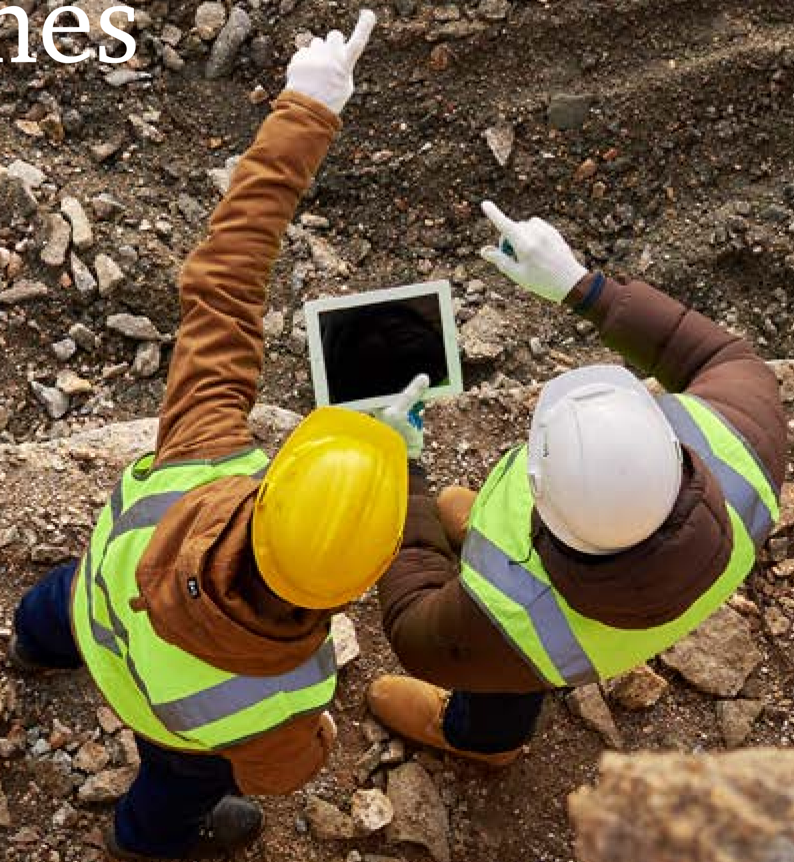
Mine 2018

Tempting times



pwc

www.pwc.com/mining

For the world's Top 40 miners, 2017 was a remarkable year. Thanks in large measure to the continuing recovery in commodity prices, fuelled by general economic growth, revenues rose dramatically by 23 per cent. At the same time, the cost-saving strategies of the past few years delivered, with margins and cash-generating ability improved as well, leading to a sharp increase in profits. Capital expenditures remained flat. With liquidity concerns that were still lingering in 2016 mostly resolved and balance sheets strengthened, companies have the flexibility to act. Across the board, a heightened focus on safety in operations, reducing leverage, and avoiding aggressive investments in new capacity indicates that management is proceeding in a measured and deliberate way.

For the first time, we have included a 2018 outlook. Our outlook indicates that the Top 40's improved performance will continue in 2018, as companies continue to reap the benefits of the upswing in the mining cycle. The critical question facing leaders and investors is how they will respond to their current run of good fortune. Will they give in to the impulses that have spurred aggressive actions in the past, or will they continue to pursue a path of safety first?

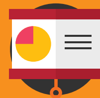
Perhaps the most significant risk currently facing the world's top miners is the temptation to acquire mineral-producing assets at any price in order to meet rising demand. In the previous cycle, many miners eschewed capital discipline in the pursuit of higher production levels, which set them up to suffer when the downturn came. While we expect capital expenditure to increase next year as companies implement their long-term growth strategies, miners must be careful to maintain discipline and transparency in the allocation of capital. They need to resist the urge to pursue projects or acquisitions at any price, and instead, focus on mining for profit, not for tonnes.

