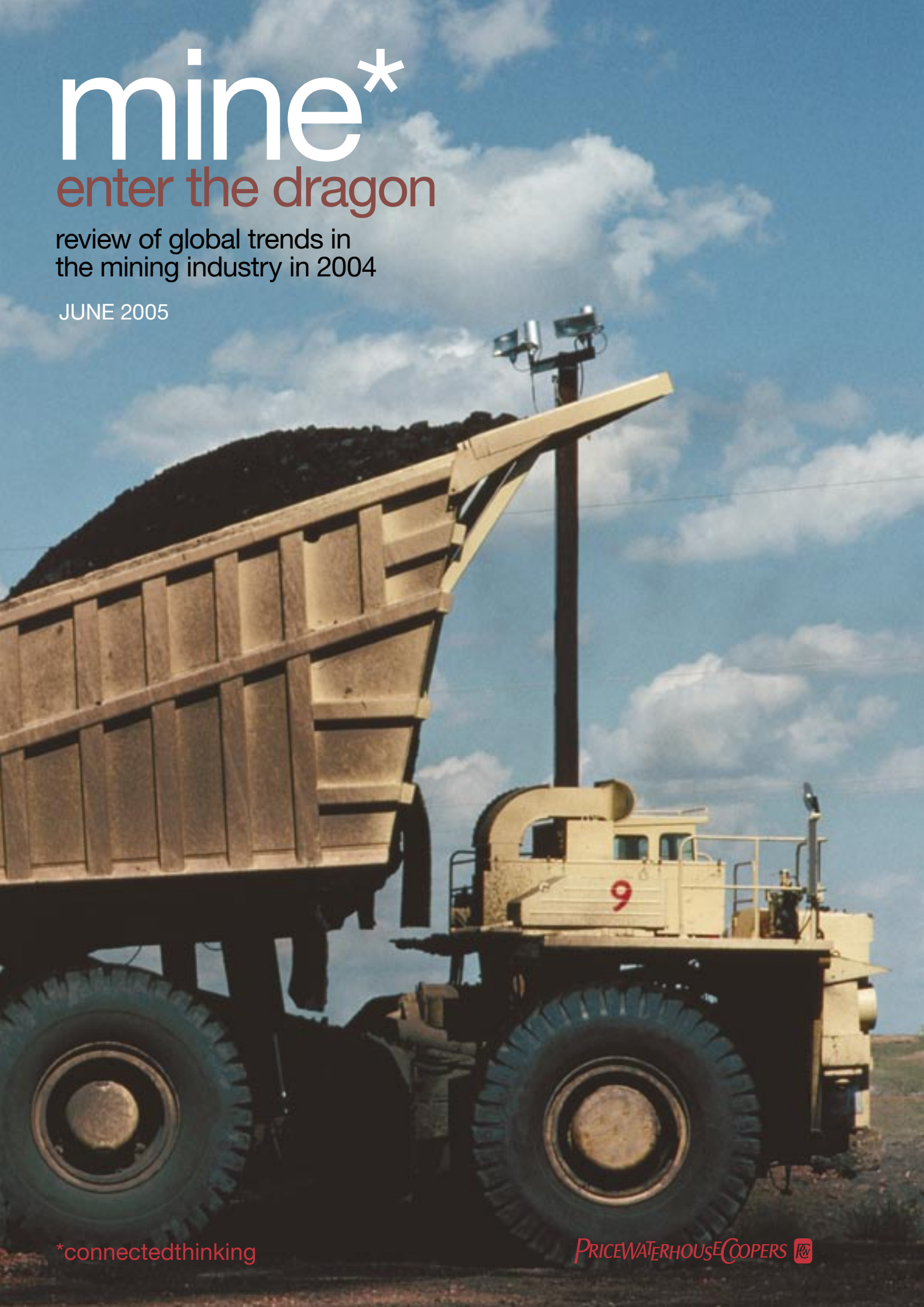
mine*

enter the dragon

review of global trends in the mining industry in 2004

JUNE 2005



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review of global trends in
the mining industry in 2004

2004

In 2004, PricewaterhouseCoopers launched its first annual review of global trends in the mining industry – *mine**. Nominated for the Mining Journal's award for Best Research Report, it provided an overview of the financial performance and position of the global mining industry in 2003 based on an analysis of some of the largest mining companies across the world.

Building on the success of last year's publication, this year's report *mine* – enter the dragon* provides a consolidated view of the global mining industry in 2004, represented by 40 of the world's largest mining companies.

We have analysed 40 mining companies, representing 80% of the global industry by market capitalisation. The results aggregated in this report have been sourced from publicly available information, primarily annual reports. Our analysis includes major mining companies from across the world.

The sharp increases in demand for commodities, particularly from China, and a resurgence in investor interest in the mining sector has led to the global mining industry generating spectacular results across all measures. The key question now is where does the industry go from here? We are pleased to provide the forum for that debate.

Hugh Cameron
Global Mining Leader
PricewaterhouseCoopers

Tim Goldsmith
Mining Leader – Asia Pacific
mine* Project Leader
PricewaterhouseCoopers

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01

01.
financial highlights

- Spectacular year for the global mining industry
- Industry market capitalisation up 19% to US$461 billion
- Net profit doubled for second year in a row
- Revenue increased by 39% to US$184 billion
- Net profit margin of 15% compared with 10% in 2003
- Net operating cash inflows increased by 88% to US$41 billion
- Capital expenditure and exploration spend increased by more than 20%
- Return on equity of 19% compared with 10% in 2003

TABLE 01. key financials	2004 US$ billion	2003 US$ billion	% change
Revenue	183.7	132.5	↑ 38.6%
EBITDA	54.5	32.9	↑ 65.7%
Net profit	27.9	13.2	↑ 111.4%
Operating cash inflows	41.1	21.9	↑ 87.7%
Cash and cash equivalents	21.9	13.9	↑ 57.6%
Capital expenditure	22.5	18.1	↑ 24.3%
Exploration expenditure	1.7	1.3	↑ 30.8%

TABLE 02. key ratios	2004	2003
EBITDA margin	29.7%	24.8%
Net profit margin	15.2%	10.0%
Effective tax rate	24.7%	27.9%
Return on capital employed	13.7%	7.2%
Return on equity	18.9%	10.2%
Net debt to equity ratio	25.4%	39.7%


02

02.
executive summary

The mining industry had a spectacular year in 2004. The rise in commodity prices has caught investors' attention and mining stocks have outperformed both the S&P 500 and the Dow Jones Industrial Average over the last three years. Last year, we raised the prospect of the first mining boom of the 21st century. The results of this year's analysis indicate that the boom has arrived and appears ready to continue for the foreseeable future.

Profits have doubled for the second year in a row. Return on equity has increased nearly three-fold over the past two years to 19% in 2004. Net operating cash flows almost doubled to US$41 billion in 2004. Commodity price increases, particularly in base metals and energy commodities, are the core drivers of this outstanding performance. Increased demand worldwide, particularly from China, and the weaker US dollar have pushed up commodity prices.

With the Chinese government having set the target of doubling GDP by 2020, demand is expected to continue. Rather than being at the top of the commodity cycle, the industry may be undergoing a structural change in global demand – enter the dragon!

Production increases were modest compared with increases in total operating costs. During the high-speed growth period there will likely be a further negative impact on energy prices and other input costs such as freight. Companies must focus on controlling costs if the high margins experienced in 2004 are to continue.

The positive economic environment has led to a very strong industry balance sheet. The net debt to equity ratio has decreased by 14 percentage points to 25% during the year. With cash generated from operations increasing significantly, cash and cash equivalents now stand at US$22 billion. In managing their new-found riches, mining companies must avoid the temptation to hoard cash. Companies must either plough earnings back into effective growth opportunities, repay debt or distribute cash to investors.

Many companies are now committing financial resources to development as they implement growth strategies to take advantage of buoyant market conditions. Capital and exploration spend have increased by 24% and 31% respectively, but are still at modest levels. This restraint reflects a more rational and responsible approach to increasing supply across the industry.

The increase in M&A activity, and continued concentration of ownership, have led to more informed decisions on development and expansion. Improved management of the supply-demand cycle should overcome the severity of the 'boom-and-bust' phenomenon which has historically led to capital destruction in the industry. The upturn in share prices reflects the markets' increased confidence that the industry is moving in the right direction.

The overall safety performance of the industry has continued to improve. However, the safety record of China remains unacceptable. Our analysis shows that there are opportunities for mining companies to increase transparency in reporting safety figures, and to further improve safety in the working environment.

Other issues affecting the mining industry during the year include sustainability, hedging, financial reporting and compliance.

The long lead times in the industry mean the supply response to higher prices will have limited impact in the short term. This should mean another bumper year for the global mining industry in 2005.

03

03.
industry in perspective

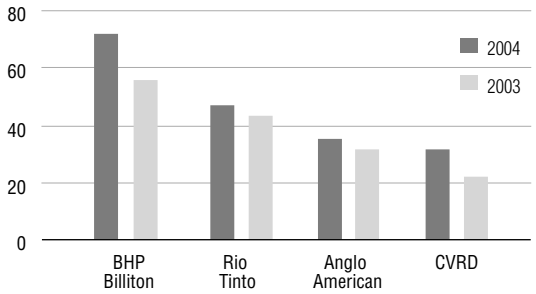
Market capitalisation

The global mining industry's market capitalisation has increased to US$461billion as at December 2004 compared with US$389 billion in 2003. This growth is directly linked to the continuing boom in the commodity cycle, which has reached high levels.

The industry is dominated by the four largest players – BHP Billiton, Rio Tinto, Anglo American and CVRD. These four companies account for 40% of the market capitalisation of the industry as a whole, up marginally from 39% in 2003. If BHP Billiton is successful in its bid for WMC Resources, this may increase the domination further.

The combined market capitalisation of BHP Billiton and WMC Resources is equivalent to 90% of the total market capitalisation of the entire gold sector.

