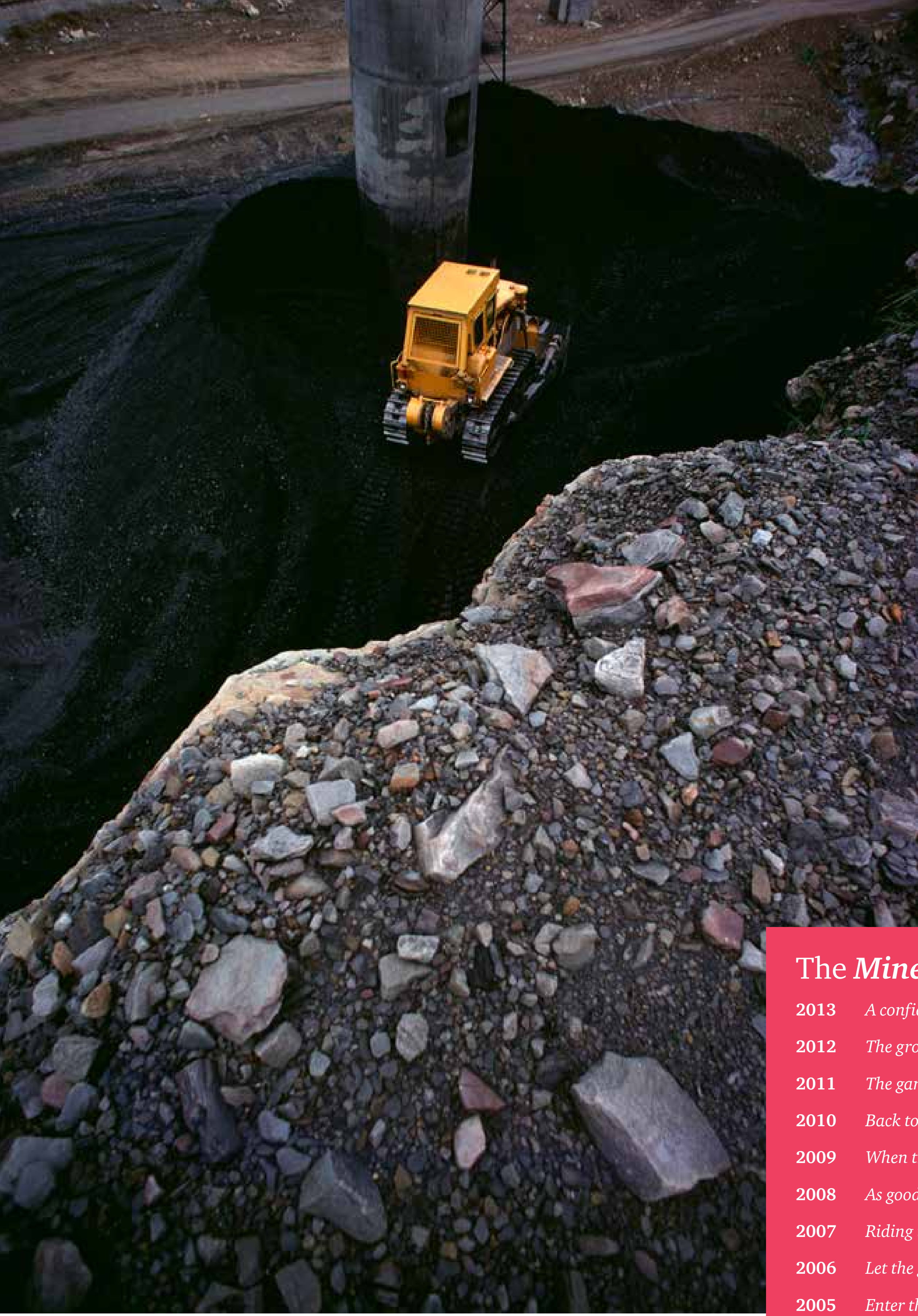
www.pwc.com/mining

Mine
A confidence crisis

pwc

Review of global trends in the mining industry—2013



The *Mine* series

2013 *A confidence crisis*

2012 *The growing disconnect*

2011 *The game has changed*

2010 *Back to the boom?*

2009 *When the going gets tough…*

2008 *As good as it gets?*

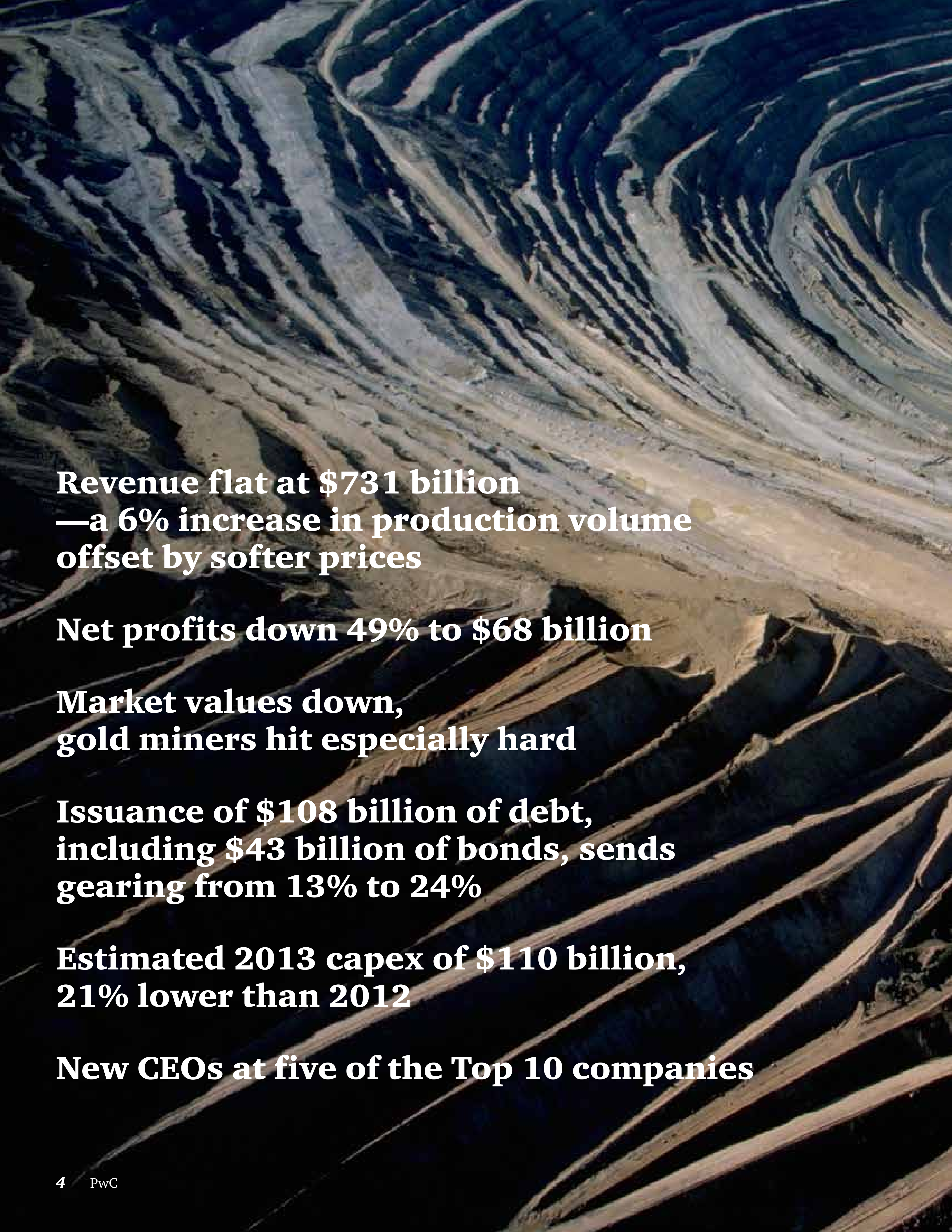
2007 *Riding the wave*

2006 *Let the good times roll*

2005 *Enter the Dragon*

2004 *Mine*

Contents



Revenue flat at $731 billion —a 6% increase in production volume offset by softer prices

Net profits down 49% to $68 billion

Market values down, gold miners hit especially hard

Issuance of $108 billion of debt, including $43 billion of bonds, sends gearing from 13% to 24%

Estimated 2013 capex of $110 billion, 21% lower than 2012

New CEOs at five of the Top 10 companies

01 Executive summary

Welcome to PwC's tenth annual review of global trends in the Mining industry—*Mine*. These reviews provide analysis on the financial performance and position of the global mining industry as represented by the Top 40 mining companies by market capitalisation.

During 2012 the Top 40's production volumes increased by 6%, but softer commodity prices meant that 2012 revenue of $731 billion was only the second year in a decade that mining revenue did not increase.

Net profit was down 49% to $68 billion. Decreased commodity prices, an escalating cost base, and $45 billion in impairment charges hit the bottom line. At only 8%, return on capital employed (ROCE) was the lowest it's been for a decade.

Operating cash flows fell with reduced profits, down 23% to $137 billion, while investing cash outflows increased 22% to $169 billion. The Top 40's cash position fell 10% to $104 billion, salvaged by the issuing of $108 billion in new debt.

Concerns of resource nationalism have further weighed down on the industry.

While the 2012 results were not as good as recent years, it wasn't all bad news. The Top 40 increased dividends by 9% to $38 billion—an average yield of 3.7% based on 30 April 2013 share prices.

Shareholders have called for change and it started at the top. Since April 2012 half of the Top 10's CEOs have been replaced.

But simply changing the captain doesn't turn the ship. In reaction to shareholder demands and both commodity price and cost pressures, miners have started to shift their focus. The days of maximising value by solely increasing production volumes are gone. The future is about managing productivity and improving efficiencies, both of which have suffered in recent years.

In *A view from the top*, mining CEOs have told us that now, more than ever, capital expenditures to meet long-term demand will be rebalanced with returns to shareholders. Eight of the Top 10 have publicly announced that they will maintain or increase current dividend levels.

Last year, the Top 40 reported that they would spend $140 billion in 2012 on capital projects—and for the most part they did. This year, the Top 40 have forecast $110 billion in capital spending for 2013, a reduction of 21%. Projects are being deferred or scaled back. Many companies within the Top 40 have said that they are increasing project hurdle rates. Additionally, many major players have announced plans to divest what they consider to be non-core assets.

The industry's centre of gravity has continued to shift. Half of the industry's 40 largest miners by market capitalisation have the bulk of their operations in emerging countries—the most ever.

On the demand side, the long term fundamentals are still there. China consumes around 40% of global metal production and will continue to be the industry's most important customer. While

Over the past decade the mining industry has outperformed the broader equity markets, but this trend has recently changed. While mining stocks fell slightly in 2012, during the first four months of 2013 mining stocks were hammered, falling nearly 20%. The mining industry is facing a confidence crisis.

Chinese growth rates are slowing down, they are coming from a bigger base. This combined with the continued emergence of large developing economies such as Brazil, India and Indonesia, means future demand for commodities still looks healthy.

But regaining investor confidence depends on how the industry responds to its rising costs, increasingly volatile commodity prices, and other challenges such as resource nationalism. Now is the time to show that the industry can deliver in good times and bad. While currently there may be a confidence crisis, we have faith that the long term fundamentals will ensure mining is a great industry to be in for many years to come.

Tim Goldsmith
Global Mining Leader, *Mine* Project Leader
PwC

The mining industry is facing a confidence crisis…

Mining is an industry in crisis. At the same time, volumes are up, dividend yields are up and commodity prices have fallen, but not crashed. Long-term demand fundamentals are still there. So what's the crisis?

The broader markets have rebounded as investors have started to rotate back into equities. But mining equities have been left behind. The industry lacks a clear investment proposition. But why?

The market has lost confidence in mining.

Confidence…

…that costs can be controlled.

…that capital discipline will occur.

…that new CEOs can deliver on promises.

…that returns on capital employed will improve.

…that the industry won't pile back into too many new projects or expensive deals when prices rebound.

…that resource nationalism will not overwhelm the industry.

…that commodity prices will not collapse.

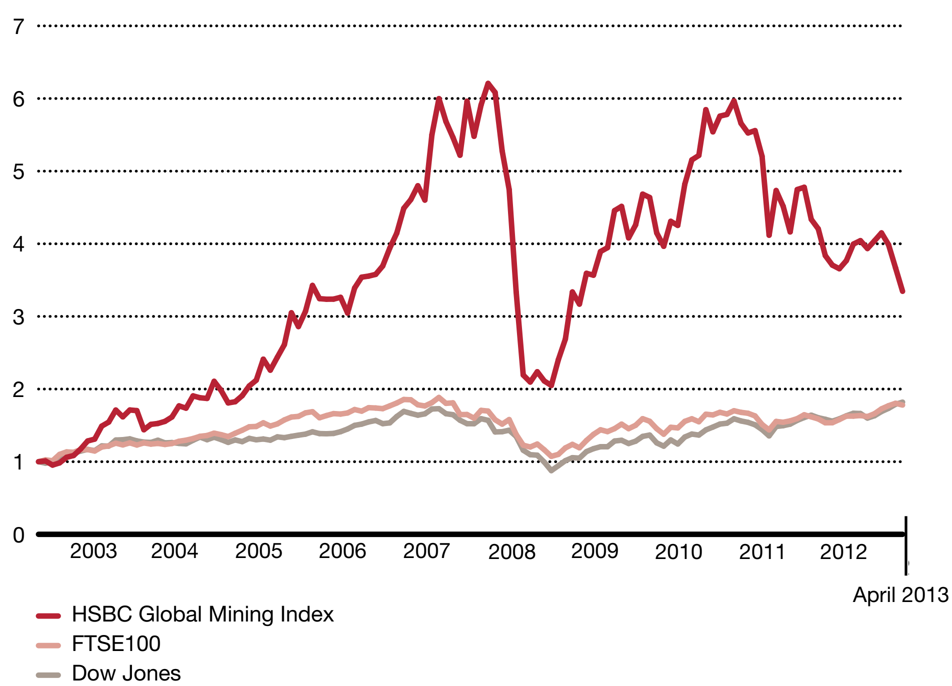
…and the markets reflect this confidence crisis.

Although the industry has done well over the last decade…

The last ten years have seen unprecedented growth of both commodity prices and global production volumes.

This is our tenth edition of *Mine* and looking back over this period the industry has clearly outpaced the broader markets. From January 2003 through April 2013, mining stocks are up 235%, while the Dow Jones is up 82% and the FTSE 100 is up 78%. While mining stocks have not fully kept up with commodity price increases, they have beaten the broader markets. Although mining stocks have been more volatile than broader markets, falling harder during the global financial crisis and other dips, performance for the last decade is still good.

Global indices (January 2003=1)



Source: Bloomberg

Ten year increases in year-end prices and annual global production volumes—2003 to 2012

Commodity	Price	Volume
Gold	+372%	+4%
Iron ore	+302%	+168%
Copper	+384%	+25%
Thermal coal	+273%	+48%*

*2003 to 2011

Source: The World Bank, U.S. Geological Survey, BP Statistical Review of World Energy

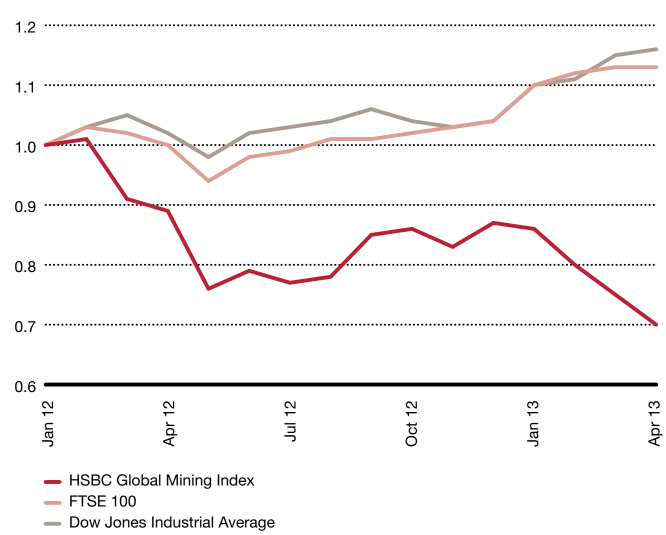
...the growing disconnect continued in 2012...

In our last edition of *Mine*, we identified a growing disconnect between the performance of the mining industry's share prices, commodity prices, and also the broader equity markets. The industry's trend of underperformance against the broader markets unfortunately continued in the first half of 2012. From May to December some ground was regained, however for the year, the HSBC Global Mining Index, a key proxy for the industry's stock performance, declined by 13% while the FTSE 100 and Dow Jones each gained around 4%.

...and the gap with the broader equity markets has widened in 2013.

The value regained by the Top 40 near the end of 2012 was erased in the first four months of 2013 falling by 18%. Roughly in line with the Top 40, the HSBC Global Mining Index fell by 20% while the broader markets hit all time highs. Since January 2012, the HSBC Global Mining Index fell by 30% while the broader markets rallied—the Dow Jones hit an all time high. Since January 2012, the HSBC Global Mining Index has underperformed the Dow Jones and FTSE 100 by 46% and 43%, respectively. Given how far the mining industry has fallen in the first four months of this year, it will be challenging for the industry to fully rebound in the remainder of 2013.

