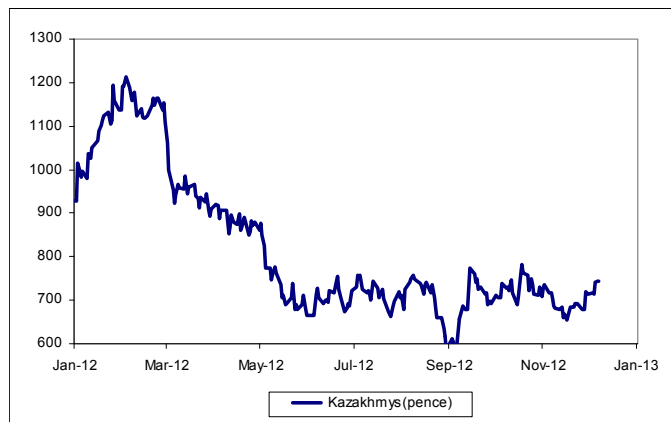
Base Metal & Platinum Equities

Figure 47. Antofagasta Share Price (pence)



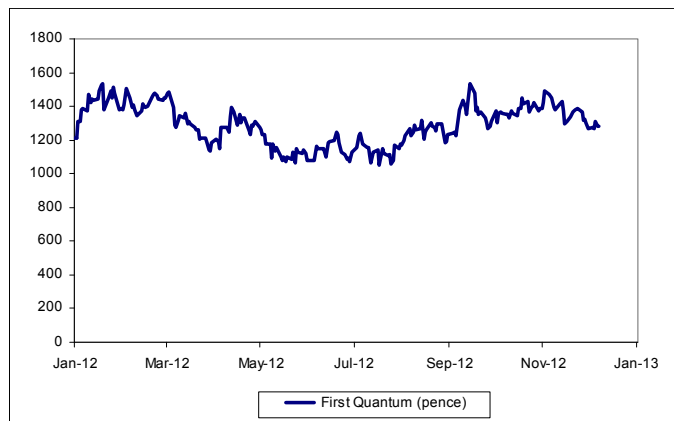
Source: DataStream

Figure 48. Kazakhmys Share Price (pence)



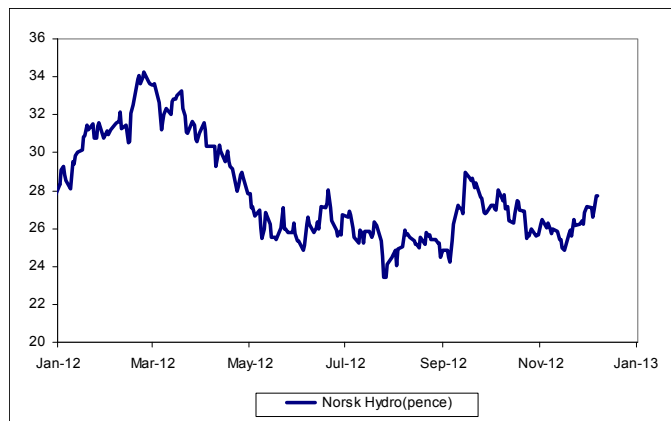
Source: DataStream

Figure 49. First Quantum Share Price (pence)



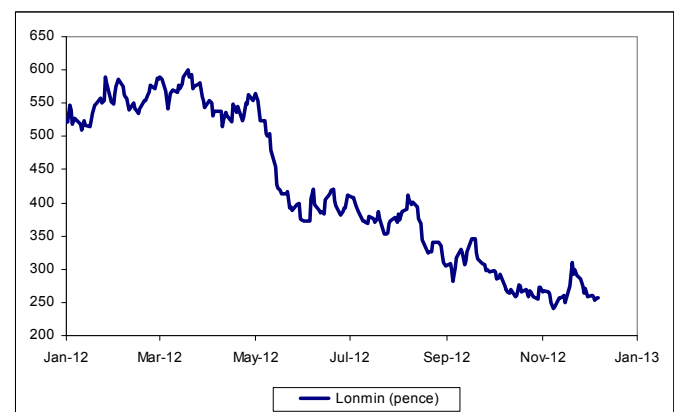
Source: DataStream

Figure 50. Norsk Hydro Share Price (pence)