Miners may also find themselves tempted to give in to stakeholder demands for a share of the success. Given the sector's strong overall performance, this pressure will come from multiple directions. As they view the improving results, shareholders, governments, workers, management and host communities will all be ramping up their asks – for higher dividends, higher taxes, and higher wages. Miners need to strike a balance between near-term demands and their long-term vision to deliver value.

Indications are that this current cycle has several more years to run. Steady global annual GDP growth over the next five years, along with significant infrastructure growth in emerging economies, is expected to underpin continued demand for mining products. But the operating environment is not without significant headwinds: geopolitical uncertainty, regulatory risk, technology and cyber risks, and social licence risks are all on the rise.

So while the future looks bright for the Top 40, long-term success is by no means assured. Both risks and temptations loom and miners will need to stay focused and deliberate in the pursuit of their long-term goals to create value for all stakeholders on a sustainable basis.

Responsibly creating value for all stakeholders on a sustainable basis



Financial capital

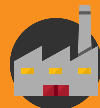
Market cap
$926bn up 30%

Revenue
$600bn up 23%

EBITDA
$146bn up 38%

Gearing 31%
down from 41%

Net debt to EBITDA
improved by 38%



Manufactured capital

Limited ***large scale*** new project approvals

Capital expenditure at
$48bn, lowest since 2006

Production
overall ***flat***

Intellectual capital

Encouraging signs on ***exploration*** *(globally up 15%)*, from a very low base

Technology potential to ***drive down costs***

Human capital

Employee cost
increase by 5%

Of 22 that reported injury statistics, 15 had improved

Fatalities
down 36%

Social and relations

Of new board appointments 27% female

Female board representation increased to 19%

Partnering with ***communities***

Challenging relations with ***regulators***

Source: PwC analysis, Annual reports

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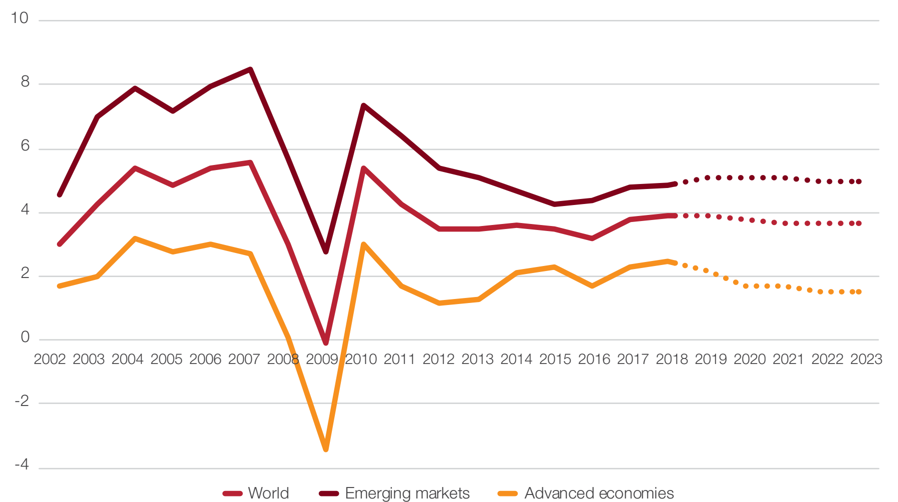
A cyclical industry driven by global economic growth

Global GDP growth of approximately 4 per cent per year over the next five years in addition to infrastructure growth in emerging economies is expected to underpin continued demand for mining products.

