

# 04

## *Nine-year trends 2002–2010*



**The information included below differs from the rest of our analysis as it includes the aggregated results of the companies as reported in Mine in each of the respective years disclosed. As such, the 2009 column presented below differs from that included in the Financial Review section as it relates to the 40 companies that were included in our previous Mine publication.**

| \$ billion                                     | 2010       | 2009       | 2008       | 2007       | 2006       | 2005      | 2004      | 2003      | 2002      |
|--|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|
| <b>Aggregated income statement</b>             |            |            |            |            |            |           |           |           |           |
| Revenue  | 435        | 325        | 349        | 312        | 249        | 222       | 184       | 110       | 93        |
| Operating expenses                             | 246        | 217        | 208        | 176        | 141        | 141       | 129       | 81        | 72        |
| Adjusted EBITDA                                | <b>189</b> | <b>108</b> | <b>141</b> | <b>136</b> | <b>108</b> | <b>81</b> | <b>55</b> | <b>29</b> | <b>21</b> |
| Amortisation, depreciation and impairment      | 34         | 31         | 57         | 19         | 12         | 16        | 15        | 10        | 9         |
| PBIT   | 155        | 77         | 84         | 117        | 96         | 65        | 40        | 19        | 12        |
| Net interest cost                              | 7          | 6          | 6          | 5          | 3          | 4         | 3         | 3         | 4         |
| PBT  | 148        | 71         | 78         | 112        | 93         | 61        | 37        | 16        | 8         |
| Income tax expense                             | 38         | 22         | 21         | 32         | 27         | 16        | 9         | 4         | 2         |
| Net profit                                     | 110        | 49         | 57         | 80         | 66         | 45        | 28        | 12        | 6         |
| Increase/(decrease) in revenue                 | 34%        | (7%)       | 12%        | 25%        | 12%        | 21%       | 67%       | 18%       | -         |
| Increase/(decrease) in adjusted EBITDA         | 75%        | (23%)      | 4%         | 26%        | 33%        | 47%       | 90%       | 38%       | -         |
| Year on year increase/(decrease) in net profit | 124%       | (14%)      | (29%)      | 21%        | 47%        | 61%       | 133%      | 100%      | -         |
| Adjusted EBITDA margin                         | 43%        | 33%        | 40%        | 44%        | 43%        | 36%       | 30%       | 26%       | 23%       |
| Net profit margin                              | 25%        | 15%        | 16%        | 26%        | 27%        | 20%       | 15%       | 11%       | 6%        |
| <b>Aggregated cash flow statement</b>          |            |            |            |            |            |           |           |           |           |
| Operating activities                           | 137        | 83         | 104        | 95         | 77         | 58        | 41        | 22        | -         |
| Investing activities                           | (79)       | (74)       | (102)      | (126)      | (67)       | (38)      | (23)      | (20)      | -         |
| Financing activities                           | (35)       | 10         | 14         | 36         | 4          | (11)      | (10)      | 1         | -         |
| <b>Aggregated balance sheet</b>                |            |            |            |            |            |           |           |           |           |
| Property, plant and equipment                  | 511        | 467        | 402        | 371        | 262        | 224       | 196       | 140       | 116       |
| Other assets                                   | 432        | 334        | 274        | 284        | 192        | 148       | 120       | 83        | 72        |
| Total assets                                   | 943        | 801        | 676        | 655        | 454        | 372       | 316       | 223       | 188       |
| Total liabilities                              | 387        | 354        | 339        | 329        | 217        | 178       | 151       | 114       | 101       |
| Total equity                                   | 556        | 447        | 337        | 326        | 237        | 194       | 165       | 109       | 87        |
| Return on equity                               | 22%        | 13%        | 17%        | 28%        | 31%        | 25%       | 20%       | 12%       | 7%        |

### **Income statement – Revenue smashes through \$400 billion**

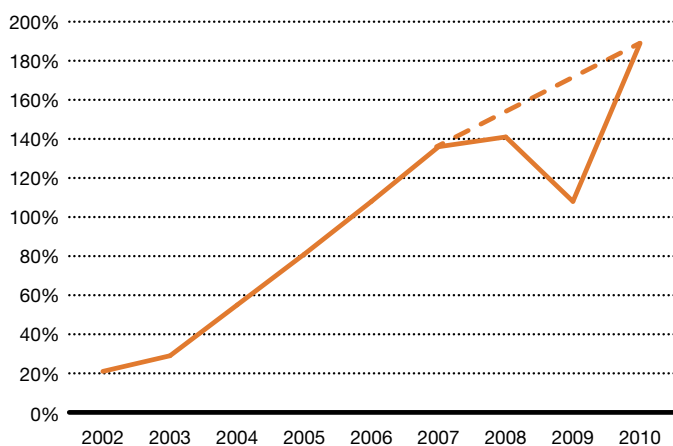
- At \$435 billion, revenue exceeded the \$400 billion barrier to reach the highest level ever reported, a 34% increase over 2009. This has been driven by increases in prices in major commodities and a return to growth in production, illustrating the mining industry's come-back since the global financial crisis.
- Consistent with revenue, adjusted EBITDA has also hit its highest level. At 43% the 2010 adjusted EBITDA margin is in-line with 2006 and 2007 results as relative increases in operating expenses have offset the rise in revenue.

- Despite increases in the scale of the Top 40, net interest cost has remained relatively flat as a result of falling interest rates, coupled with more interest earning cash reserves and less interest bearing debt on company balance sheets.
- Net profit has increased by 124% compared to 2009 to surpass \$100 billion for the first time. However, similar to adjusted EBITDA margins, the 2010 net profit margin of 25% is slightly lower than the net profit margin achieved in 2007 and the record 2006 net profit margin.

- Adjusted EBITDA has steadily increased over the last nine years, except in 2008 and 2009 during the global financial crisis. The table below shows adjusted EBITDA for the last nine years, including a trend line of what adjusted EBITDA could have been if the longer-term trend continued during the crisis.

This shows that the 2010 result is a return to the historical trend, rather than an outlier result.

2002–2010 Adjusted EBITDA (\$ billion)



Source: PwC analysis.

**Return on equity and return on capital employed lag despite record profits**

| Year | ROE | ROCE |
|------|-----|------|
| 2010 | 22% | 18%  |
| 2009 | 13% | 9%   |
| 2008 | 17% | 13%  |
| 2007 | 28% | 22%  |
| 2006 | 31% | 23%  |
| 2005 | 25% | 18%  |
| 2004 | 20% | 14%  |
| 2003 | 12% | 8%   |
| 2002 | 7%  | 5%   |

ROE has increased since 2009, but is still well off the 2006 peak of 31% and is not significantly higher than the 2002-2009 average of 19%. Net profit in 2010 reached above \$100 billion for the first time and the majority of these historical profits have been retained by companies. This, combined with relatively expensive capital raisings over recent years, has kept equity invested in the industry relatively high, pushing down returns. Determining the most appropriate and efficient capital structure remains a challenge for the industry.

**Operating costs and margins – a new base**

Despite record revenue and net profit, margins continue to be impacted by increased operating expenses. The 2010 adjusted EBITDA margin is no higher than in the boom years of 2006 and 2007, despite record commodity prices exceeding those previously achieved. These results suggest that there has been a fundamental shift in the cost base of the industry. Costs have remained high through the financial crisis and with continuing pressure on the price of key inputs such as energy and reagents, coupled with ever increasing capital construction costs, there appears to be no let-up in sight for the industry. Labour continues to be in high demand. With many newly announced major growth projects commencing and skill shortages in a number of locations, the cost of hiring and retaining workers is more likely to increase over time.

Ongoing weakness in the US dollar has meant that for the first time commodity currencies have higher relative strength than the US dollar, also impacting margins for many.

Industry valuations often use historical average commodity prices as long-term assumptions, but given the shift in the industry’s cost base, commodity prices cannot return to historical averages. We have seen this game change.

### Cash flows – Operating cash flow returns, but investing lags

- At \$137 billion for 2010, operating cash flows increased to their highest level, a 65% rise over 2009 and only the second time they have exceeded \$100 billion.
- Investing cash flows increased by 7% but were still well below the \$126 billion invested in 2007. In 2010 for every dollar earned in revenue only 18 cents were invested, significantly lower than the 40 cents invested per dollar of revenue in 2007 and the 2003-2009 average of 26 cents per dollar. In 2010 Investing cash flows were only 58% of operating cash flows, compared to an average of 94% for 2003-2009.
- With recently announced capital projects, we expect investing cash flows to increase again in the coming years. However, companies struggle to meet their capex targets as complexities often delay project timetables.
- Financing cash flow was a net outflow for the first time since 2005, with a net of \$35 billion being repaid to lenders or returned to shareholders.

### Balance sheet – Assets approach \$1 trillion

- Property, plant and equipment continued the upward trend experienced every year since 2002, as capital expenditures and acquisitions exceeded depreciation and disposals.
- The increase in property, plant and equipment is well below the 2002-2009 average of 23% and is the second smallest year-on-year increase in the history of Mine; only slightly higher than the 2008 increase of 8%, which was largely the result of significant impairment charges in that year.
- Total assets increased to close to \$1 trillion, largely driven by record levels of cash and property, plant and equipment on company balance sheets.
- The 24% increase in equity in 2010 was largely in line with the average increase of 27% from 2002-2009, with the bulk coming from profits, rather than capital raising.

### Top 40 analysis – Three companies debut in 2010

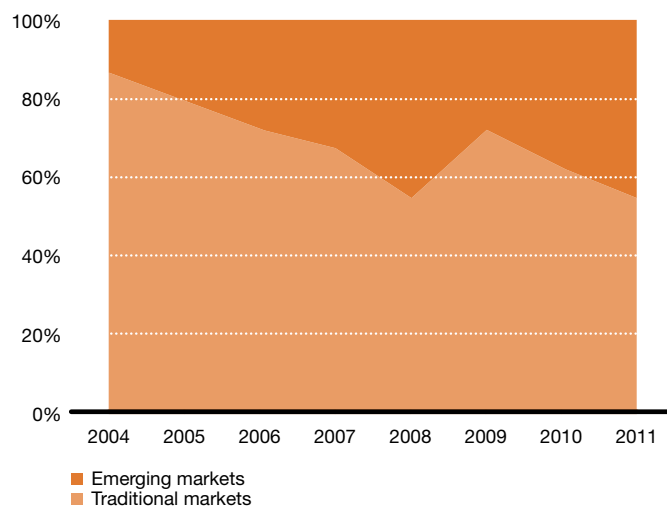
We have examined the composition of the companies included in each of the eight publications of Mine. Looking back, there has been remarkable stability in the composition of the Top 40. We can see:

- 17 companies have been included in every edition of Mine, with a further 20 being included in four or more editions.
- Over the years a number of companies have dropped off as a result of mergers and acquisitions, the

majority of which were Australian and Canadian mid-tier miners. Amazingly there were no South African or UK based miners acquired. Notable names include:

- o Australia: Lihir Gold, WMC Resources, and Zinifex
  - o Canada: Falconbridge, Glamis Gold, Inco, Noranda and Placer Dome
  - o United States: Phelps Dodge
- Where change has occurred, there has been a shift in the countries represented, with a higher portion of emerging market companies making the Top 40 in recent years. This increased to 18 in 2010. This move reflects the continued shift in the players and power base of the mining industry.

