

Mine 2014

Realigning expectations



The Mine Series



2004
Mine



2008
As good as it gets?



2012
The growing disconnect



2005
Enter the Dragon



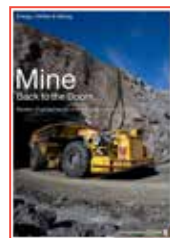
2009
When the going gets tough...



2013
A confidence crisis



2006
Let the good times roll



2010
Back to the boom?



2014
Realigning expectations



2007
Riding the wave



2011
The game has changed





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The Top 40 bit the bullet, booking record impairments of \$57 billion

**\$57
billion**

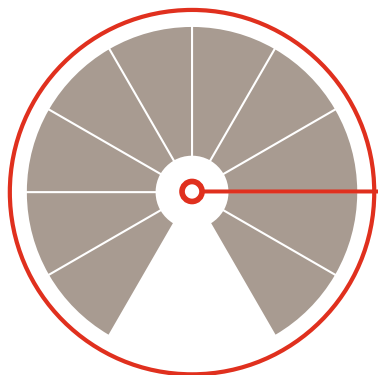
this drove aggregate net profits of the Top 40 to their deepest depths in a decade at \$20 billion

**\$20
billion**

...and market capitalisation of the Top 40

***fell by
\$280
billion
or 23%***

2013 was a year that forced miners to realign expectations:



...capital velocity,

while still outperforming most other industries,

has flattened,

showing the change in priorities and the tightening of belts



Net debt is up by

42%

...but dividends paid continued to increase

...increased expectations from

shareholders

to focus on core operations and increase shareholder returns

and host nations

increased taxes, resource nationalism and geopolitical changes abound, with elections in several key mining territories in 2014 driving populist agendas



***commodity
prices are down***



...the Top 40 is now comprised of more companies from emerging markets than traditional mining centres, and this trend looks set to continue

***All of this in response to one of the most
difficult operating environments for years:***

...the change in the global mining landscape saw a divergence in collective performance between emerging market companies and their developed market counterparts –

*2013 net profits from
emerging market
companies were
\$24 billion in
aggregate,*

*compared to an
aggregate net loss of
\$4 billion for developed
market companies, impacted
particularly by impairments*

new CEOs
*installed in nearly half of the
Top 40 over the last two years*

***2014 will see if the renewed strategies of miners can successfully lift
the industry off the bottom by delivering sustainable growth...***





Executive summary

Welcome to PwC's 11th annual review of global trends in the mining industry – Mine. This analysis is based on the financial performance and position of the global mining industry as represented by the Top 40 mining companies by market capitalisation.

The mining industry – a continuation of the confidence crisis

The consequences of mining's confidence crisis continued throughout the year – one of the toughest years in memory for mining – and it seems no one was immune.

The Top 40's market value declined \$280 billion during the year, a 23% reduction on the prior year, down to \$958 billion at 31 December 2013, with gold particularly hard hit. Diversifieds and coal didn't fare much better as the sector took a beating. Early 2014 saw some semblance of calm return to mining markets with market capitalisation for the Top 40 stable, evidence that some level of confidence may be returning.

Commodity prices dipped again; gold producers were the hardest hit with gold prices suffering their greatest annual decline in over 30 years. Many commodities encountered short term demand volatility coupled with calls for restraint over projected growth rates in the next 3-5 years, although China's expected growth remains strong in absolute and relative terms. At current prices, many producers are on the wrong side of the marginal cost curve, which cannot be sustained for extended periods.

Results near rock bottom...

After reeling from then record impairments of \$40 billion during 2012, a further \$57 billion of assets were wiped off balance sheets during 2013. Gold companies suffered the lion's share, impairing \$27 billion of assets.

The Top 40's aggregate net profit sank \$52 billion (72%) to a decade low \$20 billion; gold companies were responsible for \$20 billion of net losses. Only seven of the Top 40 increased profits year on year. However, in light of the significant decrease in commodity prices, and the difficulties in slowing the inertia of operating costs, underlying performance as represented by adjusted EBITDA withstood the tough conditions, only down 8%.

Operating cash inflows went backwards, down 7% from 2012, partially offset by lower investing cash outflows. Measuring success of the short-term responses to cost cutting initiatives is difficult as there is little consistency in what is reported as "cost savings" and operating costs have not yet slowed, increasing 4% during 2013. The full extent of reported cash saving initiatives across the Top 40 will only become apparent during the remainder of 2014 and beyond.

Capital allocation decisions remain challenging

Capital expenditures of the Top 40 increased marginally during the year, which was somewhat surprising given the focus on capital discipline. Capital velocity, however, slowed significantly as capital expenditure figures demonstrated the extent of efforts to defer and minimise spend on significant capital projects, while being more selective with capital allocation. Also for the first time in a decade, free cash flow (operating cash flows less investment in property, plant and equipment) entered negative territory.

Exploration was down more than 30% during 2013 and capital expenditure in 2014 is expected to diminish by more than 10% based on announcements from the Top 40. While perhaps effective now, in the not too distant future a lack of long-term investment will set the scene for the next round of fears over supply shortages. These factors, combined with heightened sovereign risk concerns and a focus on long-life Tier 1 assets are changing the way the Top 40 assess project economics.

The Top 40 continue to tap debt markets, which isn't surprising considering the cheap cost of debt compared to equity. As a result, net debt increased 42% during 2013 as miners extended their repayment profiles.

Strategies to regain confidence

The leadership changes continued, with seven new faces taking the helm. Almost half of the Top 40 CEOs have changed over the last two years.

Despite diminished profitability and shrinking cash, dividend yields from the Top 40 continued to increase, with gross dividends paid up 5% and dividend yields slightly up to 4%. Were dividend pay-outs a short term means of shoring up investor support for the Top 40 CEOs while they work hard to build sustainable performance improvements going forward?

Traditional quick-fixes to falling commodity prices were widely adopted; park your fleet, reduce head count, slash costs, defer capital expenditure. However we are also starting to see some more fundamental shifts in strategy emerge, namely:

- active portfolio management with a push to simplify structures and a focus on extracting value from higher quality assets;
- with capital constrained budgets, a move to sharing mining infrastructure as a means to reduce operating costs, realise efficiencies and spread capital and risk; and
- a commitment to addressing diminishing productivity levels.

Realigning expectations – lifting off the bottom

Our *View from the top* sees CEOs of the Top 40 aware of the need to be seen amongst their peers as low cost producers, and to deliver on realigned strategies. Against this backdrop, the licence to operate in all corners of the globe is becoming more challenging, with governments increasingly eager to expand their share of taxes and royalties, and local communities expecting more and more for operating in their back yards. Governments continue to lean on mining companies at a time when they can least afford it, and elections in Brazil, India, Indonesia and South Africa have driven greater uncertainty on fiscal stability.

2013 has for the first time seen a majority of the Top 40 come from emerging markets, and given their current performance and greater recent appetite to spend on capital, this trend looks set to continue.

Splitting the profit of the Top 40, emerging market companies netted \$24 billion (2012: \$39 billion) while the developed market companies lost \$4 billion

collectively (2012: profit of \$33 billion). Of note is the fact that developed market companies have seen a much greater impact from asset impairments, particularly related to intangibles and goodwill, demonstrating the higher M&A driven investment in the developed markets during the recent boom times.

Strategic investment decisions adopted will need a stable platform, being mindful of the differing challenges from resource nationalism initiatives, and ever changing tax and regulatory environments.

The question remains as to who will be bold enough to thrive in these difficult times. M&A activity which was surprisingly subdued in 2013 seems to have started to pick up in early 2014. This is not surprising with company valuations at relative lows. We can expect to see some moves towards consolidation –friendly or otherwise – if only to seek out synergies to reduce costs in this low price environment, consistent with the new mantra of lower costs and higher productivity.

Further into 2014, after cleaning house and backed by a stronger U.S. economy and continued strong demand from China, investors will grow impatient for demonstrable returns from the strategies adopted by the Top 40 to lift the industry off the bottom.

John Gravelle

Global Mining Leader
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Industry in perspective

Realigning expectations

A confluence of factors has forced the mining industry to react to changing times:

- commodity prices continuing to fall
- new CEOs in nearly 50% of the Top 40 over the last two years
- pressure from shareholders to improve returns
- cost reduction initiatives taking time to implement
- focus on delivering disciplined capital allocation
- licence to operate becoming increasingly difficult, particularly in emerging economies
- more emerging markets companies in the Top 40.

*Despite the headwinds,
are we starting to lift
off the bottom?*



Industry performance

2013 was another challenging year for the industry with double digit decreases not uncommon across commodity prices. Gold suffered the greatest price decline during the year of 27% which was the commodity's biggest annual decline in over 30 years.

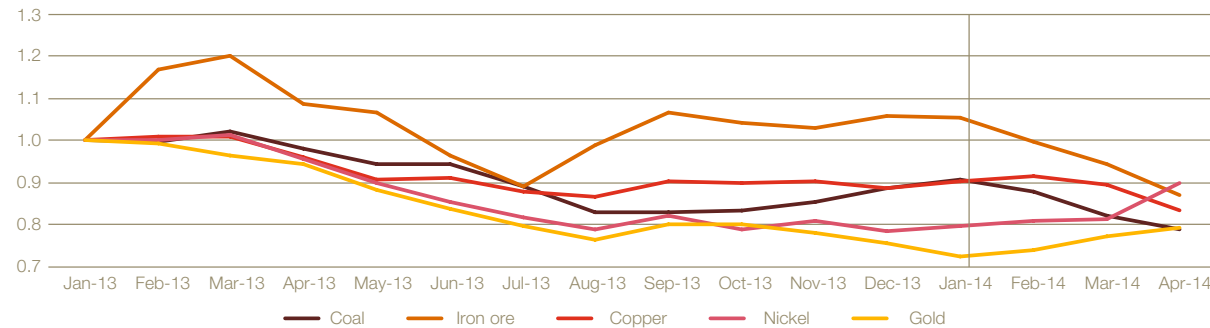
In line with commodity prices, performance of mining stocks was lacklustre. The overall HSBC global mining index decline for the year was 23% but it could have been worse; at June 2013 it was down 34% against December 2012. This decline was driven by the negative commodity price outlook but also in part due to the continued lack of confidence from investors based on historical performance.

In contrast, the Dow Jones and FTSE-100 rose by 27% and 15% respectively, largely due to the U.S. Federal Reserve's tapering of quantitative easing measures and the renewed optimism towards the U.S. economy.

Despite the overall performance during the year, it appears the mining industry was finally able to stabilise the growing disconnect to the broader markets which widened over the prior two years. Starting in mid-2013 the mining industry began trending in line with the performance of the broader markets. This trend continued into the first four months of 2014, but a significant gap still remains.

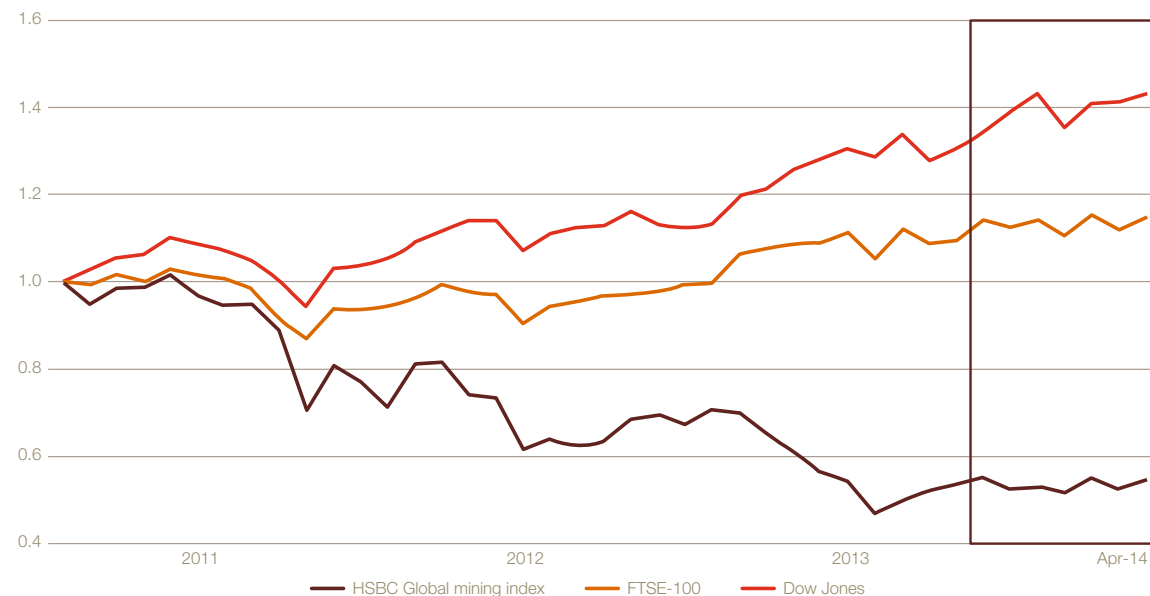
Despite volatility, the industry is still supported by overall long-term demand fundamentals, specifically from emerging markets, particularly China. The recent stabilisation of the mining index since the second half of 2013 may indicate that the confidence crisis is finally over and investors are starting to contemplate a return to the mining sector.