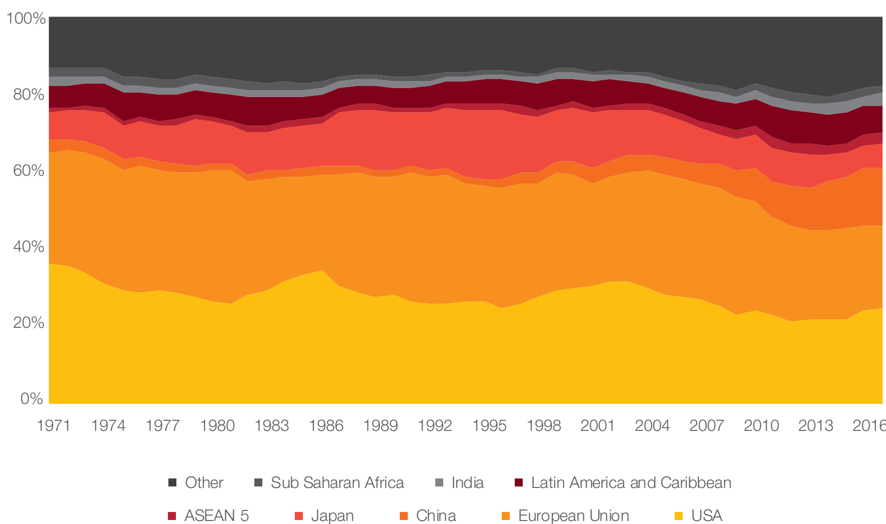
Figure 1: GDP growth (%)

The mining industry is cyclical, thanks to the lag between investment decisions and new supply. Demand tends to grow in a relatively stable fashion on the back of global economic growth. By contrast, supply is added in bulk when a new development is completed.



Source: IMF, PwC Analysis

Figure 2: Percentage of global GDP



Source: World Bank, PwC analysis

It's not all about China

Infrastructure-driven growth in Asia, mainly China, has resulted in above-average economic growth and a significant increase in demand for commodities like iron ore, copper and coal. However, as can be seen from Figure 2, the USA and Europe account for more than 40 per cent of global GDP. Although their growth rates are nowhere near as impressive as those of the emerging markets, relatively small increases, or declines in growth can have an impact on metal demand, especially consumer driven demand.

We have been here before!

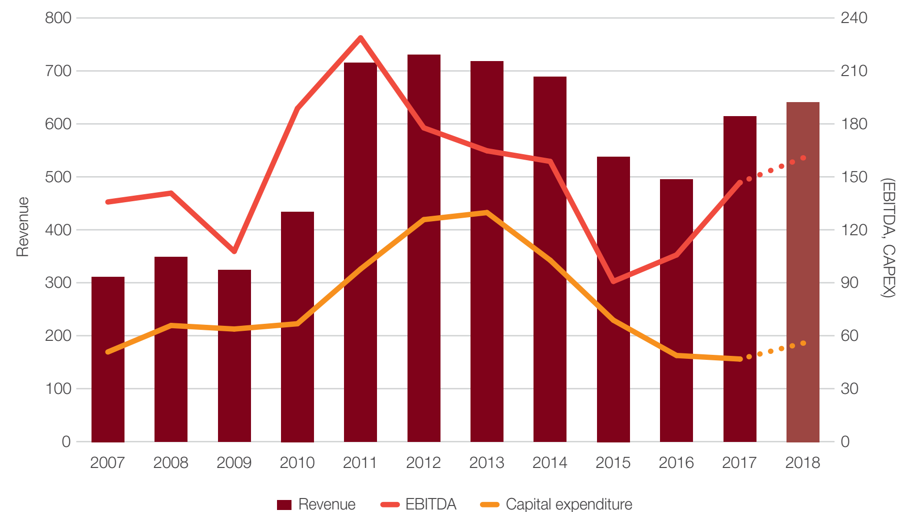
The Top 40's performance reflects the cycle upswing

The Top 40's performance confirms the upswing in the cycle. Around a decade ago, miners faced a declining price environment with a corresponding drop in revenue, EBITDA dropped significantly. A focus on cost saving, productivity and the impact of lower commodity prices on input costs resulted in a recovery in EBITDA even aside from the recovery in revenue. Recent price increases have further improved operating profitability.

The lag between capital expenditures and financial performance is evident and typical in cyclical industries. Significant investments made during the previous boom resulted in a substantial overhang in production capacity and weak balance sheets. So it is not surprising that the industry has been slow to ramp up investment significantly; capital expenditures in 2017 remained at a more than 10-year low.

