

Metals and Mining

Macro Cycle Thoughts – Bear Digs Deeper

■ Industry Overview

- **Aligning our top down view with our bottom up analysis** — We believe the top down view is deteriorating; on the economic side the excess money flow is peaking, economic surprise is unlikely to become incrementally more positive, commodities appear capped, inventories are building and the sterling has weakened (YTD 8% vs. USD) against all major currencies benefitting USD earnings. On the bottom up view we have witnessed management changes, capex scaleback, and cost reductions announcements yet valuations, balance sheets and yields are not supportive for the sector. Key delta components are cash flows, potential divestment and cash returns; which fits our shrink, spin and grow theme.
- **Bye Bye Beta** — The basic resources sector was the fourth worst performing sector in 2012, and is the worst performing sector in 2013YTD, which is stark given mining is perceived as a high beta sector. The contrarian trade would be to own the sector, however intra sector correlations have broken down, the sector is at risk of redemptions as investors seek to gain beta to rising markets else where. We don't think beta will return, we [highlighted](#) why we think the sector will no longer be a beta sector more than 12months ago.
- **Hello Alpha** — Under our [super cycle sunset](#) thesis, we believe cash flow and cash return will be the key driver of company performance rather than earnings. As the companies cut capex, they will inevitably move to being ex growth unless they spin underperforming assets and return cash. The biggest delta on free cash flow yield in our view is Rio Tinto.
- **Potential leaders** — Rio Tinto is our only Buy amongst the UK large cap diversified companies. We downgraded BHPB to Neutral in February however it remains a key long term portfolio holding, in our view. We have Buys on Lonmin and AQP based on restructuring and leverage to PGM prices.
- **Potential laggards** — We have Sell recommendations on ENRC, ANTO, FQM, NHY, BOL, ABG, FRES, HOCM, RRS, SSAB, and KCOG. We remain underweight on the gold and base metal stocks. Our key large cap underweight is Anglo American.

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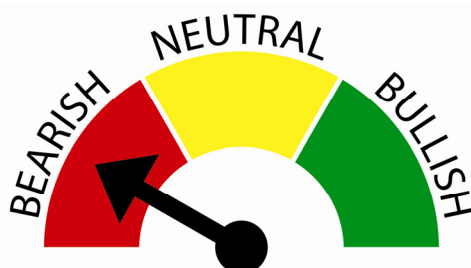
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Figure 1. Overall View



Source: Citi Research

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

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Top Picks

Figure 2. Top Picks

| Exposure | Overall Stance | Equities | RIC | CCY | CMP 14/03/13 | PT | Rating/Risk | 1Y ETR | Analyst |
|---------------------|---|--------------------------|----------|-----|-----------------|--------|-------------|--------|--------------------|
| Diversified | Neutral  | Leader(s) | | | | | | | |
| | | Rio Tinto PLC | RIO.L | GBP | 33.07 | 40.00 | Buy | 24% | Heath R Jansen |
| | | Laggard(s) | | | | | | | |
| | | Anglo American PLC | AAL.L | GBP | 18.57 | 21.00 | Neutral | 16% | Heath R Jansen |
| | | ENRC | ENRC.L | GBP | 3.49 | 2.70 | Sell | -21% | Michael E Flitton |
| Bulks | Overweight  | Leader(s) | | | | | | | |
| | | African Minerals Ltd | AMlq.L | GBP | 2.50 | 4.40 | Buy/High | 76% | Michael E Flitton |
| | | Ferrexpo PLC | FXPO.L | GBP | 1.96 | 3.20 | Buy | 65% | Thomas O'Hara |
| | | Laggard(s) | | | | | | | |
| | | New World Resources | NWRR.L | GBP | 2.48 | | Neutral | | Thomas O'Hara |
| Base Metals | Underweight  | Leader(s) | | | | | | | |
| | | Laggard(s) | | | | | | | |
| | | Antofagasta | ANTO.L | GBP | 10.89 | 10.00 | Sell | -6% | Jatinder Goel, CFA |
| | | Boliden AB | BOL.ST | SEK | 108.00 | 105.00 | Sell | 1% | Jatinder Goel, CFA |
| | | FST Quantum Minerals | FQM.L | GBP | 13.84 | 11.00 | Sell | -19% | Michael E Flitton |
| Gold/Silver PGMs | Underweight Overweight  | Leader(s) | | | | | | | |
| | | Lonmin PLC | LMI.L | GBP | 3.25 | 4.25 | Buy | 31% | Jon H Bergtheil |
| | | Aquarius Platinum Ltd | AQP.L | GBP | 0.53 | 0.92 | Buy | 73% | Jon H Bergtheil |
| | | Petra Diamonds | PDL.L | GBP | 1.28 | 1.43 | Buy | 12% | Jon H Bergtheil |
| | | Laggard(s) | | | | | | | |
| | | African Barrick Gold Plc | ABGL.L | GBP | 2.42 | 2.67 | Sell | 10% | Jon H Bergtheil |
| Steels | Neutral  | Leader(s) | | | | | | | |
| | | voestalpine AG | VOES.VI | EUR | 25.70 | 34.00 | Buy | 35% | Thomas O'Hara |
| | | ArcelorMittal | ISPAAS | EUR | 11.53 | 13.90 | Buy | 22% | Thomas O'Hara |
| | | Laggard(s) | | | | | | | |
| | | SSAB | SSABa.ST | SEK | 49.09 | 48.00 | Sell | 0% | Thomas O'Hara |
| | | Klöckner & Co. | KCOGn.DE | EUR | 11.08 | 9.50 | Sell | -14% | Thomas O'Hara |

Source: dataCentral, Citi Research

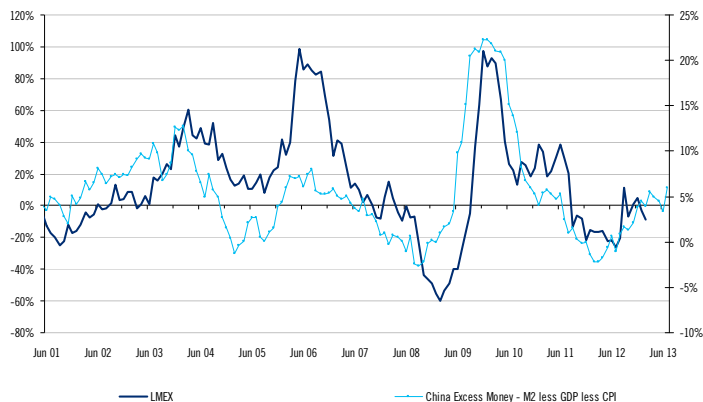
Macro chart watch

Chinese excess monetary supply as defined by us as M2 less GDP less CPI remains supportive for metals prices into the second half, but it is unlikely to drive commodities higher from here. Especially against a back drop of rising inflation expectations and a likely move to a neutral monetary stance.

Citi's China economic surprise index would suggest that most of the positive economic data has already occurred and that upside surprise is limited. Arguably limiting the upside in the metals and mining sector (SXPP)

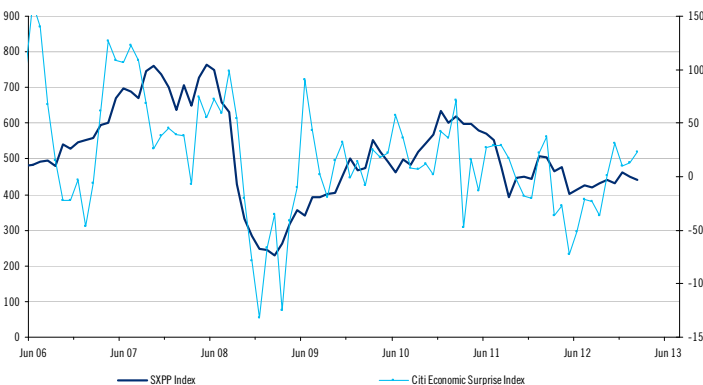
The bulls are pointing to the underperformance of the mining equities against the underlying commodity prices...however there is a significant BUT...