Price indices, selected commodities (January 2013 = 1)



Source: The World Bank

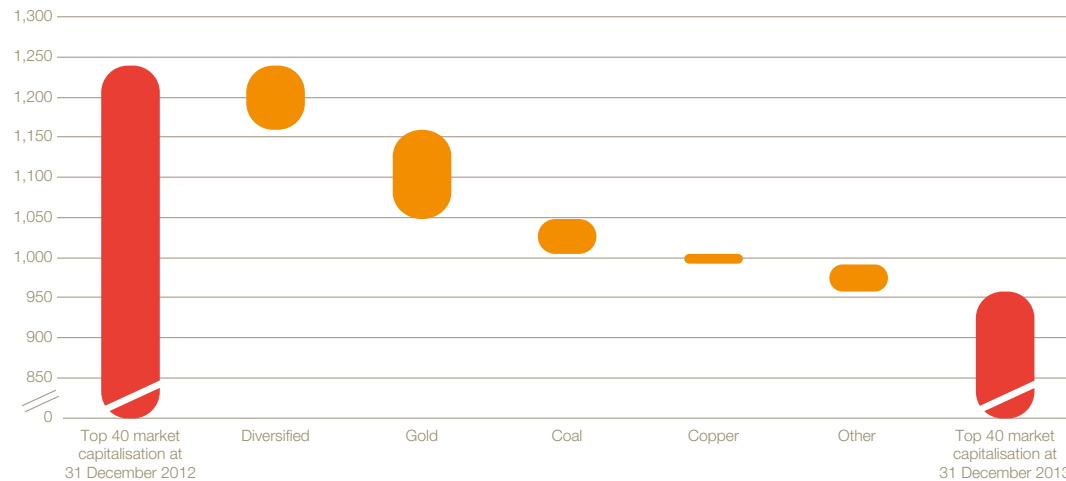
Global mining indices (January 2011 = 1)



Source: Bloomberg

2013 was another year of hardship for the Top 40

Change in Top 40 market capitalisation (\$ billion)



Source: PwC analysis

Change in the Top 40 market capitalisation

The overall 2013 year-end market capitalisation for the Top 40 closed at roughly \$958 billion, a drop of 23% from \$1,238 billion at the end of 2012.

From a market capitalisation perspective, 2013 was a gloomy year across the board with only four of the Top 40 showing an increase. This group included Freeport-McMoRan (copper), Fortescue Metals (iron ore), First Quantum Minerals (copper and gold) and Polyus Gold (gold). Each of these companies had unique circumstances during the year including the impact of acquisitions and debt restructuring, which caused their share prices to trend differently to the overall mining market.

In general, gold miners had another particularly bad year, continuing the trend from 2012, with the segment losing \$110 billion off its market capitalisation

accounting for almost 40% of the overall reduction in market capitalisation in 2013. Five gold companies fell out of the Top 40 in 2013, exacerbating this drop in value.

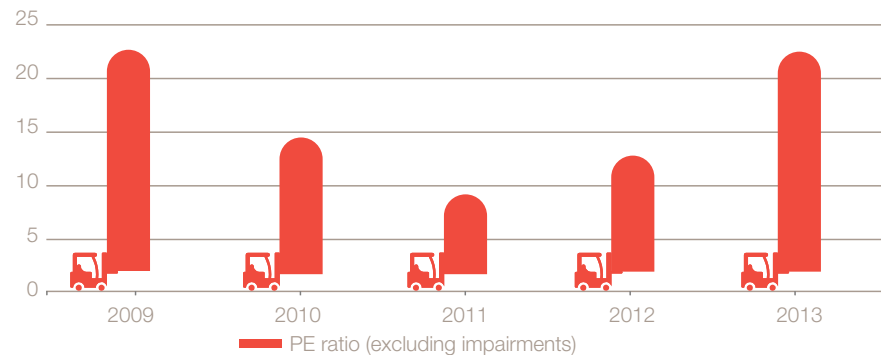
However, the Top 5 diversifieds demonstrated their stability over recent years, partially due to Glencore's acquisition of Xstrata, remaining at a collective market capitalisation of approximately half a trillion dollars over the past three years, despite the continuing fluctuations in market capitalisation for the Top 40 as a whole.

Lower earnings and higher PE ratios

Impairments and lower commodity prices have reduced the Top 40's earnings to \$20 billion, a decrease of \$52 billion from the prior year. In particular, results of gold companies dragged down the aggregate results, with \$20 billion in losses during 2013. Adjusting for impairments during 2013 would result in a nearly doubled PE ratio of 22 compared to 2012 following the significant drop in both earnings and market capitalisation.

While historical earnings and PE ratios are not an indicator of future results, they do provide some insight into the market's view of expected future profitability. Excluding the impact of impairments on net earnings, this would seem to indicate that the market's expectation of future performance has not declined, and that perhaps the worst is over.

Top 40 price-to-earnings ratio (excluding impairments)



Source: PwC analysis

Return on capital at a ten year low

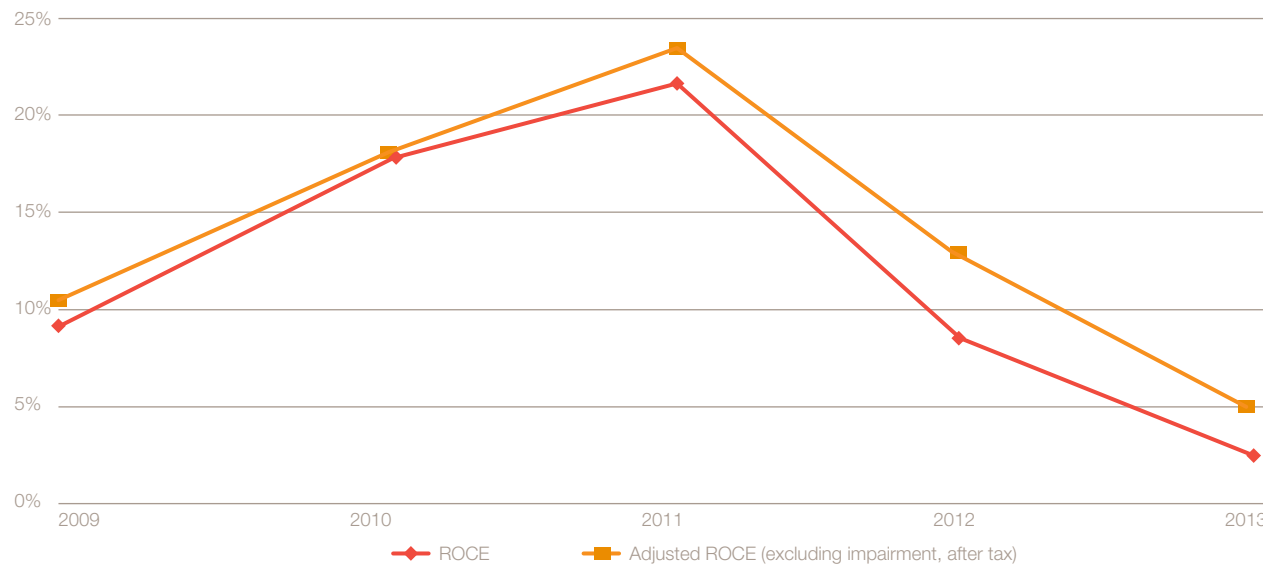
A key metric of evaluating the industry's performance is ROCE, which was 5% at December 2013 after adjusting for impairments, even lower than during the global financial crisis in 2009 when the comparative ROCE measure dropped to 10%.

Mining companies have faced a perfect storm. After investing in projects that require a long time to generate targeted returns, challenges have arisen due to increasing volatility in commodity prices and uncertain regulatory environments in some emerging markets.

At a time when some of the Top 40 are targeting hurdle rates for ROCE of 15% or greater on any new investments, this clearly demonstrates the challenges in this environment of getting new expansion projects approved.

While capital expenditure does not appear to have been curtailed during 2013, this may be more a function of timing, as committed projects that may take years to generate returns on capital are already underway. Given the increased scrutiny, the Top 40 are being much more selective on the projects being sanctioned from their portfolio of potential projects.

Top 40 return on capital employed (ROCE)



Source: PwC analysis

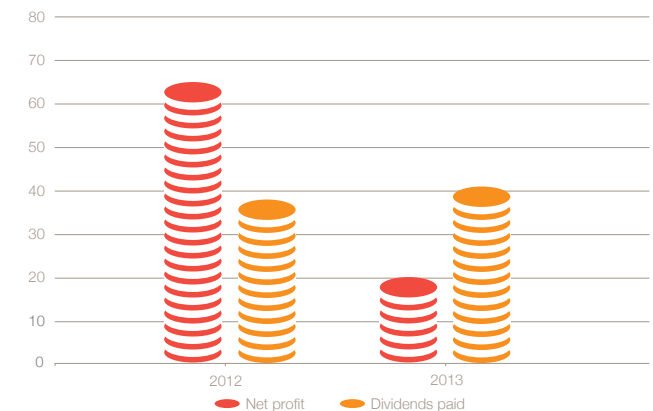
Dividends paid grew despite poor profits...

Despite the difficult year, the industry's focus on rewarding shareholders continued during 2013. The Top 40 listened to their shareholders by reigning in spending but maintaining their track record of paying dividends. Based on the December 2013 market capitalisation and 2013 dividends paid, the Top 40's dividend yield is now over 4% providing a relatively attractive investment proposition as compared to record low interest rates, with the potential for upside from improvements in commodity prices and productivity in the future.

Over the last 5 years, the Top 40's dividends have almost tripled, from \$15 billion to \$41 billion during 2013 increasing returns off an eroding profit base. Adjusted for impairments, the dividend pay-out ratio (dividends divided by adjusted net profits) moved from 40% during 2012 to 95% during 2013. On an aggregate basis, total dividends of \$41 billion are double the total net profit of the Top 40 of \$20 billion, with five of the Top 40 companies making up more than 50% of the total 2013 dividends paid.

Nevertheless, the ratio of dividends to net profit, coupled with negative free cash flow seen this year, suggests a dip into retained earnings and potentially an increase in debt to fund dividend payments across the Top 40. Given the uncertainty surrounding commodity prices, this level of shareholder returns may not be sustainable for much longer, as evidenced by recent changes in dividend policies amongst the Top 40. There are examples, such as Newmont's gold price-linked dividend policy, of designing a policy to preserve flexibility.

Top 40 net income and dividends paid (\$ billion)



Source: PwC analysis

The composition of the industry

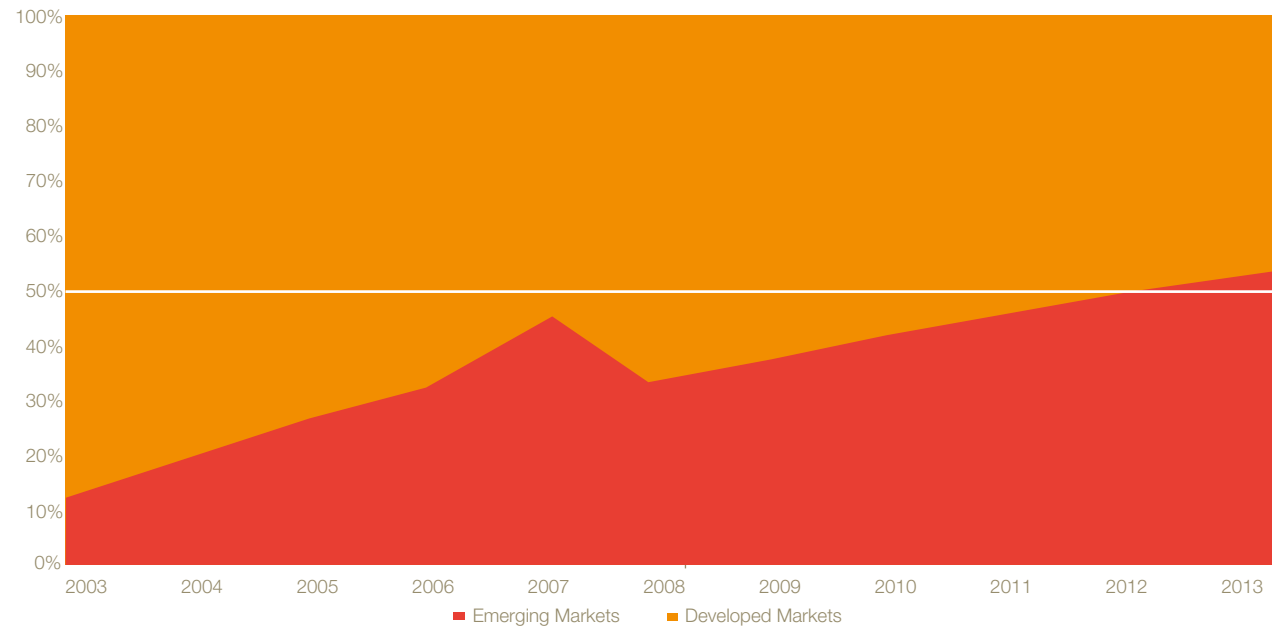
The diversifieds continued to dominate the Top 40's market capitalisation during 2013 accounting for 51% of the total, up 5% from 2012, with two diversifieds entering the Top 40 (Saudi Arabian Mining and Sumitomo Metal Mining Company).

The trend of the past ten years has continued, seeing more emerging market companies as part of the Top 40, accounting for 53% of the Top 40 companies at December 2013.

It is expected that this trend will continue. Many of the Top 40 from developed markets are focused on simplification strategies and re-tooling their businesses. However many of the Top 40 from emerging markets appear much less patient and are continuing to look for near-term growth opportunities.

Many of these companies have backing from governments and are largely focused on meeting domestic supply needs. 2013 is the first year a company from the Middle East has been included in the Top 40. New sources of finance, such as sovereign wealth funds perhaps seeing an opportunity to get in at the bottom, are showing increased interest in getting a foothold in the industry.

Mine — Composition of Top 40 (% of Top 40 companies)



Source: PwC analysis

The trend of the past ten years has continued, seeing more emerging market companies as part of the Top 40, accounting for 53% of the Top 40 companies at December 2013.

Composition of the Top 40 – two new players join the field

Given the dynamic nature of the mining industry, the composition of the Top 40 in *Mine* has generally seen a shift each year and 2013 was no different. Impacted by impairments and declining prices during 2013, all five companies to leave the Top 40 in 2013 were gold companies (although one gold company re-entered). Glencore's acquisition of Xstrata consolidated two companies into one, allowing six entrants to the Top 40 in 2013.

Consol Energy and Cameco returned to the Top 40 after only one year away. Both companies have a significant exposure to the energy sector—Consol Energy divested underground coal mines to acquire gas assets in 2013, while Cameco is one of the world's largest uranium producers. Sumitomo Metal Mining Company (diversified) and Randgold Resources (gold) also returned, having appeared in prior editions of the publication.

Of note, two emerging market companies, Saudi Arabian Mining and ALROSA, both joined for the first time this year. Saudi Arabian Mining is supported by a government mandate to develop Saudi Arabia's mineral resources with current exposures to gold, base metals, phosphates and aluminium. Russian diamond miner ALROSA joined as a result of an initial public offering, one of the few major companies to list during the year.