Composition of Top 40



Source: PwC analysis.

- The trend has partially been the result of more public information being made available for companies from emerging markets as a result of the public listing of stakes in a number of state-owned enterprises. It is important to note that there are a number of additional Chinese and Russian companies that would otherwise have been included in the Top 40 each year if sufficient information was available at the time of publication.
- In *Vertical Integration – ‘no-go’ or ‘gung-ho!’* we discuss the increased level of integration in the industry. We expect to see a few new names among the top mining companies in coming years.

# 05

# Vertical integration

*'no-go' or 'gung-ho!'?*



Over the last three decades, as Wall Street and management theorists encouraged companies to focus on their core competencies, the mining and metals industry became less vertically integrated. Recent events however have indicated a growing trend towards the vertical integration of yesteryear. Vertical integration strategies vary, but recent trends show that it has been largely upstream as metals companies and end-users seek to add mining assets, and miners add infrastructure, reintroducing the question of 'what makes a mining company'?

Vertical integration trends have been shaped by an increase in global demand for metals and the growing importance of securing stable supplies of increasingly scarce resources.

Metals companies have looked to vertically integrate primarily to secure alternative sources of raw material supply to facilitate their own continued operation. Additional objectives often include gaining greater control over the price of production inputs and to provide future growth prospects.

Integration exposes companies to new dimensions of market risk in different sectors of the industry and potentially decreases flexibility to react to changing market conditions. It soaks up significant capital, which could otherwise be deployed on growing the existing business. Integrating often requires M&A as organic vertical growth is often impossible or impractical and deals can be risky and often do not generate the expected value. Vertically integrating can stretch management into new areas of focus and could simply add too much complexity to an organisation.

Despite these risks, the mining and metals industry is vertically integrating, albeit in different ways



and for different reasons. The steel industry has seen considerable vertical integration as producers drive for greater self-sufficiency of raw materials, either due to increasingly tight supply of inputs or increasing frustration with the major miners' ability to dictate price and pricing terms. This strategy seeks to reduce the market power of the major iron ore producers through decreased reliance on third-party suppliers. An example of this strategy is ArcelorMittal, which is significantly increasing its in-house iron ore and coal business as part of a strategy to double iron ore production to 100 million tonnes per annum. Many other major steel companies have publicly stated their intentions to increase iron-ore and coking coal self-sufficiency;

- Taiwan's China Steel plans to increase iron ore self-sufficiency from 2% to 30% by 2015;
- POSCO targets 50% raw material self sufficiency by 2014; and
- Tata Steel plans to reach 100% iron ore and 50% coking coal self-sufficiency.

While these stated desires are clear, only time will tell whether these companies, and others, are able to successfully and profitably deliver these strategies.

Recent vertical integration has also included end-users of mining products acquiring upstream assets. Many power producers, including Huadian of China and Tata Power of India, have made major coal mining acquisitions. Amongst zinc smelters, Nyrstar has been active in acquiring mining assets, including their 2011 deal for Canada's Farallon Mining, which increased its self-supplied zinc concentrate usage to 31%. This trend will likely also apply to traders as they increasingly look to build up upstream holdings, seen by Glencore in their run up to a potential IPO and China Minmetals in their acquisition of assets from Oz Minerals and recent attempt for Equinox.

We are beginning to see companies also look at other ways of achieving their integration objectives, such as combining strategic investment and off-take or partnership agreements to lower the risk associated with integration, but still reap similar benefits. A number of companies have adopted this approach, taking minority stakes or providing initial funding to major projects. Examples include China Railway's 12.5% equity stake in African Minerals with a 20 year off-take agreement and JFE Steel's 20% investment in the Byerwen Coal project with a long-term off-take agreement.

In contrast to other miners, Vale has taken a 27% stake in the Brazilian steel production assets owned by ThyssenKrupp CSA. This equity

investment is combined with an exclusive iron ore supply agreement, solidifying a domestic buyer for Vale's Brazilian iron ore.

Although vertical integration strategies vary amongst the miners, generally there is no desire to increase their presence in metals manufacturing or sales. Where integration has occurred, the focus is primarily on infrastructure assets, largely for the same motivation as described above – ensuring security of access to key production and transport needs. Vale, for example, is adding a number of bulk iron ore ships to their in-house fleet.

Overall, trends in vertical integration reflect the changing nature of the industry, particularly as customers are becoming competitors to their current suppliers. For companies moving upstream in the quest for self-sufficiency, the mines being acquired are generally not Tier one assets and are usually in the development phase. With the priority for new entrants often being security of supply, lower tier assets coming on-stream will shift the industry's cost-curve.

While traditional mining houses are not expected to vertically integrate downstream, many will likely continue to integrate into infrastructure. In metals, tightening supplies for raw materials and increasingly variable commodity prices will continue to drive producers upstream either through direct ownership and control or through minority ownership and strategic off-take agreements. In a supply constrained world, for many companies there is no alternative. What remains to be seen is whether vertical integration can deliver sustainable value and how the balance between miners, metals companies, and the markets they serve will change.

# 06

## *Financial review*





### Income statement

|                             | 2010<br>\$ billion | 2009<br>\$ billion | Change<br>% |
|-----------------------------|--------------------|--------------------|-------------|
| Revenue                     | 435                | 330                | 32          |
| Operating expenses          | (246)              | (220)              | 12          |
| <b>Adjusted EBITDA*</b>     | <b>189</b>         | <b>110</b>         | <b>72</b>   |
| Impairment charges          | (1)                | (12)               | (92)        |
| Depreciation & amortisation | (33)               | (27)               | 22          |
| <b>PBIT</b>                 | <b>155</b>         | <b>71</b>          | <b>118</b>  |
| Net interest expense        | (7)                | (5)                | 40          |
| Income tax expense          | (38)               | (23)               | 65          |
| <b>Net profit</b>           | <b>110</b>         | <b>43</b>          | <b>156</b>  |

\* EBITDA adjusted to exclude impairment charges.

### Key ratios

|                            | 2010<br>% | 2009<br>% |
|----------------------------|-----------|-----------|
| Adjusted EBITDA margin     | 43        | 33        |
| Net profit margin          | 25        | 13        |
| Return on capital employed | 18        | 9         |
| Return on equity           | 22        | 11        |

### Profits rising

The Top 40 had an outstanding year, with net profit increasing 156% from 2009 to break the \$100 billion barrier. High commodity prices and increased production explain most of this strong performance as operating margins flowed through to the bottom line. The key ratios demonstrate a well rounded performance by the Top 40, with return on capital employed and return on equity doubling in percentage terms from 2009. However as noted in Nine Year Trends, the returns remain below the highs of 2006 and 2007.

### Revenue

Revenue increased 32% from 2009, exceeding the \$400 billion mark to reach its highest level since we started our analysis. The jump was attributable to both record high commodity prices coupled with an overall 5% rise in production.

|              | Revenue (\$ billion) |      | Adjusted EBITDA margin (%) |      |
|--------------|----------------------|------|----------------------------|------|
|              | 2010                 | 2009 | 2010                       | 2009 |
| Rio Tinto    | 57                   | 42   | 44                         | 32   |
| BHP Billiton | 53                   | 51   | 45                         | 39   |
| Vale         | 46                   | 24   | 59                         | 48   |

The top three companies by revenue represent 36% of total revenues, largely unchanged from the prior year, reflecting the strong performance across the board. The mix however has changed significantly, with Rio Tinto taking top spot from BHP Billiton this year and Vale nearly to doubling its revenue. Vale's strong performance in 2010 is primarily due to a return to full production in 2010 following the strength in the iron ore market. Rio Tinto and Vale together accounted for 35% of the total increase in revenues from the prior year.

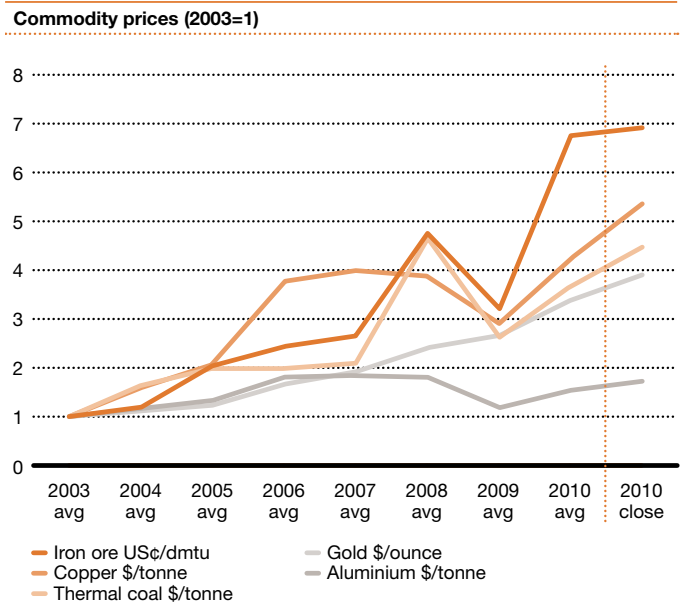
However, it is worth noting that BHP Billiton's revenue would have topped Rio Tinto's had its year end been 31 December rather than 30 June, as BHP Billiton had a \$9.6 billion (39%) increase in half year revenues in the second half of 2010.