Figure 3. China excess monetary supply



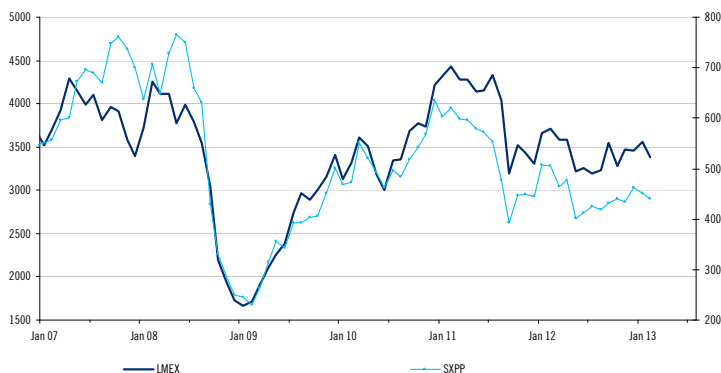
Source: Bloomberg, Citi Research

Figure 4. SXPP versus Citi Chinese economic surprise index



Source: Bloomberg, Citi Research

Figure 5. SXPP (metals and mining index) versus the LME index.



Source: Bloomberg, Citi Research

...the BUT is EBITDA margins for the major miners have fallen to the lowest level since 2005. Interestingly margins are lower now than what they were during the financial crisis.

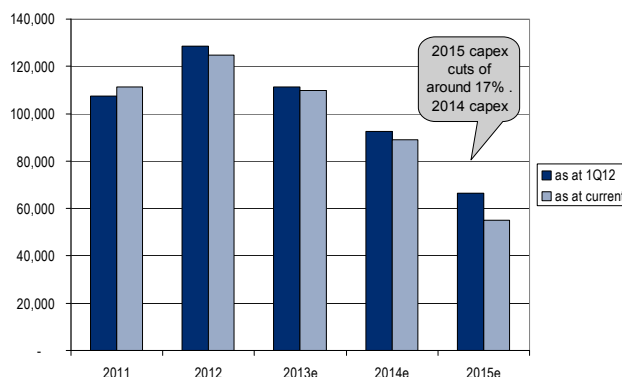
Figure 6. EBITDA margins major diversified miners



Source: dataCentral, Citi Research

The miners have reacted and taken a step closer to aligning themselves to shareholders. The new CEOs are focusing on capital discipline and cost cutting. Nevertheless the new CEOs are continuing with old capex projects and just not committing to new projects. Overall capex revisions have been minimal over the past two months. This leaves the sector still to digest above average capex profiles with capex to DA running at more than 2x for the sector

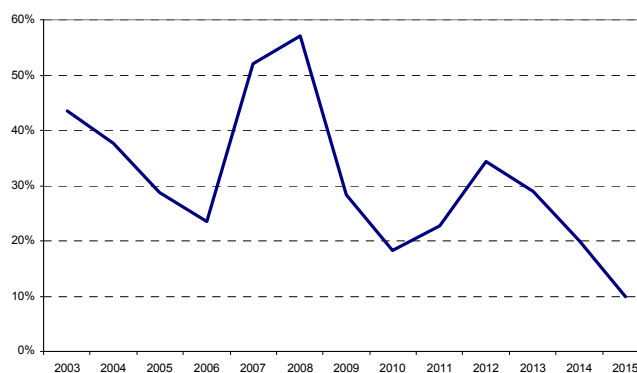
Figure 7. Capex revisions (US\$m)



Source: dataCentral, Citi Research

Net debt levels have actually increased over the past two years and given write downs from most of the majors, net debt to equity levels are in line with historical averages. In our view buy backs and cash returns are unlikely to be a feature until the end of 2014.

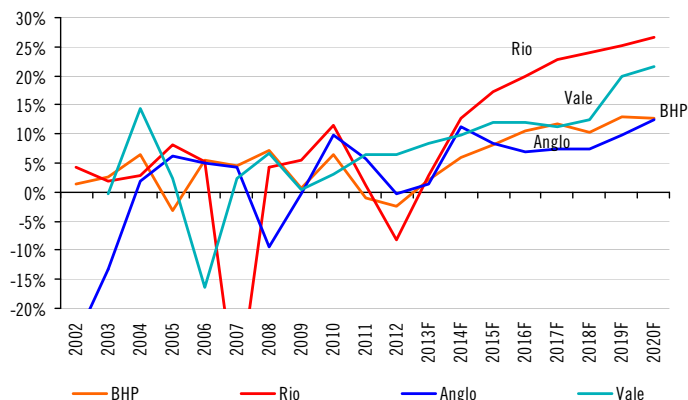
Figure 8. Net Debt levels – major miners



Source: dataCentral, Citi Research

Cash flow is likely to be the driver of the sector NOT earnings. There is greater divergence within the companies on FCF post all capex which should result in alpha not beta. On our forecasts Rio is the clear winner.

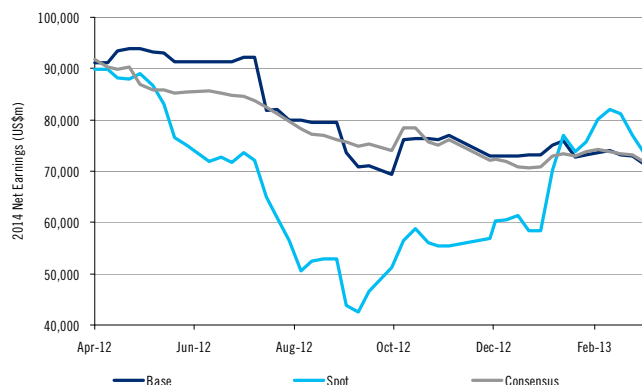
Figure 9. Free cash flow



Source: dataCentral, Citi Research

Earnings upgrades remain elusive. 2014 consensus earnings forecasts remain flat and spot earnings have turned down.

Figure 10. 2014 spot versus base versus Citi

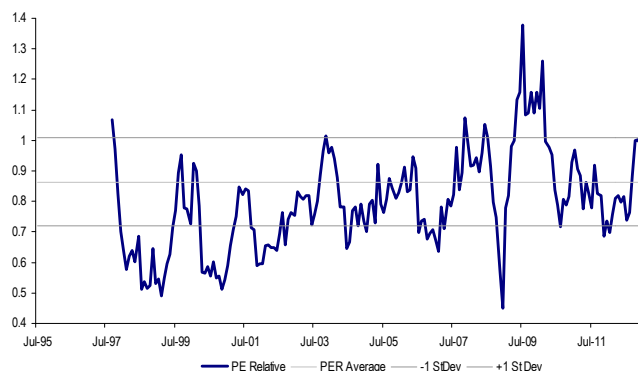


Source: dataCentral, Citi Research

Relative to the market the sector is now expensive on a PE basis trading at a 1 st dev above its historical trading range. With minimal earnings revisions on current commodity prices mining equity investors are taking a large bet that commodity prices will rise in the second half.

The sector earning drivers are coal, copper and iron ore, with our forecasts flat to down in the second half we think this outcome is unlikely.