Global indicies (January 2012=1)



Source: Bloomberg

The Top 40 faced a year of volatility and mixed results

Despite a turbulent year, the overall 2012 year end market capitalisation for the Top 40 closed at roughly the same place as 2011, at just over $1.2 trillion.

2012 was a good year for diversified players...

From a market capitalisation perspective, the top 5 increases in 2012 had a combined gain of $61 billon. This included BHP Billiton, Rio Tinto, Xstrata, Grupo Mexico and Inner Mongolia Baotou Steel Rare Earth Hi Tech—three diversified, one copper, and one rare earths producer.

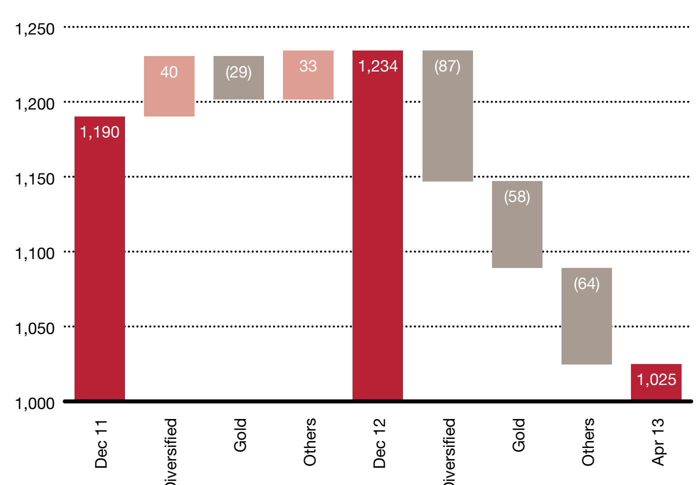
...a bad year for gold miners...

2012 was a particular poor year for the gold miners. Of the five companies whose market capitalisation shrunk the most, four were gold producers—Barrick Gold, Anglo Gold Ashanti, Goldcorp, and Newmont. In 2012 the Top 40's gold miners lost $29 billion or 15% of market capitalisation.

...and a terrible start to 2013 across the board.

But if 2012 was good for some and bad for others, the first four months of 2013 have been rough across the board. Market capitalisation fell for 37 of the Top 40—losing over $200 billion, or 17% of the year end 2012 level. Only Minera Frisco, Mosaic and Inner Mongolia Yitai Coal had increases in market capitalisation. The Top 40's gold miners lost a further $58 billion, particularly due to a significant sell-off in April following the largest one day drop of gold prices ever.

Change in Top 40 market capitalisation ($ billion)



Source: PwC Analysis

The golden disconnect

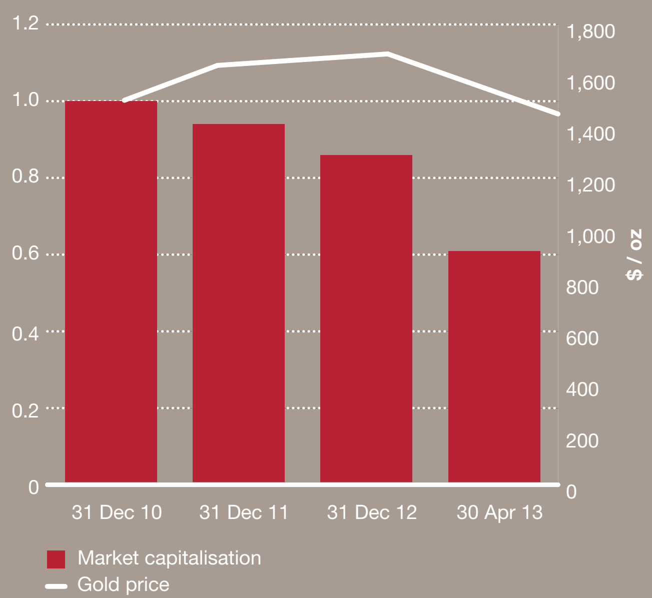
Strong prices, weak stocks…

Historically, there had been a strong relationship between gold mining stocks and the price of the underlying commodity itself. However, in recent years, gold equities declined despite steady gold price increases. In 2012, the market capitalisation of the Top 40's gold producers fell by $29 billion, almost 15%, while gold prices closed the year up over 7% at over $1,676/ounce.

…and weak prices and even weaker stocks in 2013.

When the Cyprus banking system was in crisis, many initially thought that investors would flock to gold. But with the country considering offloading some $520 million in gold reserves to raise funds, investors feared that other central banks might follow suit. As a result, gold prices saw the largest one-day percentage fall since the 1980s. What could have been an otherwise bullish event for gold turned out to be bad news for gold miners. Through April, gold prices fell 12%. The Top 40's gold miners saw their stocks get hammered, falling an astonishing 28%.

Gold companies in the Top 40 total market capitalisation (December 2010=1) vs. gold price



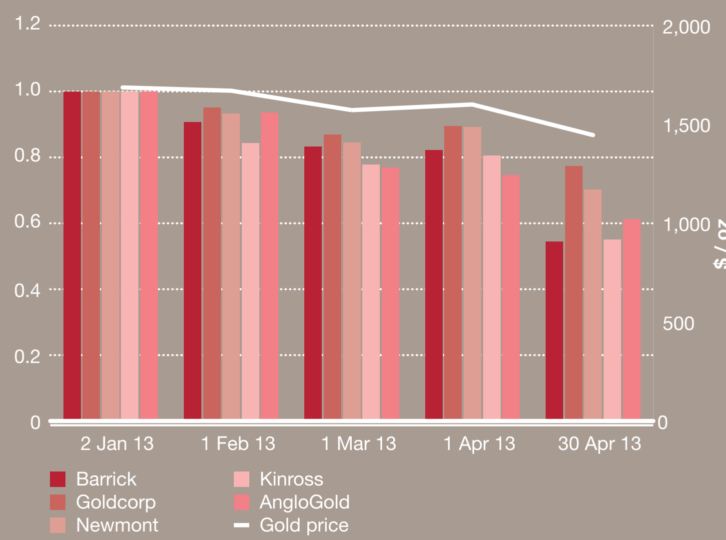
Source: PwC analysis

Through convention, most purchased gold is stored, not used. Will global demand ever be satisfied? Does gold have a price floor?

Has it just been bad luck for gold miners?

Years of global economic turmoil helped push up the gold prices. Has the same turmoil also pushed down gold mining stocks? To a certain extent, yes.

Top 5 gold company share prices (January 2013=1) vs. gold price

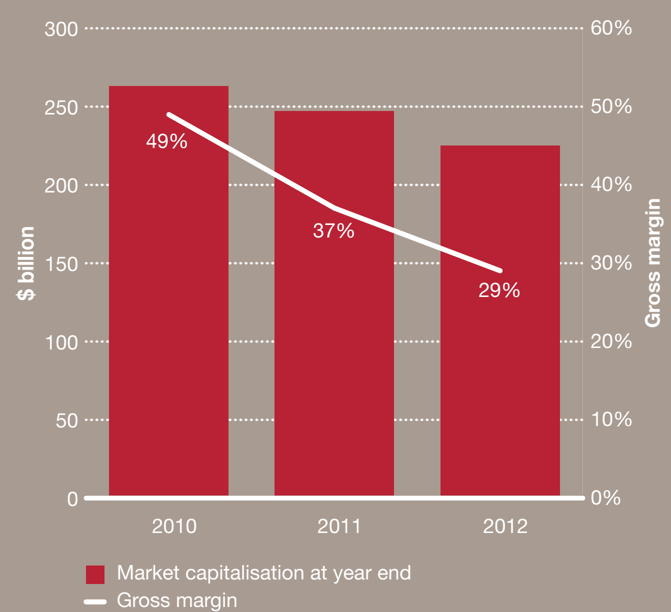


Source: PwC analysis

..or their shrinking margins?

But the story also lies in their costs. Macroeconomic factors aside, the sluggish share prices have also been driven by high costs of production. From 2010 to 2012, the Top 40's gold producers saw gross margins plummet from 49% to 29%. At the end of the day, while high gold prices are generally good news for gold miners, margins matter even more.

Gold companies in the Top 40 share performances vs. gross margin



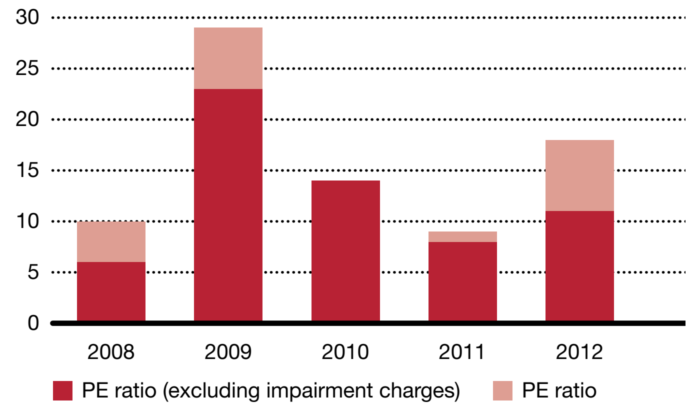
Source: PwC analysis

Low earnings have driven higher PE ratios

Write-downs, lower commodity prices, and increasing costs halved the Top 40's earnings to $68 billion. As a result, the Top 40's year end price to earnings ratio ("PE ratio") shot up to 18, more than double the year-end 2011 ratio of 9. However, adjusting for impairments, the year end 2012 PE ratio was a more modest 11.

A relatively low PE ratio would imply that the market does not believe that the Top 40 will sustain its current earnings, let alone be able to grow. However, when adjusting for impairments, the 2012 PE ratio is not an outlier. This highlights that the belief is that average years lie ahead where dramatic profit growth is not expected.

Top 40 price-to-earning ratio



Source: PwC analysis

Why has confidence been lost?

A number of industry wide trends have hurt the Top 40…

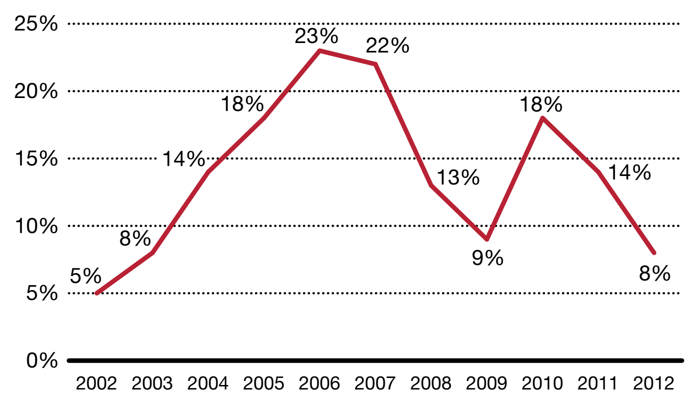
In recent years the Top 40 have been hurt by a number of different factors—some more controllable and some less so. While miners have some discretion over how they allocate capital and execute projects, commodity price volatility, resource nationalism and overall country labour costs are more difficult to control.

More controllable	*Less controllable*
• Capital project overspend/delays • Capacity oversupply • Mismanaging shareholder expectations • Decreased productivity • Misallocation of capital	• Commodity price volatility • Increased labour costs • Resource nationalism

…and it is apparent in the 2012 results.

So how has the industry managed these factors? One key metric to evaluate the industry's performance is ROCE. Having dropped to 9% during the global financial crisis, ROCE rebounded in 2010. Since then it has dropped even lower to 8%.

Top 40 return on capital employed (ROCE)



Source: PwC analysis

When commodity prices picked up three years ago, the industry rushed to bring capacity online, setting new records for capital expenditures, but in the process, decreasing productivity. The industry's operating costs have also increased faster than other industries, impacting margins. Head grades have fallen, mines have deepened, and new deposits are in riskier countries. With the structural change in the cost base that has occurred, moderate price increases will not be enough to claw back lost margin.

Is demand still there?

Long-term global demand fundamentals remain intact…

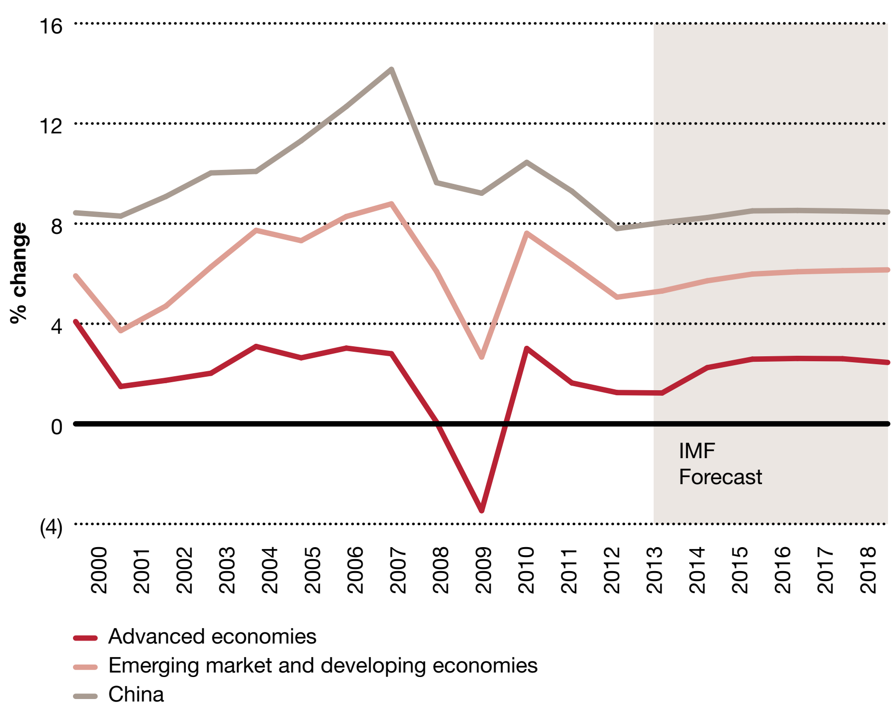
For the global economy, if it wasn't one crisis this year it was another. At the start of 2012 there was hope that the recovery from the global financial crisis, although tepid, would continue. But global economic growth was depressed by the threat of the US fiscal cliff, the ongoing European debt and social crisis and the leadership transition in China. Over the year, the global economy grew by just over 3%. Based on IMF estimates, the trend of slow growth is expected to linger for the rest of 2013, with higher growth prospects returning in 2014.

…but it won't come from advanced economies…

The growth for the advanced economies is expected to be dampened by the continuing slow down in Europe. As credit and housing markets begin to revive, the US is expected to outperform most other G7 countries, with projected real GDP growth of 2% in 2013, increasing to 3% by 2014.

Europe is not expected to see any discernible growth in the near term. The debt crisis, severe austerity measures and the related impact on credit supply will continue to undermine the growth prospects in the years to come, with real GDP growth of less than 2% for at least another five years according to the IMF.

GDP Growth year on year (2000 to 2018)



Source: IMF

…as global growth prospects depend on emerging and developing economies.

Emerging and developing markets have become the world's growth engine. However, for mining the one that really counts is China. The Chinese government is focusing on reducing risks in its economy and making it more sustainable following a once in a decade political leadership transition in 2012.

While the outlook for the Chinese economy looks cautiously optimistic, miners should not ignore the potential for further declines in real growth rates.

So, how are the Top 40 trying to regain their appeal?

By increasing returns…

A renewed focus on rewarding shareholders seems to be here to stay. All but two of the Top 10 have publicly assured shareholders that current dividend levels will either be maintained or improved. Based on April 2013 share prices and 2012 dividends, the Top 40's dividend yield is now almost 4%. This is significantly higher than recent historical levels and is closing the gap with other capital intensive industries such as oil and gas.

In 2012 the Top 40 paid out record dividends—increasing the dividend payout ratio from 25% in 2011 to 57% in 2012. From 2009 to 2012, the Top 40's dividends have increased by more than 150%, from $15 billion to $38 billion.

…seeking to rebalance capital spend…

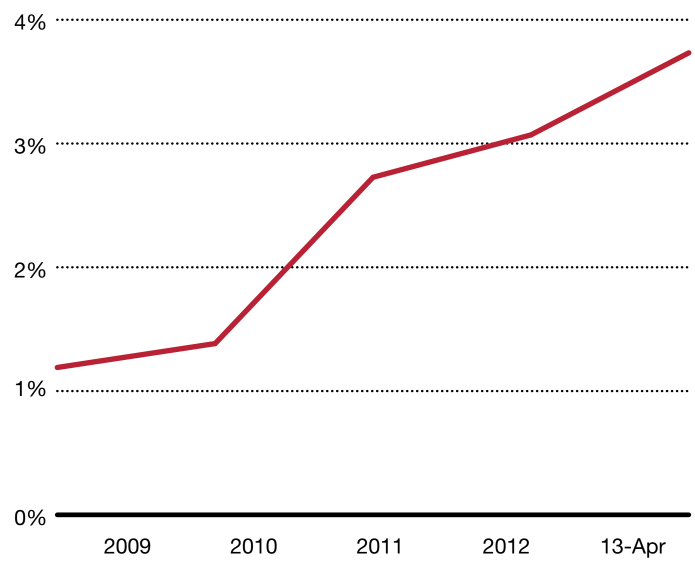
The industry needs to fundamentally reduce operating costs and increase productivity of existing assets. The answer does not solely rest in trying to spread costs over a larger base to gain economies of scale. It will not be possible for the industry to "grow" itself out of trouble.