### Commodity prices

Higher commodity prices contributed to the improved margins and profits in 2010. The average price of all five commodities noted below increased from the prior years, with percentage increases ranging from 26% to 111%. Copper, gold, coal and iron ore reached new average highs in the year, while aluminium could not surpass pre-global financial crisis levels. The increasing trend continued with year end prices higher than annual averages.

| Average      | Iron Ore | Thermal Coal | Copper   | Gold     | Aluminium |
|--------------|----------|--------------|----------|----------|-----------|
|              | \$/dmtu  | \$/tonne     | \$/tonne | \$/ounce | \$/tonne  |
| 2003 average | 30       | 27           | 1,789    | 364      | 1,431     |
| 2004 average | 36       | 44           | 2,868    | 410      | 1,717     |
| 2005 average | 62       | 53           | 3,684    | 445      | 1,900     |
| 2006 average | 73       | 52           | 6,725    | 604      | 2,568     |
| 2007 average | 80       | 56           | 7,124    | 697      | 2,638     |
| 2008 average | 145      | 125          | 6,938    | 872      | 2,567     |
| 2009 average | 97       | 70           | 5,178    | 974      | 1,671     |
| 2010 average | 205      | 98           | 7,558    | 1,227    | 2,200     |
| 2010 close   | 210      | 120          | 9,600    | 1,421    | 2,470     |

**Note:** Iron ore prices used above are the Asian Basin price for Hamersley fines sourced from the AME Group Iron Ore Outlook. The thermal coal price is the typical price for Hunter Valley settlements, basis 6,700 kcal/kg GAD or 6,322 kcal/kg GAR, sourced from the AME Group Thermal Coal Outlook.



Source: Bloomberg, AME Outlooks.

### Iron Ore

Iron ore turned in record prices with an increase of 111% in the 2010 average price as demand for steel rebounded, tightening the market for iron ore. Iron ore prices showed volatility in mid 2010, but generally trended upwards throughout the year. With record prices and more contracts moving towards shorter-term pricing, it is no surprise that iron ore has received so much recent attention.

### Copper

The copper price reached record levels with the 2010 year-end spot price reaching \$9,600 per tonne and the average price up by 46%. This was influenced by continued strong demand for copper, led by China and supply constraints due to a combination of labour strikes, notably in Chile and Peru, mechanical failures and grade diminution.

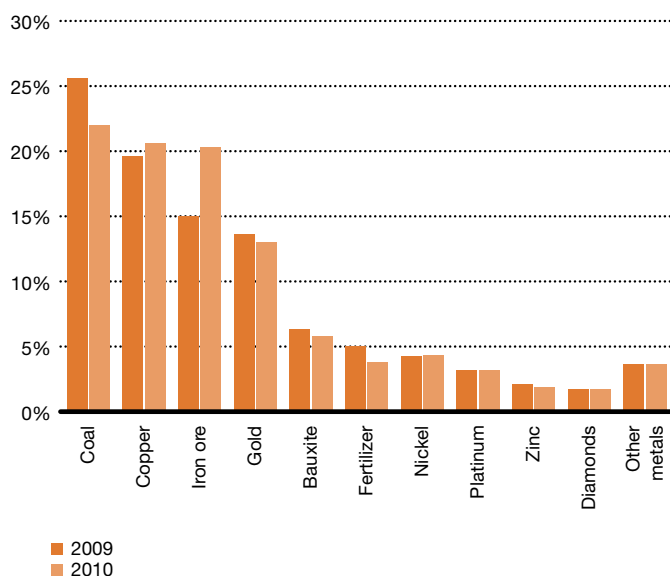
The copper price continued its upward trend in the first quarter of 2011, driven largely by positive economic data from the world's top consumer, China, and an expected recovery in the US economy. Consistent with the prior year, the underlying fundamentals of copper remain strong and the industrial metals required to rebuild Japan's damaged infrastructure combined with continued growth in the developing world are expected to contribute to continued high demand in the second half of 2011. Supply also remains severely constrained.

### Gold

Gold has been on a constant upward trend since the average price of \$364 per ounce in 2003, reaching the new high of \$1,421 at the end of 2010. Although gold prices experienced some price volatility in early 2011, the driving factors behind the continued high prices have remained in place, leading to further price increases through the first part of 2011.

## Revenue by commodity

Share of revenue by commodity



Source: PwC analysis.

Coal, copper and iron ore account for 63% of Top 40 revenue (2009 - 60%) generated this year. Iron ore revenues increased by \$35.8 billion in the year and represented 20% of total revenues, up from 15% in the prior year. The rise is due to higher prices and increased production volumes, with production up 16% on the back of expansion projects and the return to full capacity by Vale. Coal's share of the total declined in 2010 due to the strength of iron ore.

## 2010 Production

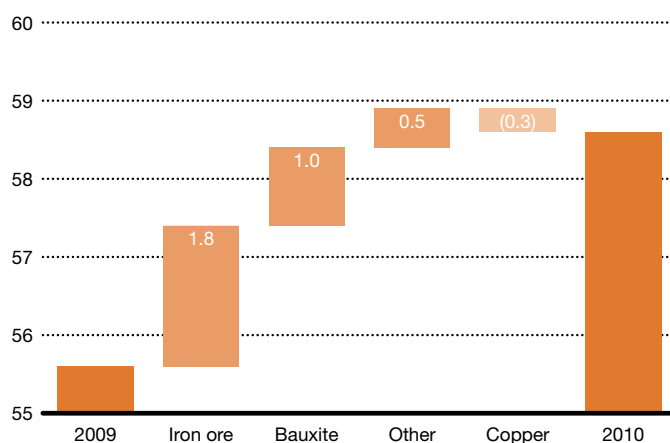
| Commodity (measure) | Top 40 production (million) | Change from the prior year (%) |
|---------------------|-----------------------------|--------------------------------|
| Coal (tonnes)       | 1,499                       | 1                              |
| Copper (tonnes)     | 7                           | (4)                            |
| Iron ore (tonnes)   | 716                         | 16                             |
| Gold (tonnes)       | 34                          | 2                              |
| Bauxite (tonnes)    | 40                          | 10                             |
| Potash (tonnes)     | 13                          | 30                             |
| Nickel (tonnes)     | 1                           | 4                              |
| Platinum (ounces)   | 4                           | 0                              |
| Zinc (tonnes)       | 3                           | 0                              |
| Diamonds (carats)   | 14                          | (1)                            |

Increases in production across the board are evidenced above, with only copper and diamonds showing declines.

The largest boost in production comes from potash, a reversal of the declines in 2009. Iron ore production levels have returned to 2008 levels as iron-ore producers expand operations and returned to full production rates. In 2010, with demand on the rise, iron-ore mines operated at full capacity, brought major capital projects online, and generated a 16% increase in production levels. Copper production decreased as a result of lower grades and labour strikes in Chile and Peru. Major capital projects also came online in coal, but these were offset by Rio Tinto's sale of its US coal assets. Increasing demand for bauxite spurred increased production by Rio Tinto at Weipa.

Total production

(Using Copper equivalent tonnes—2010 closing spot)

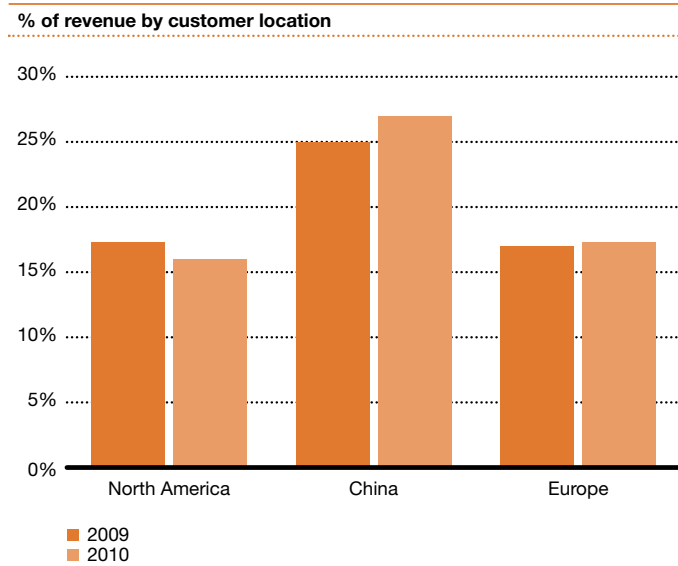


Source: PwC Analysis.

The graph above shows a comparison of total production of the Top 40 year-on-year, using one tonne of copper as an equivalent unit, based on 2010 closing prices. This methodology allows for a comparison of relative production across all commodities. The results show a 5% increase in overall production. This is more than global economic growth but less than the economic growth in the developing countries that have been the primary drivers for higher demand. The increase in production, led by iron ore, stems from large expansion projects coming on-line resulting in higher production across a number of commodities. For those that were willing and able to invest by continuing capital expansions during the global financial crisis, the payoff, in the form of increased production, is beginning to be seen.

We have calculated the remaining mine life of the Top 40 using reserves and 2010 production data. When converted into copper equivalent units at the end of 2010, the Top 40 had a remaining mine life of 35 years. This mine life has decreased by two years from 2009 as a result of production increasing by more than the additions to reserves.

### Share of total revenue by customer location



Source: PwC analysis.

The above chart tells the tale of China's influence on the mining industry and the dominant role that it plays in demand for commodities. On a percentage basis, China increased its share of revenue from 25% to 27%, whereas North America accounted for a smaller portion of revenues, providing further confirmation of the shift in the industry to emerging economies.

#### Costs

Total operating costs increased 12% over the prior year, with employee costs the driving factor. Despite a decrease in direct employment, employee benefits expense rose by 7% from the prior year, for those in the Top 10 that disclose employee numbers and personnel costs. The

actual increase for the same companies, when considered on a per employee basis, is 18%. The decrease in direct employment reflects a shift to contractor and other forms of labour. There is an increasing scarcity of skilled labour in the industry, as expansion projects to capitalise on booming prices fully utilise the available human resource. With no let up in sight, these cost pressures will continue.

Foreign currency fluctuations continue to create volatility in the results and played a role in the cost increase. The Top 10 reported a negative impact of foreign currency changes on their operating costs, representing 18% of the total increase in operating expenses. In particular, movement of the Canadian dollar, Australian dollar and Brazilian real relative to the US dollar contributed to these losses.

Working to partially offset the above increases were cost savings derived from increased efficiency in production processes reported by a number of companies. It is difficult to compare these reported achievements due to the lack of empirical evidence in market releases, lack of disclosures by some and inconsistencies in approach between companies.