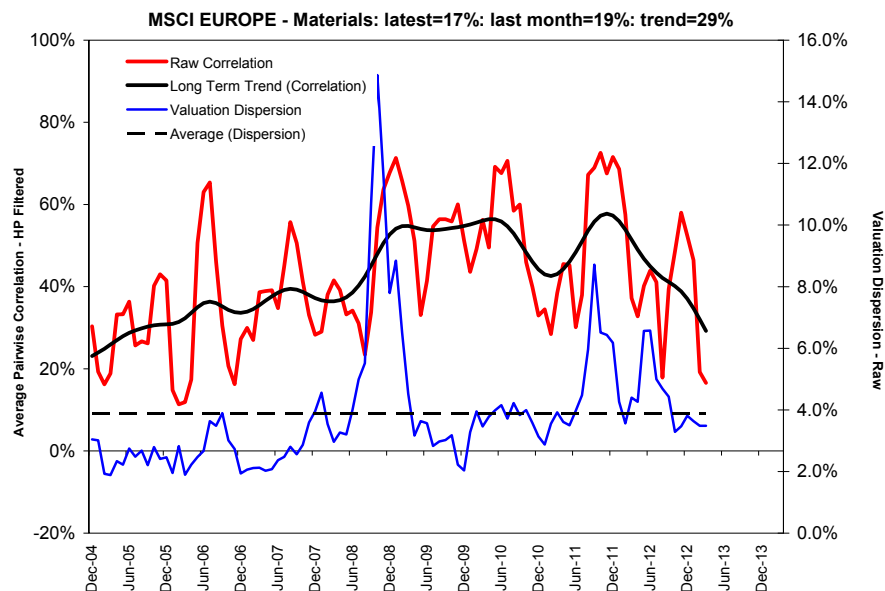
Figure 11. Sector PE relative to the UK market



Source: Datastream, Citi Research

Goodbye beta: Interestingly the correlation within the sector has broken down which highlights it is now a stock pickers sector. This may be a surprise to mining investors, however we did highlight our view more than 12 months ago that we thought the sector would no longer be a beta sector (see [Sweating for Success](#)) and alpha would be the key driver of returns

Figure 12. Basic Materials Sector Correlation & Valuation Dispersion

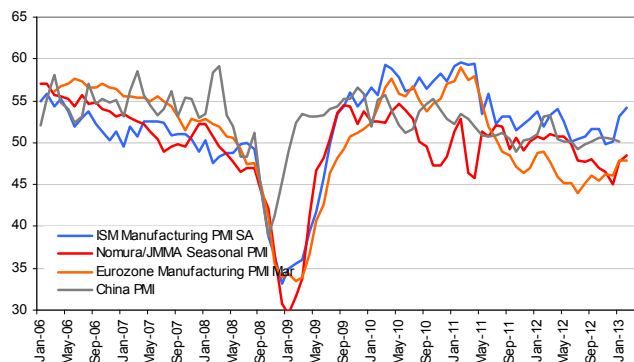


Source: Bloomberg, Citi Research

Macro demand

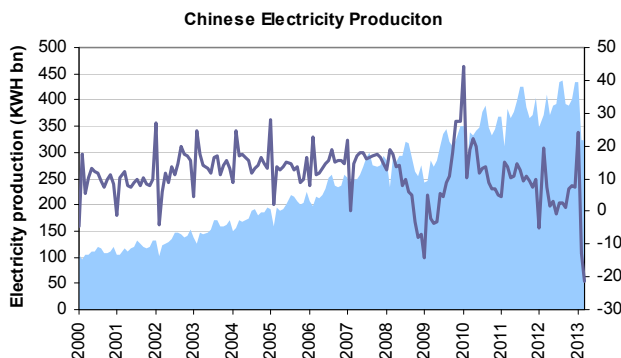
PMI indicators are broadly improving in developed markets and remaining flat in China. According to The National Bureau of Statistics, China's power production dropped by 13.7% yoy in February. However given it was Chinese new year the Jan-Feb average rose by 5.48% yoy. Considering also there were 29 days in Feb 2012, the adjusted growth rate is 7.3% yoy, using the formula $(IP/2 + 2.3 \sim 2.5 \text{ ppts})$.

Figure 13. Global PMIs, US, Japan, Eurozone, China



Source: Bloomberg, Citi Research

Figure 14. China Electricity Production

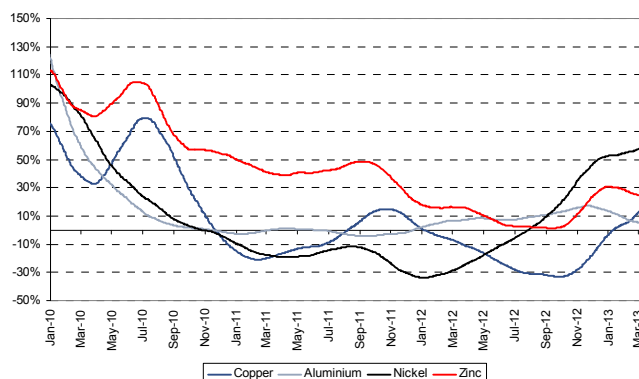


Source: Bloomberg, Citi Research

Destock, restock or no stock

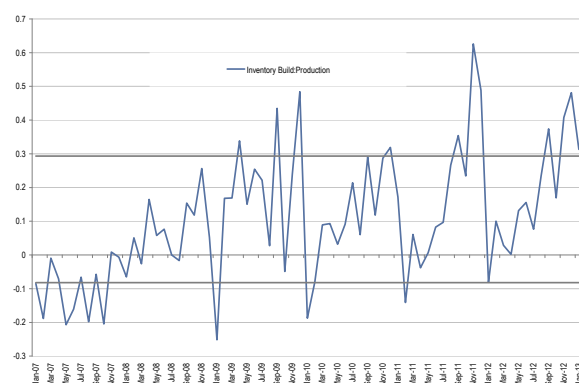
Inventories are rising across the board, exchange traded inventories have gathered pace over the past three months, partly as these have now become visible given the inability to finance and hold off warrant. Likewise in the bulk commodities our calculated inventory levels throughout the supply chain suggest iron ore inventories are above historical norms and coal remains in oversupply. Given our view that the bulk of this has already occurred, we question the power of restocking to result in higher commodity prices. The market probably expects a bigger impact of restocking on commodity prices and therefore appears more positive than us on equities.

Figure 15. Global inventories (LME, SHFE, Comex) YoY change



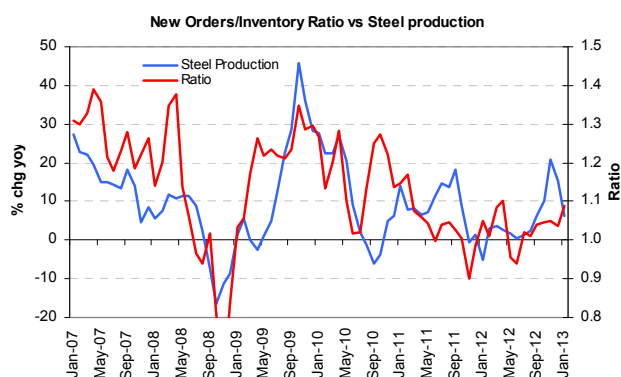
Source: Datastream, Citi Research

Figure 16. Calculated iron ore stockpiles



Source: Bloomberg, Citi Research

Figure 17. New Orders / Inventory vs Steel Production



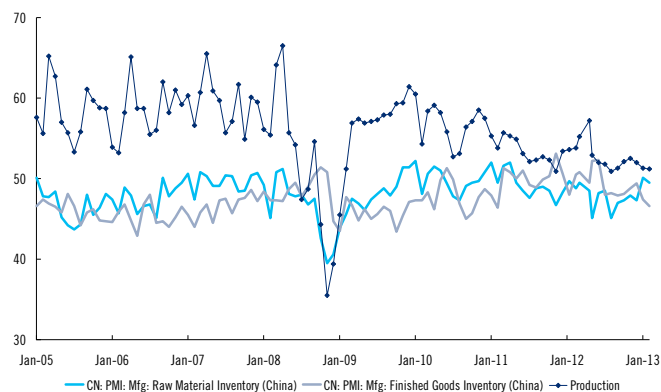
Source: Bloomberg, Citi Research

Figure 18. Iron Ore – spot prices and forward curve (US\$/t CIF)