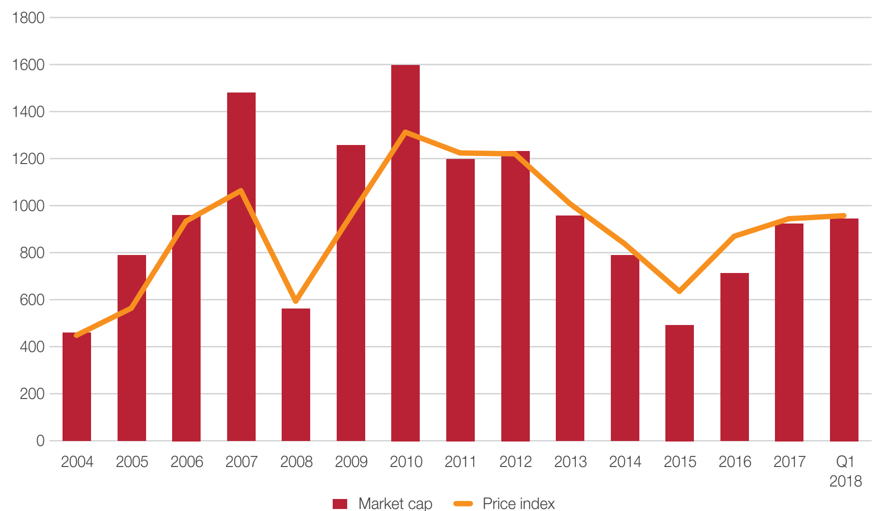
The correlation between spot prices and the market capitalisation of the Top 40 is striking and demonstrates how investors' behaviour also supports pro-cyclical efforts. When spot prices are higher, investors are more willing to invest, which gives companies a greater capacity to invest in projects.

Figure 3: Top 40 performance trends ($ billions)