#### Income taxes

While income tax expense increased by 65% from the prior year due to increased profitability, overall the effective tax rate declined from 35% to 26%. The lower effective tax rate is largely attributed to the impact of exchange rate fluctuations and limited ability to use tax losses in the prior year that were absent in 2010. This led to an unusually high effective tax rate in 2009, in particular for BHP Billiton and Vale. The rate of 26% returns to historical norms. While royalties are not consistently treated, these costs are typically not included in income taxes.

## Chilean mining clusters

### Accelerating the development of world-class suppliers

In Chile, BHP Billiton and Codelco, alongside the Chilean government, aim to develop mining sector suppliers through a mining cluster program. This program seeks to build "world class" skills and capabilities in approximately 250 local suppliers, in order to better support the growth of the mining industry within Chile and export supply services to mining projects around the world. By involving not only suppliers and mining companies, but also the government, universities and R&D centers, the industry is taking a collaborative approach to building capability.

"The cluster program will help solve the mining industry's problems and build a knowledge-based mining services sector. BHP Billiton is strongly committed to supporting and incubating these suppliers"

**Peter Beaven, President  
BHP Billiton Base Metals**

## The talent race is back on!

The PwC 2011 Annual CEO Survey shows that more than 83% of CEOs believe there is a need for change in the way they manage talent. Mining is no different from other industries in this respect, but has some particular challenges given the locations of operations and type of workforce it employs.

There is a growing mining presence in emerging markets, where there is a dual challenge of incentivisation of staff and talent mobility. Mining companies increasingly see international experience as an important credential for top performers and a necessity to support growing operations in developing countries.

Joint ventures also present a challenge. The prevalence of joint ventures introduces additional complexity, as HR and compensation policies from JV participants can conflict. Disparities in compensation become more apparent, a particular issues for emerging market miners. There is a real risk that for globally mobile staff, compensation will be increasingly set at the highest common denominator.

A third issue occurs where companies that downsized during the global financial crisis are now hiring some of their ex-employees as contractors, paying significantly higher rates than previous in-house employees. The swift change in the environment to a growth phase presents the question – should these contractors be put back on the payroll?

## Mining company returns—risk vs. reward

The returns generated by the mining industry can be categorised in three notable forms:

**Returns to the company** - in the form of net profits

**Payments to governments** – primarily through taxes and royalties

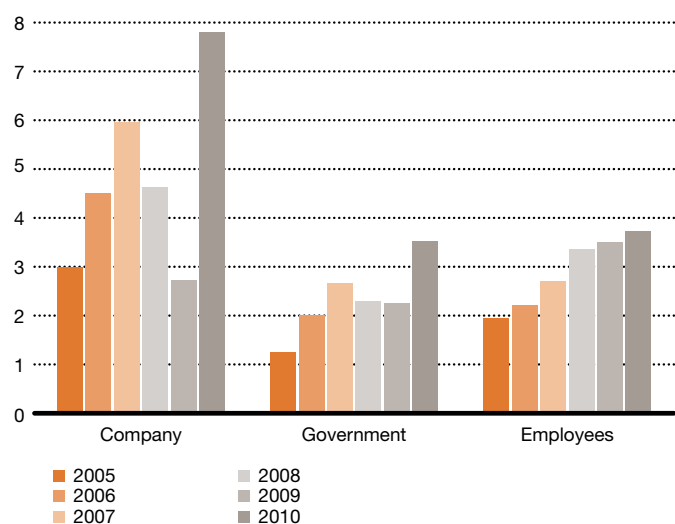
**Payments to employees** – primarily through salaries, wages, bonuses and other benefits

Of the three forms, returns to mining companies inherently carry the most risk, followed by payments to governments which are somewhat linked to profitability. Payments to employees are the least risk-sensitive.

When performance lags, employees and governments receive a relatively fixed return whilst mining companies receive little to no return. In contrast, in good years mining companies receive strong returns - a reward for the risk undertaken.

The graph for this year's Top 10 illustrates this reality. In 2009 during the financial crisis the government share decreased by only 2% and the share for employees increased by 5%, while companies took a significant hit.

2005–2010 Average returns for the Top 10 (\$ billion)



Source: PwC analysis.

**Note:** The graph above provide average returns, to the extent available, for those in the Top 10. The graph does not include non-income based taxes. Payments to governments that are not based on profit create risk as mining companies generally continue to make such payments even in years of lower profits. According to PwC's Total Tax Contribution studies, on average corporate income tax is less than 50% of all the taxes and contributions made by mining companies.

**Cashflow statement**

|   | 2010<br>\$ billion | 2009<br>\$ billion | Change<br>%  |
|---|--------------------|--------------------|--------------|
| <b>Cashflow related to operating activities</b>                               |                    |                    |              |
| Cash generated from operations  | 167                | 110                | 52           |
| Taxation paid   | (24)               | (20)               | 20           |
| Other   | (6)                | (4)                | 50           |
| <b>Net operating cash flows</b>   | <b>137</b>         | <b>86</b>          | <b>59</b>    |
| <b>Cashflow related to investing activities</b>                               |                    |                    |              |
| Purchase of property, plant and equipment                                     | (67)               | (58)               | 16           |
| Purchase of investments   | (24)               | (19)               | 26           |
| Sale of investments   | 8                  | 5                  | 60           |
| Exploration   | (6)                | (6)                | -            |
| Other net investment-related cash flows                                       | 10                 | 1                  | 900          |
| <b>Net investing cash flows</b>   | <b>(79)</b>        | <b>(77)</b>        | <b>3</b>     |
| <b>Cashflow related to financing activities</b>                               |                    |                    |              |
| Issue of shares   | 6                  | 33                 | (82)         |
| Share buy backs   | (5)                | -                  | -            |
| Increase in borrowings  | 35                 | 69                 | (49)         |
| Repayment of borrowings   | (50)               | (76)               | (34)         |
| Dividends   | (22)               | (18)               | 22           |
| Other   | 1                  | -                  | -            |
| <b>Net financing cash flows</b>   | <b>(35)</b>        | <b>8</b>           | <b>(514)</b> |
| <b>Net increase in cash and cash equivalents</b>                              | <b>23</b>          | <b>17</b>          | <b>13</b>    |
| Cash and cash equivalents at beginning of the year                            | 81                 | 59                 |              |
| Effect of foreign currency exchange rate changes on cash and cash equivalents | 1                  | 5                  |              |
| <b>Cash and cash equivalents at end of the year</b>                           | <b>105</b>         | <b>81</b>          |              |

### **Operating cashflow – how will it be spent?**

In 2010, the Top 40 rebounded from the effects of the global financial crisis with operating cash flows breaking through the \$100 billion barrier again. Higher commodity prices and increased production contributed favourably to the \$51 billion, or 59%, increase in operating cash flow.

With cost containment and cash preservation no longer the number one issue for industry CEOs, the dilemma now for mining leaders is how to most effectively deploy the \$105 billion cash on hand to ensure sustained success.

Income taxes paid by the Top 40 increased by 20% this year. Taxes paid typically lag accounting profits. As such, we anticipate a substantial rise in income taxes paid in 2011.

The rise in income taxes paid is significant, especially when coupled with the Top 40's total economic contribution to the government, including income and non-income based taxes, royalties, and infrastructure development.

### **Investing cashflow – home is where the heart is**

As expected, the Top 40 continued to devote cash resources to purchases of property, plant and equipment. The behaviour of the Top 40 indicates optimism about their own projects. Investments in organic growth opportunities including sustaining capital, represented 85% of net investing cash flows.

The Top 40 have announced expansion capital programs of \$311 billion. We expect this trend to continue over the medium term.

The deal market is waking up, with a 26% increase in cash payments for investments in 2010. While the volume of deals was up, the value still lags well below the record of 2007, as mega-deals become harder to close. For more detail on mining industry transactions, refer to our Mining Deals publication at [www.pwc.com/mining](http://www.pwc.com/mining).

Exploration spend remains flat and relatively low amongst the Top 40. At just under \$6 billion and only 8% of net investing cash flows, the Top 40 are not investing significantly in exploration activities, instead effectively outsourcing these activities to the junior sector. Given ongoing supply-side challenges, few new world-class projects, and those that have been identified largely being in remote, challenging-to-operate environments, the lack of expenditure on exploration remains surprising.

### **Financing cashflow – it is better to give than to receive**

Financing cash flows turned in 2010, moving to a net outflow of \$35 billion demonstrating the shift in fortunes. Capital raised decreased by 32%, coupled with a 22% increase in distributions to shareholders in light of strong operating results, contributed to the net cash financing outflows of \$35 billion.

## **The push for capital expenditure**

With record high commodity prices, top mining companies are looking to add capacity as quickly as possible. With mega-deals proving difficult to execute, in-house greenfield and expansion capital projects have become a top priority.

In recent months the Top 40 have announced plans to invest \$311 billion in capital projects in the coming years, of which \$120 billion is scheduled for 2011. These announcements represent a major increase over the \$67 billion spent by these same companies in 2010. The increase is even more pronounced as the 2010 spend includes sustaining capital expenditures, which are

generally not included in announced new projects.

Interestingly, although many of the Top 40 companies have provided their capital plans for 2011, details on which projects will be pursued and at what expected cost is often not forthcoming.

### **Supply and demand**

Capital projects in the mining industry often are slower to reach full output than companies initially predict. Unforeseen complexity can drive delays to new production, tightening metal supply against forecasts. This can ultimately lead to increasing prices.

### **Can it even be done?**

The projects announced by the Top 40, in addition to a number of projects planned by other companies and in other industries, could push the world's ability to deliver capital projects to the limits. So, the question remains, is there enough skilled labour, equipment, and material to deliver all of the projects that are planned? The likely answer is no and as constraints materialise, projects will likely be delayed and more marginal projects or those that cannot secure resources could be delayed or cancelled.