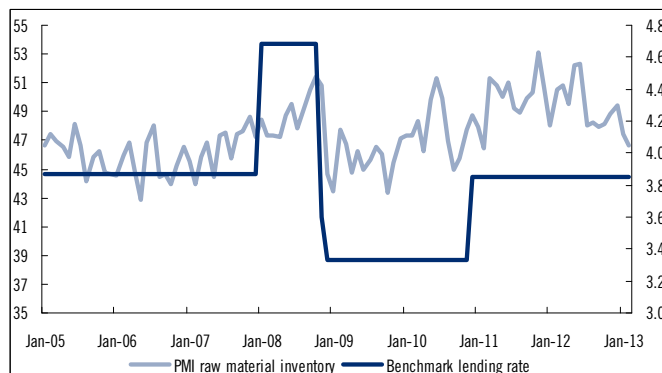
Source: Bloomberg, Citi Research

Figure 19. Raw Material vs. Finished Goods Inventory vs. Production



Source: CEIC, Citi Research

Figure 20. China PMI Raw Material Inventory vs. Lending Rate

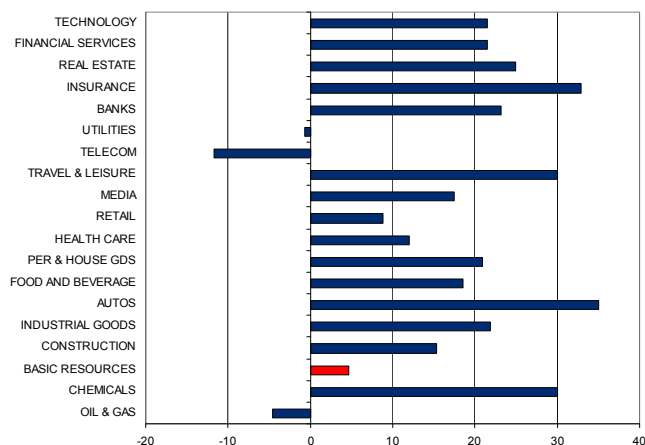


Source: CEIC, Citi Research

Sector performance

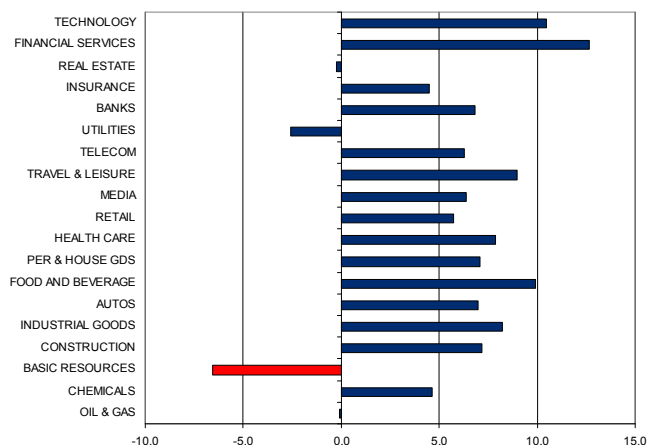
The basic resources sector was the fourth worst performing sector in 2012 and the worst performing sector year to date. This may seem perverse for many mining investors as the sector has historically been a high beta sector, with global market rallying the sector should have been an out performer. However we expect the sector to continue to underperform the broader markets as we have highlighted in numerous notes over the past 18 months and through our key thesis [super cycle sunset](#). This may leave the sector vulnerable to redemptions as investors look elsewhere to gain beta from potential rising equity markets.

Figure 21. Sector performance 2012



Source: Bloomberg, Citi Research

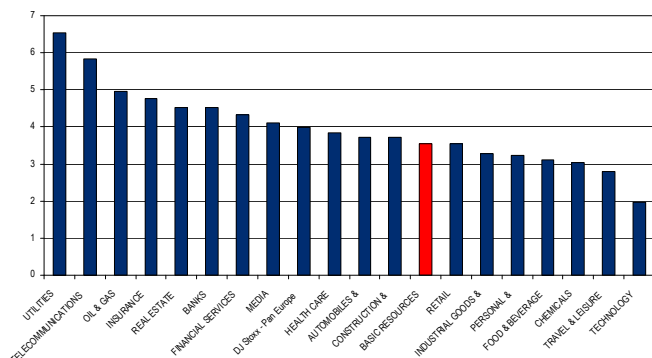
Figure 22. Sector performance 2013



Source: Bloomberg, Citi Research

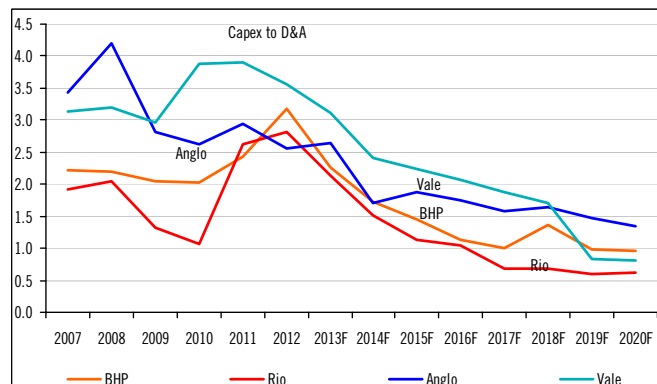
Mining sector yields are arguably not sufficiently high enough for a low growth environment. If the mining sector is in fact the new oil and gas or utility sector then yields will need to rise further in our view. The CEOs can't have their cake and eat it too, we believe if they are all now going to cut capex, then growth rates will fall and at some point the sector will go ex growth (certainly from a volume perspective). Mining investors can potentially benefit from a restock destock phase and higher commodity prices only if the companies return excess cash to shareholders. Given current FCF and debt levels, at the earliest this would be a 2014/2015 story in our view.

Figure 23. Dividend Yield – against other sectors



Source: Bloomberg, Citi Research

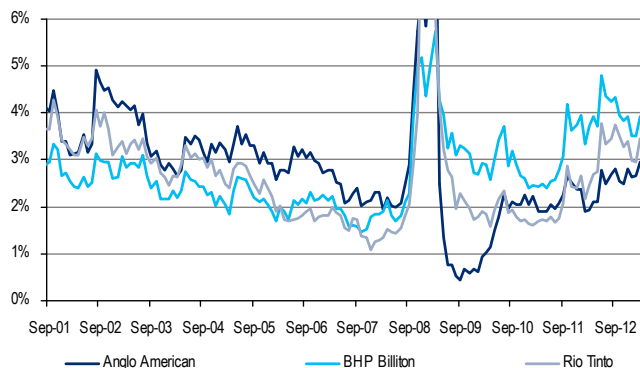
Figure 24. Capex over Depreciation



Source: dataCentral, Citi Research

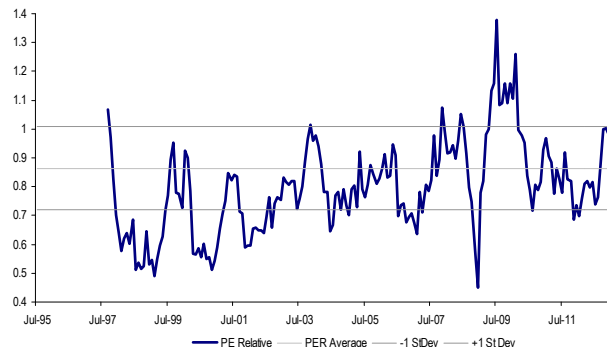
We would become positive (or certainly less negative) if the dividend yield for the sector was back over 4% and the PE relative to the UK market was back in line with its historical trading range. On a price to NPV basis the sector has rerated from its lows over the past few years. Rio is the exception still trading at a discount.