Although 2012 was a record year for capital spending, the overall message from the Top 40 is that the capital expenditure tap is being tightened. Project hurdle rates have been increased, with some of the Top 40 stating that only projects with a return above 25% will be pursued. In recent months the impact of lower spend has been seen through the industry's value chain. Many suppliers have announced lower than expected profits as a result of capital spend reductions. Supply and demand economics suggest this will lead to prices falling for suppliers.

…taking advantage of favourable debt markets…

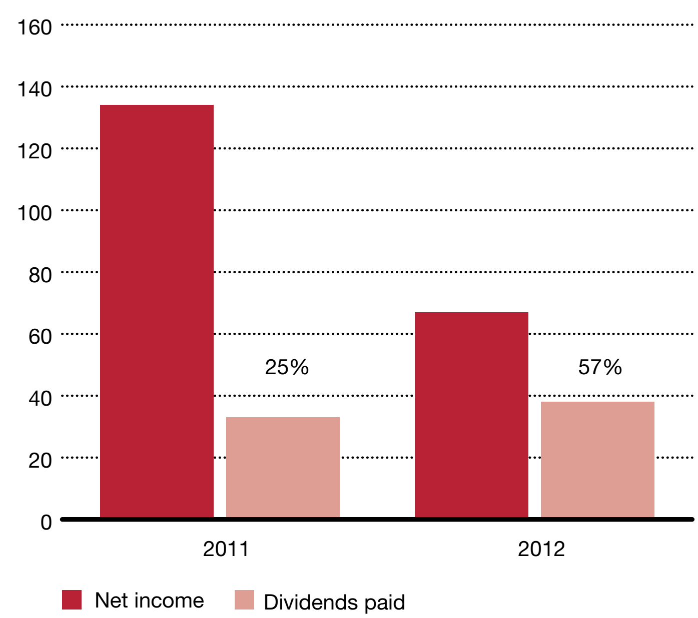
With cheap debt financing available, the Top 40 took advantage and leveraged up their balance sheets, adding $108 billion in debt in 2012. Cheap debt has helped to maintain liquidity flexibility.

Dividend yields—2009 to April 2013 (%)



Source: PwC analysis

Net income and dividends paid ($ billion)



Source: PwC analysis

…and making visible changes at the top…

CEO changes have been made at five of the Top 10. The biographies of these new CEOs reflect an industry that values operational know-how and mining experience over deal making and growth. New leadership is also a visible signal that changes are on the way.

…but the key is to focus on productivity, not austerity.

At the peak of the market many miners sought to build new production capacity at any cost. With the pressure to deliver returns to shareholders, productivity was sacrificed in search of short term profitability from volume growth.

Miners have invested billions in projects to increase production capacity, but are not realising sufficient returns from this outlay. There needs to be a renewed focus on productivity through technological innovation and an improved understanding of what happens at the operational level.

The key is for the industry to unlock the latent capacity of existing invested capital and bring their mines to more optimal levels of throughput capacity. While this will generate long term value, realising such efficiencies can take time.

Broad corporate austerity measures are not enough and can be damaging if not carefully implemented.

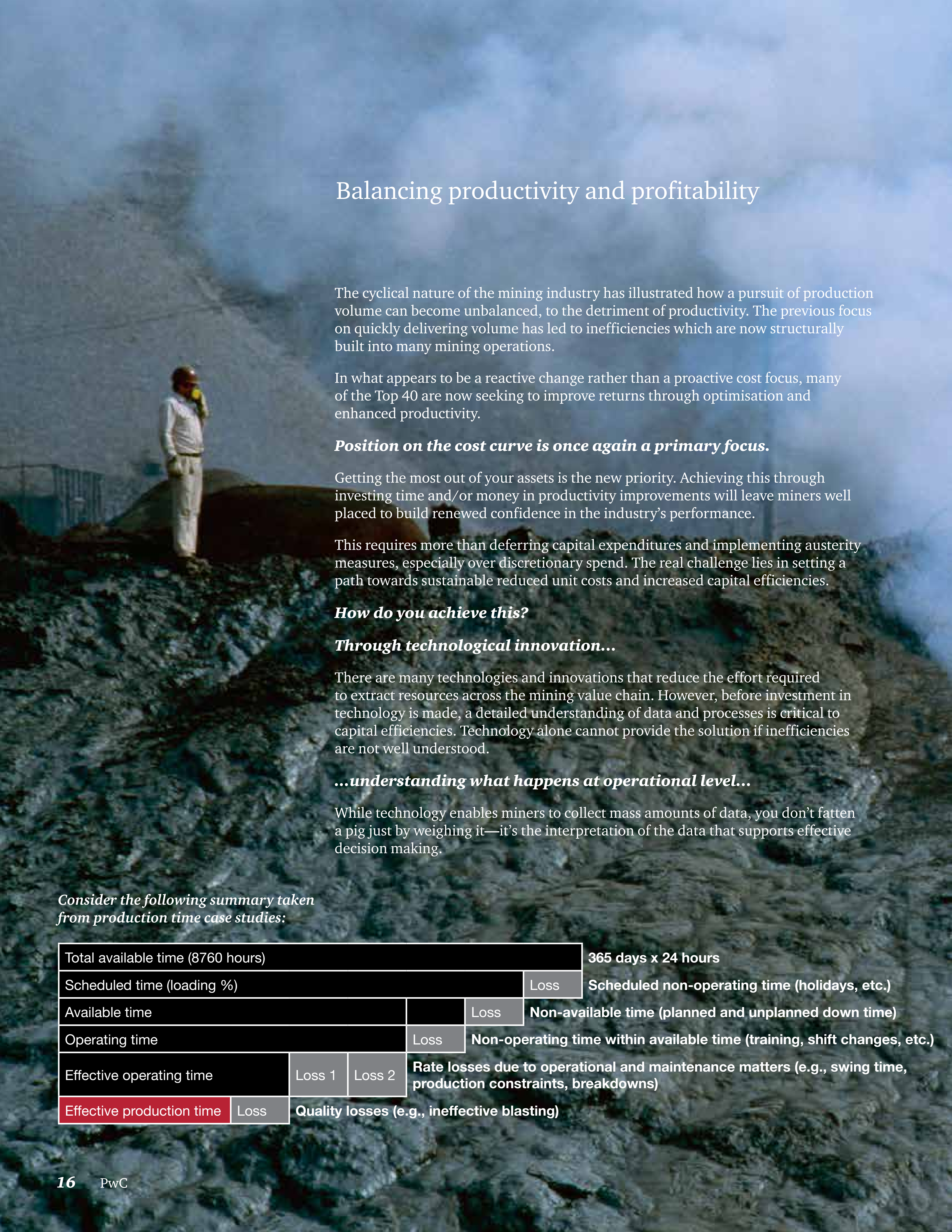
Are miners generating quick wins or long-term value?

With the increased pressure from shareholders for investment returns and the shift in focus from growth to delivering profits, it has become a focus of the larger players to focus on getting the most out of their "tier 1" assets while divesting of their non-core assets.

A strategy of going after efficiency gains appears sensible given current cost and commodity price pressures and will help generate long term value. In contrast, while divestment creates visible short term financial gains, the longer term impact on portfolio value is harder to see.

"We've put an extreme focus on issues of productivity and capital discipline, which really are very close to my heart."

—Andrew McKenzie, CEO, BHP Billiton



Balancing productivity and profitability

The cyclical nature of the mining industry has illustrated how a pursuit of production volume can become unbalanced, to the detriment of productivity. The previous focus on quickly delivering volume has led to inefficiencies which are now structurally built into many mining operations.

In what appears to be a reactive change rather than a proactive cost focus, many of the Top 40 are now seeking to improve returns through optimisation and enhanced productivity.

Position on the cost curve is once again a primary focus.

Getting the most out of your assets is the new priority. Achieving this through investing time and/or money in productivity improvements will leave miners well placed to build renewed confidence in the industry's performance.

This requires more than deferring capital expenditures and implementing austerity measures, especially over discretionary spend. The real challenge lies in setting a path towards sustainable reduced unit costs and increased capital efficiencies.

How do you achieve this?

Through technological innovation…

There are many technologies and innovations that reduce the effort required to extract resources across the mining value chain. However, before investment in technology is made, a detailed understanding of data and processes is critical to capital efficiencies. Technology alone cannot provide the solution if inefficiencies are not well understood.

…understanding what happens at operational level…

While technology enables miners to collect mass amounts of data, you don't fatten a pig just by weighing it—it's the interpretation of the data that supports effective decision making.

Consider the following summary taken from production time case studies:

Total available time (8760 hours)		**365 days x 24 hours**
Scheduled time (loading %)	Loss	**Scheduled non-operating time (holidays, etc.)**
Available time	Loss	**Non-available time (planned and unplanned down time)**
Operating time	Loss	**Non-operating time within available time (training, shift changes, etc.)**
Effective operating time	Loss 1, Loss 2	**Rate losses due to operational and maintenance matters (e.g., swing time, production constraints, breakdowns)**
Effective production time	Loss	**Quality losses (e.g., ineffective blasting)**

Many of the Top 40 have undertaken studies to unlock latent capacity. Our experience suggests many mines operate at below 50% fleet utilisation, whilst overstating real availability.

This highlights the size of the prize for those mines looking to unlock their full operational potential. However, to make the most of any such exercise, impacts must be considered over the life of the assets.

Increased asset utilisation can improve margins by increasing throughput with minimal capital expenditure. We have seen miners add new fleet to address production inefficiencies when chasing higher utilisation from existing equipment which would give the same result at lower cost.

...and by bringing people on the journey with you.

Culture plays an important role in implementing new processes and technologies—the workforce must be willing and able to support change in the transition phase. Too often, the importance of having a workforce that is not only skilled in operations, but also supportive of the implementation process is disregarded.

A changing of the guard

In the 10 years that we have recorded interviews with CEOs of the major mining houses we have held many varied and interesting discussions. There has, of course, been change in the CEO suite in all years that we have been preparing *Mine*, however, the scale of change in CEOs in the last 12 months is unprecedented, with 50% of the Top 10 CEOs changing since April 2012.

In last year's discussions we heard the CEOs remark that their shareholders were focused on the disconnect between the dividends they were receiving compared to the profits being generated—put simply, the shareholders were demanding higher returns and a reduction in the growth agenda. CEOs today have a new mandate. They clearly understand the expectations of their shareholders' and are knuckling down to get the house in order. This will mean that there will be an increased focus on maximising returns from existing operations and ensuring that the shareholders see this through increased dividends. Cost cutting has often been seen in the industry, but productivity, not austerity, is the key to keeping it sustainable. The view that position on the cost curve was a secondary consideration after maximising output held the industry in good stead over recent years, but is not a strategy that CEOs sign up to today.

Many of these new CEOs will be inheriting recent acquisitions and the fruits of investment in capital projects. The recent mega impairments on acquisitions and the cost blow outs on the capital projects have raised the bar of shareholders' expectations and the CEOs understand this requirement. A major new acquisition is unlikely to be well received at the moment, and a new project approval will need very robust economics and a strong risk analysis to pass muster.

As if to compound the supply challenge, resource nationalism continues to hamper investment, especially in emerging markets.

CEOs are juggling caution with the need to invest

This doesn't mean that the CEOs believe that "manage what we have" is the correct strategy and indeed the majors have emphasised that ownership and clever management of "tier 1" assets remain the game. The question is how will the focus on managing assets and investing through the cycle combine. With shareholders demanding higher returns, the not quite "tier 1" assets are under greater divestment pressure. Yet, at current valuations it is hard to get full value for disposals.

....and they see supply getting tighter.

All the CEOs believe that China and emerging market demand of their products continues. While that's good news, the supply side looks more problematic, with the assets getting deeper, having lower grades and being in riskier countries. The Top 40 CEOs are also concerned about the difficulty the juniors are facing in obtaining new finance. Historically juniors have played a critical role in finding new assets, but with no money, how will they fund grass roots exploration? The identity of who will find the greenfield discoveries seems ever harder to determine. CEOs should be asking where tomorrow's production will come from, not just today's returns to shareholders.

They'll need to focus on today and tomorrow—all at the same time

The events of the next few years will have serious ramifications for the next 10 years of the industry. There is a new breed of CEOs and they have been given clear instructions as to how they should navigate the ship. Executives will need to make sure that shareholders get sufficient rewards without missing out on the opportunities that will position their companies to meet tomorrow's resource needs. It perhaps highlights the great challenge to industries that need a 20-year investment cycle but that are measured on quarterly or half yearly financial outturns.

As in previous years, we have discussed the future of the mining industry with CEOs of a number of the Top 40 companies. This article summarises their views.

04
China's changing role as a mining consumer, supplier, financier and regulator

The dragon has entered…

Our 2005 edition of *Mine* was titled 'Enter the Dragon'. The mining industry was just beginning to feel China's impact. Eight years on, not only is the dragon here, but it has become the dominant force in driving demand for the industry. Chinese demand is mentioned in practically every one of the Top 40's annual reports and investor presentations. News of easing of Chinese GDP growth in 2011 and 2012 sent shockwaves through the industry share prices. The IMF forecasts China's growth at 8–8.5% through 2018, slightly higher than the 7% in the Chinese government's most recent five-year plan.

…snapping up mining products by the shipload…

Demand is a big part of the 'China story'. According to Chinese customs statistics, annual iron ore import volumes have almost tripled since 2005 and copper imports have almost doubled—by value, these increases are even more staggering. IMF estimates put China currently consuming around 40% of all mineral products.

The key driver of this demand has been the unprecedented movement of rural populations to cities, which have been built to house them, consuming many metals. Even after the massive movements to date, the urban population is only 50% of total—a long way from countries like Canada (81%), the US (82%), and Australia (89%). So for all of the concern surrounding a Chinese slowdown, while demand growth in percentage terms will slow from the staggering pace of recent years, it will be on a much larger base, meaning that on an absolute volume basis it should be greater than in the past.

…but also fuelling growth in its own backyard…

However demand is only part of the picture. China is the world's largest miner. Raw Materials Group estimates that China represents 29% of global mining by value. By volume, in 2011 China produced almost 50% of the world's coal. It is also the world's largest gold producer and third-largest producer of iron ore.

Since 2005 China's GDP has more than doubled. But capital expenditures in the Chinese mining sector have increased seven fold. So while annual GDP growth has averaged just over 10%, annual growth of domestic mining capital expenditures has averaged almost 35%. Chinese domestic capital expenditures have far outpaced the overall Top 40, and unlike the current sentiment amongst much of the Top 40, are unlikely to hit the brakes in the same manner at home or abroad.

The Chinese mining industry is dominated by domestic players and most sectors are not open to foreign companies. However unlike many other mining countries, China lacks true domestic champions. As an example, while China Shenhua is the nation's largest coal miner, it mines less than 10% of total Chinese coal. While Chinese players across all commodities have been increasingly consolidating to gain scale and control a fragmented domestic industry, there is still a long way to go.

…and becoming an important source of funding…

Chinese companies are also increasingly becoming one of the industry's leading sources of capital. Chinese acquisitions make headlines and Chinese companies are some of the more active deal makers in the industry. In addition to direct equity acquisitions, Chinese companies are also investing in mine development and construction, and supporting infrastructure.

To date most deals have involved projects that are well past exploration stage. So it is looking unlikely that Chinese companies will solve the cash crunch being felt by the industry's junior players.

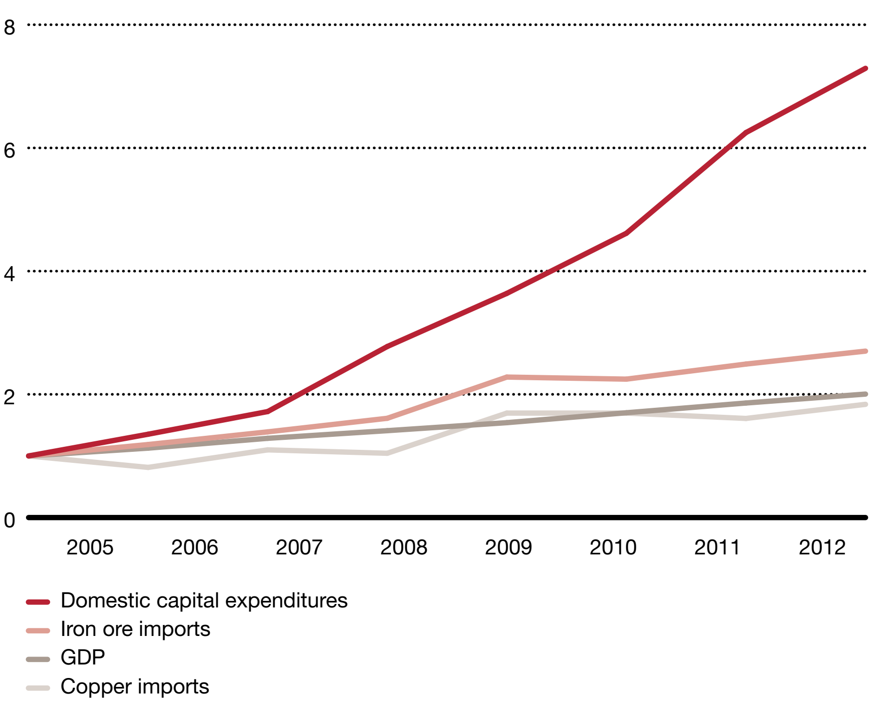
…and regulator?