### Balance sheet

|   | 2010<br>\$ billion | 2009<br>\$ billion | Change<br>% |
|---|--------------------|--------------------|-------------|
| <b>Current assets</b>                       |                    |                    |             |
| Cash  | 105                | 81                 | 30          |
| Inventories                                 | 50                 | 43                 | 16          |
| Accounts receivable                         | 51                 | 37                 | 38          |
| Other                                       | 36                 | 41                 | (12)        |
| <b>Total current assets</b>                 | <b>242</b>         | <b>202</b>         | <b>20</b>   |
| <b>Non-current assets</b>                   |                    |                    |             |
| Investment in associates and joint ventures | 35                 | 33                 | 6           |
| Property, plant and equipment               | 511                | 436                | 17          |
| Goodwill and intangibles                    | 91                 | 75                 | 21          |
| Other                                       | 64                 | 52                 | 23          |
| <b>Total non-current assets</b>             | <b>701</b>         | <b>596</b>         | <b>18</b>   |
| <b>Total assets</b>                         | <b>943</b>         | <b>798</b>         | <b>18</b>   |
| <b>Current liabilities</b>                  |                    |                    |             |
| Accounts payable                            | 49                 | 40                 | 23          |
| Borrowings                                  | 21                 | 20                 | 5           |
| Other                                       | 56                 | 42                 | 33          |
| <b>Total current liabilities</b>            | <b>126</b>         | <b>102</b>         | <b>24</b>   |
| <b>Non-current liabilities</b>              |                    |                    |             |
| Borrowings                                  | 130                | 143                | (9)         |
| Other                                       | 131                | 112                | 17          |
| <b>Total non-current liabilities</b>        | <b>261</b>         | <b>255</b>         | <b>2</b>    |
| <b>Total equity</b>                         | <b>556</b>         | <b>441</b>         | <b>26</b>   |
| <b>Total equity and liabilities</b>         | <b>943</b>         | <b>798</b>         | <b>18</b>   |

| Ratios                | 2010 | 2009 |
|-----------------------|------|------|
| Gearing (%)           | 8    | 16   |
| Current (times)       | 1.92 | 1.98 |
| Quick (times)         | 1.52 | 1.56 |
| Net debt (\$ billion) | 46   | 82   |

### Disappearing debt

With total assets increasing to \$943 billion, the industry is poised to break through the \$1 trillion mark in 2011, as the Top 40 continues to grow in size and scale. Noteworthy is that these assets are funded almost entirely by equity, with net debt down to \$46 billion and borrowings at only 16% of total assets. This shift also reflects the alternative sources of capital now available to the industry, as the new era has ushered in an increase in joint ventures, off-take funding and other arrangements.

The strong cash position has left gearing at just 8%, amazing when considering that less than two years ago a number of companies were struggling to refinance short-term borrowings and many raised equity to help them get through the financial crisis. In 2010 70% of the Top 40 reduced their gearing, with 14 companies having no net debt.

With the Top 40 planning to spend \$311 billion on capital projects in the coming years, the industry has significant capacity to fund the growth and to add some debt without stressing the balance sheet too much.

Some shareholders are already asking what companies are doing with excess cash and whether they should return it. Companies are already responding with significant share buy-backs launched by a number of companies in the first half of 2011.

### Buy, Build, Distribute

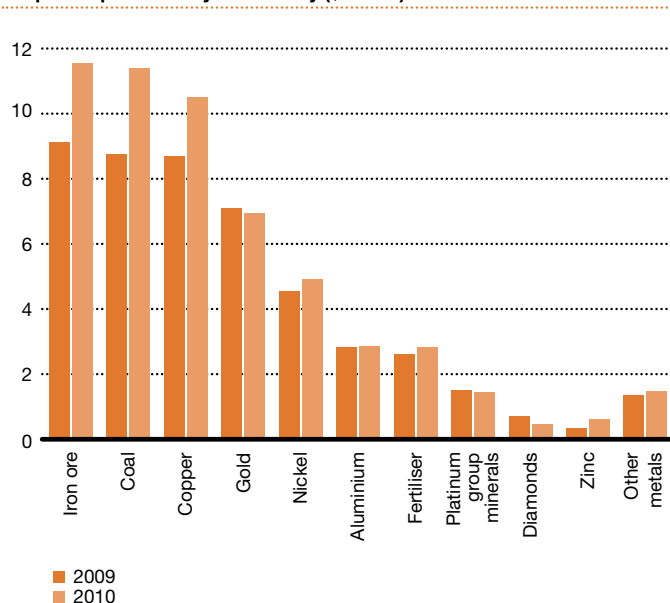
Cash on hand has increased 30% to \$105 billion in 2010, a remarkable achievement given the challenges experienced through the financial crisis. This position has been built with steady and consistent performance, despite the volatility experienced in market capitalisation over the past three years. The build-up of cash could be seen as a reflection of strong performance or equally as conservative balance sheet management. The question is: how will the cash be used in 2011—buy, build, distribute? Or all of the above?

Net assets increased 26% or \$115 billion—staggering numbers particularly when similar growth was observed in 2009, increasing total equity by more than 50% in two years.

### Organic Growth

The Top 40 continued to value organic growth as a means for expansion, with a 17% increase in plant, property and equipment. The graph below shows the capital expenditure on mining assets by commodity and the continuing focus on the largest three, iron ore, coal and copper.

Capital expenditure by commodity (\$ billion)



Source: PwC analysis.

### Goodwill rises

With stronger market conditions, impairment charges all but disappeared in 2010. Goodwill remains on balance sheets but is concentrated within a small number of companies, with Rio Tinto representing 32% and Xstrata 14% of the total. The most notable increase in goodwill came from Kinross' acquisition of Red Back Mining (\$5 billion goodwill) with Vale and Rio Tinto each also adding \$1 billion. Of the total intangible asset balance of \$91 billion, goodwill comprised \$47 billion.

### Customers

Accounts receivable increased 38% on the prior year. With Days Sales Outstanding only increasing by two to 43 days, the rise is more of a reflection of the increase in commodity prices on fourth quarter sales than decline in the cash collections from customers in the industry.

# 07

## Reserves

| STOPE    | RIG I.D | DRILL | PREP | CHARGE | FIRE | BOG | REMOTE | BA  |
|----------|---------|-------|------|--------|------|-----|--------|-----|
|          |         | Y/N   | Y/N  | Y/N    | Y/N  | Y/N | Y/N    | Y/N |
| 1117 FWS | 08-171  |       |      |        |      |     |        |     |
| 1117 HWS |         |       |      |        |      |     |        |     |
| 1137 HKN |         |       |      |        |      |     |        |     |
| 800 R    | 08-170  |       |      |        |      |     |        |     |
| 08-170   | 08-1170 |       |      |        |      |     |        |     |

**PRODUCTION**

Handwritten notes and markings on the log include: "855 7/2 PD L", "SKY D", "BOG", "HOLD", "PROD PD18".

## Reported reserves

|                                    | Gold         | Platinum | Copper           | Zinc | Nickel | Iron ore | Metallurgical Coal | Thermal Coal | Bauxite | Potash |
|------------------------------------|--------------|----------|------------------|------|--------|----------|--------------------|--------------|---------|--------|
|                                    | (million oz) |          | (million tonnes) |      |        |          |                    |              |         |        |
| No. of companies                   | 15           | 5        | 19               | 7    | 5      | 7        | 12                 | 12           | 3       | 2      |
| 2009 reserves                      | 582          | 211      | 271              | 40   | 19     | 14,939   | 11,449             | 67,822       | 1,177   | 746    |
| (Depletion)                        | (34)         | (4)      | (7)              | (3)  | (1)    | (716)    | (226)              | (1,273)      | (40)    | (13)   |
| Other net addition/<br>(reduction) | 71           | 3        | 36               | 3    | -      | 1,278    | 336                | 831          | (31)    | 25     |
| 2010 reserves                      | 619          | 210      | 300              | 40   | 18     | 15,501   | 11,559             | 67,380       | 1,106   | 758    |
| Change (%)                         | 6%           | (1%)     | 11%              | 0%   | (4%)   | 4%       | 1%                 | (1%)         | (6%)    | 2%     |
| Remaining life<br>(years)          | 18           | 51       | 41               | 12   | 21     | 22       | 51                 | 53           | 27      | 57     |

### Successful conversion

In some commodities mine life was extended in 2010, but overall our analysis shows that on a copper equivalent tonnes basis, the industry's remaining mine life decreased by two years to 35. This demonstrates that while the Top 40 experienced exploration success, it was not as much as the increase in production during the year.

### Gold exploration gains

PwC's annual Global Gold Price survey for 2010 again highlighted the use of higher gold prices in reserve calculations which lead to lower gold cut-off grades. The average gold price used in the calculation increased from \$974 per ounce in 2009 to \$1,227 per ounce in 2010. The surging gold prices have made higher cost mines economically feasible. Furthermore, successful exploration results throughout the year have also pushed gold reserves higher, such as the gold contained at Oyu Tolgoi in Mongolia, Goldcorp's South American and Canadian projects and Kinross' projects in Mauritania and South America.

### Copper in focus

Increasing long-term price assumptions following the run up in the copper price fueled a uniform increase in copper reserves across the Top 40. The increased copper reserves were primarily attributable to Ivanhoe and Rio Tinto's massive Oyu Tolgoi project in Mongolia as well as

Freeport McMoRan's addition of copper reserves at its North American properties. New reserves have significantly exceeded depletion of ore as production was down, resulting in an extension of the life of the copper mines by about eight years over 2009.

### Pressure on zinc and nickel

Zinc and nickel reserves remained at about 2009 levels as exploration programs have not discovered significant new ore bodies in the last few years. The remaining zinc life of Top 40 companies has decreased from 13 years at the end of 2009 to 12 years and nickel has declined to 21 years – the shortest remaining lives of all commodities. We note that a number of major zinc producers are not currently included in the Top 40, such as Vedanta Resources plc and Minmetals Resources Limited.

### Pay dirt

The huge iron ore investments by the majors in expanding their operations to meet ever growing demand has hit pay dirt in 2010 with a significant increase in reserves leading to overall growth in remaining mine life to 22 years. Significant additions were recorded by all major iron ore players.

### **Coal keeps rising**

With global steel production increasing by 17% in 2010, according to the World Steel Association, metallurgical coal was in high demand and production increased lockstep with steel. Similar to iron ore, prices showed some volatility mid-year, generally increasing during the year to close strongly, but still below record highs seen in mid-2008. Anglo American added the most significant new reserves at its Grosvenor project in Australia.

Production of thermal coal was stable, with additions offsetting production. New reserves were reported by BHP Billiton (due in part to the resource conversion at Mt Arthur), Xstrata (whose reserves increased due to reclassification from resources in Rolleston West and approval of the Bulga project) and China Shenhua (due to new drilling at Shendong Mines). These additions for the Top 40 were slightly offset by Rio Tinto's divestiture of its North American coal assets.

### **Bauxite challenges**

Production of bauxite was relatively stable year on year. However due to the changes in Brazilian environmental laws, BHP Billiton and Rio Tinto have reduced part of their bauxite ore reserves. These resources will be reclassified back to reserves once new license approval has been granted. This change reflects the impact of the challenging operating environment in many countries due to the heightened focus on the mining industry.