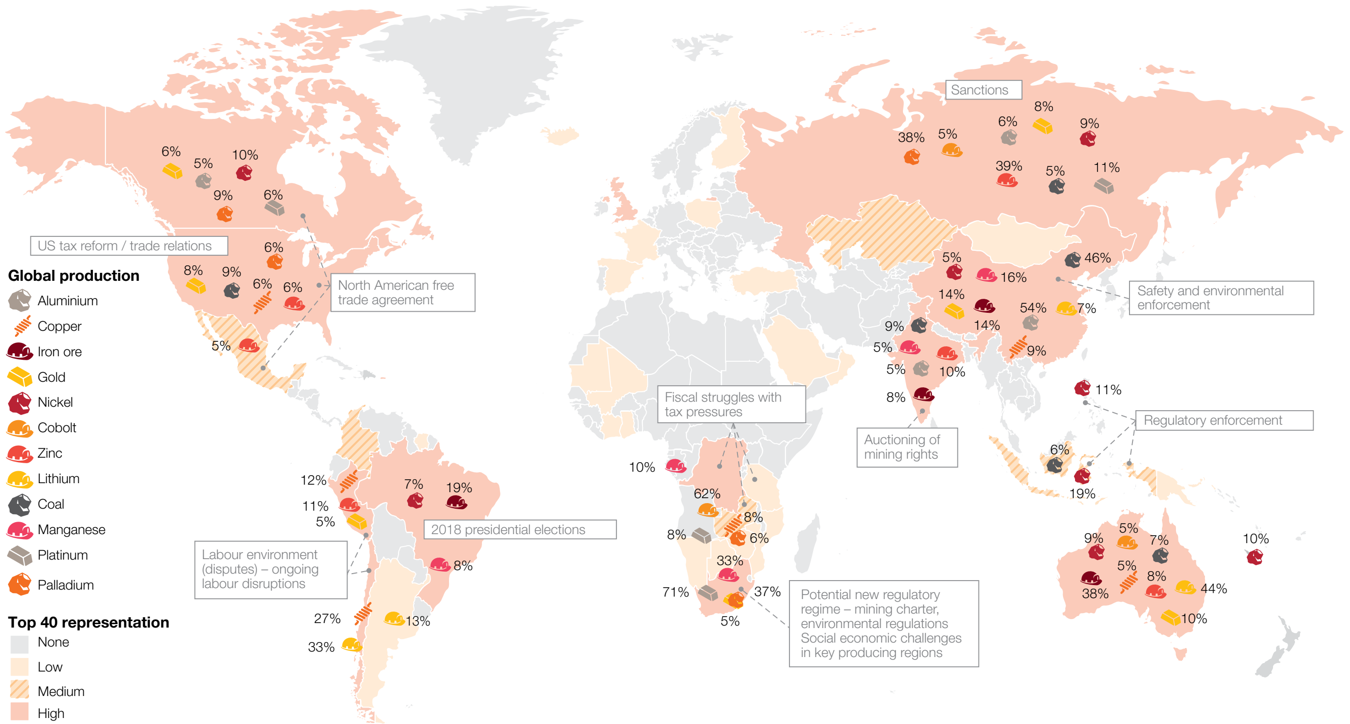
Source: PwC analysis

Figure 4: Market cap of Top 40 vs adjusted price index ($ billions)



Source: World Bank, PwC analysis

Figure 5: Top 40 reach and external market drivers



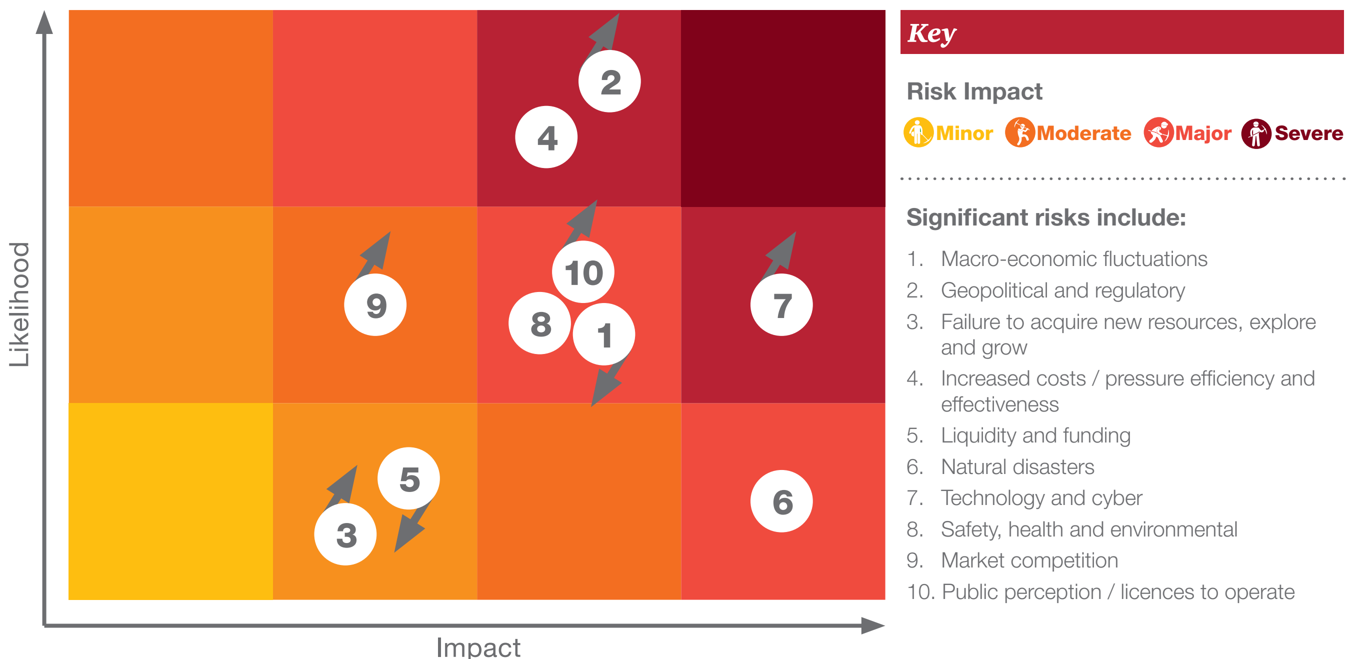
Source: USGS, World Bank, BMI Research, PwC analysis