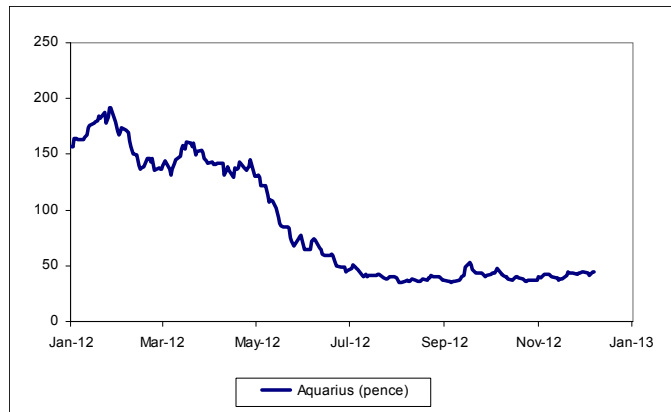
Source: DataStream

Figure 51. Lonmin Share Price (pence)



Source: DataStream

Figure 52. Aquarius Share Price (pence)



Source: DataStream

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

A director of Citi serves on the board of Alcoa Inc. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Alcoa Inc

An employee of Citigroup Global Markets or its affiliates is a non - executive director of Anglo American Plc.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Barrick Gold Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Arch Coal Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of AngloGold Ashanti Ltd

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of BHP Billiton Ltd

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Peabody Energy Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of CONSOL Energy Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Freeport-McMoRan Copper & Gold Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Gold Fields Ltd

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Goldcorp Inc

One or more directors of Grupo Mexico, S.A. de C.V. are members of the board of directors of an affiliate of Citigroup Global Markets Inc.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of ArcelorMittal

DMBH rating distribution versus Investment Banking service provision in the past 12 months as at 30th September 2012 is as follows: Buy (1) representing 59% of the DMBH coverage 0% of which are IB clients, Hold (2) representing 24% of the DMBH coverage 0% of which are IB clients, Sell (3) representing 17% of the DMBH coverage 0% of which are IB client. DMBH is a market maker in the publicly traded equity securities of Jastrzębska Spółka Węglowa.

DMBH is a market maker in the publicly traded equity securities of KGHM Polska Miedz SA. DMBH rating distribution versus Investment Banking service provision in the past 12 months as at 30th September 2012 is as follows: Buy (1) representing 59% of the DMBH coverage 0% of which are IB clients, Hold (2) representing 24% of the DMBH coverage 0% of which are IB clients, Sell (3) representing 17% of the DMBH coverage 0% of which are IB clients.

DMBH rating distribution versus Investment Banking service provision in the past 12 months as at 30th September 2012 is as follows: Buy (1) representing 59% of the DMBH coverage 0% of which are IB clients, Hold (2) representing 24% of the DMBH coverage 0% of which are IB clients, Sell (3) representing 17% of the DMBH coverage 0% of which are IB clients.

Citigroup Global Markets Limited has been mandated as Joint Bookrunner and Joint Broker in relation to the proposed Rights Issue by Lonmin Plc.

DMBH rating distribution versus Investment Banking service provision in the past 12 months as at 30th September 2012 is as follows: Buy (1) representing 59% of the DMBH coverage 0% of which are IB clients, Hold (2) representing 24% of the DMBH coverage 0% of which are IB clients, Sell (3) representing 17% of the DMBH coverage 0% of which are IB clients. DMBH is a market maker in the publicly traded equity securities of BOGDANKA.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Newmont Mining Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Rio Tinto PLC

One or more directors of Southern Copper Corporation SA is a member of the board of directors of an affiliate of Citigroup Global Markets Inc. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Southern Copper Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Vale SA

Citi is providing fairness opinion to Sesa Goa Limited on in the proposed merger of Sterlite Industries and other Vedanta Resources PLC group companies. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Vedanta Resources PLC

Johann Steyn, Analyst, holds a long position in the securities of Anglo American PLC.