Another sign of China's changing role is on the regulatory front. The recently closed Glencore Xstrata merger was held up by Chinese regulatory approvals. Whether this is the exception or the rule has yet to be seen.

So what's next?

In the next eight years China's economy won't grow as fast as the last eight years. But, it will still grow, continuing to drive increased demand and being the centre of the industry's consumption story. Domestic supply, particularly of coal, will continue to grow. Chinese companies will likely consolidate and with a few domestic mega-mergers and large overseas acquisitions, Chinese companies will likely be a large part of the future Top 40, if not the Top 10.

Mining industry growth in China (2005=1)



Source: PwC analysis

05
10-year trends 2003–2012

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.

All income statement data presented excludes Glencore trading revenue and operating expenses.

$ billion	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
Aggregated income statement										
Revenue	525	539	435	325	349	312	249	222	184	110
Operating expenses	(340)	(311)	(246)	(217)	(208)	(176)	(141)	(141)	(129)	(81)
Adjusted EBITDA	185	228	189	108	141	136	108	81	55	29
Amortization, depreciation and impairment	(86)	(42)	(34)	(31)	(57)	(19)	(12)	(16)	(15)	(10)
PBIT	99	186	155	77	84	117	96	65	40	19
Net interest cost	(6)	(6)	(7)	(6)	(9)	(5)	(3)	(4)	(3)	(3)
PBT	93	180	148	71	78	112	93	61	37	16
Income tax expense	(25)	(48)	(38)	(22)	(21)	(32)	(27)	(16)	(9)	(4)
Net profit	68	132	110	49	57	80	66	45	28	12
Adjusted net profit excluding impairment	68	132	110	49	57	80	66	45	28	12
Year-on-year increase / (decrease) in revenue	(3%)	24%	34%	(7%)	12%	25%	12%	21%	67%	18%
Year-on-year increase / (decrease) in adjusted EBITDA	(19%)	21%	75%	(23%)	4%	26%	33%	47%	90%	38%
Year-on-year increase / (decrease) in net profit	(49%)	20%	124%	(14%)	(29%)	21%	47%	61%	133%	100%
Adjusted EBITDA margin	35%	42%	43%	33%	40%	44%	43%	36%	30%	26%
Net profit margin	13%	25%	25%	15%	16%	26%	27%	20%	15%	11%
Aggregated cash flow										
Operating activities	137	174	137	83	104	95	77	58	41	22
Investing activities	(169)	(142)	(79)	(74)	(102)	(126)	(67)	(38)	(23)	(20)
Financing activities	21	(28)	(35)	10	14	36	4	(11)	(10)	1
Free cash flow[1]	11	76	70	19	38	44	40	27	19	8
Aggregated balance sheet										
Property, plant and equipment	701	601	511	467	402	371	262	224	196	140
Other assets	544	538	432	334	274	284	192	148	120	83
Total assets	**1,245**	**1,139**	**943**	**801**	**676**	**655**	**454**	**372**	**316**	**223**
Total liabilities	**563**	**482**	**387**	**354**	**339**	**329**	**217**	**178**	**151**	**114**
Total equity	**682**	**657**	**556**	**447**	**337**	**326**	**237**	**194**	**165**	**109**

1 Free cash flow is defined as operating cash flow less investment in property, plant and equipment.

Change at the top

Since last year, a quarter of the Top 40 have changed leaders and half of the Top 10 have seen a new CEO take the helm.

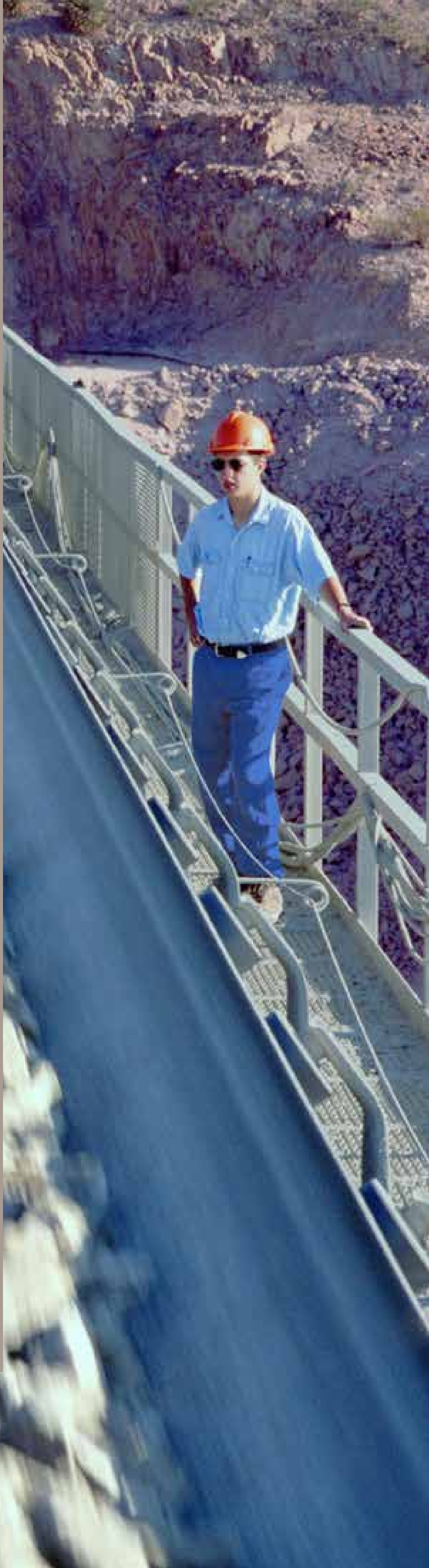
The media has characterised this as CEOs being held accountable for not delivering as promised on ambitious deals at the peak of the market. Our analysis of the new leaders and their predecessors suggest that the shake-up also reflects the need for a different type of leader as the industry has changed.

The new CEOs reflect the industry's focus away from M&A, (a trend noted in our *Global Mining Deals: Down, but not out*) and towards achieving operational cost improvements and delivering projects on budget. Compared to their predecessors, more have been recruited from an operational background. At an average age of 54, the new CEOs are 5 years older than their predecessors and have generally spent more of their careers in the mining industry.

Half of the 14 companies that have been in the Top 40 each year of the past decade have hired a new CEO since June 2012—an unprecedented level of change. Since 2008 impairments recognised by this group follow a similar trend to leadership changes.

Annual CEO change of the companies in Top 40 vs. Impairments ($ billion)

Source: PwC analysis



Income statement—Record costs and impairments result in lowest net profit margin since 2003

2012 net profit of $68 billion was equivalent to the level realized in 2006, and the net profit margin of 13% was the lowest it has been since 2003. This indicates a huge step backwards for an industry which has been struggling to contain both operating and capital cost pressures. However, adjusting for impairments, net profit is still higher than it was following the previous record write-downs during the global financial crisis.

At $525 billion, it was only the second time since 2003 that revenue went down. The decrease was driven primarily by softer pricing in iron ore and base metals despite production volumes being at a 10 year high.

Operating costs rose 9% to $340 billion. It appears that the industry has been able to slow the rate of increase that we saw in 2011, but the trend we highlighted in last year's publication that costs have increased more quickly than revenues is continuing. This has contributed to a year-on-year decrease in adjusted EBITDA of 19%.

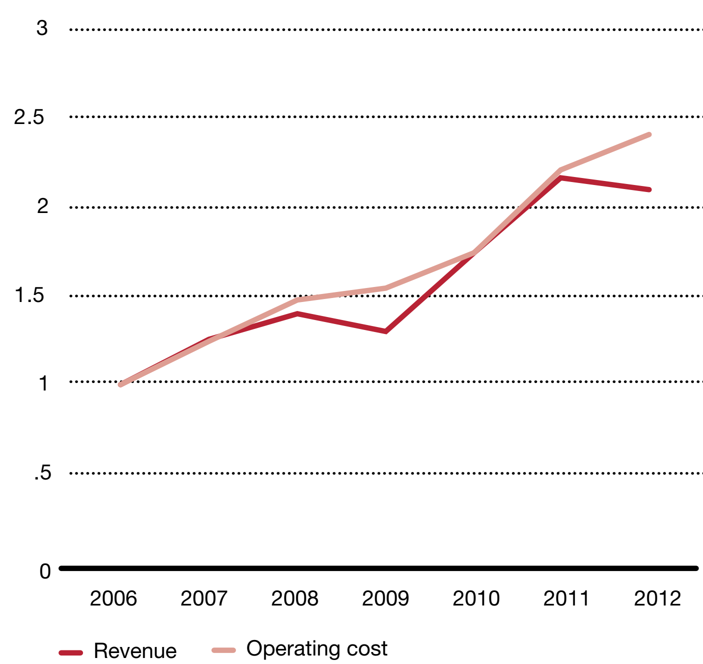
At $45 billion, impairments for the Top 40 were up nearly 50% more than the previous highest year over the last 10 years. 80% of the impairments recognised over the past year were by companies representing the traditional markets, many of whom completed acquisitions at the height of the market. No doubt this has been a factor in the unprecedented level of change we have seen in the CEO suite over the past year.

Notwithstanding the fluctuation in gearing ratios over the past 10 years, the Top 40 has been able to maintain a relatively stable net interest cost. This has been driven by a combination of the decreased cost of financing and increased capitalised interest as larger and longer capital projects are undertaken.

With record impairments reaching 27% of investing cash flows during 2012 and the Top 40 writing off nearly 20% of investing cash flows over the past 5 years, it's not surprising shareholders are currently demanding higher dividends and better discipline over capital allocation.

At 50%, 2012 also saw the largest single year-on-year decrease in net profit margin since the inception of *Mine*, greater than the decreases experienced during the height of the global financial crisis in 2008 and 2009, which many considered to be a black-swan event for the industry.

Movement on revenue and operating cost (2006=1)



Source: PwC analysis

Over the past five years, the Top 40's total write offs have been equivalent to 20% of their total investing cash flows.

Balance sheet—Gearing up

Notwithstanding the record impairments recognised during 2012, the total asset base of the Top 40 has continued to increase at an average of 21% per year over the past ten years and set new records this year with total assets exceeding $1.2 trillion. The Top 40 spent $138 billion on capital expenditures including non-mining activities during 2012, however, with operating profits declining and the focus turning to increasing shareholder returns and capital discipline, forecasted capital expenditures for 2013 has already been reduced by 21% to $110 billion.

At $104 billion the Top 40 managed to retain cash levels above the $100 billon mark, first achieved during 2010. However, 2012 saw a decrease in cash for the first time since 2003 as the Top 40 returned cash to shareholders and invested in capital expansion.

The Top 40 have raised $108 billion in financing as miners took advantage of demand from investors in developed economies for stable investments with known returns. Despite some of the newly raised funds being used to refinance higher cost debt, total borrowing reached a 10 year record of $270 billion at the end of 2012.

Gearing levels for the Top 40 were at 24%, lower than historical highs, but on a definite upward trend with debt being a much cheaper and more readily available financing option than equity. While the tenure of the debt also appears more balanced, the level of debt needs to be monitored carefully.

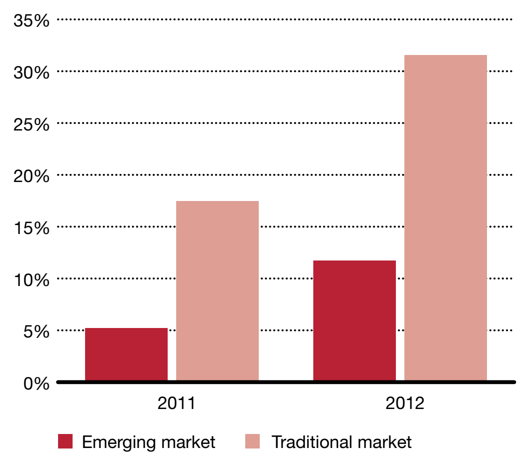
The increased gearing ratios are driven primarily by miners from traditional markets, with these companies having gearing ratios 3 times larger than those from the emerging markets in both 2011 and 2012. Despite the differences in gearing, emerging market companies hold almost 50% of total cash.

With share prices in the doldrums, equity increased a modest 4% to $682 billion, this was the lowest percentage financing from equity in the past decade.

Gearing ratio for Top 40

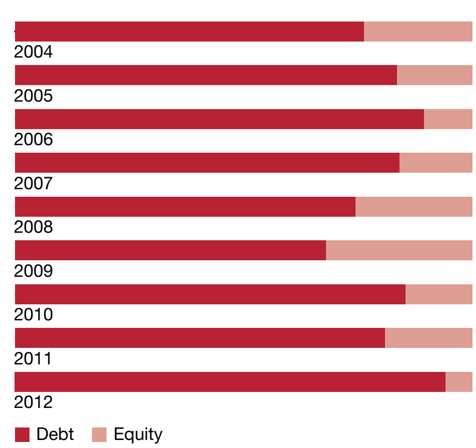
Source: PwC analysis

Gearing ratio for the Top 40's traditional and emerging market companies



Source: PwC analysis

Year-on-year debt to equity issuance (% of total)

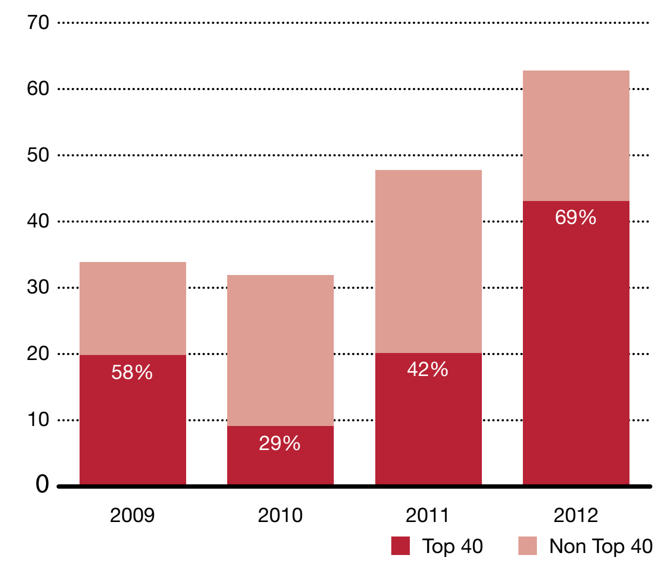


Source: PwC analysis

Bond Bubble?

With investors being reluctant to invest in equities, debt provided an attractive option that the Top 40 were more than happy to snap up. Consequently, 2012 saw more funding coming from debt than any other year. Bond proceeds of $43 billion were over double 2011 as the Top 40 turned to debt to access capital for expansion and refinancing.

Bond issue Top 40 vs rest of the mining companies* ($ billion)

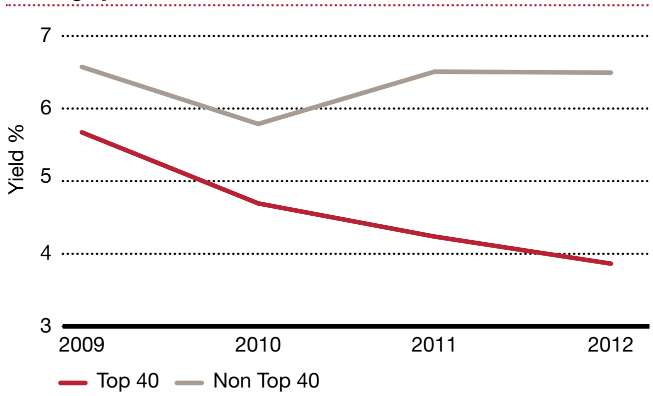


Source: ThompsonOne, PwC analysis
*Rest of mining includes listed mining entities globally

In 2012 the Top 40 issued 69% of bonds while the juniors grasped for cash

Analysing bonds issued by the mining industry over the last four years shows that the Top 40 have taken an increasing share of the bond market. Investors have moved away from equities in search of lower risk bonds and the Top 40 have achieved some impressive terms. BHP Billiton issued bonds with coupon rates as low as 1%. The gap in yields for the Top 40 compared to the rest of the group has also been widening over the past four years.