Our world map illustrates the global production percentages of the key commodities. The Top 40 in aggregate represents almost 50 per cent of global production for key commodities such as iron ore, copper, manganese, cobalt and PGM's.

Although the percentage for thermal coal is much lower, it represents more than 50 per cent of seaborne thermal coal trade and more than 80 per cent of seaborne iron ore trade.

The business of mining carries many risks. Although these differ between each mine site, jurisdiction and company, the risk heat map reflects (Figure 6) the aggregation of how the Top 40 reports risks and how these have changed over the previous year.

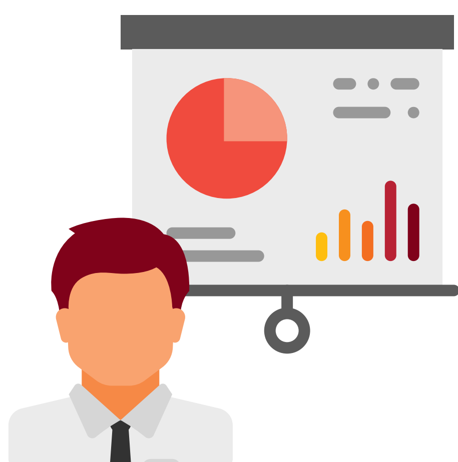
Figure 6: Developments and principal risks and uncertainties, 2017



Source: PwC analysis and Top 40 Annual reports

2017 - a stellar performance

Financial results



Revenue

$600bn up 23%

Gearing

31% down from 41%

EBITDA

$146bn up 38%

Net debt to EBITDA

improved by 38%

Source: USGS, World Bank, BMI, PwC analysis

2018 outlook shows further gains

We're expecting the improved performance to continue into 2018 and have, for the first time, included an outlook on results for 2018.

These projections are based on historic performance, in conjunction with estimates of future key variables such as price, production and input costs.

We expect revenues to continue to increase, on the back of higher prices and marginally higher production volumes, as demonstrated in Q1 2018. Despite the successes of cost-saving initiatives to date, we expect operating costs to rise as a result of inflationary pressures on input costs.

Please refer to page 22 for additional information on methodology and data limitations.

Financial performance ($bn)	2018 Outlook	2017	2016	Change %
Revenue	642	600	489	23% ↑
Operating expenses	(470)	(444)	(371)	20% ↑
Other operating expenses	(10)	(10)	(12)	(17%) ↓
EBITDA	162	146	106	38% ↑
Impairment charges	-	(4)	(11)	(64%) ↓
Depreciation and amortisation	(43)	(41)	(42)	(2%) ↓
Net finance cost	(12)	(11)	(10)	10% ↑
PBT	107	90	43	109% ↑
Income tax expense	(31)	(29)	(16)	81% ↑
Net profit	76	61	27	126% ↑

Safety record

Mining companies continue to focus on maintaining a safe working environment for all their employees. The Top 40's collective goal is no different to any other sector - zero fatalities. Many annual reports noted that additional funds are being invested in mining operations to avoid injuries and loss of life. Despite these endeavours, many companies had fatalities in 2017.