FIG 01. top four market capitalisation
US$billion



Source: Datastream, December 2004

Industry performance

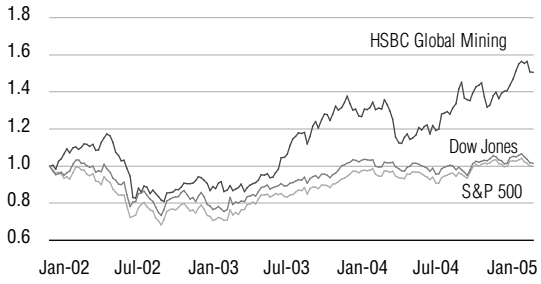
Demand for raw materials from China, the US, Europe and the rest of Asia has remained strong in 2004. Demand for iron ore was driven by an increase in steel production of 8.8%, while Chinese production of steel grew by 23.2%. Recent settlement of iron ore prices (up 71%) with the Japanese and Chinese steel mills indicates that the top four mining companies, who all have major iron ore interests, should continue their revenue growth trend in 2005.

The sharp increases in commodity prices over the past few years, driven by the growing demand and the weaker US dollar, have seen a re-emergence of the global mining industry, which has outperformed the rest of the market since 2003. The increase in investor appetite for mining companies is illustrated by the widening gap between the HSBC Global Mining Index and the S&P 500 and the Dow Jones Industrial indices over the past three years.

This is a welcome reversal for a so-called 'sunset' industry which had under-performed against other indices for the best part of the last two decades.

Interim results from many companies included in our review, together with price increases negotiated on bulk minerals, indicate that 2005 should report an even stronger performance.

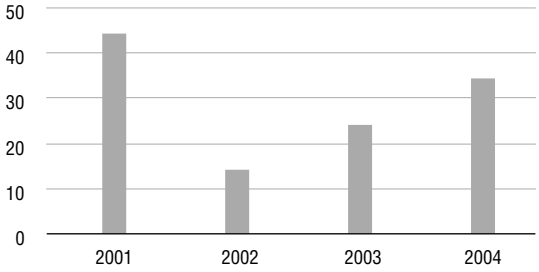
FIG 02. global indices
January 2002 = 1



Source: Datastream, April 2005

03.
industry in perspective

FIG 03. acquisitions
bid value per year, US$billion



Source: Bloomberg, April 2005

Industry consolidation

A number of mining companies indicated in 2003 that the likelihood of large takeovers in the sector was remote, as assets were considered too expensive. They believed that the climate was not appropriate for acquisitions and that it would be better to make acquisitions when commodity prices had cooled down and valuations of companies were at more conservative levels.

Such views were contradicted by the actual levels of mergers and acquisitions ("M&A") activity in 2004. The current level of M&A activity has not been surpassed since 2001, which witnessed the BHP merger with Billiton and the restructuring of Anglo American and De Beers. The levels of reported M&A activity during the first quarter of 2005 suggest there may be a further increase in M&A activity across the global mining industry in the year ahead.

The market response to M&A transactions has generally been positive. For example, BHP Billiton's share price remained stable on the news of the acquisition bid for WMC Resources despite the bid price of US$7 billion being well above the pre-bid market value of US$5 billion. Some commentators indicate that the market considers that the industry is experiencing a long-term sustainable boom and that no downturn is expected in the commodity cycle in the short to mid term. Others warn of a risk that mining companies are overpaying for assets in current M&A transactions.

The global mining industry remains split over this issue and only time will tell which of these two divergent views is correct.

DIGGING DEEPER:

Acquisition activities underground

During the last year a number of takeover bids emerged, receiving significant coverage in the media, including the following hostile bids:

- Harmony Gold Mining made a hostile bid to acquire the shares of Gold Fields for approximately US$8.2 billion. This story is still unfolding at the date of going to press, some eight months after Harmony initially informed the directors of Gold Fields of their intention. The bid has resulted in a number of legal battles between the two companies, and has been described by some commentators as hugely value-destroying.
- Xstrata made a bid to acquire WMC Resources for approximately US$6.7 billion. The bid did not appeal to the directors of WMC Resources and they fought the predator. BHP Billiton emerged as an alternative suitor and has tabled an offer of US$7.3 billion, which has been recommended by the WMC Resources' directors.
- Glamis Gold attempted to acquire Goldcorp during the early part of 2005. A deal was concluded between Goldcorp and Wheaton River whereby Goldcorp subsequently acquired all Wheaton River shares.

Why are companies in the global mining industry so active in mergers and acquisitions? To maintain future capacity a mining company must replace the reserves it mines and preferably expand through the growth of available reserves. There are two ways to do this: either through exploration or acquisition.

Reserves and resources acquired are far more certain than those that still need to be discovered through exploration and whilst exploration can result in a high return on investment, the related risk is significant. As a result, the ratio of exploration to acquisitions spend has generally decreased amongst the large mining companies. Many of the mid-tier supporters with deep pockets for exploration have also fallen as they have been taken over by the majors. This is further exacerbated as mergers and acquisitions can be done through the issue of shares rather than using hard-earned cash. Therefore, it has made sense for the majors in the global mining industry to increase their resource and reserve base through the acquisition of other entities in the industry.

Hostile environment

Hostile bids have taken place over the years, but there appears to have been an increase over the past 12 months as illustrated by the three hostile bids noted above. In recent times there has been a substantial improvement in the profitability of the global mining industry, consequently providing an ample war chest. Consolidation over the last ten years has been rife and amongst the mid-sized mining companies there is a general view of 'eat or be eaten'. With stock prices up, cash rolling in and confidence generally high, it is now easier for management to gain the support of investors to pursue growth. Target management and directors who are enjoying their time in the sun do not want to leave the industry. There are also hedge fund investors who aim to spot prey, move onto the share register, drum up as much competition as possible and sell to generate high short-term profits. All of this leads to an environment that is conducive to hostile bids.

Hostile bids run a significant risk of failure. Two of the three hostile bids mentioned above have failed and the outcome of the Harmony bid for Gold Fields remains uncertain. The costs of entering into hostile bids are significant. Advisors' fees are primarily success-based, and are often in the region of 2.5% of the total transaction value. Other costs include the significant time spent by management to resolve these transactions, distracting them from focusing on operational issues, which can cost the company, whether the bidder or the target, significant amounts. There is also the risk of a negative impact on a company's share price when a hostile bid is unsuccessful.

Future

One certainty is that with depleting reserve bases, companies will need to grow their reserves to remain in business. It is therefore likely that consolidation in the industry, hostile and friendly, will continue, which results in further concentration of mineral ownership. Such a policy can only be a short-term solution to increase reserves. Investments in new technology will help improve recoveries/yield but eventually new reserves will need to be discovered, requiring further investment in exploration.

M&A activities do present other benefits. The corresponding concentration of ownership can lead to better informed decisions on development and expansion opportunities. The global mining industry is now better placed to manage the supply-demand cycle in a sustainable manner, thereby avoiding the 'boom-and-bust' cycles of the past.

04

04.
financial review

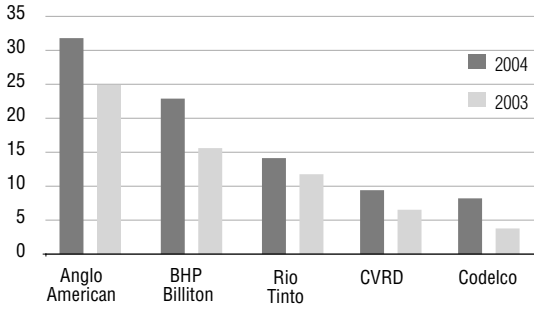
TABLE 03. aggregated industry income statement[1]	2004 US$ million	2003 US$ million
Revenue	183,713	132,503
Operating expenses	129,169	99,589
EBITDA	54,544	32,914
Amortisation and depreciation	14,590	11,897
Profit before interest and tax	39,954	21,017
Interest	2,953	2,645
Profit before tax	37,001	18,372
Income tax	9,139	5,133
Net profit	27,862	13,239

1. Aggregated results of 40 of the largest mining companies as detailed on page 41

The commodity boom continues

Mining industry revenue from the 40 companies included in this year's analysis increased 39% to US$184 billion in 2004. The top five companies in terms of revenue comprise almost 50% of total revenue of the companies analysed. The top four are the same as last year, while Codelco, the South American copper producer, has joined the ranks of the top five with a 117% increase in revenue on the back of higher copper production and increases in metal prices.

FIG 04. revenues
US$billion



The bottom line

Results from 2004 reflect a second successive year of doubled profits. Other profit measures show the broad-based industry improvement experienced during 2004.

TABLE 04. industry improvement	2004	2003
Net profit margin	15.2%	10.0%
EBITDA margin	29.7%	24.8%
Return on equity	18.9%	10.2%
Return on capital employed	13.7%	7.2%

These spectacular figures mark the re-emergence of the industry as an attractive option for investors. However, not all global regions have comparable outcomes. All regions, with the exception of South Africa, showed improvement.

04.
financial review

FIG 05. gold price in local currency
January 2002 = 1

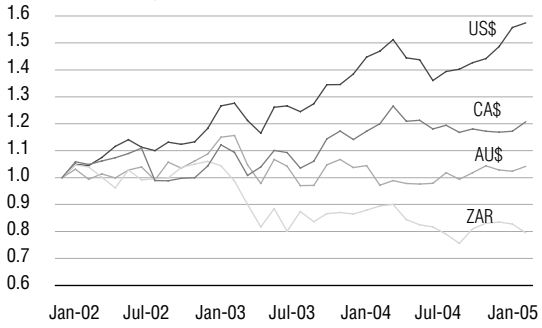


FIG 06. year on year change in production

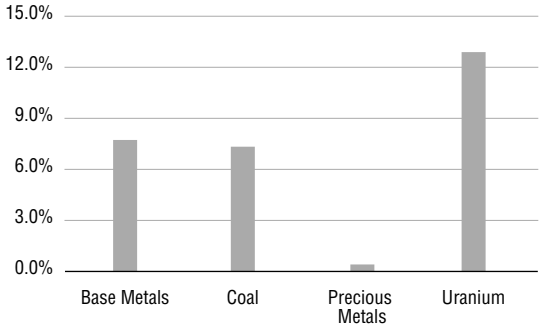


FIG 07. mineral commodity price index
January 2002 = 1

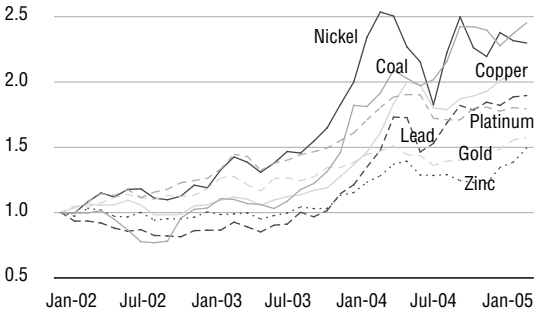
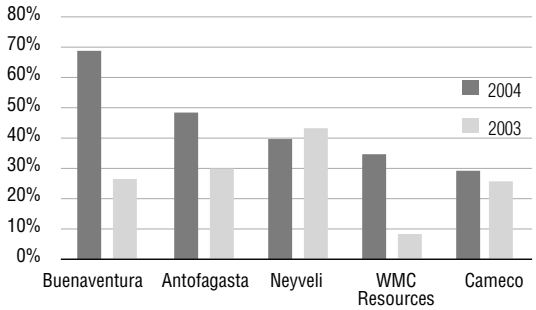


FIG 08. net margin



South African entities lost ground in all four indicators, which is largely attributable to the unyielding strength of the South African rand against the US dollar. As illustrated (FIG 05), the rand price per ounce of gold decreased significantly over a three-year period. The same applies to other commodities and, as a result, South African companies are not benefiting from the current boom.