Figure 25. Dividend Yield



Source: Bloomberg, Citi Research

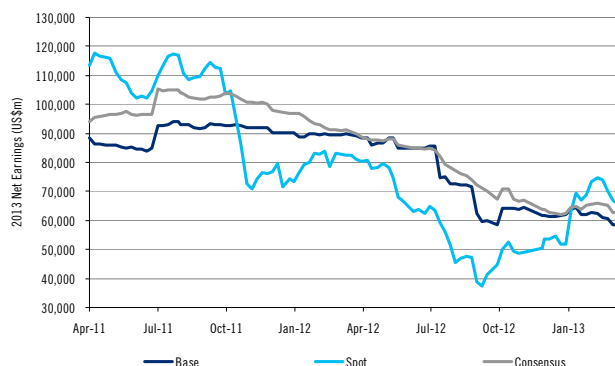
Figure 26. PE relative to the UK market



Source: Bloomberg, Citi Research

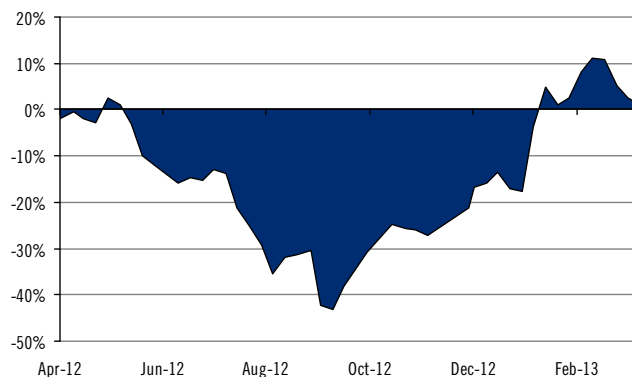
We believe the likelihood of earnings upgrades in 2014 look slim with spot, Citi base and consensus all converging. Long investors are therefore betting on higher commodity prices.