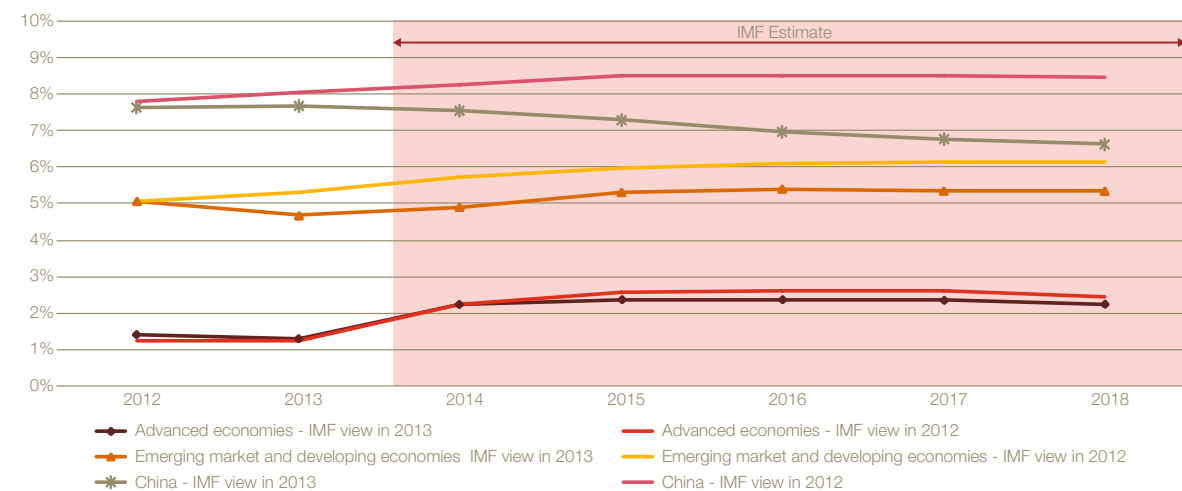
Long-term demand fundamentals from emerging markets continue...

Emerging markets continue to be the world's growth engine, with China representing the most important market for mining companies. Consistent with 2012, the global economy grew by 3% during 2013, with emerging markets (including China) being marginally lower than expected.

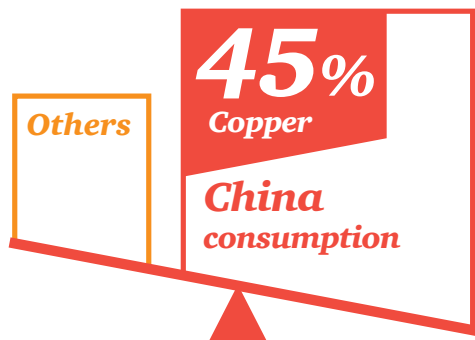
Of direct relevance to the industry, in 2014 the IMF revised downward its estimates of growth in emerging markets over the next five years, compared to its 2013 view on growth over the same period. Most notably, the IMF has revised the growth estimates for China over

this period from 8.4% in 2018 to 6.6%. However, this is still an enviable rate of growth with much of it relating to capital investment, and the outlook for the emerging markets, including China, continues to remain strong and will support longer-term growth in the mining industry. This general expectation of overall growth is further supported by IMF forecasts that growth in the developed markets will increase from 1% in 2013 to 2% in 2014 and beyond.

GDP growth year on year (%)



Source: IMF



“While the nation’s copper imports reached an all-time high in January, the higher purchases probably reflected over-ordering and more metal being used for financing deals, rather than increased industrial demand”

—Goldman Sachs Feb 2014²

The China story continues to evolve...

Non-traditional financing in China adding to copper price volatility

The copper boom in recent years has been inextricably linked to the growth of China, which consumes about 45% of total supply. However, apart from traditional consumption from construction and other industries, copper has also been stored in bulk and used as collateral for lenders. It has been reported that financiers in China commonly accept copper contracts and inventories as a basis for extending credit, with up to 60-80% of copper imports¹ having been used as loan collateral.

With China tightening liquidity, month over month volatility in imports seen in early 2014 could signal that “cash for copper” is driving the price more than long-term demand fundamentals. In March 2014, China’s first onshore default partly contributed to the biggest decline in copper futures in New York in more than two years. As a result, copper prices have lost 9.2% in only four months as of April 2014, with RMB currency fluctuations another contributing factor in price volatility.

The lack of transparency inherent in Chinese copper trading and potential for more defaults could significantly increase the volatility in copper prices.

Greener iron ore

With northern Chinese steel mills struggling to limit carbon emissions from blast furnaces, a push for “green” iron ore is gaining momentum as a means to address pollution concerns currently choking major cities. The use of low quality iron ore has been prevalent in China; however with reforms focused on turning around poor environmental readings, suppliers of iron ore are being encouraged to deliver a blend of ore that will reduce emissions.

China’s continuing path of urbanisation west-ward will still see demand for iron ore remain strong for many years to come. Delivering on urbanisation objectives, without adding to China’s pollution woes, will therefore be a key focus for the Chinese government going forward. This will present both challenges and opportunities for the mining industry to meet this changing appetite for minerals.

¹Wall Street Journal

²Bloomberg

A view from the top

Realigning expectations – from all stakeholders

These are tumultuous times in mining, with few commodities and jurisdictions immune to the challenges of recent years. That said, it appears most have weathered the storm and we are hearing a mix of caution and optimism from CEOs of the Top 40.

Old and new alike, the leaders of the Top 40 are experiencing the same challenging market conditions. The newly arrived CEOs have heard the message in no uncertain terms; a clear mandate exists to extract full value from your assets. Responding to the most recent downturn in commodity prices, the CEOs are managing stakeholder expectations to:

- slash operating costs;
- be more selective on capital allocation decisions;
- prioritise development of low cost Tier 1 assets; and
- streamline and simplify operations by selling non-strategic interests.

These are tumultuous times in mining, with few commodities and jurisdictions immune to the challenges of recent years.



Miners are moving forward with leaner operations and a renewed set of priorities. With an eye on cheap debt markets fuelled by low interest rates, miners have continued to invest in projects in which they have the most conviction although the expected additional cash from asset sales have not flowed as the Top 40 are unwilling to sell assets at a deep discount.

CEOs are dealing with the recent drop in commodity prices, which are being blamed on an imbalance in supply and demand for most industrial commodities, with recently expanded capacity and production making it difficult to see price increases in the near term. The hope of the last decade that the BRICS would grow at superior rates has dissipated, with only China delivering real growth. The lag in post-recession recovery of the U.S. and the continuing stagnation in European economies have also restrained the overall level of growth.

Given all of this, CEOs have told us they are focusing on having low cost and highly efficient mines capable of operating at all stages of the commodity cycle, although this is very much a work-in-progress. Many of the Top 40 have acted on short-term cost reduction strategies, but stakeholders are watching to ensure that results were not simply achieved from deferring spending or achieving improved costs per unit in ways that are not sustainable. Mining companies have historically found sustained productivity improvement to be difficult (refer to *The productivity imperative* in section 6).

Gold miners in particular suffered a challenging 2013. The U.S. Federal Reserve's positive announcements on tapering quantitative easing measures drove up the U.S. dollar and caused many investors in the western world to have a negative outlook on the price of gold. While Chinese demand remained strong, the negative sentiment in the west caused additional supplies of gold to come on market as investors exited ETFs. The resulting imbalance caused the gold price to plummet, CEOs were forced to book billions in write downs as production margins quickly shrank.

A new attitude

Looking ahead, many are eyeing the next phase of growth, albeit with a different perspective. Instead of promoting increases in production, the Top 40 are vying for the title of the lowest-cost producer among their peers.

The next step is regaining investor confidence by growing profits, and ultimately shareholder value, proving that cost reductions and efficiency gains are sustainable. CEOs in particular singled out that additional low cost production capacity will keep copper and iron ore prices from increasing dramatically in the short-term. The CEOs acknowledge that high cost mines will be challenged to improve profitability, or risk extinction.





Still, miners continue to plan for the long-term. A number of the larger miners have realigned their debt-to-equity structures. Alternatives being pursued include entering into joint ventures, royalty and streaming arrangements, or by reaching out to private equity investors for support.

Shareholders simply would not support big acquisitions by the Top 40. Companies that were cash flow positive either had to find other ways to invest the cash or return it to shareholders. 2014 has seen some M&A activities although combinations focused on improving productivity and efficiency through leveraging synergies have not been as common as expected. As recently seen by the failed union between Barrick and Newmont, completing such a deal is easier said than done.

Dealing with regulatory expectations in emerging markets

The CEOs are facing ongoing geopolitical issues that threaten the development and advancement of projects in jurisdictions around the globe. Resource nationalism has always been a risk for mining companies, and the issue is growing as governments look for a bigger share of resource wealth to pay down their own growing debts, and respond to the demands of their citizens.

Frustrations are building within the ranks of CEOs around the challenges of operating in some emerging markets, where governments have changed laws and regulations with inadequate consultation, disrupting the regulatory certainty needed to support long-term investment decisions.

While miners are agreeable to paying their fair share, it is not fair to significantly increase taxes and royalties after major investment decisions have been made. Risks also arise from community unrest, which can derail project development or, at worst, shut down existing

operations. While such measures also hurt overall investment and employment in those countries, this risk is, unfortunately, expected to remain, or even increase, leaving miners to search for other ways to de-risk their portfolio.

Increasing environmental obligations, and the need to ensure global governance standards and anti-corruption rules are adhered to by operations in all territories, continue to occupy the minds of the CEOs. Managing the uncertainty from emerging markets and the associated stakeholder engagement is an area the Top 40 CEOs expect to spend more time on as they seek to engender harmonious relationships and deliver stability for their operations.

Simplification as the focus

The Top 40 are also less willing to take a chance on commodities where they cannot make a meaningful profit. As a result, we're seeing some miners pulling out of both geographies and commodities to cut back on risk. Diversification is being redefined.

An example is BHP Billiton, the world's largest mining company, which recently confirmed it will simplify its portfolio, calling it a "priority" and "something we have pursued for several years." BHP Billiton has announced or completed divestments in Australia, the U.S., Canada, and South Africa, including mineral sands, uranium and diamonds assets, with a broad-scale demerger of non-core assets being mooted in early 2014.

The Top 40 are also reducing risk by slowing capital expenditure and/or projects, giving them more time to evaluate the market before moving ahead, while others are considering which assets to keep or sell.



CEOs acknowledge that high cost mines will be challenged to improve profitability or risk extinction

Sleepless nights for the Top 40 mining CEOs

In 2012, we reported that a quarter of the Top 40 changed leaders and half of the Top 10 saw a new CEO take the helm. At the time, some viewed the departures as being victims of timing; “peak of the market” CEOs being held accountable during the downturn.

However in 2013, the Top 40 CEO was still awake at night. Another seven (18%) of the Top 40 changed leaders and almost all of them were in the Top 20 companies. This means almost half of the companies that have been in the Top 40 over the past two years have hired a new CEO since 2011 – an incredible statistic.

Three quarters of these changes were at diversifieds and gold companies, with three and two CEOs replaced respectively. For the diversifieds CEOs replaced, the average tenure for the departing CEO was six and a half years—taking their start date back to the “peak of the market” in 2007.

It was a particularly tumultuous time for leaders of Russian companies in the Top 40; three of four CEOs were replaced.

Today, over half of the Top 40 CEOs have an operational background, indicating that the industry is continuing to look to leaders with experience delivering operational improvements and projects on schedule and budget. However, the Top 40 CEO is also required to engage with governments and local stakeholders in emerging markets, assess divestments and M&A opportunities during a period of low valuations, and address heightened governance requirements. Certainly there are many issues to cause sleepless nights.

Four months into 2014, only one CEO has changed; perhaps a sign of stability for the year ahead. Can the Top 40 mining CEO finally sleep well at night?

Financial analysis

Balance sheet – geared for the future

\$330 billion Total borrowings of the Top 40 up 26% to \$330 billion.

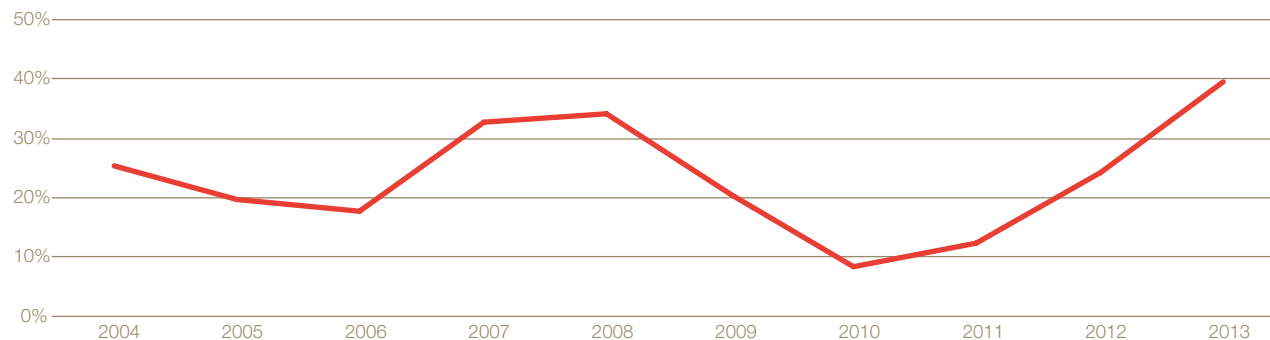
The total asset base of the Top 40 increased by 7%, despite the record levels of impairment recorded this year. The Top 40 spent \$130 billion on capital expenditure including non-mining activities during 2013 (2012: \$127 billion).

The gearing ratio at December 2013 was 39%, substantially higher than the ratio of 27% at December 2012. Non-current borrowings increased \$43 billion as the Top 40 took advantage of the relatively cheap cost of debt as compared to raising equity. This increase excludes the debt assumed in two significant acquisitions by the Top 40; Glencore's acquisition of Xstrata (\$17 billion) and Freeport-McMoRan's acquisitions of Plains Exploration & Production Company and McMoRan Exploration Company (\$7 billion).