Price not production

Production of commodities increased steadily amongst the companies included in this year's analysis. However, the real driver of the boom has been commodity price increases, particularly in base metals and energy commodities.

Bumper margins

Net profit margins in percentage terms for the top five performing companies this year strengthened in all but one instance, with base metals, coal and uranium as the golden thread in the product base. The top performing company in 2003, Impala Platinum, fell out of the top five this year due to the strength of the South African rand.

While net margins strengthened, total operating expenses increased by 30%. As production levels have only increased by moderate levels, these increases were only partly volume-driven. Freight and energy costs have risen significantly as a result of increased global demand, largely commodity-related. As there is a time lag before these will be fully reflected, it is likely that the full impact will only be seen in 2005.

Other cost increases include catch-up maintenance expenditure, after years of under-investment in maintenance of plant and equipment. Increased steel prices have also affected on-site construction costs. In addition, the weaker US dollar affected non-US dollar denominated input costs. It is important that in times of high commodity prices, mining companies continue to focus on controlling costs if margins are to be maintained.

The government take

Governments and local populations have benefited from the contribution to the community (taxes, infrastructure improvements, employment and wage increases) provided by the industry. Corporate income tax payments have increased again by US$0.5 billion to US$5.6 billion whilst the tax expense increased by US$4.0 billion to US$9.1 billion. As a result, current and deferred tax liabilities increased during the period. Notwithstanding this, the industry's effective tax rate declined by 3 percentage points to 24.7% in 2004. More information on effective tax rates can be found in PricewaterhouseCoopers' publication *Effective Rate Comparison for the Mining Industry.*

This decline appears to be caused by several one-off events. The primary event was Australia's tax law change which enables groups of electing companies to report as a single taxpayer while resetting tax bases on certain assets. This allowed many Australian operations, mining and non-mining, to reduce their net deferred tax liabilities. Other than the complex and unproven US Domestic Manufacturers Deduction, we do not expect a similar event in 2005 and the effective tax rate is expected to increase.

In fiscal terms, mining enterprises pay a combination of government takes that are composed of taxes, royalties, production-sharing agreements and service contracts. While the global mining industry is now recovering from a period of general commodity price declines, the question is how governments will view the status of the industry? And if governments change their approach to the industry, what will be the impact on the industry?

Government takes in disguise

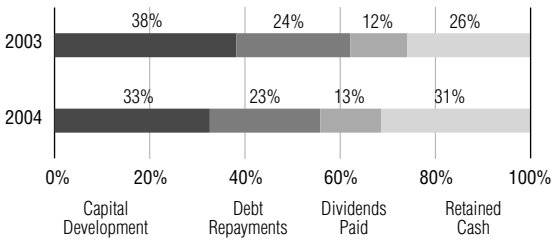
Does the industry need a change in the mixture of government claims? Many of the 'hidden' taxes are based on gross receipts rather than net income. Gross receipt taxes are considered regressive to the taxpayer as they claim a greater portion of the operation's cash during periods of declining prices or high operational cost. In response to the recent changes to the Peruvian royalty systems – which created a three-tier royalty plan for companies based on gross sales – the annual Fraser Institute Survey (refer Reserves, exploration and political risk section) showed Peru's policy potential ranking in 39th spot – a 19-place decline from 2003. Peru ranks 2nd, 3rd and 7th in the production of silver, copper and gold respectively. Its diminishing attractiveness is certainly not because it lacks resources.

04.
financial review

TABLE 05. aggregated industry cash flow statement[1]	2004 US$ million	2003 US$ million
Cash flows related to operating activities		
Cash generated from operations	48,587	28,092
Dividends received	1,787	1,476
Net financing costs	(2,194)	(2,228)
Taxation paid	(5,657)	(5,164)
Other	(1,407)	(288)
Net operating cash inflows	41,116	21,888
Cash flows related to investing activities		
Purchase of property, plant and equipment	(22,473)	(18,122)
Other investment-related cash outflow	(305)	(2,309)
Investing cash outflows	(22,778)	(20,431)
Cash flows related to financing activities		
Issue of shares	2,891	5,170
Increase in borrowings	11,480	15,876
Repayment of borrowings	(16,182)	(12,784)
Dividends paid	(8,916)	(6,401)
Other financing cash inflows/(outflows)	398	(951)
Net financing cash (outflows)/inflows	(10,329)	910
Net increase in cash and cash equivalents	8,009	2,367
Cash and cash equivalents at beginning of period	13,877	11,510
Cash and cash equivalents at end of period	21,886	13,877

1. Aggregated results of 40 of the largest mining companies as detailed on page 41

FIG 09. employment of available cash



Supplies and uses of cash

The industry's funds were equally supplied from operations and financing activities in 2003, whereas during 2004 operations provided a significantly higher portion, as cash flows from operating activities nearly doubled to US$41 billion.

Cash generated by the industry was substantial and was used for capital development and debt repayment. The relative level of dividends paid remained flat while the net increase in cash for the year was US$8 billion compared to US$2 billion in 2003.

The destination of the resultant cash balances is a key question being asked by investors. The cash needs to be used to benefit investors, either through investment in development projects, acquiring suitable companies, further debt repayments or returning it to shareholders.


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TABLE 06. aggregated industry balance sheet[1]	2004 US$ million	2003 US$ million
Current assets		
Cash and cash equivalents	21,886	13,877
Inventory	22,176	19,193
Other current assets	32,409	25,995
Total current assets	76,471	59,065
Non-current assets		
Property plant and equipment	195,585	167,242
Investments	19,467	18,830
Deferred taxation	3,030	2,757
Goodwill and other intangible assets	12,249	10,965
Other non-current assets	8,842	6,819
Total non-current assets	239,173	206,613
Total assets	315,644	265,678
Current liabilities		
Accounts payable and accrued liabilities	25,472	19,667
Short-term borrowings	11,681	15,319
Other current liabilities	10,979	7,543
Total current liabilities	48,132	42,529
Non-current liabilities		
Long-term borrowings	52,047	50,048
Deferred taxation	19,779	16,666
Environmental provisions	11,055	8,822
Other non-current liabilities	19,776	17,880
Total non-current liabilities	102,657	93,416
Shareholders' equity	164,855	129,733
Total equity and liabilities	315,644	265,678

1. Aggregated results of 40 of the largest mining companies as detailed on page 41

Shareholder return

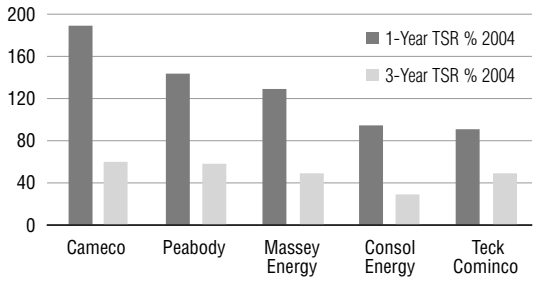
Shareholders' equity increased 27% in 2004. This increase is attributable to the earnings, which have been retained and in part reinvested in development projects, M&A activity of the companies analysed, new equity raisings and the impact of a weaker US dollar.

Total Shareholder Return ("TSR") of a company is defined as the ratio of total shareholder returns, comprising share price appreciation and dividend payments, in any given period against opening share price, and provides a measure of value creation.

Looking at the one-year TSR to December 2004, the top five performing companies are engaged in either base metals, coal or uranium, reflecting the continued strong demand for commodities and a change in the world's energy markets – rising consumption of coal in the US, increasing imports of coal to China, and the increased use of nuclear energy to combat greenhouse gas issues.

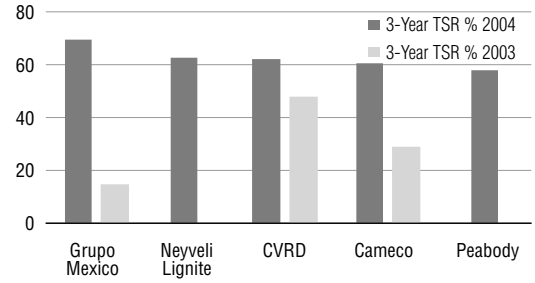
The three-year TSR to December 2004 reiterates this message with Peabody and Cameco straddling both the one-year and three-year TSR top performers listings.

FIG 10. top five shareholder returns
one-year TSR



Source: Bloomberg, December 2004

FIG 11. top five shareholder returns
three-year TSR



Source: Bloomberg, December 2004. Neyveli and Peabody were not listed on 1 January 2001.