Figure 27. 2013E Earnings Momentum – still falling and minimal spot upgrades



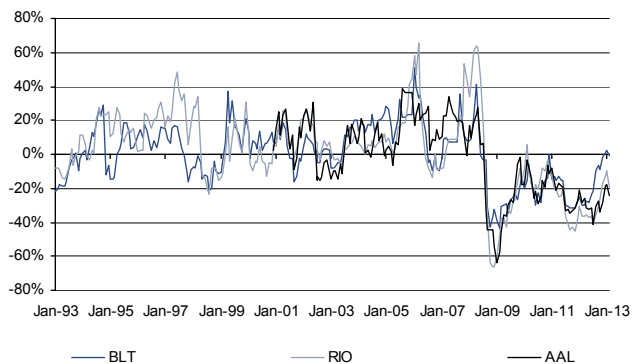
Source: dataCentral, Citi Research

Figure 28. 2014E Spot vs. Consensus Earnings



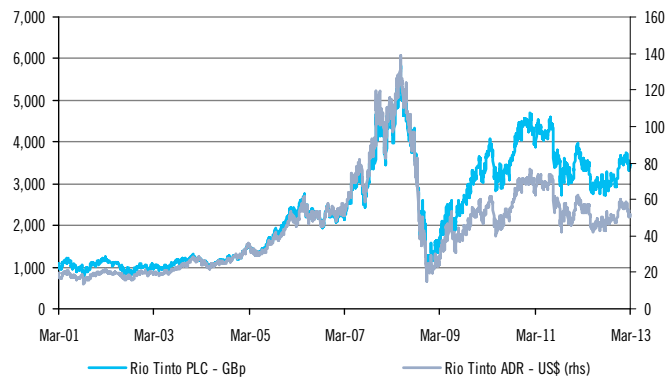
Source: dataCentral, Citi Research

Figure 29. Price to NPV of the sector



Source: Datastream, Citi Research

Figure 30. Weakening GBP has helped the LSE listed price performance



Source: Datastream, Citi Research

Figure 31. P/E Multiples

| PE Multiples | RIC | Rating | Listing | Price | Target | Citi Base Case | | | | Spot Fx/Prices | | | | IBES Consensus | | | |
|-------------------------|----------|---------|---------|---------|--------|----------------|------------|------------|--------------|----------------|------------|------------|--------------|----------------|------------|------------|--------------|
| Calendar Years | | | Ccy | 13/3/13 | | 2013E | 2014E | 2015E | 13E-15E CAGR | 2013E | 2014E | 2015E | 13E-15E CAGR | 2013E | 2014E | 2015E | 13E-15E CAGR |
| Diversified | | | | | | | | | | | | | | | | | |
| Anglo American PLC | AAL.L | Neutral | GBP | 18.55 | 21.00 | 10.9 | 9.6 | 9.2 | 9% | 9.9 | 11.1 | 12.3 | -10% | 11.0 | 9.4 | 7.6 | 20% |
| BHP Billiton PLC | BLT.L | Neutral | GBP | 20.94 | 23.00 | 11.9 | 9.9 | 8.9 | 16% | 10.4 | 9.4 | 8.9 | 8% | 10.9 | 9.5 | 8.9 | 10% |
| ENRC | ENRC.L | Sell | GBP | 3.42 | 2.70 | 9.5 | 5.7 | 4.9 | 39% | 8.3 | 4.9 | 4.3 | 39% | 9.0 | 6.3 | 3.9 | 52% |
| Norilsk | NKELYq.L | Buy | USD | 17.26 | 27.00 | 7.5 | 6.5 | 6.3 | 9% | 9.2 | 10.1 | 10.6 | -7% | 8.5 | 8.1 | 7.6 | 6% |
| Rio Tinto PLC | RIO.L | Buy | GBP | 33.45 | 40.00 | 8.8 | 7.0 | 6.1 | 20% | 7.2 | 6.5 | 5.8 | 11% | 8.2 | 7.3 | 7.2 | 6% |
| Vale | VALE.N | Buy | USD | 17.80 | 22.00 | 8.6 | 8.5 | 7.7 | 6% | 5.7 | 5.6 | 5.5 | 2% | 7.4 | 7.2 | 7.8 | -3% |
| Vedanta Resources | VED.L | Neutral | GBP | 11.65 | 12.00 | 8.4 | 6.0 | 4.5 | 37% | 10.0 | 7.4 | 5.2 | 38% | 7.4 | 5.5 | na | na |
| Weighted Average | | | | | | 10.1 | 8.7 | 7.8 | 14% | 8.6 | 8.1 | 7.8 | 6% | 9.4 | 8.4 | 8.0 | 8% |
| Bulks | | | | | | | | | | | | | | | | | |
| African Minerals | AMIQ.L | Buy | GBP | 2.56 | 4.40 | 5.0 | 3.4 | 4.7 | 4% | 2.7 | 2.0 | 2.5 | 4% | 8.4 | 3.8 | 5.2 | 27% |
| Ferrexpo PLC | FXPO.L | Buy | GBP | 1.96 | 3.20 | 6.6 | 4.2 | 3.6 | 35% | 3.2 | 2.5 | 2.2 | 20% | 5.4 | 5.4 | 5.6 | -2% |
| London Mining | LOND.L | Buy | GBP | 1.58 | 2.00 | 8.8 | 2.3 | 2.1 | 104% | 2.5 | 1.3 | 1.2 | 42% | 4.7 | 3.0 | 2.1 | 51% |
| New World Resources | NWRR.L | Neutral | GBP | 2.45 | | nm | nm | nm | na | nm | nm | nm | na | nm | 29.2 | 20.1 | na |
| Zanaga | ZIOC.L | Neutral | GBP | 0.16 | | nm | nm | nm | na | nm | nm | nm | na | nm | nm | na | na |
| Base Metals | | | | | | | | | | | | | | | | | |
| Antofagasta PLC | ANTO.L | Sell | GBP | 10.90 | 10.00 | 13.7 | 15.5 | 16.5 | -9% | 14.5 | 14.7 | 14.8 | -1% | 12.4 | 13.0 | 12.0 | 1% |
| Boliden | BOL.ST | Sell | SEK | 108.00 | 105.00 | 10.1 | 8.5 | 7.8 | 13% | 12.1 | 8.8 | 7.6 | 26% | 9.5 | 7.6 | 7.5 | 13% |
| First Quantum Minerals | FQM.L | Sell | GBP | 13.79 | 11.00 | 16.7 | 13.3 | 8.2 | 42% | 21.2 | 18.4 | 10.3 | 43% | 13.6 | 10.7 | 7.3 | 37% |
| Kazakhmys Plc | KAZ.L | Neutral | GBP | 5.29 | 7.30 | 5.9 | 4.4 | 3.3 | 35% | 6.4 | 4.2 | 3.0 | 47% | 7.3 | 7.3 | 5.6 | 14% |
| Nyrstar | NYR.BR | Buy | EUR | 4.19 | 5.30 | nm | 8.2 | 6.7 | na | nm | nm | 153.7 | na | 19.1 | 6.1 | 7.6 | 58% |
| Aluminium | | | | | | | | | | | | | | | | | |
| Norsk Hydro | NHY.OL | Sell | NOK | 24.96 | 24.00 | 36.1 | 21.9 | 14.5 | 58% | 846.0 | 1,632.1 | 88.8 | 209% | 24.4 | 14.5 | 11.4 | 46% |
| UC Rusal | 0486.HK | Neutral | HKD | 4.12 | 4.60 | 11.5 | 7.5 | 7.3 | 26% | 20.7 | 9.5 | 8.1 | 60% | 9.2 | 6.4 | 4.7 | 39% |
| Precious Metals | | | | | | | | | | | | | | | | | |
| African Barrick Gold | ABGL.L | Sell | GBP | 2.41 | 2.67 | 9.1 | 8.3 | 9.6 | -2% | 12.2 | 10.3 | 8.7 | 19% | 8.9 | 6.3 | 7.3 | 11% |
| Aquarius Platinum Plc | AQP.L | Buy | GBP | 0.54 | 0.92 | 15.7 | 26.3 | 12.7 | 11% | 18.3 | nm | nm | na | 204.6 | 9.3 | 4.3 | 593% |
| Centamin Egypt | CEY.L | Neutral | GBP | 0.53 | | 3.8 | 4.9 | 8.9 | -35% | 3.6 | 4.6 | 6.6 | -27% | 3.2 | 4.0 | 4.2 | -13% |
| Fresnillo Plc | FRES.L | Sell | GBP | 14.77 | 15.20 | 19.4 | 21.1 | 22.3 | -7% | 21.6 | 20.4 | 18.0 | 9% | 19.7 | 16.9 | 14.6 | 16% |
| Gem Diamonds | GEMD.L | Buy | GBP | 1.54 | 1.95 | 10.3 | 9.3 | 8.1 | 13% | nm | 9.2 | 8.6 | na | 12.0 | 13.0 | 7.8 | 24% |
| Hochschild Mining | HOCM.L | Sell | GBP | 3.14 | 3.90 | 13.8 | 13.6 | 10.3 | 16% | 17.1 | 12.1 | 7.4 | 52% | 16.1 | 12.0 | 15.7 | 1% |
| Lonmin Plc | LMI.L | Buy | GBP | 3.29 | 4.25 | 68.6 | 22.7 | 16.2 | 106% | 45.7 | 20.1 | 19.5 | 53% | 45.4 | 15.2 | 10.0 | 113% |
| Nordgold | NORDNq.L | Neutral | USD | 3.95 | 4.30 | 9.6 | 7.4 | 4.6 | 45% | 12.5 | 9.0 | 4.3 | 71% | 5.9 | 4.7 | 4.4 | 17% |
| Petra Diamonds | PDL.L | Buy | GBP | 1.18 | 1.43 | 12.7 | 7.5 | 6.0 | 45% | 8.6 | 7.5 | 6.5 | 15% | 14.8 | 10.3 | 8.2 | 34% |
| Petropavlovsk PLC | POG.L | Neutral | GBP | 2.41 | 3.77 | 3.7 | 3.2 | 5.5 | -18% | 4.3 | 3.2 | 3.8 | 6% | 4.0 | 3.4 | 2.8 | 20% |
| Polymetal | POLYP.L | Neutral | GBP | 9.28 | 11.31 | 6.9 | 7.1 | 8.7 | -11% | 8.0 | 7.2 | 7.3 | 4% | 7.8 | 6.8 | 6.6 | 8% |
| Randgold Resources | RRS.L | Sell | GBP | 54.95 | 55.40 | 14.8 | 10.2 | 10.8 | 17% | 17.1 | 11.3 | 10.3 | 29% | 14.4 | 10.4 | 11.3 | 13% |
| South Africa | | | | | | | | | | | | | | | | | |
| African Rainbow | ARIJ.J | Neutral | ZAR | 201 | 210 | 13.4 | 12.6 | 10.2 | 14% | 11.1 | 10.4 | 10.3 | 4% | 11.7 | 10.3 | na | na |
| Assore | ASRJ.J | Sell | ZAR | 338 | 270 | 11.2 | 12.6 | 11.3 | -1% | 9.1 | 8.2 | 8.0 | 6% | 10.8 | 10.6 | na | na |
| Exxaro | EXXJ.J | Neutral | ZAR | 164 | 180 | 10.0 | 10.5 | 9.6 | 2% | 9.6 | 8.4 | 8.5 | 6% | 9.6 | 8.3 | 7.8 | 11% |
| Kumba Iron Ore Ltd | KIOJ.J | Sell | ZAR | 528 | 470 | 11.6 | 11.9 | 11.7 | -1% | 8.6 | 7.6 | 7.9 | 4% | 11.7 | 12.0 | 13.5 | -7% |