On account of the performance of the industry in the last two years, rating agencies have raised concerns over the potential for weak operating and financial metrics in the coming two to three years. This, coupled with the expectation of financing costs only increasing, will put pressure on the ability to raise cheap debt and borrowing levels will need to be monitored carefully.

\$ billion	2013	2012	Change (%)
Current assets			
Cash	81	86	(6%)
Inventories	84	84	0%
Accounts receivable	75	75	0%
Other	60	56	7%
Total current assets	300	301	0%
Non-current assets			
Investment in associates and joint ventures	39	48	(19%)
Property, plant and equipment	712	627	14%
Goodwill and other intangibles	71	74	(4%)
Other investments and loans granted	13	15	(13%)
Other	121	113	7%
Total non-current assets	956	877	9%
Total assets	1,256	1,178	7%
Current liabilities			
Accounts payable	99	96	3%
Borrowings	55	53	4%
Other	40	42	(5%)
Total current liabilities	194	191	2%
Non-current liabilities			
Borrowings	275	208	32%
Other	155	142	9%
Total current liabilities	430	350	23%
Total equity	632	637	(1%)
Total equity & liabilities	1,256	1,178	7%
Key ratios			
2013	2012		
Gearing ratio	39%	27%	
Current ratio	1.5	1.6	
Quick ratio (times)	1.1	1.1	
Net debt	(249)	(175)	
Creditor days (days)	66	66	

Top 40 gearing ratio (%)



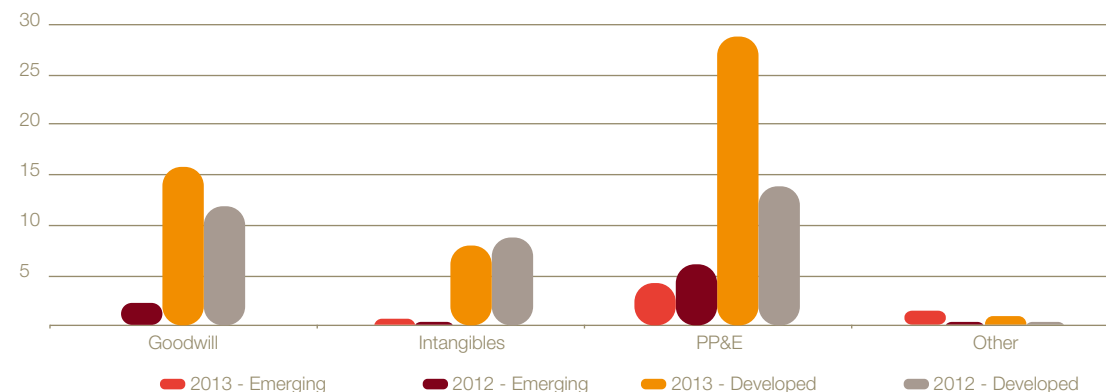
Source: PwC analysis

Continued investment in fixed assets...

Excluding impairments, the net increase in property, plant and equipment (PP&E) is \$118 billion, up 19% on prior year. While \$65 billion of the net increase relates to acquisitions by Glencore and Freeport-McMoRan during 2013, the remaining \$53 billion net increase reflects the Top 40's continued commitment to their projects.

Interestingly, a higher proportion of impairment charges were recorded against hard assets such as PP&E which reflects the Top 40's generally lower outlook on commodity prices.

Analysis of impairment charge allocation (\$ billion)



Source: PwC analysis

\$118 billion

Excluding impairments, the net increase in property, plant and equipment (PP&E) is \$118 billion, up

19%

on prior year.



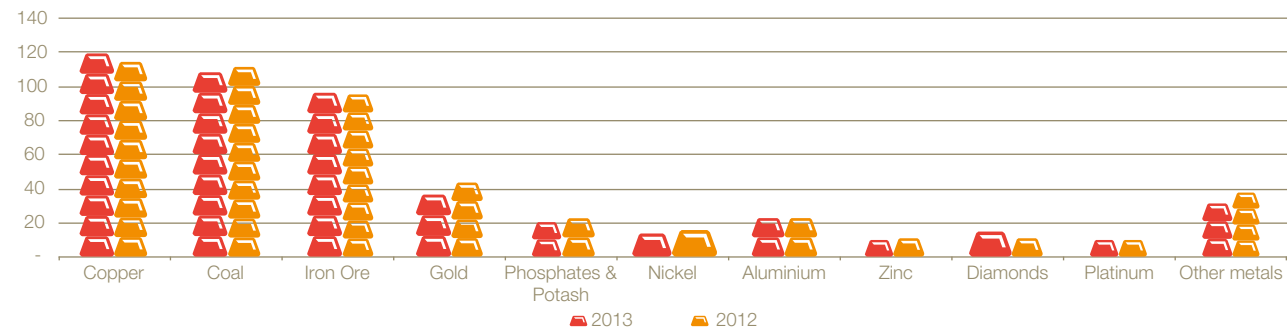
Income statement – it's always darkest before the dawn

\$ billion	2013	2012	Change (%)
Revenue	719	709	1%
Operating expenses	(537)	(516)	4%
Other operating expenses	(17)	(13)	31%
Adjusted EBITDA	165	180	(8%)
Impairment charges	(57)	(40)	43%
Depreciation & amortisation	(42)	(35)	20%
Net finance cost	(16)	(8)	100%
Profit before tax	50	97	(48%)
Income tax expense	(30)	(25)	20%
Net profit	20	72	(72%)
Effective tax rate	60%	26%	
Equity	632	637	
Capital employed	818	737	
Key Ratios			
Adjusted EBITDA margin	23%	25%	
Net profit margin	3%	10%	
Return on capital employed	2%	10%	
Return on equity	3%	11%	



Revenue was up \$10 billion to \$719 billion, however after adjusting for Glencore's marketing and non-mining revenues (\$207 billion in 2013 and \$184 billion in 2012), the Top 40 realised a revenue decline of \$13 billion during 2013. The Top 40 continued to focus on copper, coal and iron ore which account for 67% of the Top 40's revenue. Of note, copper and iron ore saw an increase in revenues during the year supported by demand from emerging markets.

Revenue by commodity (\$ billion)



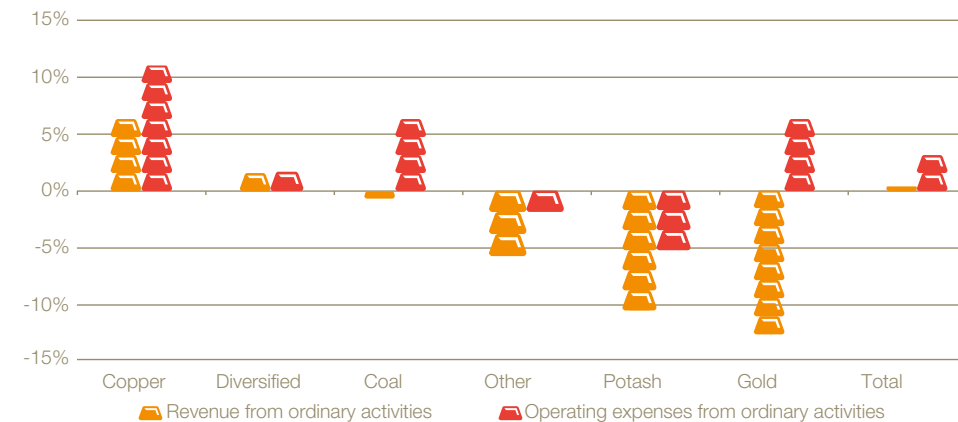
Note: Chart excludes Glencore's marketing and trading revenues, and certain other companies' non-mining revenues

Source: PwC analysis

Operating costs remained a challenge for miners; despite being a priority focus for most, costs did not drop off—in fact they went up by 4% year-on-year.

As a result, net profits during the year were \$20 billion, down a staggering 72% from the prior year, setting the largest single year-on-year decrease in net profit margin for the second year in a row, reaching its lowest level in the past decade. Gold companies in the Top 40 had the biggest combined net loss, representing approximately \$20 billion alone.

Top 40 year-on-year change in operating revenues and expenses (%)



Source: PwC analysis

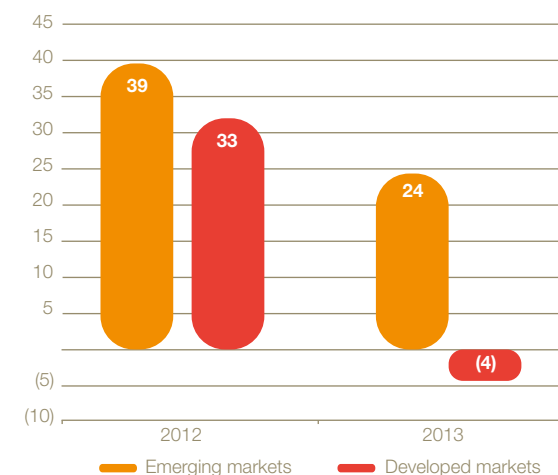
Of note is the fact that emerging market companies in the Top 40 contributed aggregate net profits of \$24 billion (2012: \$39 billion) while their developed market counterparts suffered an aggregate net loss of \$4 billion (2012: profit of \$33 billion). This was particularly driven by developed market companies seeing a much greater impact from impairment in 2013.

2013 results did not yet reveal the industry's efforts to reduce operating expenses in line with revenues. Operating expenses increased across most segments, with the Top 40 seeing a 4% increase in operating expenses from ordinary activities as compared to a less than 1% increase in revenue from ordinary activities. This is likely the result of the time lag for cost optimisation efforts to demonstrate positive effects. Further, as companies do not consistently report on operational costs, it can be challenging to determine cost-savings solely from financial reports.

Early results from 2014 are generally positive and the Top 40 are reporting successes. For 2013, Rio Tinto reportedly exceeded its ~~cost reduction target~~ of \$2 billion by 15% and set production records in the year. Similarly BHP Billiton is expecting to deliver on efficiency savings totalling \$5.5 billion by the end of its 2014 financial year.

Gold companies, perhaps under the most pressure from the 2013 price decline, have also reported significant improvements in 2014 demonstrating their ability to adjust for new market realities. Thus far in 2014, Barrick reported it has reduced all-in sustaining costs by 11% to \$833 per ounce as compared to the same point in 2013. Similarly Newmont has reported that it reduced gold all-in sustaining costs in the first quarter of 2014 by \$82 million compared to the first quarter of 2013, and is on track to save between \$600 million and \$700 million by 2016.

2013 Top 40 net profit / (loss) split by market (\$ billion)



“Barrick is a considerably different company today than it was a year ago – leaner, stronger and more financially flexible.”

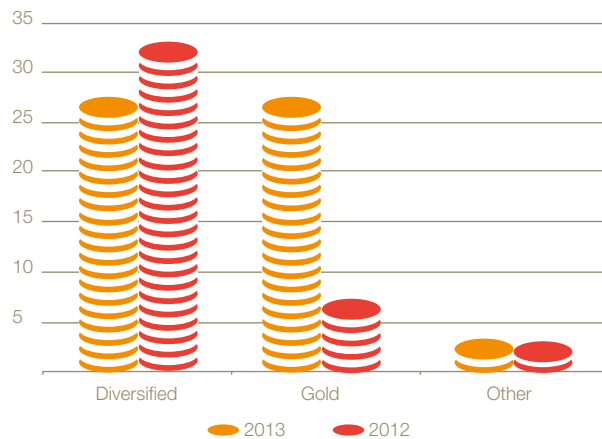
—Jamie Sokalsky,
President and CEO, Barrick, April 2014

Record impairments... again

At \$57 billion, impairment charges were up 43% over the prior year setting a new record. This is on top of \$40 billion in impairments recognised by the Top 40 during 2012.

One quarter of the Top 40 are unfortunate members of the 'billion dollar club'—Top 40 companies that recorded over \$1 billion in impairments in 2013 – which contributed to over 90% of the impairments on a combined basis. Almost all of these were either gold companies, or the Top 5 diversifieds, triggered by

Impairment charge by segment (\$ billion)

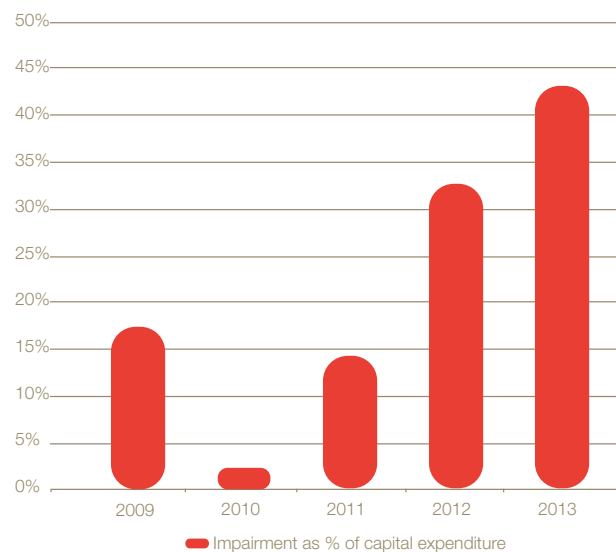


Source: PwC analysis

reassessments of the value of acquisitions made in earlier higher price days. These impairments came in another year with a significant changing of the guard for the Top 40 CEOs.

Reflective of the current phase of the commodity cycle, impairment as a proportion of capital expenditure has risen significantly in the last two years, now at 44%. With capital expenditure increasing year on year, this indicates the impact of short-term price volatility impacting long-term investment decisions previously made.

Top 40 impairment as % of capital expenditure



Source: PwC analysis

More than their fair share?

The effective tax rate (ETR) of the Top 40 for the 2013 year was 60%. Even adjusted for Vale's one-time tax payment, the ETR was still 54%, a significant increase compared to 2012, primarily due to the impact of loss makers in the Top 40.

All over the world, mining companies are being asked to pay more taxes and royalties. The introduction of mining industry specific 'super profits' taxes in various countries around the world, together with recent focus on total tax contributions of certain companies such as Apple and Google, may leave miners feeling hard done by. Mining continues to be a tax target for governments, despite this being a time when they can ill-afford additional imposts.