Thomas O'Hara, Associate, holds a long position in the securities of Walter Energy.

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of ArcelorMittal, Newmont Mining, Polyus Gold. This position reflects information available as of the prior business day.

Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of Anglo American PLC, African Barrick Gold Plc, Barrick Gold, Arch Coal, Anglo American Platinum Ltd, AngloGold Ashanti Ltd, Antofagasta, Freeport-McMoRan Copper &

Gold Inc., First Quantum Minerals Ltd, Fresnillo Plc, ArcelorMittal, Kety SA, Newmont Mining, OceanaGold, Pretium Resources, Rio Tinto PLC, Vale, Walter Energy.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from China Shenhua Energy, Yanzhou Coal Mining, MMG, China Coal Energy, China Polymetallic Mining, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, African Barrick Gold Plc, Barrick Gold, Arch Coal, ALBA (GDR), Anglo American Platinum Ltd, AngloGold Ashanti Ltd, BHP Billiton Ltd, BHP Billiton PLC, Peabody Energy, Coal India, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Gold Fields Ltd, Grupo Mexico, Hindalco Industries, Hindustan Zinc, Iluka Resources Ltd, ArcelorMittal, Jastrzębska Spółka Węglowa, Kazakhmys Plc, KGHM Polska Miedz SA, Lonmin PLC, Bogdanka, National Aluminium, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Noranda Aluminum Holding Corporation, Natural Resource Partners LP, New World Resources, Oxford Resource Partners, LP, Tambang Batubara Bukit Asam, Pretium Resources, Rio Tinto Ltd, Rio Tinto PLC, RTI International Metals, Inc., Southern Copper Company, Vale, Vedanta Resources Plc, Walter Energy, Yancoal Australia Ltd.