Source: dataCentral, Citi Research

Figure 32. EV/EBITDA multiples

| EV/EBITDA | RIC | Rating | Listing | Price | Target | Citi Base Case | | | | Spot Fx/Prices | | | | IBES Consensus | | | |
|-------------------------|----------|---------|---------|----------|--------|----------------|------------|------------|--------------|----------------|------------|------------|--------------|----------------|------------|------------|--------------|
| Calendar Years | | | Ccy | 13/03/13 | | 2013E | 2014E | 2015E | 13E-15E CAGR | 2013E | 2014E | 2015E | 13E-15E CAGR | 2013E | 2014E | 2015E | 13E-15E CAGR |
| Diversified | | | | | | | | | | | | | | | | | |
| Anglo American PLC | AAL.L | Neutral | GBP | 18.55 | 21.00 | 5.2 | 4.7 | 4.5 | 8% | 5.0 | 5.0 | 5.2 | -2% | 5.3 | 5.0 | 4.4 | 10% |
| BHP Billiton PLC | BLT.L | Neutral | GBP | 20.94 | 23.00 | 6.9 | 5.9 | 5.3 | 14% | 6.2 | 5.6 | 5.2 | 9% | 6.5 | 5.9 | 5.7 | 7% |
| ENRC | ENRC.L | Sell | GBP | 3.42 | 2.70 | 6.1 | 4.5 | 4.3 | 19% | 5.6 | 4.1 | 3.9 | 20% | 5.8 | 4.7 | 3.2 | 34% |
| Norilsk | NKELYq.L | Buy | USD | 17.26 | 27.00 | 5.1 | 4.5 | 4.4 | 7% | 6.1 | 6.5 | 6.7 | -5% | 5.5 | 5.3 | 4.9 | 6% |
| Rio Tinto PLC | RIO.L | Buy | GBP | 33.45 | 40.00 | 5.7 | 4.6 | 4.1 | 18% | 4.7 | 4.2 | 3.8 | 12% | 6.0 | 5.6 | 5.5 | 5% |
| Vale | VALE.N | Buy | USD | 17.80 | 22.00 | 5.8 | 5.6 | 5.2 | 6% | 4.2 | 4.1 | 4.0 | 2% | 5.2 | 4.9 | 5.1 | 1% |
| Vedanta Resources | VED.L | Neutral | GBP | 11.65 | 12.00 | 5.4 | 5.0 | 4.9 | 5% | 5.5 | 5.3 | 5.2 | 3% | 5.1 | 4.7 | na | na |
| Weighted Average | | | | | | 6.1 | 5.3 | 4.9 | 12% | 5.3 | 4.9 | 4.7 | 7% | 6.0 | 5.5 | 5.3 | 6% |
| Bulks | | | | | | | | | | | | | | | | | |
| African Minerals | AMIQ.L | Buy | GBP | 2.56 | 4.40 | 2.2 | 1.4 | 1.5 | 21% | 1.1 | 0.8 | 0.9 | 15% | 3.1 | 1.6 | 1.7 | 32% |
| Ferrexpo PLC | FXPO.L | Buy | GBP | 1.96 | 3.20 | 4.6 | 3.2 | 2.9 | 26% | 2.4 | 1.9 | 1.8 | 17% | 4.0 | 4.0 | 4.2 | -3% |
| London Mining | LOND.L | Buy | GBP | 1.58 | 2.00 | 5.3 | 2.0 | 2.0 | 63% | 2.4 | 1.2 | 1.2 | 43% | 4.4 | 2.9 | 2.7 | 27% |
| New World Resources | NWRR.L | Neutral | GBP | 2.45 | | 11.1 | 4.3 | 4.5 | 57% | 15.7 | 15.3 | 15.2 | 2% | 9.0 | 5.3 | 4.8 | 38% |
| Zanaga | ZIOC.L | Neutral | GBP | 0.16 | | nm | nm | nm | na | nm | nm | nm | na | nm | nm | na | na |
| Base Metals | | | | | | | | | | | | | | | | | |
| Antofagasta PLC | ANTO.L | Sell | GBP | 10.90 | 10.00 | 5.9 | 6.5 | 7.0 | -8% | 6.4 | 6.4 | 6.5 | -1% | 5.8 | 6.1 | 5.5 | 3% |
| Boliden | BOL.ST | Sell | SEK | 108.00 | 105.00 | 6.0 | 5.5 | 4.9 | 10% | 6.7 | 5.5 | 4.8 | 18% | 5.5 | 4.9 | 4.6 | 9% |
| First Quantum Minerals | FQM.L | Sell | GBP | 13.79 | 11.00 | 8.4 | 6.7 | 4.6 | 34% | 9.7 | 7.9 | 5.3 | 35% | 7.9 | 6.1 | 4.3 | 36% |
| Kazakhmys Plc | KAZ.L | Neutral | GBP | 5.29 | 7.30 | 7.4 | 6.8 | 5.4 | 17% | 8.6 | 7.1 | 5.0 | 31% | 6.9 | 7.6 | 6.9 | 0% |
| Nyrstar | NYR.BR | Buy | EUR | 4.19 | 5.30 | 4.4 | 3.1 | 3.1 | 18% | 5.9 | 4.3 | 4.5 | 15% | 4.2 | 3.2 | 3.3 | 12% |
| Aluminium | | | | | | | | | | | | | | | | | |
| Norsk Hydro | NHY.OL | Sell | NOK | 24.96 | 24.00 | 9.6 | 7.8 | 6.4 | 23% | 14.5 | 14.6 | 11.7 | 11% | 8.4 | 6.7 | 6.1 | 18% |
| UC Rusal | 0486.HK | Neutral | HKD | 4.12 | 4.60 | 14.9 | 11.6 | 11.3 | 15% | 24.8 | 18.6 | 16.1 | 24% | 13.5 | 11.2 | 8.4 | 27% |
| Precious Metals | | | | | | | | | | | | | | | | | |
| African Barrick Gold | ABGL.L | Sell | GBP | 2.41 | 2.67 | 2.8 | 2.7 | 3.0 | -3% | 3.5 | 3.1 | 2.9 | 9% | 2.9 | 2.2 | 2.4 | 12% |
| Aquarius Platinum Plc | AQP.L | Buy | GBP | 0.54 | 0.92 | 5.6 | 5.9 | 4.1 | 16% | 5.9 | 15.9 | 14.4 | -36% | 5.2 | 3.4 | 2.9 | 36% |
| Centamin Egypt | CEY.L | Neutral | GBP | 0.53 | | 1.7 | 1.4 | 1.6 | 4% | 1.7 | 1.5 | 1.5 | 7% | 1.5 | 1.5 | 1.2 | 9% |
| Fresnillo Plc | FRES.L | Sell | GBP | 14.77 | 15.20 | 10.2 | 10.5 | 11.0 | -4% | 11.2 | 10.4 | 9.4 | 9% | 9.9 | 8.5 | 8.8 | 6% |
| Gem Diamonds | GEMD.L | Buy | GBP | 1.54 | 1.95 | 3.5 | 3.4 | 3.1 | 6% | 3.3 | 3.3 | 3.2 | 1% | 4.4 | 4.3 | 3.3 | 16% |
| Hochschild Mining | HOCM.L | Sell | GBP | 3.14 | 3.90 | 3.4 | 3.5 | 3.3 | 2% | 3.9 | 3.3 | 2.6 | 22% | 3.8 | 3.3 | 2.6 | 21% |
| Lonmin Plc | LMI.L | Buy | GBP | 3.29 | 4.25 | 15.2 | 9.4 | 15.0 | 1% | 12.7 | 8.6 | 8.3 | 24% | 11.9 | 6.8 | 4.8 | 57% |
| Nordgold | NORDNq.L | Neutral | USD | 3.95 | 4.30 | 3.3 | 3.0 | 2.8 | 9% | 3.7 | 3.3 | 2.6 | 19% | 2.8 | 2.7 | 2.7 | 3% |
| Petra Diamonds | PDL.L | Buy | GBP | 1.18 | 1.43 | 5.4 | 3.8 | 3.1 | 31% | 4.5 | 3.7 | 3.3 | 17% | 6.3 | 4.7 | 3.8 | 29% |
| Petropavlovsk PLC | POG.L | Neutral | GBP | 2.41 | 3.77 | 3.0 | 2.8 | 3.8 | -12% | 3.2 | 2.9 | 3.3 | -1% | 3.2 | 2.8 | 2.7 | 8% |
| Polymetal | POLYP.L | Neutral | GBP | 9.28 | 11.31 | 4.3 | 4.6 | 5.6 | -13% | 5.0 | 4.7 | 4.9 | 1% | 4.8 | 4.2 | 4.0 | 9% |
| Randgold Resources | RRS.L | Sell | GBP | 54.95 | 55.40 | 8.7 | 5.2 | 5.2 | 29% | 9.8 | 5.7 | 5.1 | 39% | 8.2 | 5.7 | 5.8 | 19% |
| South Africa | | | | | | | | | | | | | | | | | |
| African Rainbow | ARIJ.J | Neutral | ZAR | 200.88 | 210.00 | 6.4 | 6.1 | 5.3 | 10% | 5.7 | 5.2 | 5.2 | 4% | 6.1 | 5.4 | na | na |
| Assore | ASRJ.J | Sell | ZAR | 338.16 | 270.00 | 8.2 | 9.1 | 8.4 | -1% | 6.8 | 6.3 | 6.3 | 4% | 8.0 | 7.9 | na | na |
| Exxaro | EXXJ.J | Neutral | ZAR | 164.20 | 180.00 | 23.8 | 19.0 | 14.2 | 30% | 6.3 | 6.1 | 5.4 | 8% | 18.6 | 14.1 | 13.3 | 18% |
| Kumba Iron Ore Ltd | KIOJ.J | Sell | ZAR | 527.50 | 470.00 | 6.3 | 6.4 | 6.3 | 0% | 4.7 | 4.2 | 4.3 | 4% | 6.3 | 6.6 | 7.4 | -7% |