Tax transparency is becoming mainstream, partly due to new regulations such as Dodd-Frank. The industry is also now recognising it can use transparency to its advantage by improving a company's reputation and clearly demonstrating the significant contribution it makes to the community. Mining companies are often at the forefront of tax transparency.

During 2013, jurisdictions such as the European Union, Australia and Canada have committed to move towards mandatory disclosure requirements which would require listed mining companies to annually disclose the payments they make to governments on a country-by-country and project-by-project basis, similar to other international disclosure requirements.

The Organisation for Economic Co-operation and Development (OECD)'s Base Erosion and Profits Shifting (BEPS) project may subject other industries to the same degree of scrutiny mining currently faces. Mining typically pays taxes in the jurisdiction where operations are based delivering direct economic benefits to local communities. Initiatives such as the OECD's are an opportunity for the industry to show the real tax impact – what it really pays, and where it pays it.

Cash flow statement – Borrowing from Peter to pay Paul?

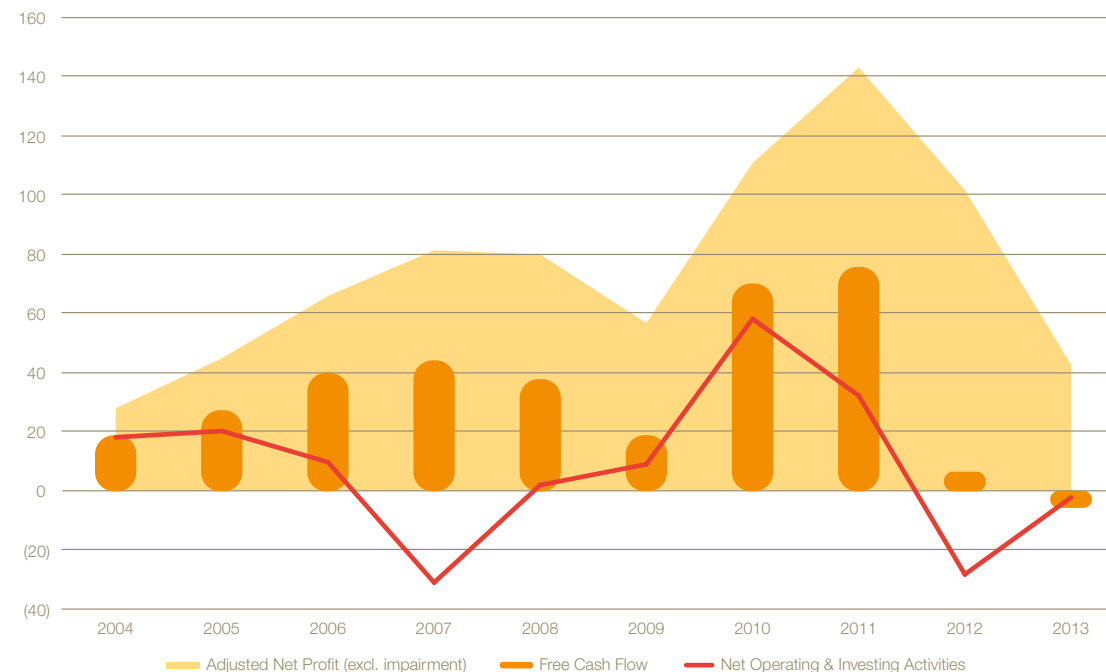
\$ billion	2013	2012	Change (%)
Cash flow related to operating activities			
Cash generated from operations	168	175	(4%)
Income taxes paid	(31)	(32)	(3%)
Other	(13)	(9)	44%
Net operating cash flows	124	134	(7%)
Cash flow related to investing activities			
Purchases of property, plant and equipment	(130)	(127)	2%
Purchase of investments	(15)	(42)	(64%)
Exploration expenditure	(2)	(3)	(33%)
Other	22	10	120%
Net investing cash flows	(125)	(162)	(23%)
Cash flow related to financing activities			
Dividends paid	(41)	(39)	5%
Share buy backs	(4)	(5)	(20%)
Proceeds from borrowings	115	104	11%
Repayment of borrowings	(74)	(47)	57%
Share issuances	4	5	(20%)
Other	(3)	(2)	50%
Net financing cash flows	(3)	16	(119%)
Net movement in cash and cash equivalents	(4)	(12)	(67%)
Cash and cash equivalents at the beginning of the year	86	99	(13%)
Effect of foreign currency exchange rate on cash and cash equivalents	(1)	(1)	0%
Cash and cash equivalents at end of the year	81	86	(6%)

During 2013, operating cash inflows were down \$10 billion, offset by a \$37 billion decrease in investing cash outflows, for a combined year-on-year improvement in net operating and investing cash flow. After \$115 billion in additional borrowings, \$74 billion in debt repayments, and a fulfillment of the promises of many of the major miners to maintain or increase dividends paid, the result was an overall cash balance decline by \$5 billion to \$81 billion. Clearly not sustainable in the long-term, the Top 40 will be focused on reversing the operating and investing cash flow gap to once again realign their financial fundamentals and to continue to pay high dividends to investors.

Despite generally lower share prices in 2013, surprisingly there were few share buy-backs as the Top 40 chose to direct their funds elsewhere.

Further debt increases required to fund operating gap

Top 40 Adjusted Net Profit versus free cash flow and net operating & investing activities (\$ billion)



Source: PwC analysis

2012 saw the lowest free cash flow level (operating cash flows less investment in property, plant and equipment) in a decade and 2013 has now seen this measure of free cash flow turn negative for the first time, at \$(6) billion. This is indicative of the industry's struggle to reduce capital spend as quickly as profits have fallen off.

In contrast, net operating and investing cash flows have improved to an almost break-even point; perhaps an indication of the reduction in M&A activity by cautious CEOs in response to market concerns over the returns seen on these investments over recent years. In addition,

2013 M&A activity has primarily involved equity-funded transactions (driven by Glencore Xstrata and Freeport-McMoRan), while all significant 2012 M&A activity was from cash reserves.

Last year in *Mine*, the question was posed as to whether reduced free cash flow and net operating and investing cash flows were a crisis, or a time of opportunity. Crisis might still seem like a strong word, but finding the balance between minimising expenditures and financial strength is clearly proving difficult; the need to spend wisely is paramount.

Debt markets still the go-to source of financing

At just under \$4 billion raised through equity, fairly consistent with 2012, the huge decline in market capitalisation of the Top 40 continued to turn miners away from accessing the equity markets. As a result, there has been an 11% increase in financing cash flows from debt to \$115 billion, offset by significantly higher debt repayments during the period, totaling \$74 billion, which was a 57% increase from 2012.

Interestingly, despite the overall depressed profit margins, the aggregate dividends paid continued on its gradual upward trend to \$41 billion paid during 2013. Dividend payments as a percentage of net profit have steadily risen from 20% during 2010 to a whopping 205% during 2013. However, adjusting for pure-play gold miners who incurred the largest decline in net profits, this dividend to net profit relationship is 97%, still large but more palatable. Despite being responsible for \$20 billion of the aggregate net loss for the Top 40 during 2013, the Top 40 gold companies still managed to pay dividends of \$3 billion.

The dividend disconnect

Split between developed and emerging markets, the Top 40 paid dividends in almost equal proportions; \$21 billion and \$20 billion respectively. This is despite a large difference between the two markets with respect to net profits – an aggregate net profit of \$24 billion from emerging market companies and a net loss of \$4 billion from developed markets – largely due to the impact of impairment charges taken by the Top 40 in the developed markets. However, even after removing the impact of impairments, the dividend yield as of December 2013 from emerging markets significantly exceeded their Top 40 peers from developed markets.

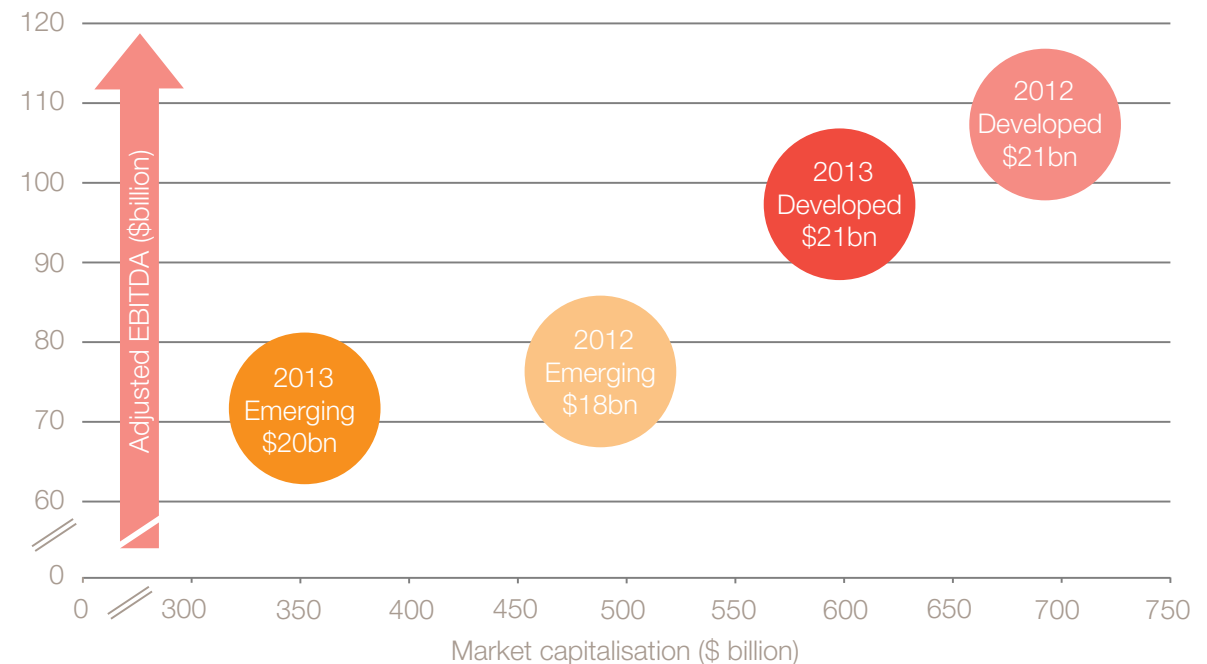
The dividend history of developed market miners has created an expectation that dividends will continue to be paid regardless of profit levels. The result is that dividends paid may have become less discretionary for the Top 40 in developed markets and it remains to be seen if these miners are brave enough to test market reaction.

In the short-term, the Top 40 in both developed and emerging markets continue to distribute dividends in similar proportion to adjusted EBITDA from 2012 to 2013. Regardless of short-term net losses, many developed market miners explicitly state a progressive

dividend policy to meet unchanged expectations whereby current year dividends will at a minimum equal the prior year per share pay-out, and any surplus earnings will be returned to shareholders.

This expectation differs from the miners in emerging markets as dividend policies tend to either be tied to a measure of profitability, or be completely discretionary. However, should impairments significantly impact the profitability of emerging market miners as they did for developed market miners in the last two years, it looks like it will be difficult to sustain these pay-out ratios.

Top 40 dividends (\$ billion)



Source: PwC analysis

23% decrease in investing cash flows fails to tell the full capital expenditure story

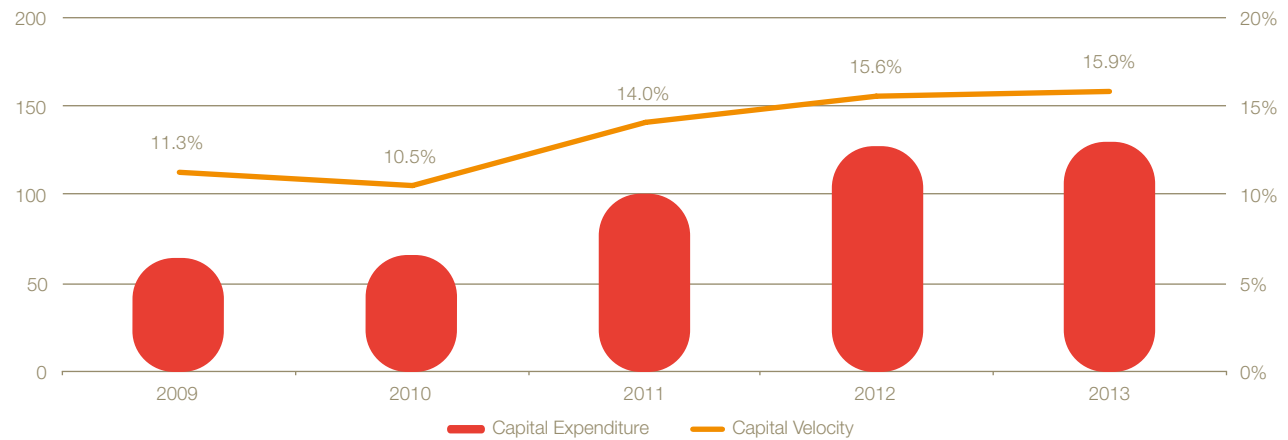
Responding to shareholder concerns, almost half of the Top 40 publicly announced that they would be cutting or deferring capital expenditure during 2013, down to an estimated \$110 billion. However, year-on-year, this did not translate into the expected 2013 decline in capital expenditure for the Top 40.

During 2013, overall total capital expenditure for the Top 40 was \$130 billion, up 2% year-on-year, and still 27% higher than 2011. Based on initial guidance from the Top 40, overall forecasted capital expenditure is expected to decline by approximately 11% to \$116 billion in 2014 as capital budgets are tightened.

Capital velocity slows

Capital velocity, the ratio of capital expenditure to the capital employed in the business and a proxy for measuring the growth agenda of organisations in capital intensive industries, has been increasing since 2010. This demonstrates the difficulty in containing capital expenditure against stated aims on slowing or deferring the spend. However, flattening of the capital velocity ratio indicates the approach to big project spend has been realigned, as the capital discipline measures enacted over the past few years start to be realised with companies being more considered and deliberate about capital allocations.