## **Exploration expenditure**

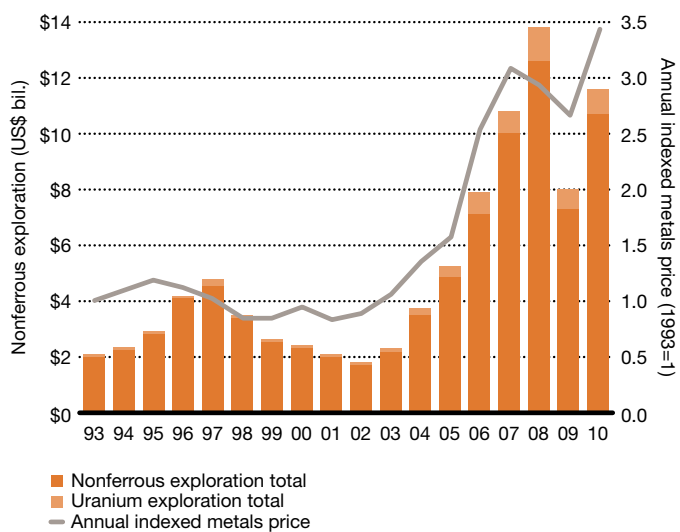
After a severe drop in exploration spend last year, 2010 saw a moderate increase to just below \$6 billion by the Top 40. In our analysis we noted that the focus of the Top 40 remained on brownfield exploration. With purse strings remaining tight some companies spending remained at only 50% of previous levels however plans for further increases in 2011 and 2012 have been announced by many. According to Metals Economics Group's *World Exploration Trends 2011* the total global spend reached \$12.1 billion, up from \$8.4 billion in 2009. The Top 40, therefore, accounted for less than half of the total spend, showing the continued importance of the junior sector to worldwide exploration.

Gold and base metals dominated 2010 exploration expenditure, comprising almost 85% of the total, according to Metals Economics Group:

"In 2010, global economic fundamentals kept the spotlight on gold, and historically high prices prompted gold explorers to increase their aggregate budget by \$1.9 billion. This increase lifted planned spending on the yellow metal to \$5.4 billion and its share of the total budget to 51% - the first time since 1999 that Gold accounted for more than half of the total planned spending."

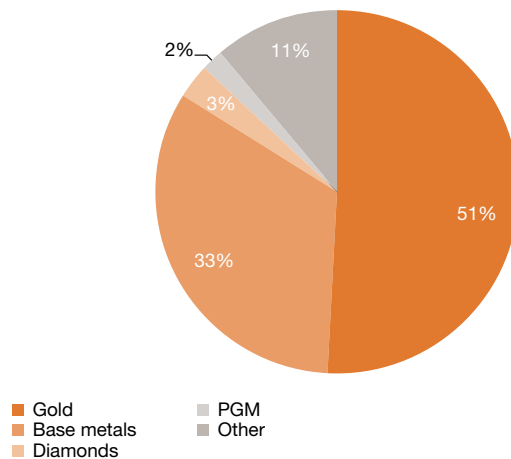


### Exploration expenditure



Source: Metals Economics Group: World Exploration Trends 2011.

### 2010 Worldwide exploration budget by commodity



Source: Metals Economics Group: World Exploration Trends 2011.





08

# What's *mine* *is mine*

In today's world governments in many of the traditional and emerging mining countries are looking at reforms to their mining codes, reviewing their views on sustainability and refreshing their approach to royalties and taxation. At the same time non-government stakeholders' influence is growing. Naturally this has focused attention on the drivers for this activity and what this all means to a miner's licence to operate.

With these issues in mind, mining executives operating around the world face increased demands when assessing new and emerging markets for investments, acquisitions or new projects. In the attached article, the geopolitical risk company Eurasia Group have highlighted several examples of where governments have

changed policy. It is clear that there are a number of different motivations at play in these territories and mining companies have to become increasingly adept in dealing with the influencers behind changes in regulations.

The questions around who pays for resource development, who benefits and how these benefits are distributed remain. This is not new for miners or for authorities who have always had to balance the elements of control over mines and resources with the ability to sustainably develop assets in the investment climate. What has emerged recently is a greater voice from stakeholders on all sides to challenge whether there is a balanced, equitable outcome for all parties and a question to miners, can you prove your worth?

Across the industry there are a multitude of examples of activity where miners are doing just this, from Anglo American's Zimele

programme for local procurement through to Vale's partnership with the Earth Institute for the development of sustainability goals for international foreign direct investment. The trend is clear and it will continue, with regulations around traceability of products, human rights, carbon emissions, energy consumption, biodiversity management and water usage, to name but a few, all playing a part in the story. Each issue comes with a number of focused groups of stakeholders keen to ensure their opinions are heard.

It is interesting how the mining story has been told and how integration into a country's industrial supply chain is playing a greater role in investor presentations and speeches. The scale of mining projects has been increasing as mineral grades are challenged and projects have to look to new, often more remote locations requiring infrastructure, to expand. Infrastructure is not only the obvious rail, port and power networks but also the human infrastructure, such as medical healthcare and community support programs. There are already many examples where miners are working with local partners further along the supply chain, which is often not fully described in the story of the total economic impact that a miner generates. It is here that the collaboration between private

By Divya Reddy, The Eurasia Group

As the global economy emerges from the financial crisis, governments are reassessing their economic priorities with an overarching goal of maximising economic growth and addressing budget deficits. In this context, many governments are considering or actioning a more interventionist approach to the mining sector, particularly in light of a strong outlook for commodities demand and weak budgetary outlooks in a number of minerals-rich countries. Operations are also receiving heightened attention at the local level and as such miners are required to be mindful of community and environmental obligations as well.

**Resource nationalism:** On the heels of stimulus spending to counter the effects of the financial crisis, governments worldwide accrued budget deficits that they will now seek to plug as they look ahead to longer term economic growth and fiscal stability. Importantly, while political risk is traditionally considered in a developing country context, resource nationalism in the form of taxation and royalty revisions is also gaining ground in industrialised countries. In Australia, the government appears likely to pass the Minerals Resource Rent Tax on iron ore and coal companies in 2012, although the scope was significantly moderated from an earlier proposal due to successful industry lobbying. At the same time, a rise in populist rhetoric in the run-up to this year's elections in Peru led to all major candidates supporting increased taxes on the mining sector. A victory by Nationalist candidate, Ollanta Humala, would increase the likelihood that mining companies will be required to pay higher taxes in Peru.

Elsewhere, resource nationalistic policies are being driven by industrial policy priorities. For example, Brazil's upcoming mining reform, likely to pass in 2012, is designed to align mining investments to the country's industrial policy goals. Along with royalty hikes, the reform will impose tighter investment requirements and introduce tax mechanisms to incentivise the industrialisation of minerals domestically. Similarly in India, the federal government in February raised iron ore export taxes with an eye to expanding domestic steel production, while a number of state governments are trying to impose export taxes for similar reasons.

**State capitalism:** The promotion of national champions has become a growing trend in the mining industry. As mining companies increasingly find themselves competing against state-owned or state-backed companies, governments may take a more statist approach to their mining sectors and promote national champions. In Russia, a long-standing battle for control over Norilsk Nickel will over time likely give way to Kremlin intervention to create the foundation of a metals national champion. In South Africa, an important near-term priority for the government is the development of a state-owned mining company, the African Exploration Mining and Finance Corporation. In the near-term, the outfit poses a limited competitive threat to established players, but reflects the government's increasing involvement in the sector.

**Sustainability/community relations:** Local opposition to mining projects on environmental or social grounds has led to a number of recent shutdowns of mines by generally pro-mining regimes. In Guatemala, human rights accusations led the government to order the shutdown of the Marlin gold mine, while in Panama, President Ricardo Martinelli overturned passage of a new mining code that would have promoted investment in the sector following a series of protests by indigenous communities. Canadian company Greystar is also facing environmental opposition to developing its copper mine in Colombia, and in the Philippines the South Cotabato local government has banned open pit mining preventing the development of Xstrata's giant Tampakan copper-gold project. Local security risks can also challenge mine operations, as miners in Cote d'Ivoire and Mexico are currently experiencing.

**Government stability/transparency:** Tumultuous or murky political environments can also have significant impacts on mining companies. For instance, in Kyrgyzstan, although the parliament's approval of Almazbek Atambayev as Prime Minister in December 2010, followed by the establishment of a cabinet, were positive steps toward restoring political order in the country, the majority coalition is likely to be unstable over time, given the divergent political views of its member parties. Frontier markets also tend to be more vulnerable to general government instability, particularly around elections. For example, ahead of a 7 November 2010 presidential run-off vote, mounting tensions and violent clashes in Guinea cast a large shadow over the future of mining operations, which depend, in part, on President Alpha Condé's ability to secure a smooth political transition from military to civilian rule.

sector and society, along with the historic relationship with public sector and policy intervention, needs to continue to evolve. Where there has been successful collaborations, these should form key stories to tell, to ensure that the equitable outcome message is clear.

Looking to the future, with a greater focus on sustainability, will miners be able to address stakeholder

issues and ultimately influence governments to manage issues of resource nationalism, state capitalism, community relations and transparency? What is perhaps clear is whilst it is a judgement call for companies as to where they invest and how to manage their relative appetites for risk, when operating in a country the relationships with all stakeholders that they have in that country will be scrutinised

increasingly on the global newswires and social media sites. It will be their actions and behaviours being analysed as much as financial results and balance sheets. The interplay of corporate and society in developing opinion is greater than ever and along with a greater need to address regulatory and increased stakeholder power, companies have a real opportunity to help the debate around resource development.

# 09 *The golden rules*





The price of gold always receives a lot of attention and this was definitely true during 2010, when it increased for the tenth consecutive year to \$1,421 per ounce, up 23% year on year. As the price continues to rise to new highs in the first part of 2011, the question is; what will happen next? Because gold is indestructible and not consumed in the way other commodities are, it is not as influenced by typical supply and demand factors but rather as a means for storing wealth. There are a number of other macro-economic factors that are keeping prices at the current level and which could continue to drive prices even higher, including the European sovereign debt crisis, unrest in the Middle East and increased central bank buying of gold.