Borrowings and liquidity

TABLE 07.
borrowings and liquidity

	2004	2003
Net debt to equity ratio	25.4%	39.7%
Current ratio	1.59	1.39
Quick ratio	1.05	0.86
Net debt (Borrowings less cash)	US$ 41.8 bn	US$ 51.5 bn

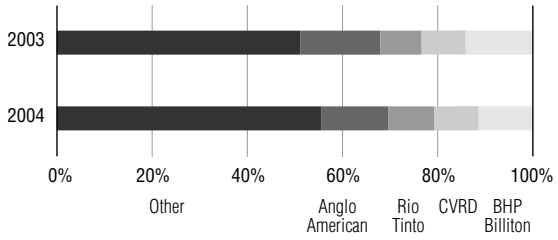
Whilst a significant portion of the industry's improved liquidity has been used to fund new development projects, including capital expenditure of US$22.5 billion, borrowings have also been repaid, which has reduced the net debt to equity ratio to 25.4%.

Capital expenditure

Aggregate capital expenditure amounted to US$22.5 billion, up 24% from 2003. As previously mentioned, capital projects are largely being financed through cash generated from operations as opposed to borrowings or equity placements.

The four largest companies account for 44% of the total capital expenditure in 2004, but their proportion has decreased from approximately 50% in the previous year. This is largely due to the fact that many smaller companies, encouraged by the buoyant market prospects, have increased their investments in development projects in 2004.

FIG 12. aggregate capital expenditure



DIGGING DEEPER:

Reshaping the world: China's burgeoning mining industry

Imagine a scene: hundreds of ships, fully loaded with a variety of minerals, heading towards the bustling Middle Kingdom every day. This is a snapshot of what is happening in the ancient country today.

As the Chinese economy, which expanded by more than six times over the past 25 years, continues to grow strongly, demand for mineral resources has risen to a record level. Although China's domestic production of minerals has increased sharply in recent years, it cannot meet the surging demand, and has to rely more heavily on external supplies.

In 2003, the total value of China's mineral imports reached a record US$102 billion, making it the third largest minerals importing country in the world. Whilst 2004 figures are not yet available, anecdotal evidence suggests a further big increase occurred, which is likely to be replicated in 2005. China relies heavily on imports for its supply of many commodities, for example iron ore, platinum and nickel. In addition, 60% of copper and 68% of aluminium consumption in 2003 came from imports. Exports, however, remained stable, at US$60 billion in 2003, further exacerbating China's trade deficit in mineral products. The increasing imports of coal have had a dramatic effect on global seaborne demand (albeit these imports comprise only a small proportion of the total coal used in China) and worldwide freight costs.

Despite the huge imports, China is rich in mineral resources, ranking second overall in the world. It is the world's largest resource holder of tungsten, tin and titanium and the second largest of coal, silver and bauxite. It is the world's largest producer of coal, steel, cement, aluminium, lead and zinc. In 2003, China produced 1.68 billion tonnes of coal, 260 million tonnes of iron ore, 220 million tonnes of steel, 12.3 million tonnes of ten non-ferrous metals, 201 tonnes of gold, 4,306 tonnes of silver and 860 million tonnes of cement. There are around 145,000 mines in the country, employing about 21 million people. Mining industry revenue was 500 billion yuan (US$61 billion), accounting for 6% of GDP (or over 30% if the value of rudimentary processing industries is included).

China's increasing influence has been strongly felt in the world's metals and minerals markets. China's imports of ores and metals quadrupled from 1995 to 2003. This helped push up the average prices of commodities by 35% in 2003 alone. The rise of China's coal imports in 2004 – largely due to huge domestic demand and bottlenecks in transport – has led to a 50% jump in international coal prices. Meanwhile, prices of minerals China exports in large quantities, like tungsten, magnesium and tin, have been depressed, driving many of China's competitors out of business.

These 'ups and downs' reflect China's ability to impact the global mineral markets, and have enormously reshaped the wealth of global mine owners. It should be remembered that the price of seaborne steaming coal was very depressed only a few years ago when China briefly became a major exporter.

Meanwhile, China's mining industry faces many challenges. Whilst China has huge exploration potential, it has few 'world class' resources in base metals, and many current mining operations are approaching ore reserve depletion. The industry itself has been infested with problems such as low efficiency and recovery rates, inadequate technology and equipment, lack of economies of scale and, particularly, poor safety and environmental standards. The country has the world's worst safety record, with nearly 140,000 deaths across all industries each year, as statistics of China State Administration of Work Safety suggest. In coal mining alone, it reported about 80% of the world's total deaths while producing only 35% of the world's coal, according to China Daily. US$500 million is officially estimated as being required for improving ventilation alone in China's 30,000-odd coal mines. This has prompted the government to upgrade the administrative ranking of the state work safety agency and to take tougher actions against coal-mine fatalities. In addition, how to enhance the efficiency of resource utilisation is another urgent issue. While producing only 4% of the world GDP, China consumes 30% of the world's coal, 30% of its steel and 13% of its electricity, making its current growth levels unsustainable.

In the coming decades, China is to face an increasing gap between supply and demand. Recent Chinese research suggests that among the 45 commodities with proven mineral reserves in China, only 21 will meet domestic demand by 2010, reducing to six in 2020. China will need to rely on imports to fill the discrepancies. Demand for copper, for example, is expected to reach 4.8 million tonnes by 2010, including 4.1 million tonnes of imports. Alumina, estimated to rise to 11 million tonnes in 2010, will rely entirely on supply from abroad.

In an effort to tackle these structural problems, the Chinese government advocates changing the pattern of China's economic growth and promoting sustainable development. To secure supply of mineral resources, it vows to step up measures to expand domestic production while trying to enhance utilisation efficiencies. It calls for increasing investment in mineral exploration and production, improving the regulatory environment, streamlining the approval process and promoting the development of mining rights. The government has also

announced a series of policies to encourage greater foreign participation in China's mining industry. As companies which have tried to enter China before know, this does not automatically mean that foreign companies will obtain mining leases.

In addition, the government, in the wake of its WTO accession, has urged Chinese government-owned enterprises to accelerate their overseas expansion to take full advantage of international markets and foreign mineral resources. So far, Chinese companies have shown keen interest in acquiring mining properties overseas. Early acquisitions were the Marcona iron ore mine in Peru and Chambishi copper mine in Zambia. As domestic demand grows rapidly, this trend has prominently gathered pace. In 2004, China's investment in foreign mining assets rose from US$1 billion to US$1.9 billion, accounting for over half of China's total overseas investment for the year. The biggest deals were Chalco's US$1 billion investment in bauxite and alumina in Brazil, a US$650 million nickel project by China Metallurgical Construction Co. in Papua New Guinea, and a US$440 million aluminium refinery project in India. In the coming years, more deals like these are sure to happen.

China's booming mining industry has also attracted more international mining companies to expand their presence in China, albeit these are mainly marketing offices with none of the majors making investments in mines at this stage. According to official statistics, by the end of 2003, there were 211 foreign mining companies in China, with an investment value of US$336 million. Compared with the values of China's outbound investment, however, these figures are low, although growth has picked up lately. The low level of foreign participation largely reflects the reality of operating in China, with problems ranging from difficulties in accessing official data, uncertain regulatory and tax regimes, to project financing and a lengthy and unpredictable government approvals process. This is before safety and environmental considerations.

Looking ahead, China's mining industry will witness faster growth. One key driver is that the government has set the target of building a 'well-off society', doubling its GDP by 2020. Meanwhile, China's accelerated urbanisation, industrialisation and modernisation process, together with the rapidly-growing private sector and emerging middle-class consumers, will trigger higher demand for mineral resources. Pundits are frequently comparing today's China with Japan in the 1970s to 1980s and South Korea in the 1990s, and indicate that China is still in the initial period of high growth, which is likely to last for at least another two decades. Time will tell whether this is true or not, but one thing that is certain is that China has become a major player of, and will exert greater influence in, the world's metals and minerals markets in the coming decades. Also, the size of the Chinese population and the magnitude of the place mean that a Japanese-style developmental boom will be in much higher proportions. Watch out.

TABLE 08.
trend of China's imports of major mineral products, in thousands of tonnes

	1999	2000	2001	2002	2003	Five-year movement
Iron ore	55,270	69,970	92,310	111,490	148,130	168%
Rolled steel	14,860	15,960	17,220	24,490	37,170	150%
Coal	1,670	2,120	2,490	10,810	10,760	544%
Copper ore	1,250	1,810	2,260	2,070	2,670	114%
Alumina	1,620	1,880	3,350	4,570	5,610	246%

Source: China Statistical Yearbook, 2001-2004


05

05. value

When investors are valuing a company, they routinely look at:

- market indicators: how much the market value has improved (TSR); how volatile the share price is; and how liquid the market is;
- internal financial statistics: profit margins and revenue growth;
- statistics familiar to valuation analysts: intangible value; PE ratios; and the Altman z-score, an aggregate measure of financial health.

PricewaterhouseCoopers has developed the ValueWeb to provide a pictorial representation of a company's performance against these indicators. For each indicator, the population is standardised and a company's quartile positioning is determined. A company is located close to the edge of the web for measures on which it scores higher than its peers. If positioned close to the centre, it means that there is room for improvement compared with the rest of the industry.

The ValueWeb, therefore, summarises the quartile positions of each company. From its ValueWeb, a company can quickly identify which areas need most attention in order to build and sustain its overall value.

We have collated these indicators for the listed companies included within this year's review and analysed and rated them against each other. The results show significant changes over the past year. Among the top five companies in 2003, only one company maintained its position in 2004. In 2003, four companies were fully or partly engaged in gold mining, but in 2004, diversified mining companies or companies engaged in base metal mining have performed strongly.

Based on our analysis, the top five industry performers for 2004 are as follows:

TABLE 09.
PwC ValueWeb top five for 2004

	Rank in 2004	Rank in 2003
Newmont	1	1
Antofagasta	2	12
Cameco	3	21
Xstrata	4	13
Buenaventura	5	-*

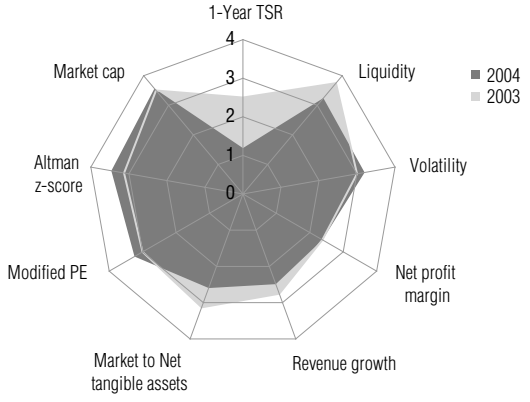
* not included in previous year's analysis

In terms of average performance over the last two years, Newmont remains the top performer. Newcrest and CVRD were in the top five last year. BHP Billiton and Barrick Gold are included as a result of consistent performance over the two-year period.