Top 40 Capital Velocity (%) compared to Capital Expenditure (\$ billion)



Source: PwC analysis

“We are strongly committed to allocating capital only to world-class assets with big resources, low costs, high-quality products and opportunities for low-cost brownfield expansion,”

—Murilo Ferreira , CEO, Vale, December 2013

Despite the pressures for more insightful disclosure, only a third of the Top 40 report capital expenditure split between growth and sustaining. Within this group, for 2012 and 2013, growth represented more than 70% of the total. This is likely the effect of investments in major multi-year projects which are already ‘work-in-progress’ and therefore limits the ability of miners to quickly change direction. Where possible, companies are narrowing project scope to accelerate cash flow from production and are working on more conservative capital planning decisions. The Top 40 appear to be moving away from greenfield projects and are avoiding the more risky geographic jurisdictions.

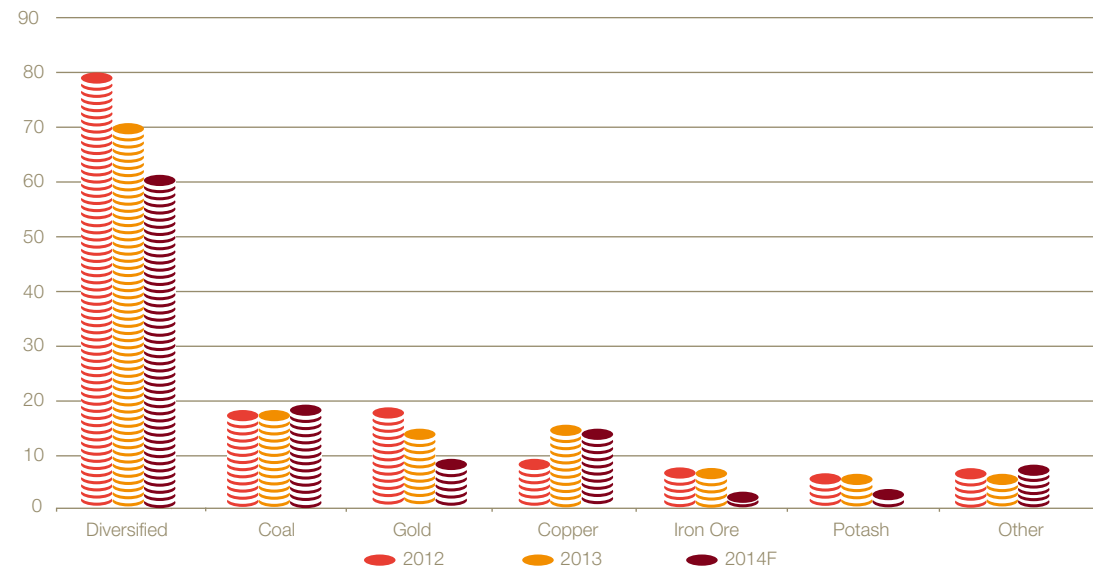
Capital expenditure related to coal was flat year-on-year during 2013 and is one of the few segments expected to grow in 2014, forecast to be up by 6%. This trend is consistent amongst the Top 40, both for pure play coal and the coal segment of the diversifieds.

Diversifieds, which represent the majority of the capital spend of the Top 40, spent 11% less during 2013, and are forecasting a further 14% reduction in spend in 2014, a reflection of a focus on disciplined capital allocation and reducing investments in non-core minerals, jurisdictions and activities.

“We are afraid of greenfields. And it’s been proven: we were correct. Greenfields are risky. Greenfields do have capital overruns. Greenfields do have delays which kill the NPV on those projects,”

—Ivan Glasenberg, CEO, Glencore Xstrata,
March 2013

Top 40 capital expenditure by segment (\$ billion)



Source: PwC analysis, Top 40 2014 guidance

Unsurprisingly, gold saw the largest negative impact in terms of future investment as companies are expected in 2014 to reduce capital expenditure drastically for the second year in a row, primarily driven by market uncertainty. In fact, based on current guidance, the Top 40 gold companies are on pace to see a 46% decline in total capital expenditure in the period from 2012 to 2014.

Based on the forecasts above, there is likely to be a further tapering in capital velocity for the foreseeable future. Given the long lead time for large capital projects, overall investment in the industry is likely to decline in the near term, with the potential for a repeat of history – under spending leading to supply constraints and price increases. The industry will need to find a way to manage capital spend in a prudent yet forward-looking manner.

Are any expenditures still discretionary?

In addition to cutting back on M&A activity, companies responded to cost pressures by cutting exploration activities for another year, with exploration costs dropping by more than 20% during 2013. This decrease was significantly less for the Top 40 in emerging markets, and in fact, some have announced plans to increase expenditure in 2014. Exploration expenditure is one of the most controllable costs, but it represents a relatively small portion of overall spend by the Top 40.

Miners should be rewarded by investors for a focus on strictly managing their costs. However, the long-term impacts may not be seen for years; if demand returns quickly creating a supply imbalance, only the most nimble with strong project portfolios will be able to respond.

Production and reserves

Production

Production growth continues despite price falls

Following years of investing in projects, the Top 40 grew production across most commodities during 2013. While prices softened over the year, it is not clear if the increase is a result of a more traditional strategy of reducing unit costs through economies of scale or miners delivering productivity improvements through de-bottlenecking existing operations.

Iron ore production was maintained on the back of stable prices. The improved price was contrary to market expectations which anticipated higher volatility in price. Fortescue Mining contributed two thirds of the net increase in production during 2013 in advance of reaching its long-awaited target iron ore production volume of 155 million tonnes in March 2014.

	<i>Production (measure)</i>	<i>Production change from prior year (%)</i>	<i>Price change from prior year (%)</i>
Copper (million tonnes)	12	8%	(9%)
Iron Ore (million tonnes)	825	4%	6%
Coal (million tonnes)	1,470	2%	(9%)
Gold (million ounces)	25	2%	(28%)
Potash (million tonnes)	30	4%	(22%)

Source: PwC analysis

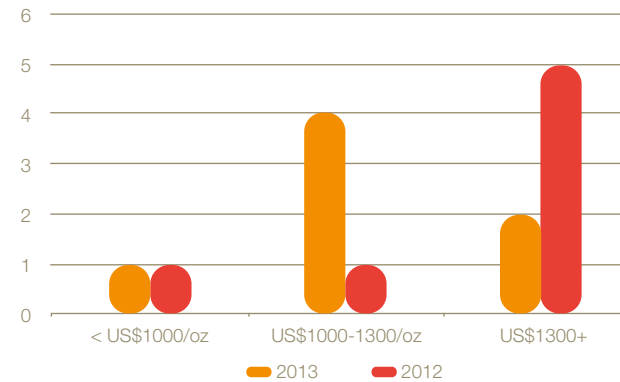
Reserves

Gold reserves – falling prices brings increased conservatism

Falling gold prices during 2013 saw increased conservatism applied by gold miners in evaluating year-end reserves. Gold reserves fell 8%, from 468 million ounces at the 2012 reporting year-end to 431 million ounces at the 2013 reporting year-end. The gold miners most significantly impacted were Barrick and Goldcorp which together de-recognised 22 million ounces in reserves as a result of lower price assumptions.

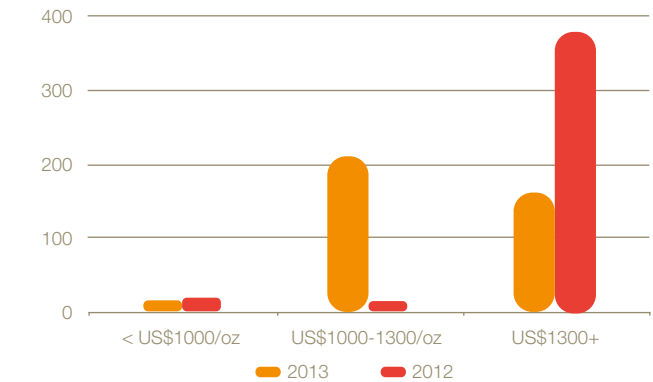
Over the past three years, reserve price assumptions increased by more than 25%. The fall in gold prices during 2013 saw the weighted average price assumption fall by approximately 10% between 2012 and 2013. The highest price assumption fell from \$1,500/oz to \$1,350/oz. The lowest remained unchanged at \$950/oz.

Top 40 Proportion of Gold Companies by price assumption (no. of companies)



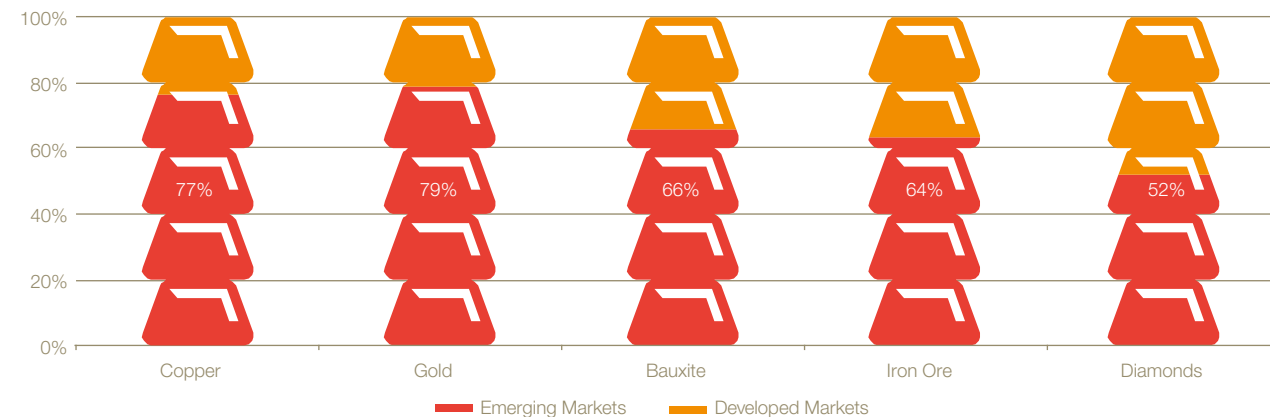
Source: PwC analysis

Top 40 Proportion of Gold Reserves by price assumption (million ounces)



Source: PwC analysis

Proportion of global reserve additions (2003 to 2013)



Source: U.S. Geological Survey, PwC analysis

The increasing role of emerging markets

For the past decade, the role of the emerging markets has become more apparent, with these regions accounting for 60-80% of new reserves added globally to 2013. These markets bring enormous opportunity for the industry, but such opportunity is tempered by complexity and risks due to the relative differences in political, legal and business practices.

6

Strategies to beat the downturn

The productivity imperative

Rejecting the short-term mindset

As we've seen in recent editions of *Mine*, the commodities super-cycle had the industry chasing volume at any cost; absolute output was deliberately prioritised over productivity considerations. More recently, in the face of falling and volatile commodity prices, many miners have reacted by reducing headcount, closing unprofitable operations and deferring capital expenditure to reduce cash costs.

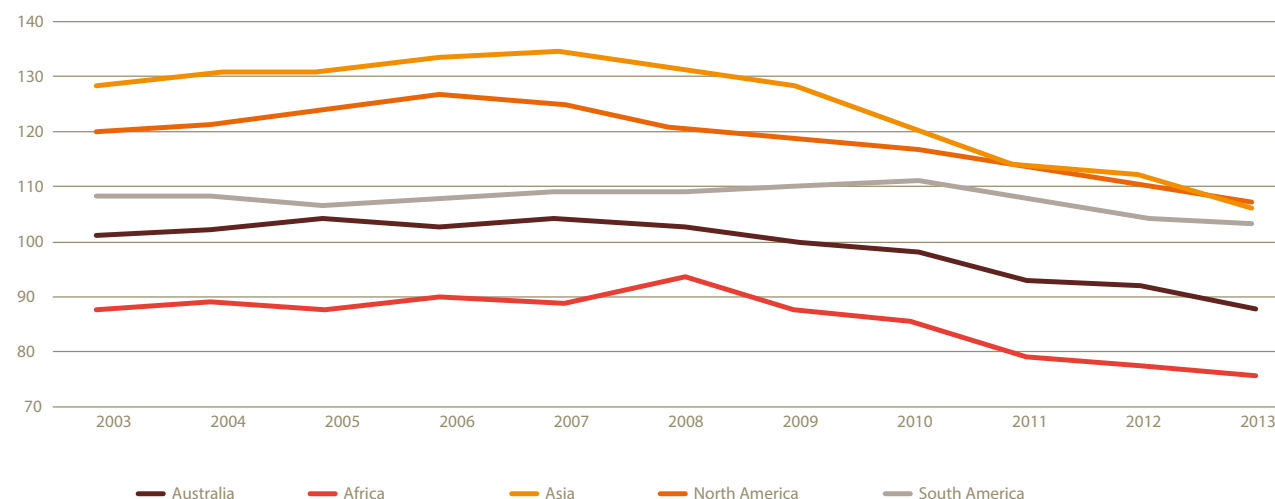
Headcount reductions and expenditure curtailment might be effective in reducing controllable cash costs in the near term, but long term sustainable gains depend

on strong underlying improvements in the efficiency of operations and invested capital. Accordingly, productivity has become one of the most important topics as the industry aims to restore and sustain shareholder value.

One of the key components of productivity is the efficiency of equipment. Not only does equipment efficiency directly impact equipment costs, it also provides a window through which miners and investors can gain insights into the quality of the overall operation.

PwC's Mining Equipment Productivity Index (MEPI)³, drawn from our global database of individual classes of equipment over the past ten years, shows that efficiency of mining equipment, despite recent cost reduction initiatives, has been in decline globally.

PwC's Mining Equipment Productivity Index by region (MEPI)



Source: PwC's Equipment Productivity and Reliability Database

³The MEPI measures the efficiency of open cut mining operations by comparing how much material mining equipment is moving from one period to the next using 2003 data for Australia as the reference point.

Taking on the productivity challenge

There are three key levers available to miners to improve productivity and, in turn, shareholder returns. The first lever is looking at the mine operating strategy. To maximise shareholder returns, mines will typically adopt one of two strategies. When implemented effectively, these strategies follow a typical pattern of equipment use:

- Volume strategy: favoured during periods of high commodity prices, involves a reduction in truck performance as mines increase trucks in use to minimise loader idle time; and
- Cost strategy: a high focus on costs generally means fewer, and therefore more highly utilised, trucks and higher levels of loader idle time.