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Mongolian Mining, China Shenhua Energy, Yanzhou Coal Mining, MMG, China Coal Energy, Aluminum Corporation of China, Alcoa Inc., BHP Billiton Ltd, BHP Billiton PLC, Coal India, Ferrexpo PLC, Hindustan Zinc, Iluka Resources Ltd, ArcelorMittal, Jastrzębska Spółka Węglowa, KGHM Polska Miedz SA, Lonmin PLC, Bogdanka, National Aluminium, Norilsk Nickel, OceanaGold, Oxford Resource Partners, LP, Resource Generation, Vale, Vedanta Resources Plc, Yancoal Australia Ltd.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from United Company Rusal, Mongolian Mining, China Shenhua Energy, Yanzhou Coal Mining, MMG, Hidili Industry, SINOMA, China Coal Energy, China Polymetallic Mining, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, African Barrick Gold Plc, Barrick Gold, Arch Coal, Adaro Energy, ALBA (GDR), Anglo American Platinum Ltd, AngloGold Ashanti Ltd, Antofagasta, African Rainbow Minerals, BANPU, BHP Billiton Ltd, BHP Billiton PLC, Peabody Energy, Bumi Resources, CONSOL Energy, Coal India, Eurasian Natural Resources Corporation PLC (ENRC), Exxaro Resources Limited, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Fresnillo Plc, Ferrexpo PLC, Gem Diamonds, Gold Fields Ltd, Goldcorp Inc, Grupo Mexico, Hindalco Industries, Hochschild Mining Plc, Hindustan Zinc, Impala Platinum, ArcelorMittal, Indo Tambang Raya Megah, Jastrzębska Spółka Węglowa, Kazakhmys Plc, Kinross Gold Corporation, KGHM Polska Miedz SA, Kety SA, Lonmin PLC, Bogdanka, Medusa Mining Ltd, National Aluminium, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Noranda Aluminum Holding Corporation, Natural Resource Partners LP, New World Resources, OceanaGold, Oxford Resource Partners, LP, OZ Minerals Ltd, Paladin Energy Ltd, Tambang Batubara Bukit Asam, Rio Tinto Ltd, Rio Tinto PLC, Randgold Resources Ltd, Resolute, RTI International Metals, Inc., Southern Copper Company, Vale, Vedanta Resources Plc, Walter Energy, Western Areas NL, Yancoal Australia Ltd, Zanaga Iron Ore Company in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Noranda Aluminum Holding Corporation, Arch Coal, Mongolian Mining, China Shenhua Energy, Yanzhou Coal Mining, MMG, China Coal Energy, China Polymetallic Mining, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, African Barrick Gold Plc, Barrick Gold, ALBA (GDR), Anglo American Platinum Ltd, AngloGold Ashanti Ltd, BHP Billiton Ltd, BHP Billiton PLC, Peabody Energy, Coal India, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Ferrexpo PLC, Gold Fields Ltd, Grupo Mexico, Hindalco Industries, Hindustan Zinc, Iluka Resources Ltd, ArcelorMittal, Jastrzębska Spółka Węglowa, Kazakhmys Plc, KGHM Polska Miedz SA, Lonmin PLC, Bogdanka, National Aluminium, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Natural Resource Partners LP, New World Resources, OceanaGold, Oxford Resource Partners, LP, Tambang Batubara Bukit Asam, Pretium Resources, Resource Generation, Rio Tinto Ltd, Rio Tinto PLC, RTI International Metals, Inc., Southern Copper Company, Vale, Vedanta Resources Plc, Walter Energy, Yancoal Australia Ltd.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: United Company Rusal, Mongolian Mining, China Shenhua Energy, Yanzhou Coal Mining, MMG, SINOMA, China Coal Energy, China Polymetallic Mining, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, African Barrick Gold Plc, Barrick Gold, Arch Coal, ALBA (GDR), Anglo American Platinum Ltd, AngloGold Ashanti Ltd, Antofagasta, BANPU, BHP Billiton Ltd, BHP Billiton PLC, Peabody Energy, CONSOL Energy, Coal India, Exxaro Resources Limited, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Fresnillo Plc, Gold Fields Ltd, Goldcorp Inc, Grupo Mexico, Hindalco Industries, Harmony Gold Mining Co. Ltd, Hochschild Mining Plc, Hindustan Zinc, Iluka Resources Ltd, Impala Platinum, ArcelorMittal, Indo Tambang Raya Megah, Jastrzębska Spółka Węglowa, Kazakhmys Plc, Kinross Gold Corporation, KGHM Polska Miedz SA, Kety SA, Lonmin PLC, Bogdanka, Mirabela Nickel Ltd, Medusa Mining Ltd, National Aluminium, Newcrest Mining Ltd, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Noranda Aluminum Holding Corporation, Natural Resource Partners LP, New World Resources, Nyrstar NV, OceanaGold, OZ Minerals Ltd, Paladin Energy Ltd, PanAust Limited, Tambang Batubara Bukit Asam, Rio Tinto Ltd, Rio Tinto PLC, Randgold Resources Ltd, Resolute, RTI International Metals, Inc., St Barbara Limited, Southern Copper Company, Vale, Vedanta Resources Plc, Walter Energy, Western Areas NL, Yancoal Australia Ltd, Zanaga Iron Ore Company.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: United Company Rusal, Mongolian Mining, China Shenhua Energy, Yanzhou Coal Mining, MMG, Hidili Industry, SINOMA, China Coal Energy, China Polymetallic Mining, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, African Barrick Gold Plc, Barrick Gold, Arch Coal, Adaro Energy, ALBA (GDR), Anglo American Platinum Ltd, AngloGold Ashanti Ltd, Antofagasta, African Rainbow Minerals, BANPU, BHP Billiton Ltd, BHP Billiton PLC, Peabody Energy, Bumi Resources, CONSOL Energy, Coal India, Eurasian Natural Resources Corporation PLC (ENRC), Exxaro Resources Limited, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Fresnillo Plc, Ferrexpo PLC, Gem Diamonds, Gold Fields Ltd, Goldcorp Inc, Grupo Mexico, Hindalco Industries, Hochschild Mining Plc, Hindustan Zinc, ArcelorMittal, Indo Tambang Raya Megah, Jastrzębska Spółka Węglowa, Kazakhmys Plc, Kinross Gold Corporation, KGHM Polska Miedz SA, Kety SA, Lonmin PLC, Bogdanka, National Aluminium, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Noranda Aluminum Holding Corporation, Natural Resource Partners LP, New World Resources, OceanaGold, Oxford Resource Partners, LP, OZ Minerals Ltd, Paladin Energy Ltd, Tambang Batubara Bukit Asam, Rio Tinto Ltd, Rio Tinto PLC, Randgold Resources Ltd, Resolute, RTI International Metals, Inc., Southern Copper Company, Vale, Vedanta Resources Plc, Walter Energy, Yancoal Australia Ltd.