As gold is priced in US dollars, changes in the value of the dollar influence the price of gold. The US dollar remained weak in 2010, partly as a result of U.S. monetary policy, such as the US Federal Reserve's second round of quantitative easing. With gold utilised as an alternative 'currency' to the US dollar, this has the effect of driving up the price of gold.

Gold ETFs experienced substantial growth as investors looked to such funds to either speculate, or as an alternative to US treasury bills or money market funds, as the US dollar depreciated. The total holdings of gold through ETFs reached a high of approximately 70 million ounces of gold, more than double total gold production of the Top 40 in 2010.

Growth in emerging countries also affects the price of gold – through increased purchases of gold by their central banks, as well as their citizens, as wealth increases. This is highlighted by the People's Bank of China encouraging the people of China to purchase gold as a hedge against inflation in their Financial Markets Review in March 2011 and the Central Bank of the Russian Federation purchasing 140 tonnes of gold in 2010, an increase of 21% over 2009.

Overall there was a significant shift in demand in 2010 from the official sector, with central banks becoming net buyers of the yellow metal for the first time in two decades.

Since there is substantially less gold available than US dollars, small shifts from U.S. dollars to gold can cause a considerable increase in demand. At the end of 2010, preliminary figures from the International Monetary Fund's (IMF) Currency Composition of Official Foreign Exchange Reserves indicate that emerging and developing economies that report to the IMF hold \$1.4 trillion of US dollars in their Official Foreign Exchange Reserves. Even a 5% shift in US dollar holdings to gold by these countries would represent a massive 50 million ounce increase in demand for gold that is comparable to 71% of total investment in ETF's at the end of 2010 and would significantly affect gold prices.

As a result of high gold prices and the fact that gold companies attract the 'gold premium', resulting in the use of higher multiples than base metal companies, unique transactions can be considered to obtain this premium. One such example is a base metals company that either sells or spins out to its shareholders its gold assets if it is thought that the assets are not attracting the gold premium.

Another way to unlock this premium is through a transaction with a gold streaming or royalty company. Gold streaming companies enter into streaming transactions which are contracts to purchase gold production from other companies, often those for which the gold production is a byproduct. In this instance, the stream company will gain the benefit of the gold premium which the base metals producer was not able to.

Given the shortage of world class deposits that contain only gold, larger gold companies, in their quest to replace resources, often consider acquiring properties with substantial copper along with gold. In time, this may change the dynamics associated with the gold premium.

# 10

## Glossary

|  |  |
|--|--|
| <b>Current ratio</b>                       | Current assets / Current liabilities   |
| <b>EBITDA</b>                              | Earnings before interest, tax, depreciation and amortisation.  |
| <b>Adjusted EBITDA</b>                     | EBITDA adjusted to exclude impairment charges. A measure that is close to the underlying cash earning stream of the company before servicing the capital base. |
| <b>PBIT</b>                                | Profit before interest and tax   |
| <b>PBT</b>                                 | Profit before tax  |
| <b>EBITDA margin</b>                       | EBITDA / Revenue   |
| <b>Adjusted EBITDA margin</b>              | Adjusted EBITDA / Revenue  |
| <b>Gearing ratio</b>                       | Net borrowings / Net borrowings plus shareholders' equity  |
| <b>GFC</b>                                 | Global Financial Crisis  |
| <b>Market capitalisation</b>               | The market value of the equity of a company, calculated as the share price multiplied by the number of shares outstanding                                      |
| <b>Net Borrowings</b>                      | Borrowings less cash   |
| <b>Quick ratio</b>                         | (Current assets less Inventory) / Current liabilities  |
| <b>Net profit margin</b>                   | Net profit / Revenue   |
| <b>Return on capital employed ("ROCE")</b> | Net profit / Average property plant and equipment plus current assets less current liabilities   |
| <b>Return on equity ("ROE")</b>            | Net profit / Average shareholders' equity  |
| <b>SWFs</b>                                | Sovereign Wealth Funds   |
| <b>Top three</b>                           | BHP Billiton, Vale and Rio Tinto   |
| <b>Top four</b>                            | BHP Billiton, Vale, Rio Tinto and China Shenhua  |
| <b>Top 10</b>                              | BHP Billiton, Vale, Rio Tinto, China Shenhua, Xstrata, Anglo American, Freeport-McMoran, Barrick Gold, Potash Corp, Coal India.                                |
| <b>Top 40</b>                              | 40 of the world's largest mining companies   |
| <b>TSR</b>                                 | Total shareholder return: as measured by dividends and capital gain in a given period over the opening share price.  |

## Top 40 companies analysed

| Name   | Country **     | Year end |
|--|----------------|----------|
| Agnico-Eagle Mines Limited (*)                           | Canada         | 31-Dec   |
| Anglo American plc                                       | UK             | 31-Dec   |
| AngloGold Ashanti Limited                                | South Africa   | 31-Dec   |
| Antofagasta plc  | UK             | 31-Dec   |
| Barrick Gold Corporation                                 | Canada         | 31-Dec   |
| BHP Billiton Limited / BHP Billiton plc                  | Australia / UK | 30-Jun   |
| Cameco Corporation                                       | Canada         | 31-Dec   |
| China Coal Energy Company Limited                        | Hong Kong      | 31-Dec   |
| China Shenhua Energy Company Limited                     | Hong Kong      | 31-Dec   |
| Coal India Limited (*)                                   | India          | 31-Mar   |
| Compania de Minas Buenaventura SA                        | Peru           | 31-Dec   |
| Consol Energy Inc.                                       | United States  | 31-Dec   |
| Eurasian Natural Resources Corporation PLC               | UK             | 31-Dec   |
| Fortescue Metals Group Limited                           | Australia      | 30-Jun   |
| Freeport-McMoRan Copper & Gold Inc.                      | United States  | 31-Dec   |
| Goldcorp Inc.  | Canada         | 31-Dec   |
| Gold Fields Limited                                      | South Africa   | 30-Jun   |
| Grupo Mexico S.A. de CV                                  | Mexico         | 31-Dec   |
| Impala Platinum Holdings Limited                         | South Africa   | 30-Jun   |
| Industrias Penoles S.A.B De CV (*)                       | Mexico         | 31-Dec   |
| Ivanhoe Mines Limited                                    | Canada         | 31-Dec   |
| Jiangxi Copper Company Limited                           | Hong Kong      | 31-Dec   |
| Kazakhmys Plc  | UK             | 31-Dec   |
| KGHM Polska Miedz SA (*)                                 | Poland         | 31-Dec   |
| Kinross Gold Corporation                                 | Canada         | 31-Dec   |
| MMC Norilsk Nickel                                       | Russia         | 31-Dec   |
| National Mineral Development Corporation Limited         | India          | 31-Mar   |
| Newcrest Mining Limited                                  | Australia      | 30-Jun   |
| Newmont Mining Corporation                               | United States  | 31-Dec   |
| Peabody Energy Corporation                               | United States  | 31-Dec   |
| Potash Corporation of Saskatchewan Inc.                  | Canada         | 31-Dec   |
| Rio Tinto plc / Rio Tinto Limited                        | UK / Australia | 31-Dec   |
| Shandong Gold Mining Co., Ltd (*)                        | China          | 31-Dec   |
| Shanxi Kishan Coal and Electricity Power Company Limited | China          | 31-Dec   |
| Silver Wheaton Corp. (*)                                 | Canada         | 31-Dec   |
| Teck Resources Limited                                   | Canada         | 31-Dec   |
| The Mosaic Company                                       | United States  | 31-May   |
| Vale SA  | Brazil         | 31-Dec   |
| Xstrata plc  | UK             | 31-Dec   |
| Yanzhou Coal Mining Company Ltd (*)                      | Hong Kong      | 31-Dec   |

(\*) Refer to companies which were not included in 2009 analysis.

(\*\*) Refers to the country of primary listing where the shares are publicly traded.

# 12

## *Explanatory notes for aggregated financial information*

We have analysed 40 of the largest listed mining companies by market capitalisation. Our analysis includes major companies in all parts of the world whose primary business is assessed to be mining.

The results aggregated in this report have been sourced from the latest publicly available information, primarily annual reports and financial reports available to shareholders. Where 2010 information was unavailable at the time of data collation, these companies have been excluded. Companies have different year-ends and report under different accounting regimes, including International Financial Reporting Standards (IFRS), US Generally Accepted Accounting Principles (US GAAP), Canadian GAAP, and others.

Information has been aggregated for the financial years of individual companies and no adjustments have been made to take into account different reporting requirements and year-ends. As such, the financial information shown for 2010 covers reporting periods from 1 April 2009 to 31 December 2010, with each company's results included for the 12-month financial reporting period that falls into this timeframe.

All figures in this publication are reported in US dollars, except when specifically stated. The results of companies that report in currencies other than the US dollar have been translated at the US dollar exchange rate for the respective year.

Some diversified companies undertake part of their activities outside the mining industry, such as the petroleum business of BHP Billiton and parts of the Rio Tinto aluminium business. No attempt has been made to exclude such non-mining activities from the aggregated financial information.

Entities that are controlled by others in the Top 40 and consolidated into their results have been excluded, even when minority stakes are listed.

# 13

## Key contributors to Mine



- 1 Firman Sababalat, Indonesia
- 2 Krzysztof Gmur, Poland
- 3 Hallie Caywood, United States of America
- 4 Ben Gargett, Australia
- 5 K. Praveen Kumar, India
- 6 Lana Kirk, Canada
- 7 Christopher Reeves, United Kingdom
- 8 Roberto Baptista, Brazil
- 9 Stefan de Klerk, South Africa
- 10 John Matheson, China
- 11 Eric Ichikawa, Brazil

*Not pictured:*

Jill Wang, China

Global Mining Leadership Team

# 14

## Contacting PwC

Visit our website:  
[www.pwc.com/mining](http://www.pwc.com/mining)

PwC ([www.pwc.com](http://www.pwc.com)) provides industry-focused assurance, tax and advisory services to build public trust and enhance value for its clients and their stakeholders. More than 161,000 people in 154 countries work collaboratively using connected thinking to develop fresh perspectives and practical advice.

PwC is a leading adviser to the global mining industry, working with a wide variety of explorers, producers and related service providers to ensure we meet the challenges of the global mining industry into the future.

Our strength in serving the global mining industry comes from our skills, our experience, and our seamless global network of dedicated professionals who focus their time on understanding the industry and working on solutions to mining industry issues.

For more information on this publication or how PwC can assist you in managing value and reporting, please speak to your current PwC contact or telephone/ e-mail the individuals below who will put you in contact with the right person.