However cost reduction initiatives often conflict with asset optimisation. Miners need to understand their performance in the context of the operation and available equipment to determine the best fit strategy to improve overall performance. Both loader and truck performance has been declining since 2009, suggesting miners may not effectively adopted either a volume or a cost strategy after the commodity boom when cost reduction initiatives were introduced across the board.

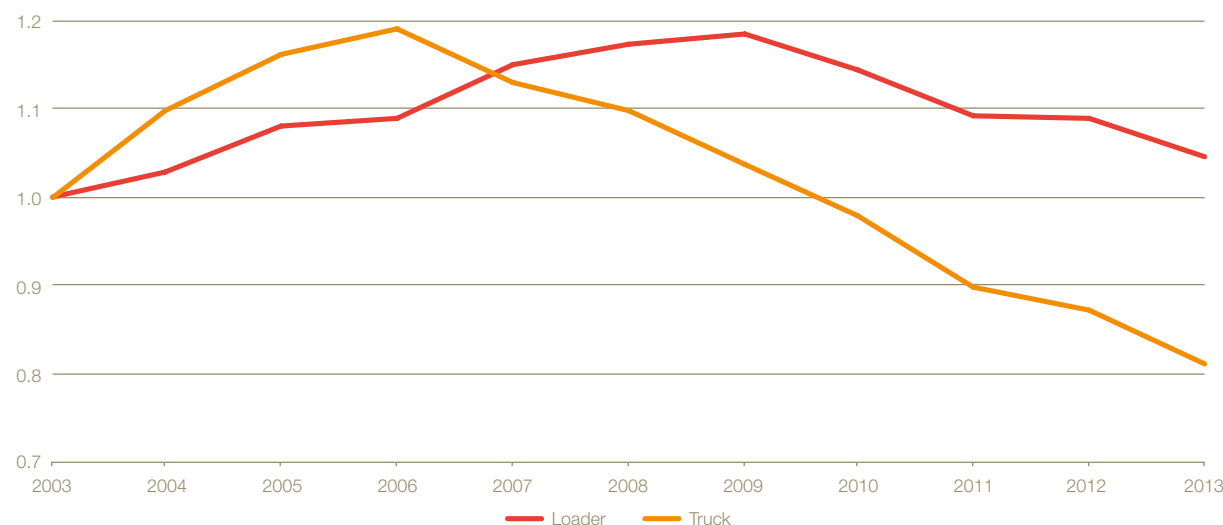
The second lever is data; many sectors have already embraced data use to drive decision-making and bring about step-changes in performance improvement. The use of available data is a proven distinguishing feature of mines that achieve outstanding equipment performance. However, the mining industry has yet to fully leverage its data. Measurement and data-management systems should be in place to accurately and consistently record all key performance indicators, including productivity,

time management, fleet management and safety issues for all mining equipment. Once measured, the miners should be analyzing the data for opportunities to improve on a regular basis.

The third lever is people. The full potential of a clear mine strategy and sound data management systems will not be achieved if the mining company lacks either the right people or skills. Research has found that accounting for individual differences during selection and recruitment of operators can increase equipment output by up to 14%. The process of selecting, training and evaluating staff requires continued attention and investment, even during periods of cost consciousness.

Formulating and delivering on a clearly articulated strategy addressing these principles will help mining companies generate the superior returns they aim to deliver going forward.

Open Pit Loader and Truck Performance (2003 = 1)



Source: PwC's Equipment Productivity and Reliability Database

The need to realise sustainable productivity gains will be paramount to reaching the goal of having mines for all stages of the cycle.



Almost a quarter of the Top 40 are diversifying geographically

The majority are represented by miners based in Russia, India and China who predominantly operate domestically, but are now looking to expand beyond their own borders



Portfolio management

With changes in CEOs and continued margin pressures, it is unsurprising mining companies are focusing on portfolio management decisions to deliver shareholder value—flexing where and what to mine, which assets to put on hold, and whether to close or divest.

Expanding beyond domestic borders...

Almost a quarter of the Top 40 are diversifying geographically. The majority are represented by miners based in Russia, India and China who predominantly operate domestically, but are now looking to expand beyond their own borders.

- Coal India reportedly has an estimated \$6.7 billion to invest in coal mines over the next five years as India prepares to import a rising volume of coal. Coal India has discussed strategic alliances with companies such as Peabody Energy and Rio Tinto to mine coal in Australia, the U.S., South Africa and Indonesia.
- ALROSA defined a group strategy, of which one key element included a focus on expanding outside of Russia by developing prospects in Africa. This led to ALROSA establishing a joint venture with the Angolan national diamond company Endiama for prospecting and exploration on diamond deposits in the Republic of Angola.
- Zijin Mining established a global offshore mining fund with Sprott Inc., which will target global mining investments in publicly listed equity and debt instruments of gold, other precious metals and copper mining companies. The target size of the fund was announced as \$500 million.



The importance of proceeding with core assets has been a focus from some of the Top 40 and based on recent announcements, it appears this will continue into 2014.

Shedding non-core assets...

Almost a quarter of the Top 40 has divested what they considered non-core assets, or are looking to do so during 2014.

Diversifieds reducing their portfolio by divesting non-core commodities

- BHP Billiton has announced or completed divestments in Australia, the United States, Canada, South Africa and the United Kingdom, including mineral sands, uranium and diamonds assets in order to focus on its core pillars.
- In 2013, Rio Tinto announced or completed \$3.3 billion of divestments of non-core assets which included selling Clermont coal mine for \$1 billion and the Northparkes copper and gold mine for \$820 million. Rio Tinto also put diamond assets on the market in 2013, but has not yet concluded a sale.

- Vale sold non-core assets and investments for \$6 billion in 2013, reinforcing a “commitment to the simplification of our asset base”.
- In late 2013, Glencore indicated it intends to sell a stake in platinum producer Lonmin because it does not fit its strategy.

Companies divesting non-core operations, a majority related to energy assets outside of core mining

- Barrick sold almost \$400 million in energy assets to Canadian Natural Resources, Venturion Oil and Whitecap Resources.
- Fortescue Metals sold the power station at its Solomon mine in Western Australia for \$300 million to a subsidiary of TransAlta, a Canadian power company.
- Cameco sold its minority stake in Bruce Power, operator of the Bruce Nuclear Generating Station, to partner Borealis Infrastructure for \$450 million to put greater focus on its uranium business.
- Newmont disposed of its stake in Canadian Oil Sands for \$578 million in July 2013.
- Freeport-McMoRan is reportedly seeking for a buyer for its one third stake in the Luna Energy natural gas power plant that supplies electricity to four of its mines in order to pare down debt on the balance sheet.
- ALROSA signed an agreement for the sale of its gas assets to Rosneft.

Sharing risk and capital...

In addition to portfolio decisions, it appears that companies are exploring potential joint ventures as a way to improve profit margins at existing operations by leveraging efficiencies of regional proximity. While intent has been expressed, it has yet to be proven how these ‘desktop’ synergies will be operationally realised.

- Vale and Glencore began talks in 2013 on creating a single unit consortium to jointly operate nickel mines, mills and smelters in the Sudbury basin of Canada.
- In 2014, Glencore and Rio Tinto are reportedly in discussions over a joint venture to strengthen their respective coal mining operations in the Hunter Valley of Australia.

Other Top 40 companies such as Freeport-McMoRan and Consol Energy appear to be following the lead of BHP Billiton by acquiring oil & gas assets including shale deposits as a means to diversify.

Re-positioning up and down mining’s value chain is also taking place, with Glencore expanding its mining presence, while Anglo American has expanded its trading business and others are assessing investments in royalty streaming arrangements as a means to diversify returns.

The importance of proceeding with core assets has been a focus from some of the Top 40 and based on recent announcements, it appears this will continue into 2014.

Innovation – First Movers or Fast Followers?

Innovation can help the industry enhance profitability and productivity, address labour shortages and costs, and develop technologies required in more difficult conditions (i.e., declining grades, remote locations, deep mining).

Compared to other industries, mining is very conservative in terms of R&D investment. Only nine mining companies are included in a recent survey of the world's top 2,000 companies by R&D investment⁴.

However, this doesn't mean that innovation is not important for the mining industry; in the years to come it's going to get harder and more expensive to mine and companies need to innovate and do things differently. Despite recent cost pressures, big companies are still investing in the future.

For example, Rio Tinto's "Mine of the Future" technology and innovation programme includes a facility that monitors the performance in real time of its operations across the globe that have this technology. The company's innovation group is now shifting focus to studying the 'big data' generated by truck and processing

plants reporting to have already reduced costs by \$80 million through analysis identifying opportunities to deliver efficiencies.

BHP Billiton said it generated hundreds of millions of dollars of annual savings from sharing data from individual operations enterprise wide, resulting in improved maintenance planning and scheduling and better understanding of its global spend on consumables.

In 2013, AngloGold Ashanti produced gold using reef-boring technology which removes drilling and blasting and opens up areas left unmined on current mine sites and ultra-deep mining. The company's gold reserves are expected to double with successful introduction of the technology.

In the industry, much of innovation is left to equipment suppliers. Both Komatsu and Caterpillar are creating driverless trucks which are touted to reduce fuel consumption and tire wear, eliminate downtime related to rest breaks and shift changes, and improve safety.

The use of liquefied natural gas (LNG) technology is an expanding focus area for the industry. In December 2013, Shell Canada and Caterpillar signed an agreement to test a new engine and fuel mix using LNG that could reduce operating costs and greenhouse gas emissions.

Water scarcity has also seen innovation through the use of desalination plants that will help address community concerns regarding the industry's use of clean water.

However, implementation typically requires an up-front cost and miners still prefer to be 'fast followers' versus 'first movers'. It remains to be seen what will create the impetus for companies to adopt these advances and how quickly companies can overcome the challenges of adopting these technologies. With operating costs remaining at stubbornly high levels, innovation could be an effective means to improve future profitability.



⁴2013 EU Industrial R&D Investment Scoreboard

Difficulties associated with the licence to operate

External influences

While the Top 40 assess and disclose the risk of operating in emerging markets, resource nationalism is here to stay. There is an increasing trend of governments looking to maximise returns from their national resources and impose windfall taxes or other measures to more actively manage the monetization of their natural resources.

As early as September 2008, the IMF's Fiscal Affairs Department highlighted that in its various forms, state participation in the resources industry was evolving. The growing need by stakeholders for short-term benefits from the wealth created by mineral resources has seen populist measures introduced in a number of countries in an attempt to maximise income from mining. Unfortunately unintended consequences often result, significantly jeopardising employment opportunities and in many cases actually decreasing the community benefits derived from mining projects.

The impact of Indonesia's decision to ban the export of unprocessed mineral ore effective January 2014 is one such example, with Newmont announcing in May 2014 that it will scale back production, potentially impacting its 8,000 strong work-force and the community in the Sumbawa Barat area, where it is the main employer. Similarly, in Africa, which holds over 70% of the known global platinum reserves, CEOs have been dealing with the impact of adversarial labour relations in South Africa and indigenisation laws in Zimbabwe, which have both negatively impacted project valuations.

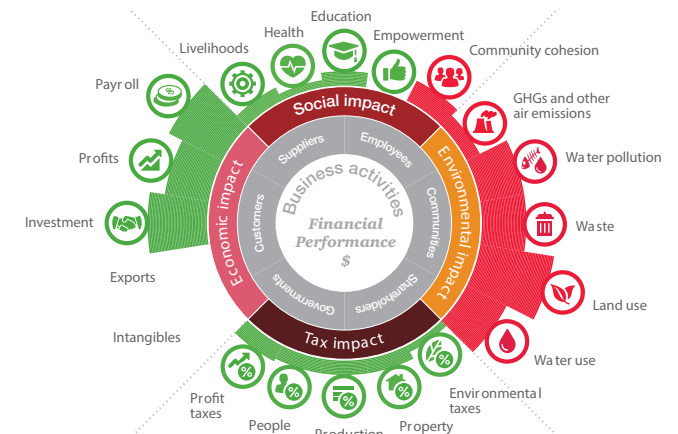
Resource nationalism has taken varied forms across Asia. The Philippines government issued a ban on all new mineral extraction contracts and is exploring an increase in excise tax on mining companies from 2% to between 5% and 7%. To curb production output, the Chinese government increased taxes on iron ore and other metals, whilst in Indonesia new regulations requiring additional divestment of foreign interests over a shorter period have been issued. In Latin America, Mexico has also introduced additional taxes on resource companies which include a 7.5% mining royalty on earnings.

Resource nationalism, in one form or another, is a key risk and a reality that every organisation in the resource extractive industry has to manage and factor into its risk assessments.

Fulfilling global transparency expectations to local stakeholders

The total positive impact and value of mining companies extends well beyond tax paid. Companies should take a holistic view of the social, environmental, economic, and tax dimensions of their activities and need to quantify and articulate the impacts of their activities and contributions.

With this approach, companies can better understand relevant issues which are important to their stakeholders. In order to maintain sustainable operations, miners will need to measure and manage total impact, and proactively use this information to build trust with all of their stakeholders by demonstrating the contribution to the country and communities in which they operate.



Deal or no deal?

Despite value being on the table, with steep declines in the market capitalisation of mining stocks, M&A activity continued to be subdued during 2013.

Hostile takeover activity appears to have emerged again in 2014 as buyers look to capitalise on the lower share prices while targets hold out for more. Goldcorp's hostile take-over attempt for Osisko Mining was the largest unfriendly bid for a mining company since First Quantum Minerals bought Inmet Mining in November 2012.

Divestments were a hot topic. Although there were some deals closed, the majors demonstrated that they were not forced sellers. A number of assets, such as Rio Tinto's diamond business were withdrawn from the market. Other assets, such as BHP's Gregory Crinum, were put into care and maintenance due to failed sale processes. With a continued focus on simplifying and improving portfolios, divestment activity is expected to continue in 2014.

Miners have reinvigorated discussions of joint ventures and partnering as a means of driving efficiency and de-risking both projects and operations. However, executing these deals can be difficult, as demonstrated by the Barrick and Newmont merger discussions in early 2014.