Average yield for bonds issued in 2009 to 2012



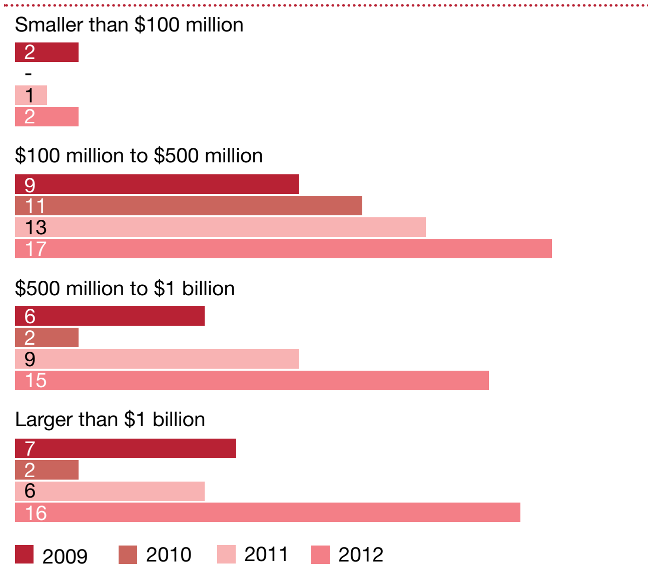
Source: ThompsonOne, PwC analysis

Many are touting the current unprecedented level of activity in the bond market as a bond bubble, with it only being a matter of time before interest rates start to rise and the bubble bursts. While investors in these long-term bonds could lose out if this occurs, miners stand to gain as they have secured long-term funding at low fixed rates. Enjoy it while you can.

In contrast, junior miners are struggling to raise finance. Even those prepared to pay high interest rates cannot get it. Debt is hard to come by. Combined with an apparent drought in the equity markets, you have a perfect storm for the demise of many entities which play a critical role in exploration. If junior funding does not improve soon, this will have a dramatic impact on the pipeline of new reserves.

Not just cheaper but bigger

Number of corporate bond issues per year, classified by size



Source: ThompsonOne, PwC analysis

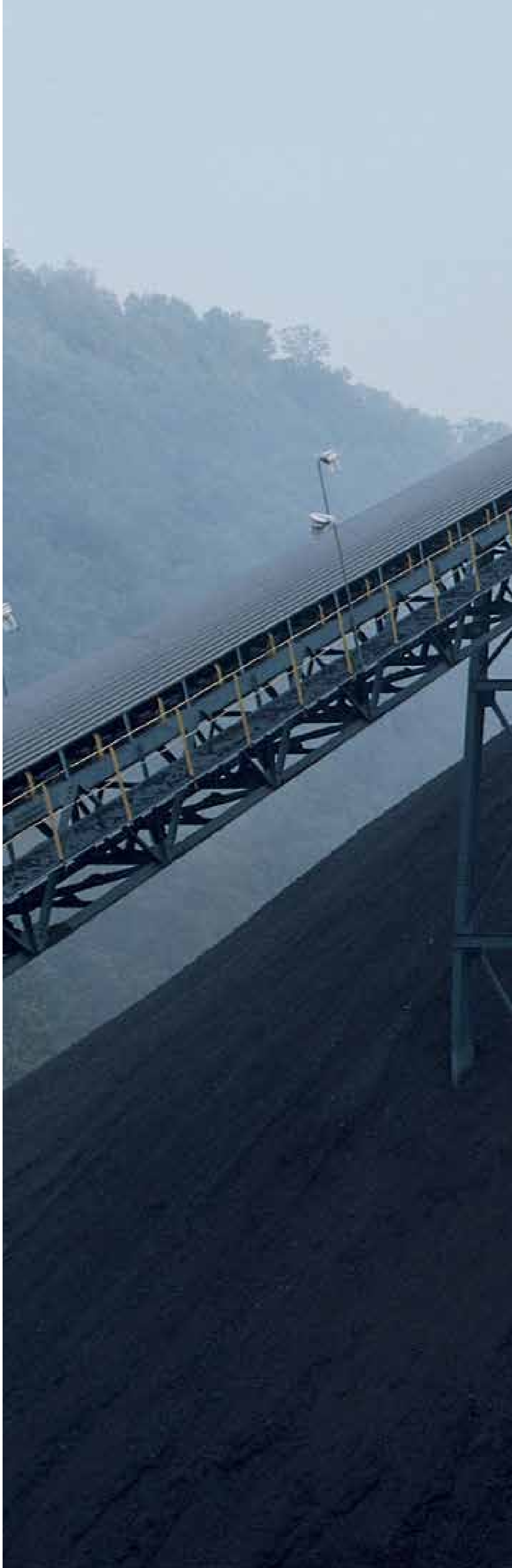
In 2012 there were more issuances of bonds greater than $1 billion than in any of the previous three years. And it was not just the miners issuing big bonds. In May 2013 Apple issued the largest ever bond raising at $17 billion as part of a commitment to return $100 billion in cash to shareholders by the end of 2015.

Cash flow statement—Free cash flow at the lowest level since 2003

At $11 billion, free cash flow reached the lowest level since our inaugural *Mine* in 2003. The year-on-year decrease of 85% was larger than the biggest previous decrease of 50% experienced during 2009. It reflects the Top 40's struggle to contain costs, both operating and capital, softer commodity prices and continued investment by the industry.

At 32% of revenues, not only were investing activities far in excess of the 10-year average for the Top 40, it also saw the setting of a new record for investing cash outflows at $169 billion. Of course the project capital can't be shut-off quickly, so we may see this trend reverse next year as the Top 40 respond to shareholder demands for higher returns and less growth.

Operating cash flows decreased 23% to $137 billion, setting a new record for the largest year-on-year decrease and beating 2009 which followed the global financial crisis. Is this trend a crisis, or a time which offers opportunities that should be taken advantage of?



Traditional market players cut capex, but emerging market players stand firm

Spending less in 2013 is only part of the story. Analysing the $110 billion in announced capital expenditures in more detail shows that on an aggregate basis, all of the reductions are by miners from traditional mining markets. Based on announced capital expenditures, emerging market players will account for 40% of capital expenditures in 2013.

Do emerging market players have a different mandate? A more optimistic outlook on where the industry is going? Or just a different set of shareholders who are more focused on long-term supply than short-term returns?

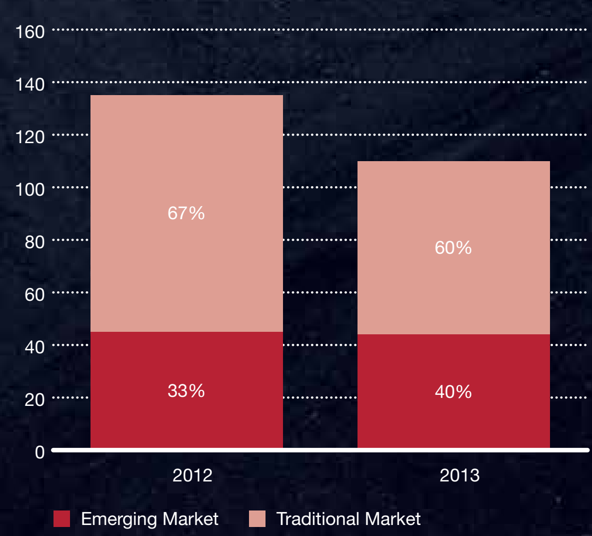
On-track, deferred, or dead?

Mining is capital intensive and tier-one assets don't come cheap. With pressure to improve shareholder returns and increased scrutiny over future projects, managing capital project pipelines can require as much skill as managing the projects themselves. The Top 40 walk a fine line of providing enough details to allow investors to evaluate their pipeline and manage stakeholders who want to see projects progress, while retaining flexibility to make changes. Information on the certainty, value, and results of these projects is often inconsistent between companies, making it difficult to accurately evaluate across the industry.

Rebuilding the confidence before cutting the cheque

Amid record impairments and falling margins, shareholders have lost confidence in the capital allocation decisions made by miners. Accordingly CEOs will have to do more to gain the approval to spend their cash in the future. CEOs may find that they will need to tell more about their plans and why projects make sense to earn shareholders' backing.

Actual 2012 capital expenditure vs announced 2013 capital expenditure ($ billion)



Source: PwC analysis

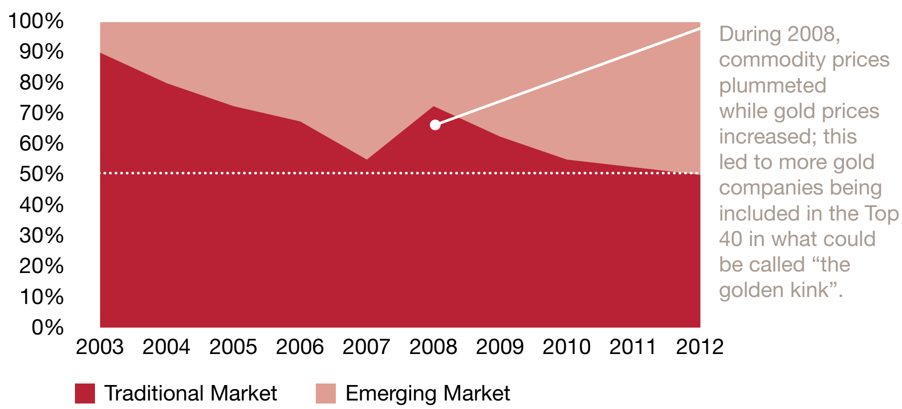
Composition of the Top 40—Three companies debut in *Mine* 2013

Over the past 10 years only 35% of the current Top 40 have been included in all 10 editions of *Mine*, illustrating the turbulence within the industry. This year was no exception with 5 changes, including 3 entrants making a debut appearance.

Peabody Energy was a notable departure from the Top 40, having made the list in each of the past nine editions of *Mine*, reflecting the challenges US coal producers are currently facing.

Continuing with the trend of increasing market share, the emerging markets now represent 50% of the Top 40.

Mine—Composition of Top 40



Source: PwC analysis

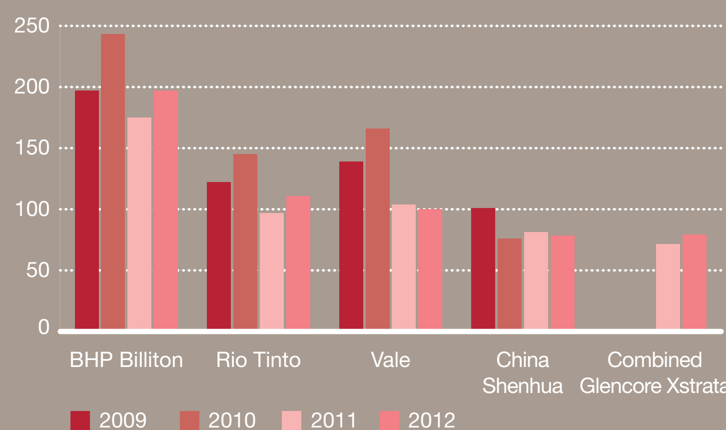
Rare earths join the Top 40

If you own a laptop, smart phone, high definition TV or just about any other electronic device, you own some rare earths. The Top 40 now have some too. While rare earth prices hit record highs in 2011, prices have since slumped due to global supply and demand imbalances. Despite this, Inner Mongolia Baotou Steel Rare-Earth Hi-Tech market capitalisation has increased and it is the first rare earths company in the Top 40 in the history of *Mine*.

The Big ~~Four~~ Five…the top bracket will welcome 'Glencore Xstrata'

After a protracted approval process, in early May 2013 the merger between Glencore and Xstrata completed. The combined year-end market capitalisation of Glencore and Xstrata would place it in the Top 5, in close proximity to China Shenhua.

Top 5 market capitalisation ($ billion)—31 December



Source: Capital IQ, PwC analysis

The major diversifieds—local iron ore producers by any other name?

The Top 40's market capitalisation is dominated by the major diversified miners—namely BHP Billiton, Rio Tinto, Vale, Anglo American, Glencore[1] and Xstrata. Companies we consider to be diversified make up a total of 38% of the Top 40's 2012 market capitalisation. Gold companies made up the second largest segment at 16% of the total.

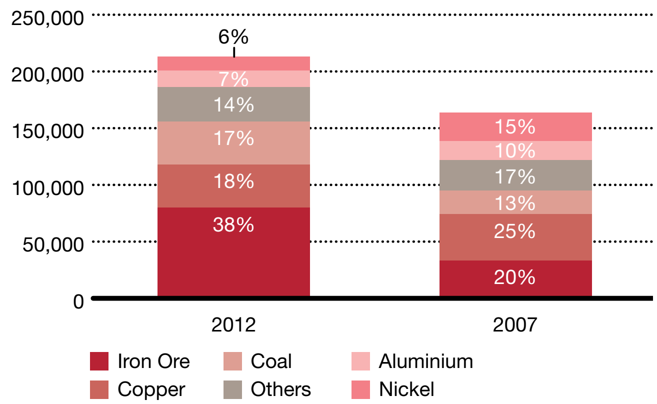
But closer analysis of these companies begs the question, are they actually that diversified? Immediate differences such as BHP Billiton's petroleum business and Glencore's trading and agriculture businesses come to mind. Other than the obvious however, looking at revenue by segment and assets location, since 2007, the Top 5 Diversifieds have actually become less diversified.

Iron ore made up 38% of the Top 5 Diversifieds' total revenue in 2012. This is nearly double 2007, when iron ore contributed 20% of total revenues and copper dominated at 25% of the total.

The Top 5 Diversifieds are also sticking closer to home. Australia and Brazil would be considered the primary source markets for this group. Estimated revenue associated with these two countries has increased from 44% in 2007 to 63% in 2012.

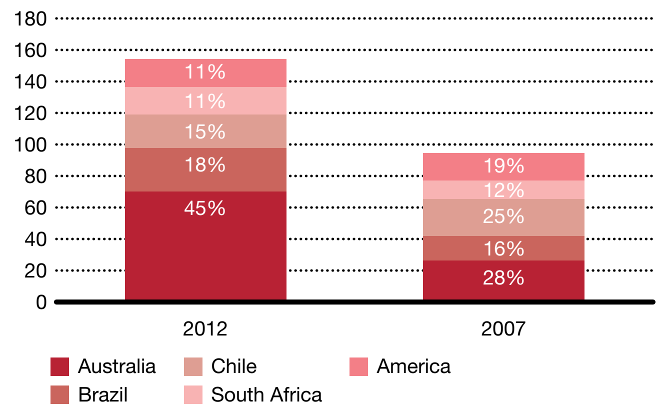
1 Due to Glencore's significant trading activity, they have been excluded from this particular analysis.

Top 5 Diversifieds—2007 and 2012 Segment Revenue ($ billion)



Source: PwC analysis

Top 5 Diversifieds revenue by production region ($ billion)



Source: PwC analysis

Income statement

$ billion	2012	2011	Change %
Revenue	731	710	3%
Operating expenses	(544)	(471)	15%
Adjusted EBITDA	187	239	(22%)
Impairment charges	(45)	(13)	246%
Depreciation & amortisation	(34)	(28)	21%
Royalty expense	(9)	(10)	(10%)
PBIT	99	188	(47%)
Net interest expense	(6)	(6)	0%
Income tax expense	(25)	(48)	48%
Net profit	68	134	(49%)

Effective tax rate	25%	26%	
Equity	682	640	
Capital employed	814	728	
Key ratios			
Adjusted EBITDA margin	26%	34%	
Net profit margin	9%	19%	
Return on capital employed	8%	18%	
Return on equity	10%	21%	

In 2012, increased volumes sold at lower prices, combined with cost pressure and record impairments led to profits decreasing 49% to $68 billion.

Revenue: Softening prices offset by increasing volumes.

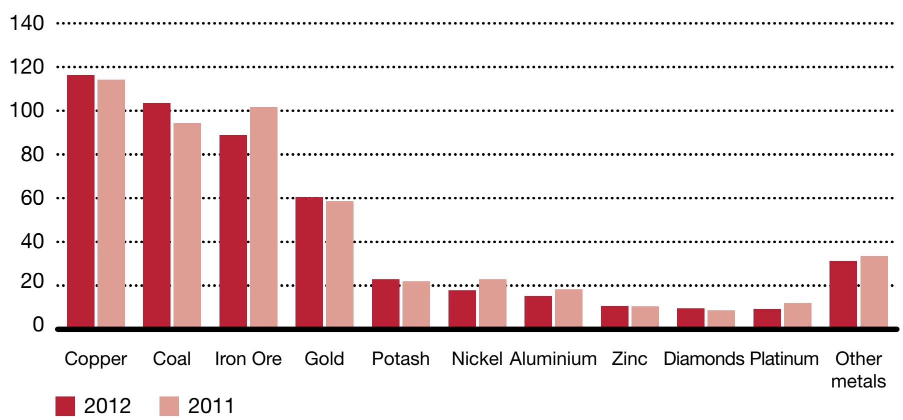
$ billion	2012	2011	
Total revenue	731	710	3%
Less non mining revenue*	(239)	(209)	14%
Core mining revenue	492	501	(2%)
Production, using copper equivalent tonnes	56	53	6%

* Mainly Glencore trading and BHP Billiton petroleum

Mining revenue, which was down 2% year-on-year, continues to be dominated by copper, coal and iron ore which accounted for 64% of the Top 40 revenue (excluding non mining revenue), in line with 2011.