TABLE 10.
PwC ValueWeb top five (average 2003-2004)

	Rank
Newmont	1
Newcrest	2
CVRD	3
BHP Billiton	4
Barrick Gold	5

FIG 13. PwC ValueWeb for Newmont Mining Corp.



Newmont, the world's largest gold company, has significant operations in the US. The devaluation of the US dollar has therefore not impacted its operating costs by as much as many of its non-US based competitors. Together with its non-hedging policy Newmont has benefited in full from the increase in the gold price helping it maintain its position as first place ranking company for a second year running.

DIGGING DEEPER:

Risk appetite

The beleaguered mining companies of the late nineties have seen a reversal of fortunes over recent years. The question of whether the commodity cycle will be 'stronger for longer' or whether the market has reached its peak is crucial in determining how mining companies pursue strategies and, in particular, their growth objectives.

The sustained upturn in commodity prices has caught investors' attention, creating a dash for mining stocks. Add the unprecedented profits and free cash flows and we have a very buoyant industry. But what is the next phase for the mining world, and how do mining companies balance risk against reward? This question is driving companies to review how best to manage the variability around the core value drivers that make up their current businesses and determine their risk appetite for the future.

Current issues

The issues currently facing mining companies include:

Historic under-investments. A number of companies are playing catch-up to meet aggressive production and growth targets. Under-investment in both capex and exploration from the 1990s has created pressure on companies' management to effectively oversee new development projects. Insufficient global exploration during this period has reduced the pipeline of new world-class assets.

High production targets. Companies are stretching to meet aggressive production targets to maximise the current market value of their resources. This is placing significant pressure on existing mining operations as well as mine expansions and new projects as companies try to deliver on commitments to investors.

Returns. The substantial increase in gross operating margins has created a welcome issue: how to employ accumulated earnings. Investors may become impatient with the ploughing of earnings back into growth opportunities and the perceived lack of dividends. The cash holding approach has been adopted by many mining companies.

Conservatism. Many companies are taking a reserved approach to committing major financial resources to expand their businesses due to years of demand growth not keeping pace with the supply of commodities. This reflects different companies' perceptions of the current upturn in the market – whether we are at the top of the commodity cycle or whether there has been a structural market shift.

Long lead-times. Large projects may take many years to come on line for previously mothballed projects, still-in-prospect and pre-feasibility stage developments, and newly proposed projects.

Hostile M&A activity. A trend towards aggressive M&A activities has been triggered as companies position themselves to take full advantage of the surging demand for commodities and substantial price increases.

China. China, the primary reason for the demand spike, now wants to own global assets and is buying commodity operations throughout the world.

All these market drivers are causing companies to reconsider their approach to growth and the inherent risks in pursing growth strategies. Companies are having to consider whether to develop and implement strategy based on short-term favourable market conditions or to position themselves for a sustained structural shift in the market, or both.

As the shifting supply/demand balance in the commodity markets continues to place pressure on the overall market, companies are left with a key question: should the risk appetite be restated and how will this be reflected in the management of core value drivers?

Investors are continuously prompting companies to provide further clarity on their growth strategies, the management of their existing resource and how core value drivers of their business are managed. This can be achieved through improved public disclosure of their stated risk appetite.


06

06. sustainability

Sustainability is a theme that is relevant to many industry sectors, but it has become increasingly important to the global mining industry. This broad umbrella refers to many non-financial aspects of a company's business, and includes environmental issues, health & safety, stakeholder relations and value chain management, all of which are important factors that play a role in the long-term sustainable growth of a company and its ability to increase shareholder value.

Sustainability reporting

Sustainability reporting is a trend that is rising and 23 of the 40 companies included in this year's analysis prepared separate sustainability reports. Over the next two years we will see an even greater increase, after the International Council on Mining and Metals (ICMM) passed a resolution that all member companies must produce reports using the Global Reporting Initiative (GRI) guidelines. At present, only a few reports are being prepared in full accordance with these requirements.

The lack of clear guidance on assurance of these sustainability reports has posed a dilemma for many companies – and only seven of the 23 reports contain verification by an independent third party. Most are waiting for future guidance, with new standards for assurance of non-financial information due to be issued during 2005. This is likely to lead to a sharp increase in external verification over the next three years.

With the convergence of financial and non-financial reporting, we may see a trend similar to the Sarbanes-Oxley Act section 404 reporting on internal controls, whereby a combined statement is provided by the financial auditors, using sustainability specialists to provide assurance on the non-financial information contained in a company's sustainability reports.

DIGGING DEEPER:

How far does responsibility go?

For several years we have witnessed the success that various pressure groups have had in influencing communities, governments and companies into accepting a wider range of responsibilities for the impact of their business activities. The influence of the internet cannot be understated, and there are literally dozens of websites that highlight activities of companies in areas that had never been heard of before. There are examples of regulatory and non-governmental agencies posting information on their websites about mining companies. Publicity on the fate of a few hundred people about to be displaced causes millions of dollars in losses due to legal wrangling or loss of licence to operate, not to mention damages such as reputational loss that are difficult to quantify.

We examine the footprint of responsibility from three dimensions: temporal, spatial and organisational with a desire to open the debate as to where a company's responsibility ends.

Temporal

How far into the future does a mining company's responsibility extend? For issues such as mine closure and reclamation, this can be decades. This dimension can be considered key, and influences the other dimensions.

It is common practice for a company to prepare complex mine closure plans before a new mineral resource is developed, but this often only addresses environmental aspects. Many companies are also heavily involved in building infrastructure and supporting the development of enterprises in the region around the mine. They are encouraging local communities to diversify their business base to ensure a sustainable future, and so in some areas, such as Africa, mining companies are helping to develop small tourism companies to promote travel into the region, something which does not depend on the mine for survival. The industry needs to consider how long companies will be expected to support these livelihoods once they have left.

Spatial

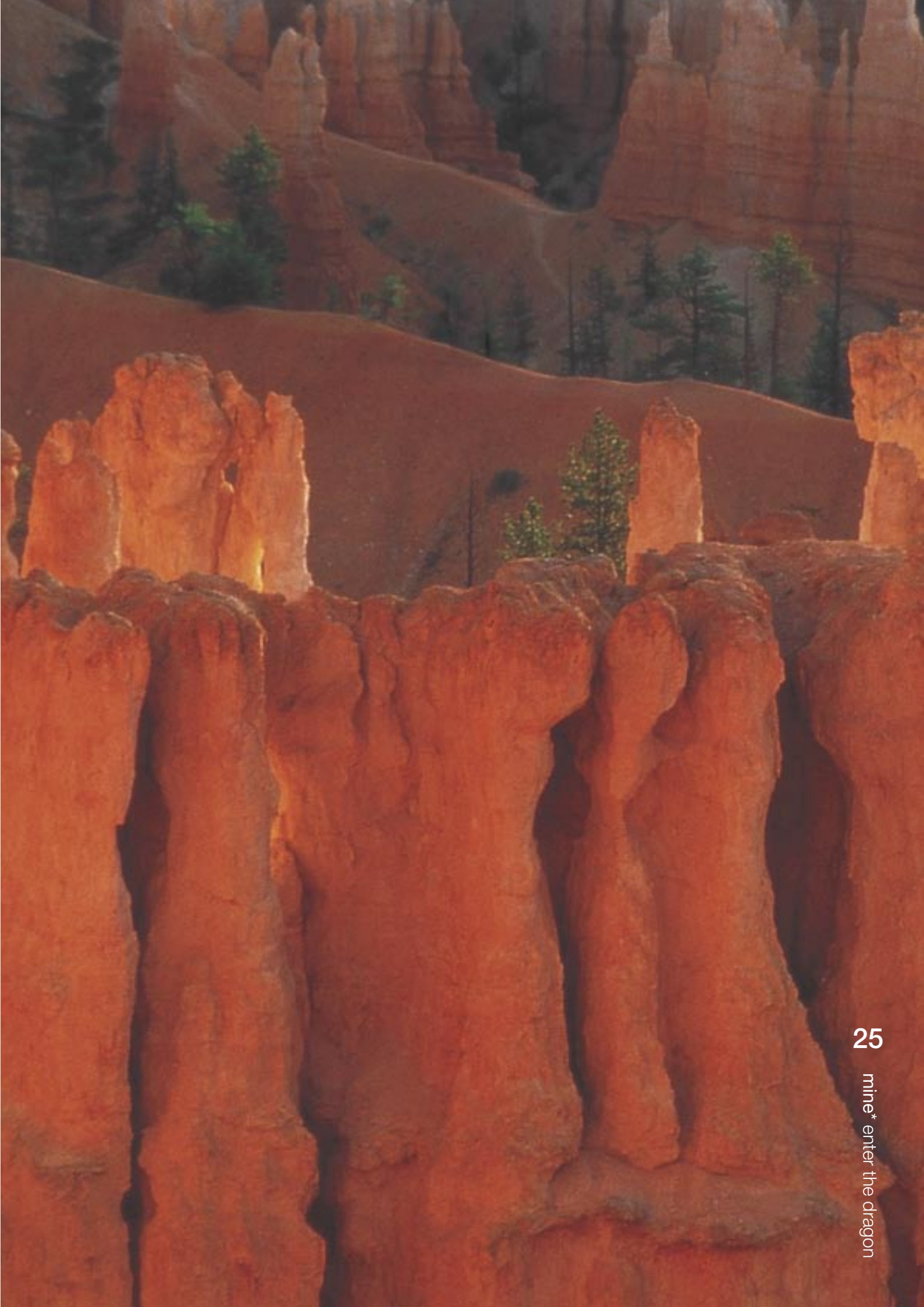
The responsibility of a company has long been expanded beyond the borders of the property line and into the communities and regions where they operate. Often being in remote areas, mining companies have filled the gaps in what is provided from public sources of funding to sponsor schools, hospitals, build roads and other infrastructure. These activities have a positive effect on businesses as well, providing a skilled workforce, and in general improving the standard of living around the mining operation.