Chinese investors showed their continued interest in the industry as demonstrated by the consortium led by China Minmetals Corporation, which acquired the Las Bambas mine in April 2014 from Glencore Xstrata.

Public market offerings by mining stocks were the lowest in five years and attention turned to private equity as an alternative source of capital. Reportedly, private equity groups such as Magris Resources and X2 Resources raised \$10 billion over the past two years for funds earmarked for the mining industry, but only 14% has been deployed⁵.

While bargains may appear to exist, with company valuations at relative 'lows' miners are busy doing homework on the 'buy' versus 'build' equation and with recent impairments, no one wants to over pay in uncertain times.



With a continued **focus on simplifying** and improving portfolios, divestment activity is expected to continue in 2014.

⁵Bloomberg

Ten year trends, 2004 through 2013

\$ billion	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Aggregated income statement										
Revenue	512	525	539	435	325	349	312	249	222	184
Operating expenses	(351)	(340)	(311)	(246)	(217)	(208)	(176)	(141)	(141)	(129)
Adjusted EBITDA	162	185	228	189	108	141	136	108	81	55
Amortisation, depreciation and impairment	(97)	(86)	(42)	(34)	(31)	(57)	(19)	(12)	(16)	(15)
PBIT	65	99	186	155	77	84	117	96	65	40
Net interest cost	(15)	(6)	(6)	(7)	(6)	(6)	(5)	(3)	(4)	(3)
PBT	50	93	180	148	71	78	112	93	61	37
Income tax expense	(30)	(25)	(48)	(38)	(22)	(21)	(32)	(27)	(16)	(9)
Net profit	20	68	132	110	49	57	80	66	45	28
Adjusted net profit excl. impairment	43	99	143	111	57	80	81	66	45	28
Year on year increase / (decrease) in revenue	(2%)	(3%)	24%	34%	(7%)	12%	25%	12%	21%	67%
Year on year increase / (decrease) in adjusted EBITDA	(12%)	(19%)	21%	75%	(23%)	4%	26%	33%	47%	90%
Year on year increase / (decrease) in net profit	(71%)	(49%)	20%	124%	(14%)	(29%)	21%	47%	61%	133%
Adjusted EBITDA margin	32%	35%	42%	43%	33%	40%	44%	43%	36%	30%
Aggregated cash flow statement										
Operating activities	124	137	174	137	83	104	95	77	58	41
Investing activities	(126)	(169)	(142)	(79)	(74)	(102)	(126)	(67)	(38)	(23)
Financing activities	(3)	21	(28)	(35)	10	14	36	4	(11)	(10)
Free cash flow	(6)	11	76	70	19	38	44	40	27	19
Aggregated balance sheet										
Property, plant and equipment	712	701	601	511	467	402	371	262	224	196
Other assets	544	544	538	432	334	274	284	192	148	120
Total assets	1,256	1,245	1,139	943	801	676	655	454	372	316
Total liabilities	624	563	482	387	354	339	329	217	178	151
Total equity	632	682	657	556	447	337	326	237	194	165

Note: All income statement data presented excludes Glencore marketing and trading revenue and costs.

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.

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Glossary

Adjusted EBITDA	EBITDA excluding 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
Adjusted net profit	Net profit excluding impairments
Capital employed	Property, plant and equipment plus current assets less current liabilities
Capital expenditure	Purchases of property, plant and equipment
Capital velocity	Ratio of capital expenditure to capital employed
CEO	Chief Executive Officer
Creditor days	Accounts payable / operating expenses * 365
Current ratio	Current assets / current liabilities
Dividend pay-out ratio	Dividends paid / adjusted net profit
Dividend yield	Dividends paid / market capitalisation
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation and amortisation
EBITDA margin	EBITDA / revenue
ETF	Exchange-Traded Fund
ETR	Effective tax rate
Free cash flow	Operating cash flows less investment in property, plant and equipment
Gearing ratio	Net borrowings / equity
IMF	International Monetary Fund
M&A	Mergers and Acquisitions

Market capitalisation	The market value of the equity of a company, calculated as the share price multiplied by the number of shares outstanding
MEPI	Mining Equipment Productivity Index
Net assets	Total assets less total liabilities
Net assets ratio	Total assets / total liabilities
Net debt	Borrowings less cash
Net profit margin	Net profit / revenue
NPV	Net present value
Oz	Troy ounce
PBIT	Profit before interest and tax
PBT	Profit before tax
Price-to-earnings ratio (PE ratio)	Market value per share/earnings per share
Quick ratio	(Current assets less inventory) / current liabilities
R&D	Research and development
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, Glencore Xstrata, China Shenhua, Freeport-McMoRan, Anglo American, Coal India, Potash Corp and Norilsk
Top 40	40 of the world's largest mining companies by market capitalisation
Top 5 diversified	BHP Billiton, Rio Tinto, Vale, Glencore and Anglo American
Working capital	Current assets less current liabilities

Top 40 companies analysed

Name	Country (**)	Year – end	Name	Country (**)	Year – end
OJSC ALROSA*	Russia	31 Dec	Jiangxi Copper Company Limited	China/Hong Kong	31 Dec
Anglo American plc	UK	31 Dec	KGHM Polska Miedz Spolka Akcyjna	Poland	31 Dec
Antofagasta plc	UK	31 Dec	Newcrest Mining Limited	Australia	30 Jun
Barrick Gold Corporation	Canada	31 Dec	Newmont Mining Corporation	United States	31 Dec
BHP Billiton Plc / BHP Billiton Limited	UK/Australia	30 Jun	NMDC Limited	India	31 Mar
Cameco Corporation*	Canada	31 Dec	MMC Norilsk Nickel	Russia	31 Dec
China Coal Energy Company Limited	China/Hong Kong	31 Dec	Polyus Gold International Limited	UK	31 Dec
China Shenhua Energy Company Limited	China/Hong Kong	31 Dec	Potash Corp. of Saskatchewan, Inc.	Canada	31 Dec
Coal India Limited	India	31 Mar	Randgold Resources*	UK	31 Dec
Consol Energy Incorporated*	United States	31 Dec	Rio Tinto plc / Rio Tinto Limited	UK/Australia	31 Dec
First Quantum Minerals Limited	Canada	31 Dec	Saudi Arabian Mining Company (Ma'aden)*	Saudi Arabia	31 Dec
Fortescue Metals Group Limited	Australia	30 Jun	Silver Wheaton Corporation	Canada	31 Dec
Freeport-McMoRan Copper & Gold Inc.	United States	31 Dec	Sumitomo Metal Mining Company*	Japan	31 Mar
Glencore Xstrata plc	UK	31 Dec	Teck Resources Limited	Canada	31 Dec
Goldcorp Inc.	Canada	31 Dec	The Mosaic Company	United States	31 May
Grupo México S.A.B. de CV	Mexico	31 Dec	Uralkali	Russia	31 Dec
Impala Platinum Holdings Limited	South Africa	30 Jun	Vale S.A.	Brazil	31 Dec
Industrias Penoles S.A.B. de CV	Mexico	31 Dec	Yamana Gold Inc.	Canada	31 Dec
Inner Mongolia Baotou Steel Rare-Earth Hi-Tech Co. Limited	China	31 Dec	Yanzhou Coal Mining Company Limited	China/Hong Kong	31 Dec
Inner Mongolia Yitai and Jaingxi Copper	China/Hong Kong	31 Dec	Zijin Mining Group Company Limited	China/Hong Kong	31 Dec

(*) Refers to companies which were not included in the 2012 analysis

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

Explanatory notes for aggregated financial information

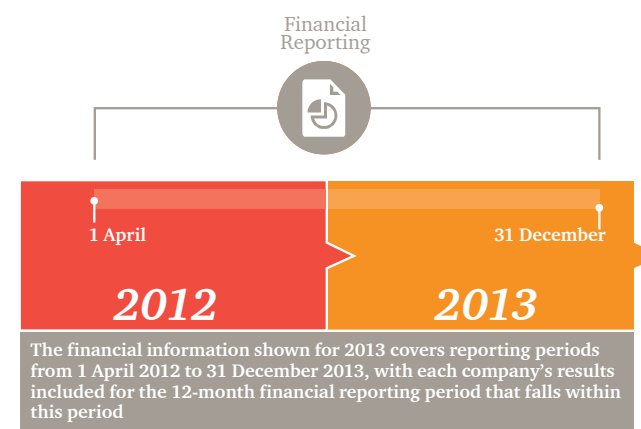
We have analysed 40 of the largest listed mining companies by market capitalisation. Our analysis includes major companies in all parts of the world whose primary business is assessed to be mining. The results aggregated in this report have been sourced from the latest publicly available information, primarily annual reports and financial reports available to shareholders.

Where 2013 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), United States Generally Accepted Accounting Principles (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 2013 covers reporting periods from 1 April 2012 to 31 December 2013, with each company's results included for the 12-month financial reporting period that falls within this period. All figures in this publication are reported in U.S. dollars, except when specifically stated. The results of companies that report in currencies other than the U.S. dollar have been translated at the closing U.S. dollar exchange rate for the respective year.

Some diversified undertakes part of their activities outside the mining industry, such as the oil and gas businesses of BHP Billiton, Consol Energy and Freeport-McMoRan 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.



Key contributors to Mine



Written on location in Perth, Australia

14 Other PwC mining publications

Our commitment to the industry goes beyond our services. As industry leaders, we are globally recognised for our broad knowledge of the mining industry and the laws that govern it. Set out on this page are examples of recent mining thought leadership publications.



March 2014

Being strategic in resources: JVs remain key

JVs allow companies to share capital investment and project risk and can act to fill an exploration gap in a company's business strategy.

http://www.pwc.com/en_CA/ca/mining/publications/pwc-global-mining-deals-outlook-being-strategic-in-resources-2014-03-en.pdf

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February 2014

Strategically picking up the pace: 2014 Global mining deals outlook and 2013 review

There's no sugar coating it: 2013 was one of the worst years for mining industry mergers and acquisitions (M&A) in nearly a decade. The ongoing confidence crisis across the sector, exacerbated by falling commodity prices that took mining company profits down with it, is behind the continued M&A slump.

<http://www.pwc.com/ca/en/deals/m-a-industry-briefing.jhtml>

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January 2014

Digging deeper into all-in cost disclosure

The push for improved transparency and clear definitions in all-in sustaining and all-in cost reporting in the mining industry.

<http://www.pwc.com/ca/en/mining/mining-all-in-cost-disclosure.jhtml>

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December 2013

Metals mired in global uncertainty

Annually, PwC surveys gold mining companies from around the world. This year, we also include copper and silver companies from a cross-section of approximately 150 senior, mid-tier and junior companies.

<http://www.pwc.com.au/industry/energy-utilities-mining/assets/Global-Commodity-Pricing-Dec13.pdf>

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October 2013

The direct economic impact of gold

This report addresses the economic impact of gold on the global economy, and looks at an entire value chain, including gold mining, refining, and fabrication and consumption. It helps us understand the fundamental role that gold plays in advancing economic development and ultimately the needs of society.

<http://www.pwc.com/ca/en/deals/m-a-industry-briefing.jhtml>

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September 2013

Extracting value: What do investment professionals need from mining company reporting?

PwC's 2013 mining industry investor survey is the latest in a series of industry reporting surveys, gathering the opinions of specialist investors and analysts from key markets around the world.

http://www.pwc.com/en_GX/gx/mining/publications/assets/pwc-extracting-value-what-do-investment-professionals-need-from-mining-company-reporting.pdf

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September 2013

Measuring and managing total impact: A new language for business decisions

By valuing social, environmental, tax and economic impacts, business leaders are now able to compare the total impacts of their strategies and investment choices and manage the trade-offs.

<http://www.pwc.com/gx/en/sustainability/publications/total-impact-measurement-management/assets/pwc-timm-report.pdf>

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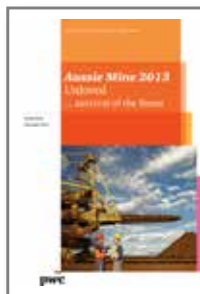
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Regional Mine Publications

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 2013

Aussie Mine 2013: Unloved... survival of the fittest

In its 7th year, Aussie Mine provides an industry and financial analysis of the largest 50 mining companies listed on the Australian Securities Exchange (ASX) with a market capitalisation of less than \$5 billion at 30 June 2013 (the mid-tier 50).

<http://www.pwc.com.au/industry/energy-utilities-mining/publications/aussie-mine.htm>

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October 2013

Junior Mine 2013: Survival mode continued

Miners are facing a confidence crisis and juniors are the ones hardest hit. The market cap for the top 100 junior miners on the TSX Venture Exchange (TSXV) fell 44% to \$6.49 billion in 2013 as compared to 2012.

<http://www.pwc.com/ca/en/junior-mining-headquarters/junior-mine-review-of-trends-in-tsx-v-mining-industry.jhtml>

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May 2013

mineIndonesia 2013: 11th annual review of trends in the Indonesian mining industry

In its 11th year, mineIndonesia, produced by PwC in conjunction with the Indonesian Mining Association and the Indonesian Coal Mining Association, presents the views of the industry, its challenges and the financial trends, and has become a sought after resource for those interested in the mining industry in Indonesia.

<http://www.pwc.com/id/en/publications/assets/mineindonesia-2013.pdf>

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November 2013

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 2013, and we excluded companies with suspended listings.

<http://www.pwc.co.za/en/publications/sa-mine.jhtml>

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Mining Excellence at 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 at 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.

The positive story for miners is that the long-term growth fundamentals remain in tact. But, mining companies are facing significant downward pressure. As an industry, we need to fully address the confidence crisis, before we are able to move on to the next phase of the cycle."

—John Gravelle, PwC Global Mining Leader

Mining Excellence at PwC provides our clients:

Leading edge knowledge and insight

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:
 - flagship publications including *Mine* and *Mining Deals*
 - The Insight Series focuses on specific issues most important to miners
- An extensive industry development program for our people and clients. This features our annual university-style courses:
 - Hard Hat: The Mining Experience (Australia)
 - Americas School of Mines (North and South 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 accountmanagement
- maximised deal potential through a wellconnected global community of mining leaders
- a well-connected and 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 at 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.

www.pwc.com/mining

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