Citigroup Global Markets Inc. or an affiliate received compensation in the past 12 months from Alcoa Inc., Arch Coal, Newmont Mining.

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

The Firm is a market maker in the publicly traded equity securities of Jiangxi Copper, China Coal Energy, Aluminum Corporation of China, Alcoa Inc., Anglo American PLC, Anglo American Platinum Ltd, Antofagasta, BHP Billiton Ltd, Peabody Energy, Exxaro Resources Limited, First Quantum Minerals Ltd, Gold Fields Ltd, Impala Platinum, Newcrest Mining Ltd, Norsk Hydro ASA, Norilsk Nickel, OZ Minerals Ltd, Polyus Gold, Randgold Resources Ltd.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Research Ratings Distribution

Data current as of 4 Oct 2012

	12 Month Rating			Relative Rating		
	Buy	Hold	Sell	Buy	Hold	Sell
Citi Research Global Fundamental Coverage	51%	38%	11%	7%	85%	7%
% of companies in each rating category that are investment banking clients	50%	47%	45%	59%	47%	50%

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Relative three-month ratings: Citi Research may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings**, which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were: Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Ltd	Jon H Bergtheil; Heath R Jansen; David B Wilson; Thomas O'Hara; Michael E Flitton; Jatinder Goel, CFA; Andrew Benson; Heidy Rehman
Citigroup Global Markets Asia	Scarlett Y Chen, CFA; Mark Liinamaa
Citicorp Pty Ltd	Daniel Seeney; Clarke Wilkins

Citigroup Global Markets (Pty) Ltd	Johann Pretorius; Johann Steyn
Citigroup Global Markets Inc	Brian Yu, CFA; Alexander Hacking, CFA; Jonathan Sullivan, CFA
Citigroup Global Markets India Private Limited	Raashi Chopra, CFA
ZAO Citibank	Daniel Yakub
Dom Maklerski Banku Handlowego SA	Rafal Wiatr, CFA

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Alcoa Inc., Anglo American PLC, Barrick Gold, Arch Coal, BHP Billiton PLC, Peabody Energy, CONSOL Energy, Exxaro Resources Limited, Freeport-McMoRan Copper & Gold Inc., First Quantum Minerals Ltd, Gold Fields Ltd, Goldcorp Inc, Hindalco Industries, ArcelorMittal, Kazakhmys Plc, Lonmin PLC, Newmont Mining, Norsk Hydro ASA, Norilsk Nickel, Rio Tinto PLC, Vale. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

Citigroup Global Markets Inc. or its affiliates beneficially owns 2% or more of any class of common equity securities of Polyus Gold.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Citigroup Global Markets Inc. or its affiliates acts as a corporate broker to BHP Billiton PLC, Kazakhmys Plc, Lonmin PLC, Zanaga Iron Ore Company.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to Citi Research research reports.

Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures.

For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup

companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A., Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ("FAA") through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289).

Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFS") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2012 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness

for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