Many mining companies are also expanding their reach further, by becoming active in regional issues and taking positive steps to improve the situation beyond the border of their physical footprint. In Africa, many companies are actively involved in the fight against HIV/AIDS, malaria and tuberculosis, by sponsoring immunisation/treatment programmes and educational awareness against the risks of these diseases. The targets of these actions are not only the employees of the mine, but the community in general. It is unclear how far beyond the immediate mining location these responsibilities may extend.

Organisational

While most companies have implemented a code of conduct, it is common for these standards to be required not only by those in the company itself, but also by suppliers who wish to do business with it. These supply chain associations are important in advancing sustainability. For example, faced with the increasing role of the proceeds from diamond sales fuelling conflicts in Africa, the Kimberly Process was initiated to ensure that the sources of diamonds be identified. Mining companies have played a key role in ensuring that this system operates effectively, by creating tracking systems and using special packaging to ensure that this important programme is a success.

Industry debate on this topic is sure to cause diverging opinions. Those who are recipients of these social programmes, or those who might become responsible for funding them after the closing of a mining facility, will likely insist that assistance should continue long after the mine is operating. Conversely, businesses are not in a position to fund schools, infrastructure and public health plans for generations after their operations cease.




07

07.
health and safety

The global mining industry safety record for 2004 reflects a welcome, albeit small, improvement on the previous year. The aggregated number of fatalities reported by the companies in the analysis fell from 195 to 184 in 2004, but remains a long way off the industry target of zero fatalities.

National and industry statistics reflect a similar picture across a number of mining regions and the industry has made significant progress over the past ten years.

However China, not covered in this analysis, remains an unfortunate exception for safety within the industry. In 2004 alone, over 6,000 coal miners lost their lives, an average of 18 mine workers per day. The fatality rate in China is 3.28 fatalities per million tonnes of coal produced, which is significantly higher than anywhere else in the world.

The Fatality Injury Frequency Rates (FIFR) – the number of fatal injuries per one million man hours worked – reflects a positive trend in 2003 (2004 numbers are not available) but the South African and Peruvian fatality rates remain disproportionately high.

TABLE 11.
fatality injury frequency rate

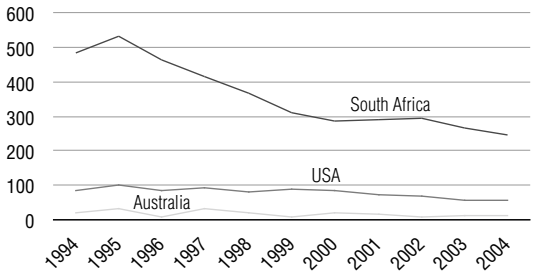
	2003	2002
Australia	0.05	0.03
Canada	0.08	0.18
Chile	0.13	0.12
Peru	0.29	0.41
South Africa	0.29	0.34
US	0.11	0.13

Source: National government and industry body statistics

Total recordable injuries

There are significant differences in the definition of injuries and variations in the level of reporting across different countries which impairs the comparability of injury rates. However, it is positive to note that the level of recordable injuries decreased across the major mining countries during 2003.

FIG 14. fatalities



Source: National government and industry body statistics

07.
health and safety

Not measured – not done

In the US, which has a strong safety culture, mines have operated since 1977 under a federal law that collects mine safety and health data. In 2003 the US non-fatal injury rate for the metallic and non-metallic mining industries (excluding coal mining and independent contractors) was lower than the US national rate for all private industries.

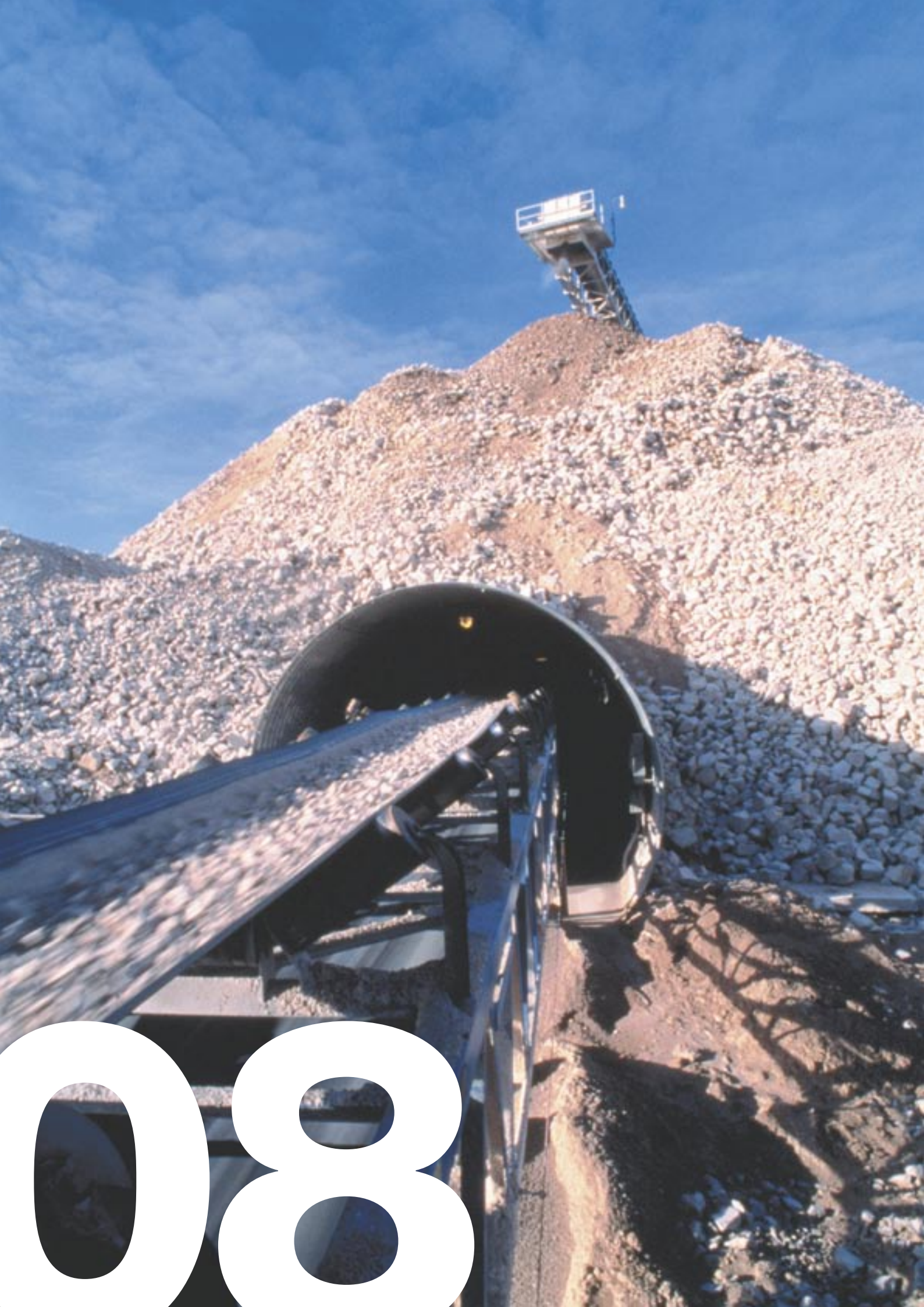
In South Africa, similar safety reporting legislation was promulgated in 1996. That year coincided with the start of a dramatic reduction, by over 50%, in the number of fatalities from 533 in 1995 to 245 in 2004. Meanwhile, China, with the highest number of fatalities, will have a long way to go in improving its reporting system for safety incidents.

It is clear that the reporting of safety statistics plays a key role in improving health and safety. However, an effective industry-wide health and safety initiative requires participation not only by the government but also employees and the company. It is therefore surprising that only one third of the mining companies analysed disclosed injury and fatality rates in their primary reports to stakeholders – the annual report.

The industry needs to recognise that it is crucial for safety statistics to be prepared and reported in as much detail as possible, if further progress towards the only acceptable target of zero fatalities is to be achieved.

This is borne out by results which indicate that the companies with the strongest health and safety records are those with defined policies and a strong safety culture. These companies have implemented initiatives including the use of safety statistics in determining performance bonuses and whistle-blowing programmes for reporting health and safety incidents.

A universal step change in this area is required and all mining companies need to ensure they are ready for the challenge and are transparent in their reporting.



08

08. reserves, exploration and political risk

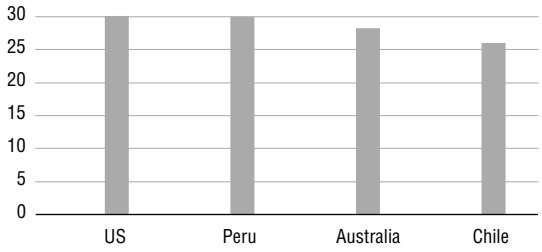
Mineral reserves

Reserves and resources are crucial to the longevity of the global mining industry. Indeed, much of the market value of the industry is derived from reserves and resources that are not recorded on the balance sheet.

Existing copper reserves in the major producing countries will last less than 30 years at current production levels. Rising demand for base metals, such as copper, is driving production levels upwards and will accelerate the depletion of existing reserves still further. The same challenges of reserve depletion face the gold mining industry.

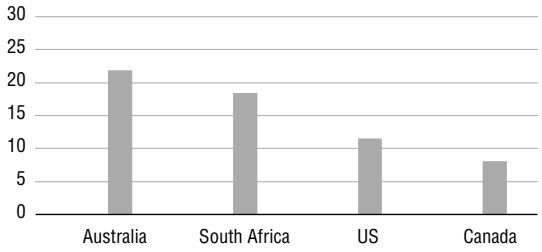
Similar positions exist for other commodities. The challenge for the industry is the replacement of reserves to support anticipated future growth. Developed countries are having to look beyond their borders to enable them to feed the growing demand. This results in a risk-reward decision when considering exploration in less developed and less politically stable regions.