Year-on-year decreases in iron ore revenue of 13% were offset by increases in coal and to a lesser extent copper.

Revenue by commodity ($ billion)



Source: PwC analysis

Iron ore

The Top 40 made up 41% of global iron ore production and approximately 55% of global seaborne volumes. Global iron ore supply increased 5% year-on-year (Top 40 up 7%), and is expected to continue growing as BHP Billiton, Rio Tinto, Vale and Fortescue Metals Group continue expansions in 2013.

The iron ore price went on a roller coaster ride in the second half of the year and many Chinese steel mills destocked which led to a rapid fall in price from $135 per tonne to $86 per tonne. Steel production did not really reduce, however, so the price rebounded equally fast and went into 2013 in the same place as it had been before the drop. There are many that believe a mountain of new supply in 2013/14 will have a negative long term impact on prices. Time will tell.

Copper

The Top 40 dominate copper production more strongly than any other commodity. In 2012 the Top 40 copper production comprised 46% of global volumes which was unchanged compared to 2011.

Coal

The Top 40 make up only 14% of the thermal coal and 13% of the metallurgical coal global markets based on published 2011 volume data. The Top 40 account for more of the seaborne thermal coal and metallurgical coal markets, at 25% and 32% respectively.

Coal revenues for the Top 40 were up 10% in 2012. Thermal coal revenue increased by 13% despite lower prices. Growth was due to volume increases from China with China Coal, Shenhua Energy and Yanzhou Coal growing volumes by 26%. Coal India bucked the trend benefiting from higher realised prices in its domestic market and grew revenue by 24%. Spurred by the demand from local markets, Chinese and Indian companies continue to grow their share of global production.

Gold

The Top 40 produce around 35% the world's gold. Gold revenues increased slightly due to higher gold prices, partially offset by decreased production levels.

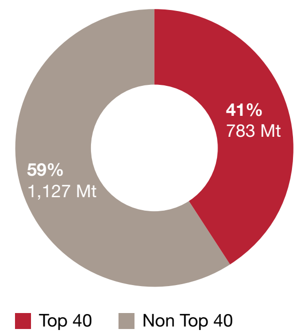
Commodity prices

With the exception of gold all major commodities traded significantly below 2011 average prices. We note that structural changes to pricing mechanisms in iron ore has led to more active spot prices which is leading to increased short term volatility.

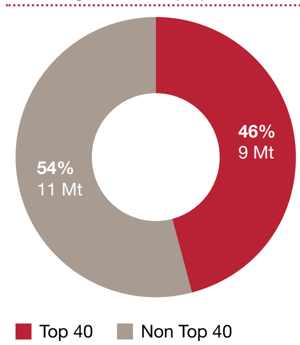
	Iron ore $/dmt	Gold $/oz	Thermal Coal $/tonne	Copper $/tonne
2011 average	168	1,568	121	8,828
2012 average	128	1,670	96	7,962
2012 close	129	1,685	93	7,966
Q1 2013 close	140	1,593	92	7,646

Source: PwC analysis and the World Bank[2]

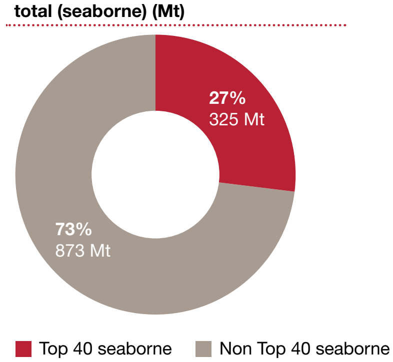
Top 40 Iron ore production in 2012 as a % of global total (Mt)



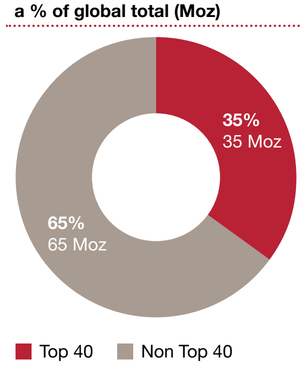
Top 40 Copper production in 2012 as a % of global total (Mt)



Top 40 Combined Met and Themal coal production in 2011 as a % of global total (seaborne) (Mt)



Top 40 Gold production in 2012 as a % of global total (Moz)



Source: PwC analysis

2 Iron ore: the World Bank – Iron ore fines, spot price, CFR China 62% Fe – Thomson Reuters Datastream, World Bank
Gold: the World Bank – Gold (UK), 99.5% fine, London after fixing, average of daily rates – Platts Metals Week; International Monetary Fund, International Financial Statistics
Thermal coal: the Work Bank – Coal (Australia)
Copper: the World Bank – Copper (LME), grade A, minimum 99.9935% purity

Reported headcounts grew by only

2% *in 2012*

but average employee costs increased

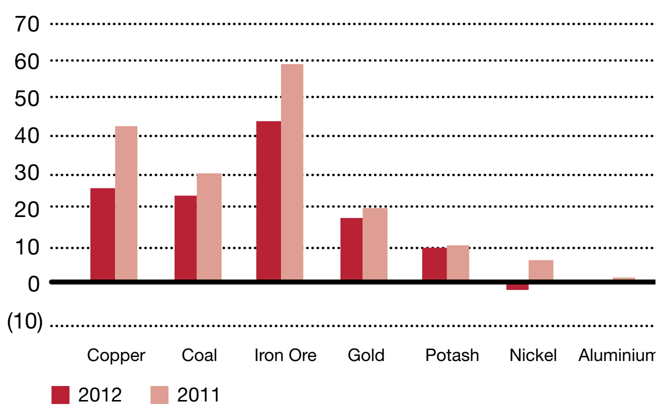
13%

Adjusted EBIT—down for all commodities

EBIT adjusted for impairments was down for all commodities in 2012. Despite iron ore having the largest reduction, it still had the highest EBIT and EBIT margin of all commodities. In addition to lower prices, continued escalation in costs further squeezed the margins of the Top 40.

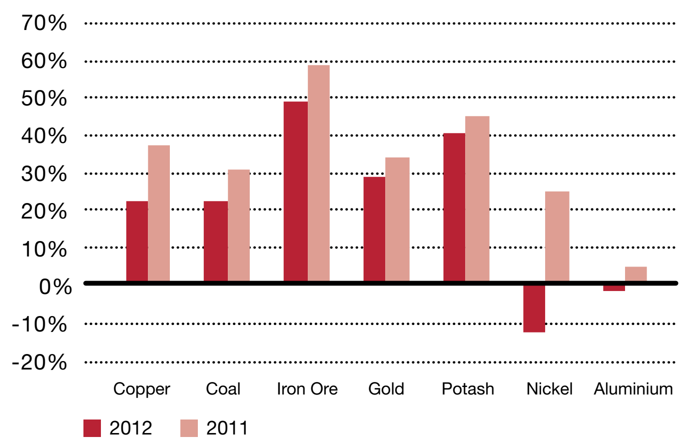
Operating costs grew at a faster rate than production as input cost inflation remained in double digits. Our analysis shows reported employee numbers grew only 2% in 2012 but average employee costs grew 13%. ROCE fell from 14% to 8% reflecting the increasing cost of developing assets that have lower grades and are harder to reach. Announced layoffs and reduced plans in capital expenditure may cool inflationary cost pressures. Still, some key costs such as labour tend not to reduce with demand and many costs are built into the assets. The onus then is on operational efficiency for the Top 40 to improve margins.

Adjusted EBIT by commodity ($ billion)



Source: PwC analysis

Adjusted EBIT margin by commodity (%)



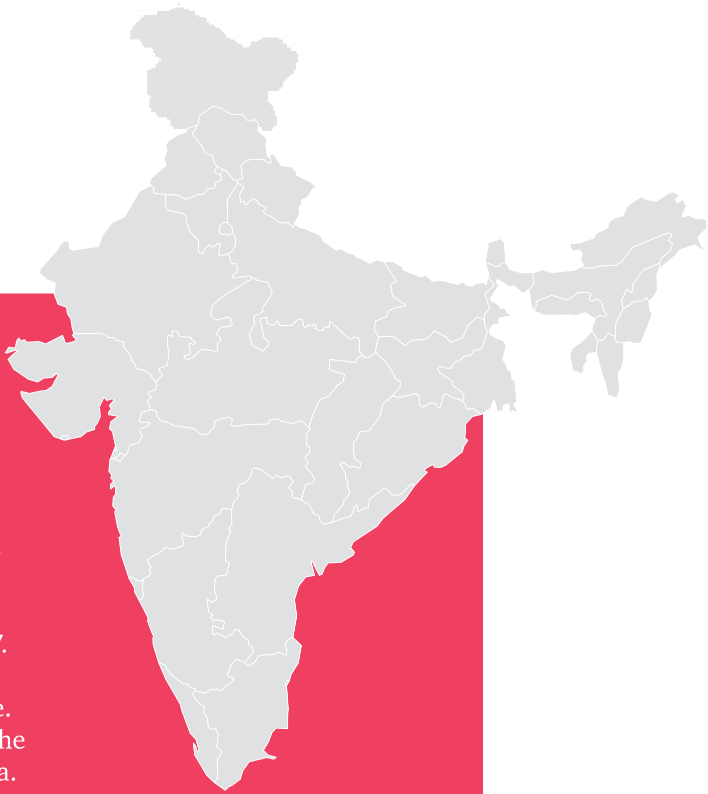
Source: PwC analysis

Record impairments of $45 billion on acquired assets

The four largest write downs account for more than half the impairment charge and relate to Alcan and Riversdale by Rio Tinto, Minas-Rio by Anglo American and Equinox by Barrick.

Returning with low yield bonds

Debt has increased 36%, but interest expense has essentially remained flat. Ignoring differences in capitalised interest, this reflects miners' refinancing previous debt with low yield bonds.



India's role as a coal importer

India's share of internationally imported coal has almost doubled from 6% in 2006 to 11% in 2012 (121 million tonnes) and imports are forecast to grow further to reach 200 million tonnes by 2017. Internationally traded coal is on average priced 15% to 50% above the Indian domestic coal price. Therefore, greater import reliance will increase the cost and volatility of prices currently paid in India.

With 13% of global reserves, the Indian government has announced plans to reduce imports by stimulating domestic production; however they are currently not meeting their ambitious target. Of the 200 assets awarded to captive consumers since 1993 only 30 are currently in production. Government backed Coal India reported that 56 of its 117 announced coal mining projects are delayed, largely due to issues in permitting and land acquisitions.

Until the bottlenecks that prevent the development of local production are successfully addressed it is likely that India's imports of coal will grow, making it a more prominent destination of seaborne coal sales of the Top 40.

Operating cash inflow was down $40 billion and investing cash flow was up $30 billion. Overall, cash balances were maintained above $100 billion through issuance of cheap debt.

Cash flow statement

$ billion	2012	2011	Change %
Cash flow relating to operating activities			
Cash generated from operations	178	216	(18%)
Income taxes paid	(31)	(31)	0%
Other	(10)	(8)	25%
Net operating cash flow	137	177	(23%)
Cash flow related to investing activities			
Purchase of property, plant and equipment	(126)	(100)	26%
Purchase of investments	(37)	(38)	(3%)
Exploration expenditure	(12)	(10)	20%
Other	6	9	(33%)
Net investing cash flow	(169)	(139)	22%
Cash flow related to financing activity			
Dividends paid	(38)	(35)	9%
Shares buy back	(5)	(30)	(83%)
Increase in borrowings	108	68	59%
Repayment of borrowings	(45)	(41)	10%
Shares issuance	5	16	(69%)
Other	(4)	(3)	33%
Net financing cash flow	21	(25)	(184%)
Net movement of cash and cash equivalents	(11)	13	(185%)
Cash and cash equivalents at beginning of the year	116	103	13%
Effect of foreign currency exchange rate on cash and cash equivalents	(1)	-	100%
Cash and cash equivalents at end of the year	104	116	(10%)

Net operating cash flows plunge 23%

The 22% decrease in adjusted EBIDTA translated into an 18% decrease in cash generated from operations. As tax payments typically lag accounting profits the 49% decline in net profit did not impact income taxes paid in 2012 which remained at $31 billion. We anticipate that next year the cash outflow for income tax will decline in line with the 48% decrease in the income tax expense in 2012. However we do not expect the total tax contribution made by the Top 40 to decline as rapidly due to other tax payments such as royalties and employee related taxes being less sensitive to net financial performance.

With net operating cash generation falling by 23% there is already increased pressure on companies to manage their spending and explain to shareholders where their cash is being spent.

Investing cash flows were up, but are they on budget?

Last year the Top 40 forecast $140 billion of investment in 2012. With PP&E and Exploration spend totalling $138 billion at first blush the industry has delivered on budget. However, with costs mounting in the period and a number of key projects being delayed it appears less progress was made than anticipated. Maybe the Top 40 have actually gone over budget?

Financing cash flow was up, thanks to debt raising

Depressed share prices meant share issues were off the table with only $5 billion raised through equity, down 69%. Miners wanting finance raised debt, up 59%, with $108 billion of debt issued in the year.

Despite miners being squeezed by lower commodity prices and cost pressures, dividends were $38 billion, up 9% on 2011.

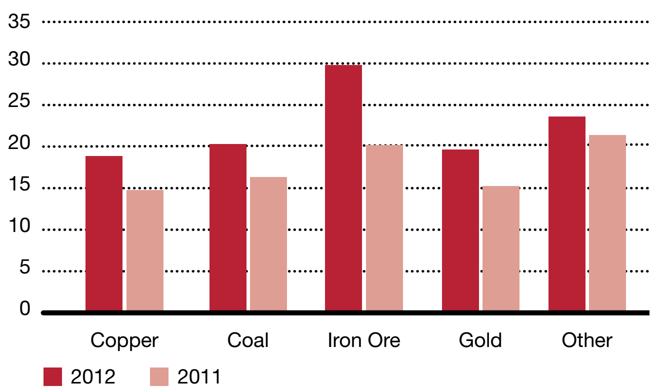
The balance sheet of the Top 40 continued to grow during 2012 with net assets up $42 billion and PP&E up $102 billion despite record impairment charges.

Balance sheet

$ billion	2012	2011	Change %
Current assets			
Cash	104	116	(10%)
Inventories	88	76	16%
Accounts receivable	78	74	5%
Other	40	29	38%
Total current assets	**310**	**295**	**5%**
Non-current assets			
Investment in associates and joint ventures	48	54	(11%)
Property, plant and equipment	701	599	17%
Goodwill and other intagibles	85	83	2%
Other investments and loans granted	16	16	0%
Other	85	65	31%
Total non-current assts	**935**	**817**	**14%**
Total assets	**1,245**	**1,112**	**12%**
Current liabilities			
Accounts payable	102	88	16%
Borrowings	54	35	54%
Other	41	43	(5%)
Total current liabilities	**197**	**166**	**19%**
Non-current liabilities			
Borrowings	216	164	32%
Other	150	142	6%
Total non-current liabilities	**366**	**306**	**20%**
Total equity	**682**	**640**	**7%**
Total equity & liabilities	**1,245**	**1,112**	**12%**
Key ratios			
Gearing %	24%	13%	
Current ratio	1.6	1.8	
Quick ratio (times)	1.1	1.3	
Net borrowings ($ billion)	(166)	(83)	
Creditor days (days)	68	68	

Capital expenditure for copper, coal, iron ore and gold accounted for 79% of the Top 40 spend, which is unsurprising considering these commodities made up 76% of revenue. The biggest increase in expenditure by commodity was iron ore, up 48%. Despite lower prices during the year, iron ore still has the highest margin of all the commodities.

Capital expenditure by commodity ($ billion)



Source: PwC analysis

A game of de-risk and divest...

In 2012 the Top 40 sought to change their focus and began de-risking their portfolio. This led to $1.5 billion of divestments in 2012 and assets held for sale increasing eight-fold to $8 billion.

While gearing up...

During the year gearing increased as net borrowings doubled to $166 billion. BHP Billiton, Rio Tinto, Vale and Anglo American made up 67% of the total increase and at year-end held 50% of total long-term debt. These companies were able to raise a total of $61 billion at an average coupon rate of 3% and average maturity of 12 years.

And managing working capital...

Overall working capital decreased $16 billion compared to 2011, resulting in lower current and quick ratios year-on-year. A significant driver of this was a $20 billion increase in short-term borrowings, related primarily to Glencore borrowing to acquire Viterra, and a $12 billion decrease in cash.

Even though trade creditors increased $14 billion to $102 billion, the Top 40 were able to maintain creditor days at 68.