Source: dataCentral, Citi Research

Figure 33. NPV and premium discount to NPV

| NPV | Ccy | RIC | Rating | Price 13/03/13 | Target | Premium (Discount) | | | | | | | | |
|-----------------------|-----|----------|---------|-------------------|--------|-----------------------|------------------|---------------------|---------|-------|---------------------|------|------|------|
| | | | | | | NPV per share Base | Spot vs. Spot | Share Price Base | LST CCY | USD | Price / NPV Base | Spot | Base | Spot |
| Diversified | | | | | | | | | | | | | | |
| Anglo American PLC | GBP | AAL.L | Neutral | 18.55 | 21.00 | 24.61 | 27.47 | 12% | 18.55 | 27.67 | 75% | 68% | -25% | -32% |
| BHP Billiton PLC | GBP | BLT.L | Neutral | 20.94 | 23.00 | 21.40 | 22.10 | 3% | 20.94 | 31.24 | 98% | 95% | -2% | -5% |
| ENRC | GBP | ENRC.L | Sell | 3.42 | 2.70 | 1.85 | 3.61 | 95% | 3.42 | 5.10 | 185% | 95% | 85% | -5% |
| Norilsk | USD | NKELYq.L | Buy | 17.26 | 27.00 | 16.66 | 14.33 | -14% | 17.26 | 17.26 | 104% | 120% | 4% | 20% |
| Rio Tinto PLC | GBP | RIO.L | Buy | 33.45 | 40.00 | 43.17 | 46.40 | 7% | 33.45 | 49.91 | 77% | 72% | -23% | -28% |
| Vale | USD | VALE.N | Buy | 17.80 | 22.00 | 26.71 | 34.20 | 28% | 17.80 | 17.80 | 67% | 52% | -33% | -48% |
| Vedanta Resources | GBP | VED.L | Neutral | 11.65 | 12.00 | 16.30 | 15.40 | -6% | 11.65 | 17.38 | 71% | 76% | -29% | -24% |
| Bulks | | | | | | | | | | | | | | |
| African Minerals | GBP | AMiQ.L | Buy | 2.56 | 4.40 | 4.96 | 8.64 | 74% | 2.56 | 3.82 | 52% | 30% | -48% | -70% |
| Ferrexpo PLC | GBP | FXPO.L | Buy | 1.96 | 3.20 | 4.06 | 6.88 | 69% | 1.96 | 2.93 | 48% | 29% | -52% | -71% |
| London Mining | GBP | LOND.L | Buy | 1.58 | 2.00 | 2.78 | 5.38 | 94% | 1.58 | 2.35 | 57% | 29% | -43% | -71% |
| New World Resources | GBP | NWRR.L | Neutral | 2.45 | | 5.17 | 2.60 | -50% | 2.45 | 3.65 | 47% | 94% | -53% | -6% |
| Zanaga | GBP | ZIOC.L | Neutral | 0.16 | | 0.72 | 0.96 | 33% | 0.16 | 0.24 | 23% | 17% | -77% | -83% |
| Base Metals | | | | | | | | | | | | | | |
| Antofagasta PLC | GBP | ANTO.L | Sell | 10.90 | 10.00 | 8.47 | 8.47 | 0% | 10.90 | 16.26 | 129% | 129% | 29% | 29% |
| Boliden | SEK | BOL.ST | Sell | 108.00 | 105.00 | 127.37 | 115.87 | -9% | 108.00 | 16.80 | 85% | 93% | -15% | -7% |
| First Quantum Mineral | GBP | FQM.L | Sell | 13.79 | 11.00 | 12.88 | 12.28 | -5% | 13.79 | 20.58 | 107% | 112% | 7% | 12% |
| Kazakhmys Plc | GBP | KAZ.L | Neutral | 5.29 | 7.30 | 9.14 | 10.60 | 16% | 5.29 | 7.89 | 58% | 50% | -42% | -50% |
| Nyrstar | EUR | NYR.BR | Buy | 4.19 | 5.30 | 6.60 | 3.80 | -42% | 4.19 | 5.43 | 63% | 110% | -37% | 10% |
| Aluminium | | | | | | | | | | | | | | |
| Norsk Hydro | NOK | NHY.OL | Sell | 24.96 | 24.00 | 41.80 | 28.30 | -32% | 24.96 | 4.35 | 60% | 88% | -40% | -12% |
| UC Rusal | USD | 0486.HK | Neutral | 4.12 | 4.60 | 5.59 | 2.68 | -52% | 4.12 | 0.53 | 74% | 154% | -26% | 54% |
| Precious Metals | | | | | | | | | | | | | | |
| African Barrick Gold | GBP | ABGL.L | Sell | 2.41 | 2.67 | 2.05 | 2.18 | 6% | 2.41 | 3.60 | 118% | 111% | 18% | 11% |
| Aquarius Platinum Plc | GBP | AQP.L | Buy | 0.54 | 0.92 | 0.92 | 0.77 | -16% | 0.54 | 0.80 | 58% | 69% | -42% | -31% |
| Centamin Egypt | GBP | CEY.L | Neutral | 0.53 | | 1.02 | 1.03 | 0% | 0.53 | 0.79 | 52% | 51% | -48% | -49% |
| Fresnillo Plc | GBP | FRES.L | Sell | 14.77 | 15.20 | 9.50 | 9.85 | 4% | 14.77 | 22.04 | 155% | 150% | 55% | 50% |
| Gem Diamonds | GBP | GEMD.L | Buy | 1.54 | 1.95 | 2.17 | 2.15 | -1% | 1.54 | 2.30 | 71% | 72% | -29% | -28% |
| Hochschild Mining | GBP | HOCM.L | Sell | 3.14 | 3.90 | 3.00 | 3.24 | 8% | 3.14 | 4.69 | 105% | 97% | 5% | -3% |
| Lonmin Plc | GBP | LMI.L | Buy | 3.29 | 4.25 | 4.05 | 3.67 | -9% | 3.29 | 4.91 | 81% | 90% | -19% | -10% |
| Nordgold | USD | NORDNq.L | Neutral | 3.95 | 4.30 | 3.31 | 3.43 | 4% | 3.95 | 3.95 | 119% | 115% | 19% | 15% |
| Petra Diamonds | USD | PDL.L | Neutral | 1.18 | 1.43 | 1.43 | 1.43 | 0% | 1.18 | 1.76 | 83% | 82% | -17% | -18% |
| Petropavlovsk PLC | GBP | POG.L | Neutral | 2.41 | 3.77 | 3.28 | 3.30 | 1% | 2.41 | 3.59 | 73% | 73% | -27% | -27% |
| Polymetal | GBP | POLYP.L | Neutral | 9.28 | 11.31 | 8.70 | 9.07 | 4% | 9.28 | 13.85 | 107% | 102% | 7% | 2% |
| Randgold Resources | GBP | RRS.L | Sell | 54.95 | 55.40 | 39.56 | 39.53 | 0% | 54.95 | 82.00 | 139% | 139% | 39% | 39% |
| South Africa | | | | | | | | | | | | | | |
| African Rainbow | ZAR | ARIJ.J | Neutral | 201 | 210 | 194 | 195 | 1% | 201 | 16.74 | 104% | 103% | 4% | 3% |
| Assore | ZAR | ASRJ.J | Sell | 338 | 270 | 139 | 139 | 0% | 338 | 28.17 | 243% | 243% | 143% | 143% |
| Exxaro | ZAR | EXXJ.J | Neutral | 164 | 180 | 354 | 354 | 0% | 164 | 13.68 | 46% | 46% | -54% | -54% |
| Kumba Iron Ore Ltd | ZAR | KIOJ.J | Sell | 528 | 470 | 316 | 528 | 67% | 528 | 56.96 | 167% | 100% | 67% | 0% |

Source: dataCentral, Citi Research

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.

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| | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
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