FIG 15. copper reserves life expectancy in years



Source: US Geological Survey

FIG 16. gold reserves life expectancy in years



Source: US Geological Survey

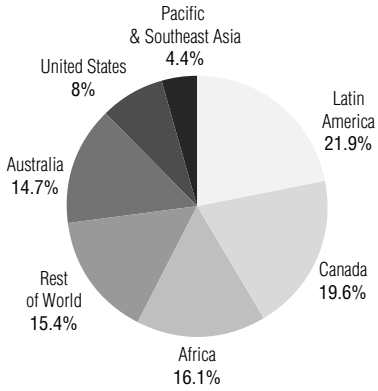
Exploration

The level of global exploration expenditures has increased significantly in 2004, which can be attributed to the general boom in the industry. The 24 companies included in the analysis which disclose exploration expenditure had an aggregate direct exploration spend of US$1.7 billion in 2004. This represents an increase of 31% from 2003. However, the total expenditure on exploration of these companies is much higher as a result of the indirect exploration spend through acquisitions, joint venture arrangements and other alliances with junior mining companies.

A more accurate measure of industry exploration trends is presented in the annual global study of exploration budgets prepared by Canada's Metals Economics Group (MEG). MEG reported that budgeted worldwide exploration expenditure had increased by 62% year on year to US$3.6 billion. This significant increase, in part a result of currency movements, reflects the general boom in the industry coupled with the recovery from a low base of exploration expenditure back in 2002.

Latin America has maintained its position as the leading region for global exploration. This represents an increase of US$256 million from 2003. However, the significant growth in expenditure in the Rest of World category, which has more than doubled to US$547 million, has resulted in the share of global exploration spend in Latin America, as well as in Canada and Africa, decreasing year on year.

FIG 17. worldwide exploration spending 2004



Source: Metals Economics Group

08.
reserves, exploration and political risk

This surge in exploration in the Rest of World category is being driven by extensive activity in China, Mongolia and Russia. The migration of exploration investment to these less developed regions is indicative of the increasing pressure on larger mining companies to expand their reserve portfolios and the growing pool of finance becoming available to junior mining companies. In Canada alone, juniors raised approximately US$2 billion in 2004, more than double the amount raised in 2003.

Exploration levels are expected to continue to increase in 2005, although at a more modest rate than in either 2003 or 2004. Clearly, metal price performance and the ability of the junior exploration companies to continue to raise finance to fund exploration projects will be key factors in the realisation of this growth in exploration spend.

The trend of higher proportions being spent on late-stage projects and mine-site exploration compared with grass-roots exploration has continued. A number of factors have contributed to this movement away from greenfield-site exploration. Major companies have been devoting more effort to replacing and increasing reserves and have chosen to explore close to existing mining infrastructures. In addition, many companies have been focusing on late-stage projects, with the desire to bring product to market while the prices are high. Also, a number of late-stage projects, which had proved uneconomic at lower metal prices and abandoned, are now being re-evaluated in the light of current market conditions.

The key output of exploration is a pipeline of future projects. The recent trend, which has seen the larger mining companies seeking their growth through late-stage project expansions and mergers or acquisitions, is not sustainable. If the industry is to reach 1997 expenditure levels of US$5.2 billion, it will need to properly embrace exploration again. The timing of the re-emergence of these companies as major explorers or funders of explorers remains to be seen and we watch with great interest.

Political risk

The buoyant state of the global mining industry has encouraged both major and junior mining companies to consider exploring more remote and traditionally more risky regions. These areas include those with a long-established mining history that have become open to foreign investment in recent years, such as Russia and China, as well as less developed regions such as Mongolia.

The Fraser Institute, an independent Canadian research organisation, conducts an annual survey of mining and exploration companies to assess the extent to which public policy impacts exploration investment. Their Policy Potential Index is a ‘report card’ to different governments on the attractiveness of their region from a mining investment perspective. The Index measures the impact on exploration of existing government regulations, taxation, native land claims, infrastructure, political stability, labour issues and security.

Policy potential index

In the US, all of the states analysed, with the exception of Alaska, improved their ratings, with Utah and Arizona showing significant improvement over 2003 on the back of initiatives to reduce sales taxes on capital expenditures for mining companies. Nevada, a long-established mining-friendly jurisdiction, maintains its overall top ranking for the fifth year running.

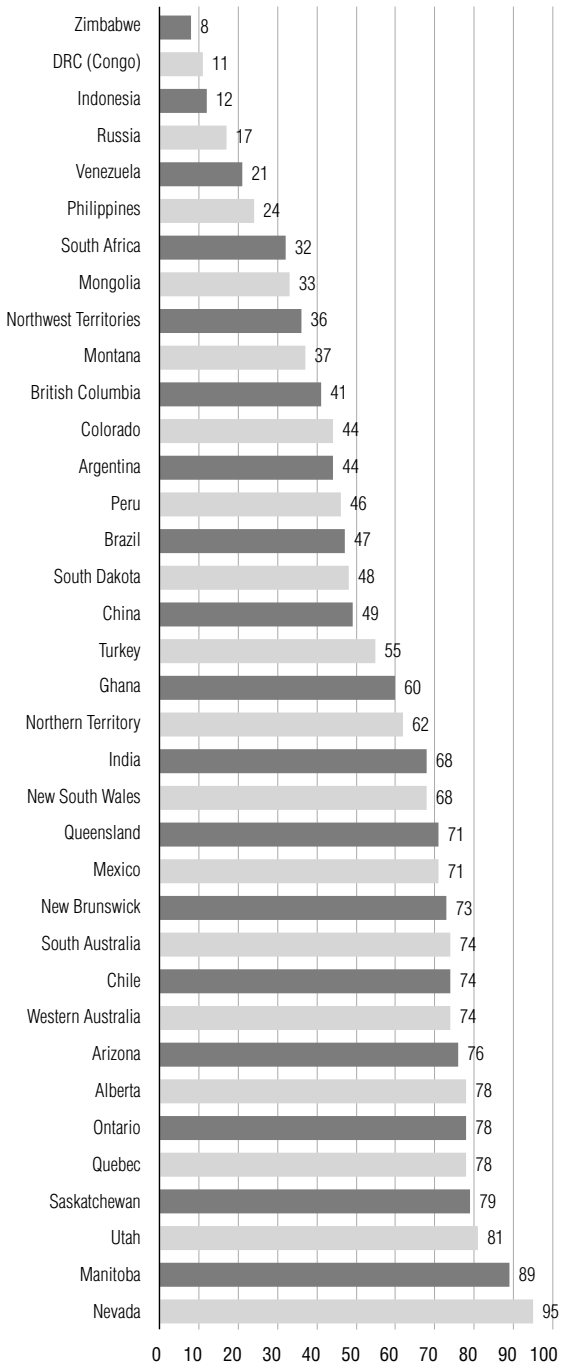
Latin America dropped from third rank in 2003 to fifth in 2004 with all countries falling except for Mexico. This is attributable to the uncertainty regarding additional mining royalties in the region.

South Africa's worsening position, although hard to determine, could result from a combination of perceived political uncertainty in neighbouring countries, the outstanding clarification of the mining charter, tax law issues and the strong local currency.

Russia also slipped during 2004. This can be attributed to the uncertainty surrounding the tax regimes and the future of market reforms. Speculation regarding the outcome of legislation which may prevent foreign companies from bidding on mining projects when in competition with Russian companies may also have had an impact.

The political risk profile of a jurisdiction will impact exploration investment decisions. However, three of the top ten countries for global exploration spend, namely Russia, South Africa and Mongolia, are all ranked in the fourth quartile of the Policy Potential Index. Therefore it would appear that mining companies are becoming more willing to accept risk in the competition for global exploration.

FIG 18. excerpt from the policy potential index



Source: Fraser Institute, 2004


09

09. hedging

Corporate failures across a number of industries have highlighted the need for organisations to ensure they have strong procedures and controls over the use of derivatives.

Historically, mining companies have used a variety of financial instruments to hedge commodity, currency and interest rate risk. Recently, though, there has been a trend, particularly in the gold sector, to wind back commodity hedges, therefore exposing companies to movements in commodity prices. The total number of ounces of gold sold by gold companies disclosing hedging information decreased by 1% in 2004. However, the proportion of those sales that were hedged fell from 17% to 12%.

The rationale behind this movement away from hedging is that investors in gold mining stocks are willing to take the risk and reward of gold price movements. Amongst the companies included in our analysis, the average price achieved on gold sales increased only 9% on the previous year, whereas the spot price increased by 13%.

Many companies, including Goldcorp, Gold Fields, Harmony and Newmont, have therefore adopted a policy of not hedging any exposure to changes in the gold price. While this may be easily justified in times of a strong gold price, it will be interesting to see if this continues should prices begin to move downwards.

Looking to the future, the trend of reducing the size of gold hedge books appears set to continue. Despite gold companies increasing ounces of proven and probable reserves by 9%, the proportion of this future production that is hedged has fallen from 9% to 7%.

Amongst those companies that remain committed to hedging as a way of managing commodity price risk are AngloGold Ashanti and Newcrest. However, even the most committed, Newcrest, has only 27% of its total future reserves hedged. The next highest, Barrick Gold, has just 15%.

Some companies, including Barrick Gold, Noranda, Phelps Dodge and Falconbridge, have hedging policies in place that address the risks associated with the inputs, such as fuel costs and financing arrangements, rather than the outputs in their processes. Others are hedging foreign currency exposures to hedge non-US dollar denominated operating costs.

Those companies that report in the currencies of Australia, Canada and South Africa may consider that their exposure to commodity price risk is partially mitigated by the natural hedge that these currencies have historically had with the US Dollar. However, don't say this too loudly in South Africa at the moment!

Larger mining companies are generally more able to ride out commodity price cycles. However, the impact of un-hedged fluctuations in foreign exchange rates, as being experienced in South Africa at present, serves as a reminder to all mining companies of the need to ensure they have properly considered all commodity, currency and interest rate risks associated with their business, regardless of where the industry is placed in the commodity price cycle.

As highlighted in PricewaterhouseCoopers' publication, *Hedging in the Mining Industry,* companies need to go through a consistent process to analyse whether and how hedging should form part of the overall strategy.

Furthermore, clear and consistent disclosure of hedging policies and strong governance over the implementation of these strategies is essential.

FIG 19. logical sequence for developing a hedging strategy

10

10. financial reporting and compliance

Sarbanes-Oxley

Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404"), US Congress's sweeping reaction to a series of corporate scandals, has had a profound impact on the way all corporations are governed and managed, and mining companies have not been immune to its effects. Of the 40 companies included in this year's analysis, over 60% are SEC registrants and are, or will be, directly affected by this legislation.