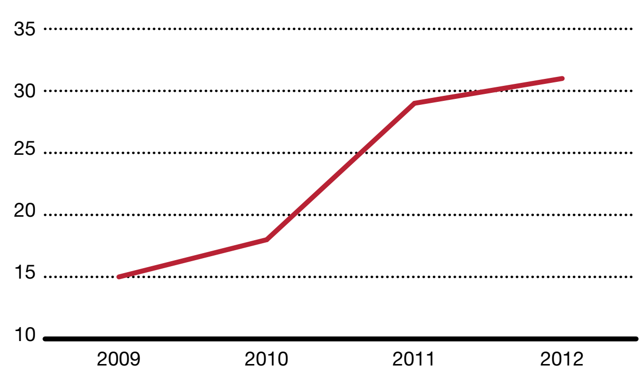
The growing relevance of asset retirement obligations

In many ways, accounting for asset retirement obligations (AROs) is a black art. Numerous assumptions, estimates, and calculations are performed, but companies don't clearly report how the balance is calculated. Why? Because with decades of mine life ahead and larger line items on the balance sheet, investors are not excited. But with emerging mining countries, such as Peru and Indonesia, introducing more stringent closure regulations, cost inflation, and lower discount rates driving higher net discounted provisions, maybe investors should be taking a closer look?

The Top 40's ARO liability has more than doubled over the last four years—sitting at $31 billion at the end of 2012. Over the same period, total assets only increased by 56%.

Disclosures vary widely and do not provide much insight into the full extent of potential exposures. As a result, it is difficult to determine what is an accounting estimate and what will be paid in cash. Year-to-year changes in critical assumptions, such as the discount rate, can have a huge impact on reported liability balances. AROs have increased rapidly and are becoming a larger part of the industry's balance sheet. So, will disclosures catch up with the increasing balances?

Top 40 reported ARO ($ billion)



Source: PwC analysis

84% *of analysts surveyed said they would gain comfort from knowing that non-GAAP measures adhered to some basic 'ground rules'.*

Transparency in cost reporting

In 2013 PwC surveyed 27 mining analysts across five territories—amongst those surveyed, cost reporting and production information was considered one of the key areas where mining companies could improve their reporting.

Cash costs are utilised by many but investors have widely commented on fundamental flaws with such metrics. For example: inconsistency between companies' calculations leads to confusion, and exclusion of sunk costs incurred to develop operations prevents the full picture from being understood.

Companies in the gold sector have begun to acknowledge these short-comings and working together with the World Gold Council, have developed an alternative metric to evaluate their performance—the "all-in sustaining cost" metric. While this goes a long way to bridge the short-comings of the "cash cost" metric by incorporating many of these previously ignored costs, does it really represent the true "all-in" cost of production?

Analysing the new metric, we noted significant increases in reported costs per unit, averaging 56% for those that reported the all-in sustaining cost metric, and as high as a 70% increase in one instance, from the previous cash cost metric. This clearly indicates that concerns over the completeness of cost metrics were well founded, but do they now capture all the costs of production, including sunk costs?

In an industry such as mining where multiple products are produced from one source, significant management judgment is required to allocate the costs across the product base in order to determine the cost per unit. With a lack of information from the reporting entities as to how these allocations are made and how the reported figures reconcile to the primary financial statements, transparency is lost.

While acknowledging that the final definition has not yet been released, we also note that practical application of this metric has already begun to drive divergent application. This has led some observers to believe this metric does not go far enough to address their initial concerns, allowing the industry to hide the fact that it is costing far more to produce than they are willing to admit to. As an example, we note that one analyst already includes project capital, not just sustaining capital, in his analysis.

The gold sector has taken an important first step in reconciling the needs of investors and stakeholders, which other industry groups should consider. With the introduction of so much more management judgment in the calculation, however, has this come at the expense of transparency that will result in the loss of its intended objective?

In our view cost reporting requires increased consistency and transparency across the industry. It needs to highlight operating costs, sunk costs, future capital, sustaining cost and also reconcile to the financial statements. We recognise cost reporting is going through a period of transition, but this is an area that needs to be further pursued.

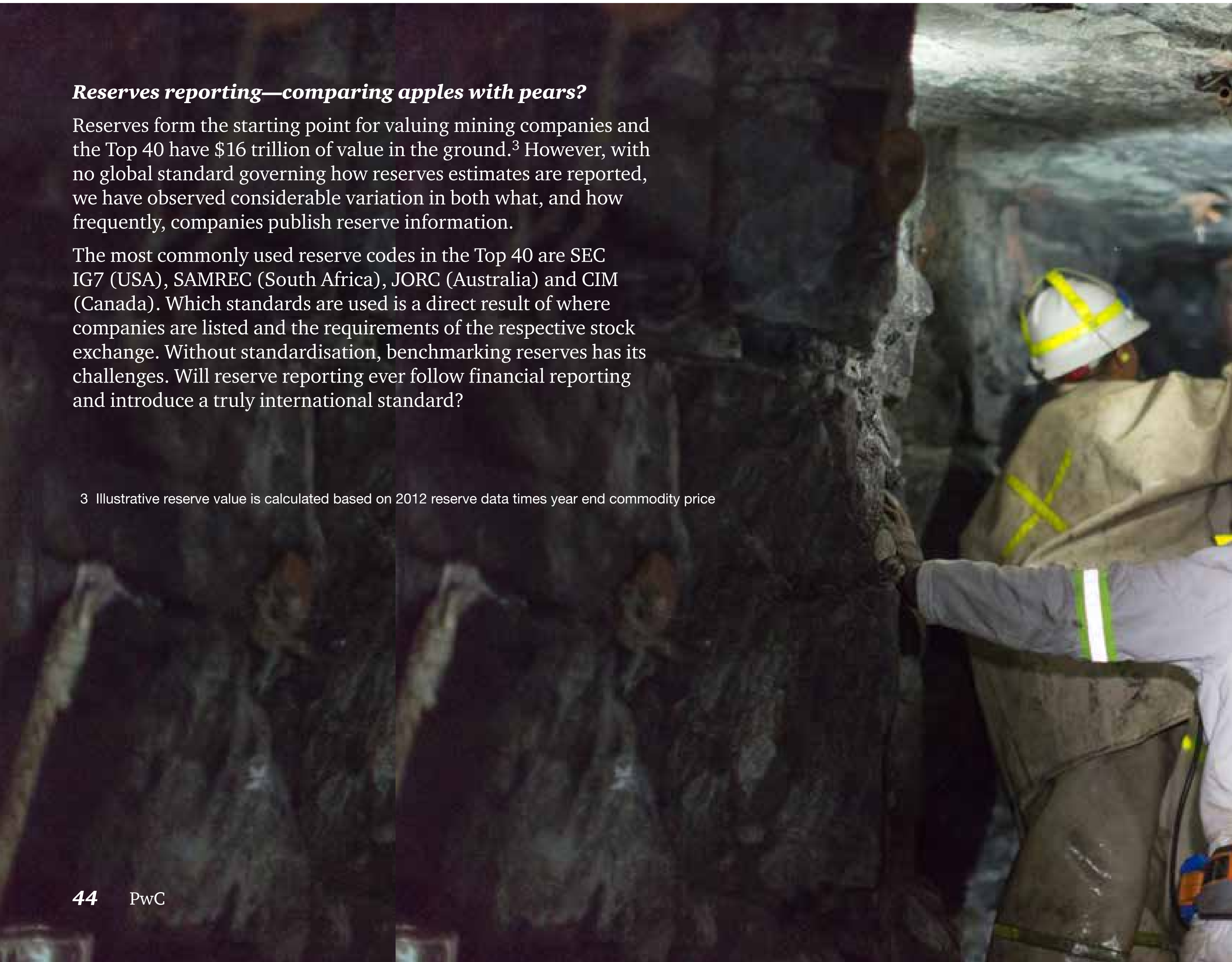
“There needs to be more clarity around the true cash costs, how do they break down? What is operating, stripping, sustaining and capex.”

—Gold industry analyst

“The biggest weakness for me is the use of cash costs instead of all in costs. As an investor you want to know what it costs in total per unit produced.”

—Gold industry analyst

07
Reserves and production



Reserves reporting—comparing apples with pears?

Reserves form the starting point for valuing mining companies and the Top 40 have $16 trillion of value in the ground.[3] However, with no global standard governing how reserves estimates are reported, we have observed considerable variation in both what, and how frequently, companies publish reserve information.

The most commonly used reserve codes in the Top 40 are SEC IG7 (USA), SAMREC (South Africa), JORC (Australia) and CIM (Canada). Which standards are used is a direct result of where companies are listed and the requirements of the respective stock exchange. Without standardisation, benchmarking reserves has its challenges. Will reserve reporting ever follow financial reporting and introduce a truly international standard?

3 Illustrative reserve value is calculated based on 2012 reserve data times year end commodity price

2012 Continuity of reserves	Gold (million ounces)	Platinum (million ounces)	Iron ore (million tonnes)	Copper (million tonnes)	Thermal coal (million tonnes)	Metallurgical coal (million tonnes)	Zinc (million tonnes)	Nickel (million tonnes)	Bauxite (million tonnes)	Potash (million tonnes)
No. of companies	21	4	9	20	10	8	9	8	2	5
2011 reserves	807	271	26,431	341	59,720	6,285	44	16	2,043	1,925
(Depletion)	(35)	(10)	(783)	(11)	(1,223)	(118)	(2)	(1)	(45)	(24)
Other net addition (reduction)	22	8	2,057	21	(1,202)	863	(2)	7	50	190
2012 reserves	794	270	27,706	351	57,295	7,030	40	22	2,048	2,091
Change %	(2%)	(1%)	5%	3%	(4%)	12%	(9%)	35%	0%	9%
Remaining life (years)	23	28	35	31	47	59	17	15	46	87

Source: PwC analysis

Reserve replacement matched 2012's record production, as overall reserves were maintained

Gold – decreases offset by use of a higher reserves price

Gold miners spent $2.1 billion on exploration in 2012 and added 22 million ounces to reserves. How much of this increase relates to new discoveries is unclear. In the past three years gold miners have increased their reserves gold price assumption by approximately 25% (source: PwC's 2013 Gold Price Survey)—meaning lower grade material becomes economically feasible to mine and is included in reserves.

Going forward we do not expect gold reserves to increase in the near term—partly due to the recent fall seen in gold price but primarily due to an observed global decrease in exploration drilling activity for gold.

Iron ore – increase from brown field exploration

Up 5% from 2011, 95% of the increase relates to additions reported by Anglo American (Minas-Rio) and Vale (Germano). Despite these projects adding to reserves, record production of iron ore meant reserve life reduced from 36 to 35 years.

Coal – differences driven by Chinese miners

Metallurgical coal reserves increased 12%, primarily from the effects of China Coal consolidating within the Chinese coal market. Thermal coal was down 4% primarily due to Yanzhou Coal, using of a different reserve standard compared to 2011.

Nickel – the biggest riser

BHP Billiton, First Quantum, Vale, Xstrata and Norilsk Nickel represented 35% of the Top 40 reserves, with brown field exploration at Norilsk Nickel contributing the bulk of the increase.

Production

Commodity (measure)	Production (measure)	Change from prior year (%)
Gold (oz)	35	(11%)
Platinum (oz)	10	(12%)
Iron ore (tonnes)	783	7%
Copper (tonnes)	11	2%
Thermal coal (tonnes)	1,223	12%
Metallurgical coal (tonnes)	118	4%
Zinc (tonnes)	2	(20%)
Nickel (tonnes)	1	17%
Bauxite (tonnes)	45	10%
Potash (tonnes)	24	(12%)

Source: PwC analysis

Given the higher average prices in 2012, gold miners were not short of incentives to increase production. However, the trend of declining grades resulted in an 11% decrease. Platinum production was down 12% with labour strikes in South Africa affecting production from Anglo American and Impala Platinum.

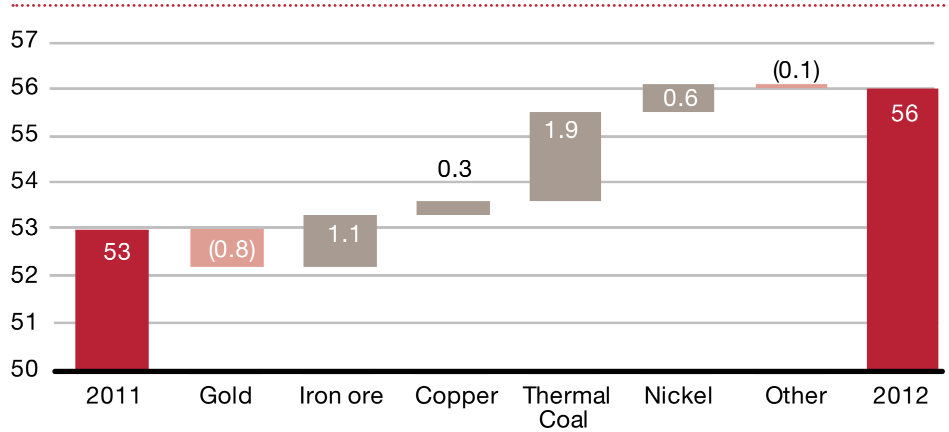
The continued growth by the world's main iron and steel consumer, China contributed to the increase in demand for iron ore. Production from many of the Top 40's iron ore producers, including Anglo American, BHP Billiton, Fortescue Metals Group and Rio Tinto, increased as investments in expanding key assets started to come on line.

Copper production is keeping up with prior years and we expect production to strengthen in the future when projects such as Mongolia's Oyu Tolgoi (Rio Tinto) come on stream.

Potash production was negatively impacted by the decrease in demand from Brazil, China and India during the year. Demand in India declined significantly due to changes in fertiliser subsidies and a weaker Rupee, which led to higher retail prices and reduced demand.

Using one tonne of copper as an equivalent unit basis, production across all commodities was up 6% over 2011.

Total production using copper equivalent tonnes—2012 average prices



Source: PwC analysis

08 Resource nationalism's continued impact

Resource nationalism remains as one of the industry's biggest risks. Relatively high commodity prices, particularly for well followed and visible commodities like gold, have prompted many governments to continue to seek a greater percentage of mining profits.

Governments are now looking at different strategies to extract a greater share of the value from mining operations. These strategies range from increasing taxes and royalties to restricting foreign ownership. This trend is also not unique to frontier mining countries as traditionally "mining friendly" countries such as Australia and Canada have also increased taxes and royalties. The issue is particularly distressing to emerging markets since it could increase the cost of minerals which could in turn limit their ability to urbanise and reduce economic growth in the jurisdictions that are driving demand for minerals. So how are governments looking to get a larger piece of the action?

Governments are changing how mining is taxed...

The announcement of Australia's Resource Super Tax, was a huge blow to mining companies. The global ripple effect has been to raise concern that if Australia, traditionally a mining friendly country, could do this, anyone could. Stiff new mining taxes in the Canadian province of Quebec add to these worries.

Zambia, Ghana, India, Brazil and the USA, to name a few, have announced or implemented plans to increase mining taxes and royalties. Many of these changes are levied on gross revenues or gross profits rather than net profits. This is particularly bad for miners as net profits have fallen, but revenues stayed flat. Ultimately this may reduce investment in those jurisdictions since royalties on revenues will negatively impact the production cost and the pre-tax rate of return.

...how products are processed...

Requiring in-country processing or beneficiation prior to export is another available lever. South Africa, Indonesia, Brazil, the Democratic Republic of Congo, and Vietnam have announced plans to require a form of in-country beneficiation.

Encouraging in-country processing can also be achieved indirectly by imposing export restrictions and increasing export levies on unrefined ores. India raised iron ore export duties from 20 to 30% and Indonesia announced a 20% tax on exports of 65 categories of unprocessed ores.

In-country processing promises to capture a greater part of the value chain—creating jobs, developing skills, and improving local technology. But these requirements can be unrealistic and can throttle upstream mining projects. Local companies can struggle to finance expensive beneficiation plants. Many processing technologies are energy intensive and local power supply can be lacking or prohibitively expensive.

...and how mines are owned and licenced.

Local ownership requirements or caps on foreign ownership are becoming increasingly common. In some cases government owned companies will get a stake, in others it will be private local companies. To justify the risks, mining projects need to have an appropriate level of reward. Changing ownership levels after risks have been taken impacts the reward. In many cases miners take all the risk and only receive part of the return.

Notable examples include:

- Zimbabwe's indigenisation policy requiring 51% of any mining project be held by indigenous Zimbabweans.
- Indonesia's announced plans for all mines to be 20% locally owned after five years of production and 51% after ten years.
- Mongolia's 49% cap on foreign ownership of strategic mines.
- Russia's restrictions on foreign investors seeking to acquire control of Russian mining companies or assets that are deemed strategic.

Complex license obligations are another issue faced, with unclear terms, monitoring and compliance is not always straightforward and can be open to interpretation. In the worst cases governments can use licensing as a tool to change the terms of what was agreed or as a bargaining chip.

So are short term pressures affecting long term success?

Being tough with mining companies might look good to stakeholders at home in the short run. But governments should consider a broader view of the return from natural resource development. Mining activities provide jobs, both direct and indirect payroll taxes, infrastructure and promote overall economic development.