### **Global Mining Leadership Team**

#### **Global Mining Leader and Australia**

Tim Goldsmith, Melbourne  
Telephone: +61.3.8603.2016  
Email : [tim.goldsmith@au.pwc.com](mailto:tim.goldsmith@au.pwc.com)

#### **Africa**

Hein Boegman, Johannesburg  
Telephone: +27.11.797.4335  
Email : [hein.boegman@za.pwc.com](mailto:hein.boegman@za.pwc.com)

#### **Canada**

John Gravelle, Toronto  
Telephone +1.416.869.8727  
E-mail: [john.gravelle@ca.pwc.com](mailto:john.gravelle@ca.pwc.com)

#### **China**

Ken Su, Beijing  
Telephone: +86.10.6533.7290  
E-mail: [ken.x.su@cn.pwc.com](mailto:ken.x.su@cn.pwc.com)

#### **India**

Kameswara Rao, Hyderabad  
Telephone: +91.40.6624.6688  
Email: [kameswara.rao@in.pwc.com](mailto:kameswara.rao@in.pwc.com)

#### **Indonesia**

Sacha Winzenried, Jakarta  
Telephone: +62.21.5289.0968  
Email: [sacha.winzenried@id.pwc.com](mailto:sacha.winzenried@id.pwc.com)

#### **Latin America**

Ronaldo Valino, Rio de Janeiro  
Telephone: +55.21.3232.6139  
E-mail: [ronaldo.valino@br.pwc.com](mailto:ronaldo.valino@br.pwc.com)

#### **Russia and Central and Eastern Europe**

John Campbell, Moscow  
Telephone: +7.495.967.6279  
E-mail: [john.c.campbell@ru.pwc.com](mailto:john.c.campbell@ru.pwc.com)

#### **United Kingdom**

Jason Burkitt, London  
Telephone: +44.20.7213.2515  
E-mail: [jason.e.burkitt@uk.pwc.com](mailto:jason.e.burkitt@uk.pwc.com)

#### **United States**

Steve Ralbovsky, Phoenix  
Telephone: +1.602.364.8193  
E-mail: [steve.ralbovsky@us.pwc.com](mailto:steve.ralbovsky@us.pwc.com)

#### **Knowledge Manager**

Ben Gargett, Melbourne  
Telephone: +61.3.8603.2539  
Email: [benjamin.gargett@au.pwc.com](mailto:benjamin.gargett@au.pwc.com)

## PwC mining publications

### Country Mine publications

Besides the Global Mine publication PwC prepares a number of Country Mine Publications which focus on analysis of trends in the mining industry in particular regions.



#### **Aussie mine—Rise and Shine :: November 2010**

PwC's annual review of trends in the mid-tier Australian mining industry. This report focuses on the annual results of the largest 50 mining companies listed on the Australian Stock Exchange with a market capitalisation of less than \$5 billion at 30 June 2010.

**Contact** **Tim Goldsmith**, Melbourne  
Telephone: +61.3.8603.2016  
Email: tim.goldsmith@au.pwc.com



#### **South Africa Mine—Review of trends in the South African mining industry :: November 2010**

This second edition of SA Mine focuses on the state of the mining sector in South Africa. It aggregates the financial results of mining companies with a primary listing on the Johannesburg Stock Exchange (JSE) and large mining companies with a secondary listing on the JSE whose main operations are in Africa at 30 June 2010.

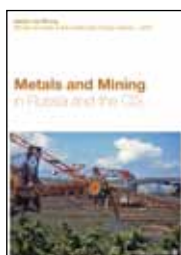
**Contact** **Hein Boegman**, Johannesburg  
Telephone: +27.11.797.4335  
Email: hein.boegman@za.pwc.com



#### **Junior mine - Trends in the TSX :: October 2010**

PwC Canada's review of trends in the mining industry through analysis of the top 100 mining companies on the TSX Venture Exchange, based on market capitalisation at 30 June 2010.

**Contact** **John Gravelle**, Toronto  
Telephone +1.416.869.8727  
E-mail: john.gravelle@ca.pwc.com



#### **Metals and Mining in Russia and CIS :: April 2010**

This inaugural edition of Metals & Mining in Russia and CIS focuses on the state of the mining sector in this region and the major trends in its development. It analyses the financial results of 20 major mining companies in Russia, Ukraine and Kazakhstan.

**Contact** **John Campbell**, Moscow  
Telephone: +7.495.967.6279  
E-mail: john.c.campbell@ru.pwc.com

### **Other PwC Mining Publications**

Our commitment to the industry goes beyond our services. As industry leaders, we are globally recognised for our broad knowledge of the mining industry and the laws that govern it.

Set out on this page are examples of recent mining thought leadership publications.



#### **Global mining deals 2010 – You Can't Always Get What You Want :: March 2011**

It's likely that Mick Jagger and Keith Richards had other things on their minds while crafting "You Can't Always Get What You Want", the Rolling Stones' 1969 classic, but we can't think of a more fitting theme for mining M&A in 2010 and, more importantly, for the decades ahead. The bottom line is that, with the world's population estimated to reach 8.3 billion by 2030 amid fears of a fleeting supply of resources, there may not be enough to go around. Someone, somewhere, may be disappointed.

With this in mind, Mining Deals 2010 revisits mining M&A in 2010 and looks at anticipated trends for M&A in 2011. Our report sets out the winners, losers and those waiting in the wings.

**Contact** **Tim Goldsmith**, Melbourne

Telephone: +61.3.8603.2016

Email : [tim.goldsmith@au.pwc.com](mailto:tim.goldsmith@au.pwc.com)

**John Gravelle**, Toronto

Telephone +1.416.869.8727

E-mail: [john.gravelle@ca.pwc.com](mailto:john.gravelle@ca.pwc.com)



#### **As good as gold? Global perspectives on the rising price of gold: 2010 Global Gold Price Survey Report :: December 2010**

Annually, PwC surveys gold mining companies from around the world. We spoke with 44 companies, asking them questions varying from when do you think the price of gold will peak, to, what gold price are you applying to your reserves in 2010?

This year we took an even deeper look into the gold sector, noting trends around the relationship between the price of gold and M&A activity, hedging strategies, the investment market's increased attractiveness toward junior mines involved in gold, struggling global currencies and countries' increased interest in gold. As the price of gold seeks to challenge its high in 1980, the gold sector is in the midst of an exciting period of time. What will your company do to capitalize on the price of gold?

**Contact** **John Gravelle**, Toronto

Telephone +1.416.869.8727

E-mail: [john.gravelle@ca.pwc.com](mailto:john.gravelle@ca.pwc.com)



**Global mining tax comparison: Income taxes, mining taxes and mining royalties :: December 2010**

This publication is an analysis of the taxes in mining countries around the world, focusing on income taxes, mining related taxes and royalties applicable in that country.

**Contact** **Steve Ralbovsky**, Phoenix  
Telephone: +1.602.364.8193  
Email: [steve.ralbovsky@us.pwc.com](mailto:steve.ralbovsky@us.pwc.com)



**Financial reporting in the mining industry**

This provides a comprehensive analysis of financial reporting in the global mining industry. It sets out the major accounting practices adopted by the mining industry under IFRS in respect of issues of particular relevance to the mining sector. We are currently updating this publication to address all recent changes and developments in IFRS and industry practice.

**Contact** **Jason Burkitt**, London  
Telephone: +44.20.7213.2515  
E-mail: [jason.e.burkitt@uk.pwc.com](mailto:jason.e.burkitt@uk.pwc.com)

**Debbie Smith**, Melbourne  
Telephone: +61.3.8603.2249  
Email : [debbie.smith@au.pwc.com](mailto:debbie.smith@au.pwc.com)



**Optimizing extended mining operations through value driver modeling :: November 2010**

The global financial crisis brought cost management back into focus for many mining companies. This publication seeks to demonstrate that robust modeling of operational cost and value drivers across the extended life of the mining operation is a key requirement for maximising value, regardless of the economic cycle.

**Contact** **Tim Goldsmith**, Melbourne  
Telephone: +61.3.8603.2016  
Email: [tim.goldsmith@au.pwc.com](mailto:tim.goldsmith@au.pwc.com)

**Brian Gillespie**  
Telephone: +61.7.3257.5656  
Email: [brian.gillespie@au.pwc.com](mailto:brian.gillespie@au.pwc.com)



***Sustainable cost reduction in the mining sector :: September 2010***

As the mining industry emerges from the Global financial crisis, many companies are already outlining plans for moderate to aggressive growth over the short to medium term. While production volumes will need to grow to meet an expected upswing in commodities demand, one of the largest opportunities for shareholder value creation is operating and capital cost reduction.

This publication highlights leading practices to achieve sustainable cost reductions in mining operations. It also describes an effective approach to improve capital productivity, which focuses on rigorously challenging project economics and detailed design solutions during the early stages of a mining project.

**Contact** **John Gravelle**, Toronto  
Telephone +1.416.869.8727  
E-mail: john.gravelle@ca.pwc.com

**Arturo Lopez**  
Telephone +1.416.941.8219  
E-mail: arturo.j.lopez@ca.pwc.com



***Total Tax Contribution - A study of the economic contribution mining companies make to public finances :: May 2010***

The taxes and other contributions that mining companies pay to government is an important element in the creation of prosperity and stability in the countries in which they operate. However, the full extent of this contribution is not always recognized. Using the PwC Total Tax Contribution framework, this second study for the mining sector aims to bring greater transparency to the wider economic contribution that mining companies make to public finances. The study is larger than the original study and includes 22 mining companies operating in 20 different jurisdictions.

**Contact** **Steve Ralbovsky**, Phoenix  
Telephone: +1.602.364.8193  
Email: steve.ralbovsky@us.pwc.com

**Susan Symons**, London  
Tel: +44.0.20.7804.6744  
Email: susan.symons@uk.pwc.com



This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PricewaterhouseCoopers LLP, its members, employees and agents accept no liability, and disclaim all responsibility, for the consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

© 2011 PricewaterhouseCoopers LLP. All rights reserved. "PricewaterhouseCoopers" refers to PricewaterhouseCoopers LLP (US), a Delaware limited liability partnership, or, as the context requires, the PricewaterhouseCoopers global network or other member firms of the network, each of which is a separate and independent legal entity. This document is for general information purposes only, and should not be used as a substitute for consultation with professional advisors. DH-11-0266 JS