Complexity of compliance

The dust is now beginning to settle since the rush of domestic US companies' year-end filings. As of mid-April 2005, the mining industry can congratulate itself that none of the seven US mining companies included in this year's analysis were amongst those 582 US companies filing Section 404 annual certifications on internal controls that reported material weaknesses in their internal control systems.

Taking stock of Section 404 compliance

The experiences of the US domestic mining companies in 2004 provides foreign registrants, who have been granted a further one year deferral for Section 404 compliance, the opportunity to learn from their US peers' experience.

Scope of compliance. Section 404 annual certifications require a 'high level of assurance' and a large portion of coverage.

Mining operations are often made up of geographically diverse business units, some in remote parts of the globe. Many companies have therefore had to take a decentralised approach to Section 404 compliance. This has made the overall compliance effort challenging. Mining companies have overcome this difficulty by establishing regional 'Control & Compliance' managers to obtain local management buy-in.

The extensive scope of these projects has placed a huge strain on internal audit resources, which approximately half of companies are relying on to lead the Section 404 compliance effort. A recent PwC survey showed 27% of companies anticipate more than 50% of their 2005 internal audit resources will be dedicated to Sarbanes-Oxley compliance.

Joint ventures. Joint venture operating agreements entered into prior to 15 December 2003 may qualify for a Section 404 scope limitation. However, management needs to carefully assess all implications before taking this option. This requires consideration, based on 'emerging industry practice', of whether there are group-level controls that can be assessed or any opportunity to get the operator to provide access. The SEC will probably look unfavourably on a company with material joint ventures that are not assessed by any of the joint venture parties for Section 404 compliance.

Reserves. Processes within an organisation that are largely dependent on estimates are potentially more prone to deficiencies.

Ore reserve estimates are pervasive in all mining companies and impact on depreciation, assessments of impairment, feasibility studies, etc. They are dependent on a number of key assumptions, including projected commodity prices, costs, exchange rates, recovery yields and cut-off grades. And to complicate matters further, the standards governing the classification and reporting of mineral reserves are not uniform across the world.

Benefits

Investors and analysts are benefiting from greater transparency into the financial reporting process, enabling them to make more informed decisions. Management are focusing more attention on maintaining effective systems of internal controls across operations and have improved their ability to identify control weaknesses and remediate them at an early stage. Corporate boards and audit committees are also more attentive to their fiduciary responsibilities.

However, considering the high costs of first year implementation of Section 404 compliance, achieving compliance in the most efficient and effective manner must remain an important issue for management going forward.

Developments

Smaller US mining companies are still implementing Section 404 compliance projects. There is also the possibility of Sarbanes-Oxley type legislation in other areas of the world. With mining companies competing for capital in the same markets, they are having to deal with planned regulations that will force them to place greater emphasis on their own financial controls to ensure they are at a high level.

10.
financial reporting and compliance

IFRS

Listed companies in the European Union, Russia, Australia and South Africa will be reporting their financial statements for December 2005 in accordance with new International Financial Reporting Standards (IFRS). This move is the biggest change in financial reporting for 25 years.

Transition

The reporting challenge is deeper than mere number-crunching, and extends into the way companies conduct and shape their accounting and reporting practices. The transition to IFRS, similar to Section 404 compliance, is a company-wide phenomenon, impacting on planning, management information, mergers and acquisitions as well as financial reporting.

Organisations with extensive hedging activities or operations across a number of jurisdictions face the biggest challenge. A large number of mining companies fall into this category.

Many companies have had to upgrade or replace their data collection and reporting systems to comply with the new reporting requirements. This adds to the complexity of the transition as staff must be trained to understand the new accounting rules and new processes and systems.

The effort involved in making the transition to IFRS has been likened to the Section 404 compliance effort in the US. Indeed, the SEC provided the IFRS conversion as one of the reasons for the additional one-year extension for compliance with Section 404 for foreign registrants.

Financial impact

The main financial reporting impacts facing mining companies implementing IFRS for the first time include:

- Impairment
- Exploration and evaluation costs
- Functional currency
- Hedge accounting
- Embedded derivatives
- Deferred taxation
- Goodwill and business combinations
- Pension deficits
- Share option schemes
- Environmental provisions

It is clear that the level of reported earnings for mining companies will be significantly different and potentially far more volatile on adoption of IFRS. For example, Rio Tinto has reported a 14% increase in its earnings per share figure for 2004, arising from the change from UK GAAP to IFRS.

Companies need to report the impact of conversion to IFRS to the market as soon as the information becomes available in an effort to remain transparent and address investor concerns.

Developments

An IASB Issues Paper on extractive industries published in November 2000 considered reporting issues relevant to the global mining industry. The project remains active and national standard setters are continuing the work. Two PricewaterhouseCoopers partners are on the advisory panel for this project.

A full review of industry issues is not due before 2007. With further harmonisation of international and US accounting standards ongoing, co-ordination with the US Mining Industry working group, who recently issued guidance on deferred stripping costs, can be expected.

appendix a
glossary

Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$
EBITDA	Earnings before interest, tax, depreciation and amortisation. A measure that is close to the underlying cash earning stream of the company before servicing the capital base.
EBITDA margin	$\frac{\text{EBITDA}}{\text{Revenue}}$
Effective tax rate	$\frac{\text{Income tax}}{\text{Profit before tax}}$
Market capitalisation	The market value of the equity of a company, calculated as the share price multiplied by the number of shares outstanding.
Net debt	Borrowings less cash
Net debt to equity ratio	$\frac{\text{Net debt}}{\text{Shareholders' equity}}$
Net profit margin	$\frac{\text{Net profit}}{\text{Revenue}}$
P/E ratio	Price earnings ratio. The market price of a share divided by annual earnings attributable to each share.
Quick ratio	$\frac{\text{Cash plus accounts receivable plus other financial assets}}{\text{Current liabilities}}$
Return on capital employed	$\frac{\text{Net profit}}{\text{Average property plant and equipment plus average current assets less average current liabilities}}$
Return on equity	$\frac{\text{Net profit}}{\text{Average shareholders' equity}}$
TSR	Total shareholder return as measured by dividends and capital gain during the period over the opening share price. Comparable to investment fund performance in any given period.

appendix b
companies analysed

Company[1]	Country	Year end
AK "ALROSA"	Russia	31-Dec-04
Anglo American Platinum Corporation	South Africa	31-Dec-04
Anglo American plc	United Kingdom	31-Dec-04
AngloGold Ashanti Limited	South Africa	31-Dec-04
Antofagasta plc	Chile	31-Dec-04
Arch Coal Inc.	United States	31-Dec-04
Barrick Gold Corporation	Canada	31-Dec-04
BHP Billiton Group[2]	Australia	30-Jun-04
Cameco Corporation	Canada	31-Dec-04
Coal & Allied Industries Limited	Australia	31-Dec-04
Compañía de Minas Buenaventura S.A.A.	Peru	31-Dec-04
Companhia Vale do Rio Doce (CVRD)	Brazil	31-Dec-04
Consol Energy Corp	United States	31-Dec-04
Corporacion Nacional del Cobre de Chile (Codelco)	Chile	31-Dec-04
Falconbridge Limited	Canada	31-Dec-04
Freeport-McMoRan Copper & Gold Inc.	United States	31-Dec-04
Glamis Gold Limited	Canada	31-Dec-04
Gold Fields Limited	South Africa	30-Jun-04
Goldcorp Inc.	Canada	31-Dec-04
Grupo México, S.A. de C.V.	Mexico	31-Dec-04
Harmony Gold Mining Company Limited	South Africa	30-Jun-04
Impala Platinum Holdings Limited	South Africa	30-Jun-04
Inco Limited	Canada	31-Dec-04
Kumba Resources Limited	South Africa	31-Dec-04
Lonmin plc	United Kingdom	30-Sep-04
Massey Energy Company	United States	31-Dec-04
MMC Norilsk Nickel	Russia	31-Dec-04
Mitsui Mining and Smelting Company Limited	Japan	31-Mar-04
Newcrest Mining Limited	Australia	30-Jun-04
Newmont Mining Corporation	United States	31-Dec-04
Neyveli Lignite Corporation Limited	India	31-Mar-04
Noranda Inc.	Canada	31-Dec-04
Peabody Energy Corp	United States	31-Dec-04
Phelps Dodge Corporation	United States	31-Dec-04
Placer Dome Inc.	Canada	31-Dec-04
Rio Tinto Group[2]	United Kingdom	31-Dec-04
Sumitomo Metal Mining Co. Ltd.	Japan	31-Mar-04
Teck Cominco Limited	Canada	31-Dec-04
WMC Resources Ltd	Australia	31-Dec-04
Xstrata plc	Switzerland	31-Dec-04

1. We have excluded companies in the metals refining and processing industry
2. Dual-listed entity

appendix c
explanatory notes for aggregated financial information

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We have analysed 40 mining companies, representing 80% of the global industry by market capitalisation. Our analysis includes major companies in Australia, Canada, India, Japan, Latin America, Russia, South Africa, the United Kingdom and the United States. Due to lack of public availability of current information, China is not represented.

The results aggregated in this report have been sourced from publicly available information, primarily annual reports and financial reports available to shareholders. Companies have different year-ends and report under different accounting regimes. 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 2004 covers reporting periods from 1 April 2003 to 31 December 2004, 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. The results of companies that report in currencies other than the US dollar have been translated at the average US dollar exchange rate for the financial year, with balance sheet items translated at the closing US dollar exchange rate.

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

appendix d
contacting PwC

PricewaterhouseCoopers (www.pwc.com) is the world's largest professional services organisation. Drawing on the knowledge and skills of more than 125,000 people in 144 countries, we help our clients solve complex business problems and measurably enhance their ability to build value, manage risk and improve performance in an Internet-enabled world.

PricewaterhouseCoopers is the leading adviser to the global mining industry, working with more explorers, producers and related service providers than any other professional services firm 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 PricewaterhouseCoopers can assist you in managing value and reporting, please speak to your current PricewaterhouseCoopers contact or telephone or e-mail the individuals listed who will put you in contact with the right person.

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