- For the 28 companies that disclosed safety statistics, fatalities fell from 161 in 2016 to 102 in 2017. More than half of fatalities disclosed occurred in India (2017: 37; 2016: 56) and South Africa (2017: 23; 2016: 23)[1]. However, the overall trajectory is improving with fatalities in South Africa one third and India one half of the level seen 10 years ago.
- There is limited disclosure of safety statistics by the Chinese companies among the Top 40. We note that in 2017 the Chinese government commenced an evaluation of the safety fund requirements implemented in 2014, demonstrating a renewed focus on safety.
- Key contributors to the advances from the prior year are the improved performance of Indian miners and the reversal of the one-off impact of the Samarco dam collapse in Brazil in 2016.
- Out of 22 companies who reported injury frequency rate statistics, 15 reported improvements or remained consistent with the prior year [2].

The industry is continuing to consider how technology and automation can reduce human involvement in high safety risk tasks such as drilling and blasting, hazard identification and operator fatigue.

[1,2] *Source: PwC analysis*

Companies continue to drive down overall costs

One third reporting lower unit costs

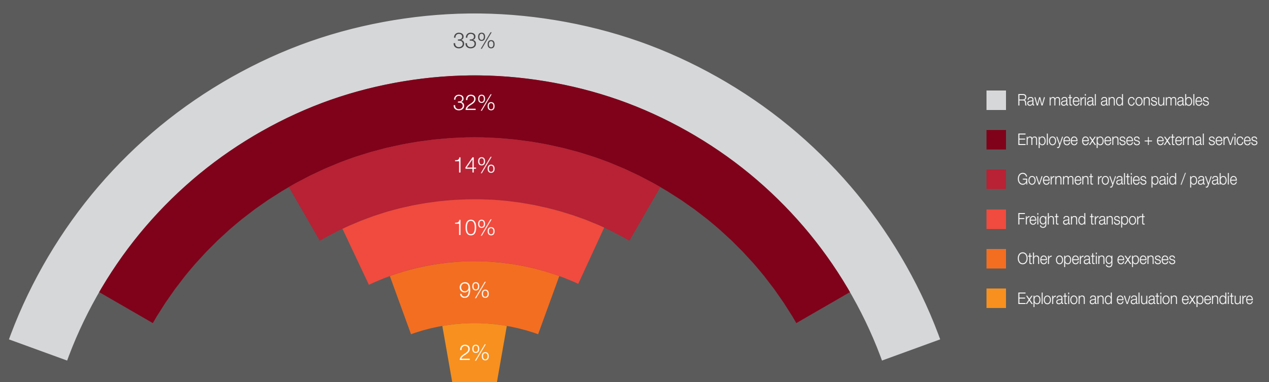
As indicated in the historic input costs trend line, there is commodity price linked input cost pressure. For the 31 companies that disclosed unit cost data, which represent more than 85 per cent of total revenue, a third of the 146 disclosures reported a decrease in dollar unit costs. This bears testimony to the efforts of the Top 40 to improve on the cost curve despite the input cost pressure.

Although the breakdown of input costs varies significantly from operation to operation – for example, a conventional deep-level underground mine's cost structure would be very different from that of an open cut, highly mechanised mine – the following breakdown of operating cost provides an indication of the key cost drivers for the industry.

Figure 7: Input cost basket inflation (%)

Source: World Bank, PwC analysis

Figure 8: Operating cost breakdown



Source: PwC analysis

Productivity cost gains

BHP Billiton

BHP Billiton has reported that, through its Maintenance Centre of Excellence initiative, it expects to save ***$1.2 billion*** across the business by FY2022, with a corresponding reduction in downtime of ***20 per cent***. The company also reports that unit costs have reduced by ***15 per cent*** over the past two years.

Rio Tinto

Rio Tinto identified ***$2.2 billion*** in operating cash cost improvements across 2016 and 2017 with the optimisation of its maintenance strategies, partnerships with suppliers and improvements in mine processes including cycle times identified as contributing factors.

Anglo American

Anglo American increased its production by ***9 per cent,*** at a ***26 per cent*** lower cost per unit, and its volume target for 2017 by ***$1.1 billion***. It attributed these successes to its improved mine planning and the simplification of its operating structure.