Continued resource nationalism from governments makes the countries less attractive for mining investment. Additionally, the legislative lag in introducing new laws means that nationalism is coming at a time when the industry is struggling. Governments should consider the risk of losing these mining investments and the impact on their economy and infrastructure development.

The slowdown in global commodity prices has led to record write-downs of assets and forced some mining companies to shelve expansion plans. With the increased focus on capital discipline, mining companies will be paying more attention to where they will invest. Given the long term nature of mining projects, mining companies must consider the danger that jurisdictions that are low risk today might enact various forms of resource nationalism tomorrow. The main issue is that resource nationalism is never more than an election away. To attract mining investment, governments should provide long term assurance to companies, for example through robust stability clauses in mining agreements. By being more consistent, countries would be more attractive for foreign investment.

Are some governments softening their stance?

There has been a slight shift in some countries where they are introducing industry specific incentives. These governments have at least somewhat realised that aggressive resource nationalism can hurt the revenues they are trying to generate and citizens they are trying to help. Recent weaker commodity prices and large quantities of additional supply coming on-stream for commodities such as iron ore have been a blessing in disguise with countries like Brazil potentially not being as tough as they could be with new mining laws. But as miners become increasingly global, governments are going to need to realise that the only prize for being the toughest country on mining may be no mining industry at all.

09 Glossary

Adjusted EBITDA	EBITDA adjusted to exclude impairment charges. A measure that is close to the underlying cash earnings of a company before servicing its capital base
Adjusted EBITDA margin	Adjusted EBITDA / Revenue
Capital employed	Property plant and equipment plus current assets less current liabilities
Creditor days	Accounts payable / Operating expenses * 365
Current ratio	Current assets / Current liabilities
Dmt	Dry metric tonne
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
EBITDA margin	EBITDA / Revenue
Free cash flow	Operating cash flows less investment in property, plant and equipment
GDP	Gross domestic product
Gearing ratio	Net borrowings / Equity
IFRS	International Financing Reporting Standards
IMF	International Monetary Fund
Market capitalisation	The market value of the equity of a company, calculated as the share price multiplied by the number of shares outstanding
Net assets	Total assets less total liabilities
Net borrowings	Borrowings less cash
Net profit margin	Net profit / Revenue
Oz	Troy ounce
Price-to-earnings ratio (PE ratio)	Market value per share/earnings per share
Quick ratio	(Current assets less inventory) / Current liabilities
Return on capital employed (ROCE)	Net profit / Property, plant and equipment plus current assets less current liabilities
Return on equity (ROE)	Net profit / Equity
Top 10	BHP Billiton, Rio Tinto, Vale, China Shenhua, Xstrata, Glencore, Anglo American, Coal India, Potash Corp and Barrick Gold.
Top 40	40 of the world's largest mining companies by market capitalisation
Top 5 Diversifieds	BHP Billiton, Rio Tinto, Vale, Xstrata and Anglo American
Working capital	Current assets less current liabilities

10 Top 40 companies analysed

Name	Country (**)	Year end
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
China Coal Energy Company Limited	China	31-Dec
China Shenhua Energy Company Limited	China	31-Dec
Coal India Limited	India	31-Mar
Eldorado Gold Corporation*	Canada	31-Dec
First Quantum Minerals Limited	Canada	31-Dec
Fortescue Metals Group Limited	Australia	30-Jun
Freeport-McMoRan Copper & Gold Inc.	United States	31-Dec
Glencore International plc	UK	31-Dec
Goldcorp Inc	Canada	31-Dec
Gold Fields Limited	South Africa	31-Dec
Grupo México S.A.B. de CV	Mexico	31-Dec
Impala Platinum Holdings Limited	South Africa	30-Jun
Industrias Penoles S.A.B. DE CV	Mexico	31-Dec
Inner Mongolia Baotou Steel Rare-Earth Hi-Tech Co.	China	31-Dec
Inner Mongolia Yitai Coal Co. Limited*	China	31-Dec
Jiangxi Copper Company Limited	China	31-Dec
KGHM Polska Miedz Spolka Akcyjna *	Poland	31-Dec
Kinross Gold Corporation	Canada	31-Dec
Minera Frisco, S.A.B. de CV*	Mexico	31-Dec
Newcrest Mining Limited	Australia	30-Jun
Newmont Mining Corporation	United States	31-Dec
NMDC Limited	India	31-Mar
MMC Norilsk Nickel	Russia	31-Dec
Polyus Gold International Limited	UK	31-Dec
Potash Corp. of Saskatchewan, Inc.	Canada	31-Dec
Rio Tinto plc / Rio Tinto Limited	UK/Australia	31-Dec
Silver Wheaton Corporation	Canada	31-Dec
Teck Resources Limited	Canada	31-Dec
The Mosaic Company	United States	31-May
Uralkali JSC	Russia	31-Dec
Vale SA	Brazil	31-Dec
Xstrata plc	UK	31-Dec
Yamana Gold Inc	Canada	31-Dec
Yanzhou Coal Mining Company Limited	China	31-Dec
Zijin Mining Group Company Limited	China	31-Dec

(*) Refers to companies which were not included in the 2011 analysis
(**) Refers to the country of primary listing where shares are publicly traded

11 Explanatory notes for aggregated financial information

We have analysed 40 of the largest listed mining companies by market capitalisation (the Top 40). 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 2012 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 Practice (US 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 2012 covers reporting periods from 1 April 2011 to 31 December 2012, 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 closing 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, except where noted.

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

12 Other PwC Mining Publications

Our commitment to the industry goes beyond our services. As industry leaders, we are globally recognized 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.

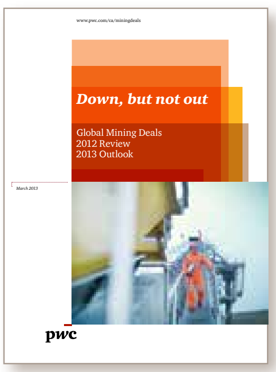
April 2013

Our new productivity scorecard for the mining sector: Productivity, not Austerity

The fundamental business dynamic of the mining industry is changing. No longer can miners focus on expansion at any price—the so called “volume frenzy”—and simply rely on high commodity prices to maintain profitability and deliver shareholder returns. Rather, fluctuating commodity prices combined with a ballooning cost base have reduced profits and challenged asset values. This has prompted an urgent need for better capital investment disciplines as well as a closer focus on productivity. Recent senior leadership changes at a number of major mining companies are evidence of this strategic shift as Boards gear up to respond to new priorities.

Contact

Jock O’Callaghan,
Melbourne
+61 (3) 8603 6137
jock.ocallaghan@au.pwc.com



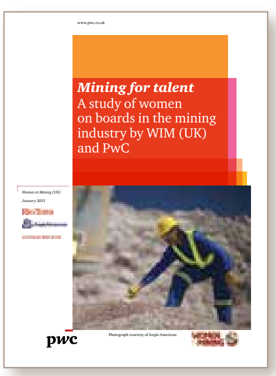
March 2013

Global Mining Deals: Down, but not out

It was far from the most active year for mining mergers and acquisitions (M&A), but 2012 had its share of exciting transactions and trends. Those participating in the deal market will remain cautions not to overpay for assets or make investments that appear too risky to shareholders. While 2012 was already a disciplined year for M&A activity, miners will be equally as cautions in 2013.

Contact

John Gravelle, Toronto
+1 416 869 8727
john.gravelle@ca.pwc.com



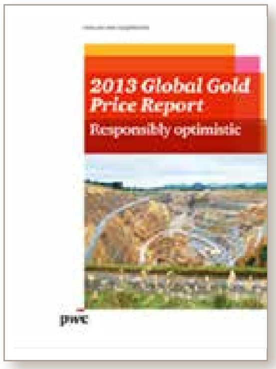
January 2013

Mining for talent: A study of women on boards in the mining industry

We have published a report in conjunction with Women in Mining on trends of women on boards and senior executive positions in the global mining industry.

Contact

Jason Burkitt, London
+44 20 7213 2515
jason.e.burkitt@uk.pwc.com



December 2012

2013 Global Gold Price Report: Responsibly optimistic

Annually, PwC surveys gold mining companies from around the world. This year we contacted executives from a cross-section of senior, mid-tier and junior gold mining companies representing 35million of ounces of gold mined in 2012 and 35million of ounces expected to be mined in 2013.

Contact

John Gravelle, Toronto
+1 416 869 8727
john.gravelle@ca.pwc.com

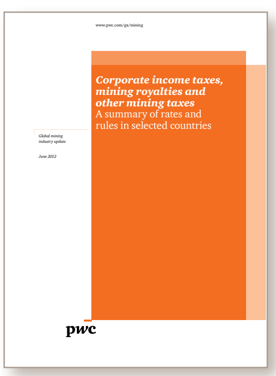
November 2012

The Financial reporting in the mining industry (FRIM)

2012 edition looks at how IFRS is applied in practice by mining companies, identifying unique issues for the industry. In this edition we include a number of examples to demonstrate how companies are responding to the various accounting challenges along the value chain.

Contact

Jason Burkitt, London
+44 20 7213 2515
jason.e.burkitt@uk.pwc.com



June 2012

Corporate income taxes, mining royalties and other mining taxes: A summary of rates and rules in selected countries

This summary of income taxes, mining taxes and mining royalties should allow the reader to roughly compare the various governmental costs of investing in a mining operation in a particular country.

Contact

Stephen F. Ralbovsky, Phoenix
+1 (602) 364 8193
steve.ralbovsky@us.pwc.com

Regional mine publications

Besides the Global Mine publication, PwC prepares a number of regional mine publications which focus on analysis of trends in the mining industry in particular regions.

November 2012

Junior Mine 2012: Must survive before you can thrive

Annually PwC analyses to Top 100 mining companies listed on the TSX Venture Exchange, based on market capitalisation at 30 June 2012.

Contact

John Gravelle, Toronto
+1 416 869 8727
john.gravelle@ca.pwc.com

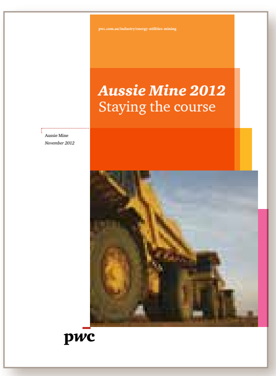
November 2012

SA Mine: Highlighting trends in the South African mining industry

Our findings are based on the financial results of mining companies with a primary listing on the Johannesburg Stock Exchange (JSE), as well as those with a secondary listing whose main operations are in Africa. We only included companies with a market capitalisation of more than R200 million at the end of June 2012, and we excluded companies with suspended listings.

Contact

Hein Boegman, Johannesburg
+27 (11) 797 4335
hein.boegman@za.pwc.com



November 2012

Aussie Mine—Staying the course

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 2012 (the mid-tier 50).

Contact

Tim Goldsmith, Melbourne
+61 3 8603 2016
tim.goldsmith@au.pwc.com

Mining Excellence@PwC

Delivering local solutions to global challenges

The mining sector is facing a range of competing trends and a rapidly changing global business environment. Against the backdrop of commodity price fluctuations, miners need to balance shareholder dividend expectations whilst maintaining an investment pipeline in the midst of increasing operating costs. Safety, environmental and community principles also continue to shape the industry as miners look to achieve their licence to operate and deliver on corporate responsibilities.

Mining Excellence@PwC has been designed to mobilise and leverage PwC's collective global knowledge and connections to deliver an exceptional and tailored client experience, helping our clients navigate the complex industry landscape and meet their growth aspirations. Our team of specialists is exclusively focused on the sector and brings an industry-based approach to deliver value for you and your organisation.

"Working in the sector for over 20 years, I have seen and worked across the mining sector in both good times and bad. It's fantastic to see our clients and PwC teams working together to respond to the everchanging business dynamics miners face today."

Tim Goldsmith, PwC Global Mining Leader

Mining Excellence@PwC provides our clients:

leading edge ***knowledge*** *and global thought leadership*

With significant investment in the research behind our mining publications and a comprehensive industry learning and development program, our professionals can share both industry and technical insight with our clients, such as:

- A library of industry publications designed to help challenge "conventional" thinking and delve into topical industry issues. This includes:
  - global thought leadership publications including *Mine* and *Mining Deals*
  - flagship territory publications focused on regional and industry-specific issues

- an extensive industry development program for our people and clients. This features our annual learning and development programs:
  - *Hard Hat: The Mining Experience* (Australia)
  - *Americas School of Mines* (North America)
  - *London School of Mines* (United Kingdom)
  - *Asia School of Mines*

connections *to our vast network of mining experts and global client portfolio*

We have the widest network of industry experts who work out of strategic mining hubs across the globe to help better connect you to vital mining markets.

Our connections provide:

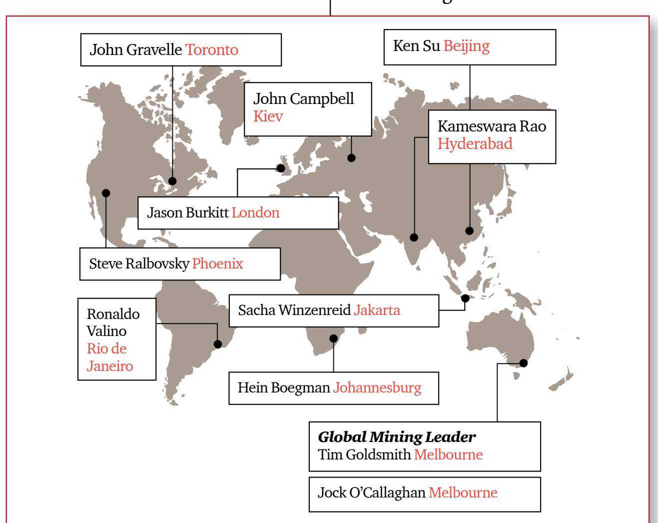
- seamless client service delivered with collaborative cross-border account management
- maximised deal potential through a well-connected global community of mining leaders
- a mobile workforce to ensure effective service delivery in even the most remote mining locations.

the ***delivery*** *of an experience that meets our clients' definition of 'value'*

With mining experts working around the globe, our award winning teams are helping clients deliver on specific projects and organisational growth aspirations. We offer advisory, tax and audit services to global corporations and locally listed companies.

Mining Excellence@PwC complements this with:

- a suite of niche mining consulting capabilities focused on optimising value across mining operations and effectively managing risk to help our clients grow their business and deliver shareholder value
- a comprehensive client feedback program to ensure we are always improving and delivering on individual client needs.



pwc

13 Contacting PwC

PwC firms help organisations and individuals create the value they're looking for. We're a network of firms in 159 countries with more than 180,000 people who are committed to delivering quality in assurance, tax and advisory services.

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
Tim Goldsmith, Melbourne
+61 3 8603 2016
tim.goldsmith@au.pwc.com

Indonesia
Sacha Winzenried, Jakarta
+62 21 5289 0968
sacha.winzenried@id.pwc.com

Africa
Hein Boegman, Johannesburg
+27 11 797 4335
hein.boegman@za.pwc.com

Australia
Jock O'Callaghan, Melbourne
+61 3 8603 6137
jock.ocallaghan@au.pwc.com

Latin America
Ronaldo Valino, Rio de Janeiro
+55 21 3232 6139
ronaldo.valino@br.pwc.com

Canada
John Gravelle, Toronto
+1 416 869 8727
john.gravelle@ca.pwc.com

Russia and Central & Eastern Europe
John Campbell, Kiev
+380 44 490 6777
john.c.campbell@ua.pwc.com

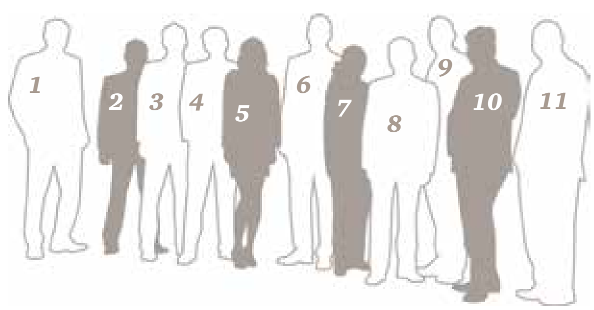
China
Ken Su, Beijing
+86 10 6533 7290
ken.x.su@cn.pwc.com

United Kingdom
Jason Burkitt, London
+44 20 7213 2515
jason.e.burkitt@uk.pwc.com

India
Kameswara Rao, Hyderabad
+91 40 6624 6688
kameswara.rao@in.pwc.com

United States
Steve Ralbovsky, Phoenix
+1 602 364 8193
steve.ralbovsky@us.pwc.com

14 *Key contributors to* Mine



1. Franz Wentzel, Australia
2. Malvino Yudo, Indonesia
3. Aramyees Broderick, Brazil
4. John Matheson, China (Project leader)
5. Rebecca Chan, Canada
6. Peter Acloque, United Kingdom (Project leader)
7. Janandre Lamprecht, South Africa
8. Chaitanya Mawji, Tanzania
9. David Buist, United States of America
10. Pukhraj Sethiya, India
11. Paul Qiu, China

Written on location in Beijing, China

www.pwc.com/mining

Designed by US Studio. MW-13-0414