Anglo American also identified the potential to achieve a further ***$800 million*** benefit by 2022 and an additional ***$3-4 billion*** improvement in underlying EBITDA per annum, as a result of improved production and cost reduction.

In light on this ongoing investment, we expect increasing demands from investors for the Top 40 to disclose demonstrable savings, productivity gains and safety benefits that innovation investment delivers. Comparison points, particularly between the miners, will not always be easy but cost discipline remains critical. Top 40 miners cannot expect to avoid the greater transparency and ranking among themselves that other industries are already subject to.

Additionally, the impact that innovation and technology investment has on employment levels and traditional workforce structures will require careful management in the future.

Employee costs grow well above inflation

Labour continues to be a significant component of input costs for the Top 40 companies, representing an estimated 32% of operating costs[3]. Overall employee numbers are understood to have been declining, especially through productivity and technology advances. However the collective workforce are also benefitting from the improved price environment, with the pool of aggregated labour costs growing by 5%[4] in USD terms, well above the respective inflation rates.

While the Top 40 strives to find efficiencies through the use of technology, labour-related disputes, especially in emerging markets, can be damaging to productivity. For example, new labour reform laws in Chile, effective in April 2017, are expected to make wage negotiations increasingly difficult[5]. In 2017, BHP Billiton's Escondida mine in Chile was impacted by a strike lasting six weeks, which resulted in an approximately $1 billion impact on production and revenue[6].

Given the expected strength of the companies' financial performance, Top 40 miners will likely face additional calls from employee groups for wage increases.

[3, 4, 5] *Source: PwC analysis*

[6] *Source: https://www.ft.com/content/5a767dc2-2a90-11e7-bc4b-5528796fe35c*

Record high increase in tax contributions

The Top 40 tax expense increased by 81 per cent, with cash taxes paid to governments increasing by 67 per cent[7]. This difference in growth partly reflects the lag between the tax expense and actual taxes paid.

With the exception of the USA, corporate tax rates have remained relatively stable across most key markets. The increase in tax expense is primarily driven by a profit increase and the impact of USA tax reforms (one-time impact of $2.8 billion or a 4 per cent increase in the effective tax rate largely due to the revaluation of deferred tax)[8]. The USA tax reforms will ease the tax burden on USA operations going forward.

However, the lag in cash tax payments aided by the significant un-utilised tax losses across the Top 40 may create additional pressures for governments to increase the tax take as a way of addressing fiscal constraints. For example, certain governments in Africa are tempted to use tax as a way to get mining companies to the negotiating table to re-balance the share of economic resources from operations by claiming under declaration of revenue or export duties. While these claims are considered unsubstantiated, attention must be given to the trend these developments represent and how companies engage with governments in the future in the areas of taxes, royalties and overall sharing of economic benefits.

[7, 8] *Source: PwC analysis*

Improved value for stakeholders

Key ratios	2018 Outlook	2017	2016
Adjusted EBITDA margin	25%	24%	22%
Net profit margin	12%	10%	6%
Return on capital employed	10%	8%	4%
Return on equity	-	11%	5%
Return on capital employed excluding impairment	10%	8%	5%

The return on capital employed of 8 per cent (10 per cent for 2018 outlook) is still well below the 15-year average of 12 per cent and potentially indicates a further upside for the Top 40.

$ billions	2018 Outlook	2017	2016	Change %
Cash flow relating to operating activities				
Cash generated from operations	160	145	114	27% ↑
Income taxes paid	(32)	(20)	(12)	67% ↑
Other	(6)	(6)	(8)	(25%) ↓
Net operating cash flows	122	119	94	27% ↑

Profitability on all measures improved

Mining companies were able to capitalise on the increased price environment as the additional production capacity created at the end of the previous boom was able to deliver into healthy demand.

Improved operating cash flows allowed companies to implement their strategies, be it balance sheet restructuring, acquisitions, project development or simply returning profits to shareholders. We see a definite, measured and patient approach adopted by mining companies to execute on their respective strategies to deliver long-term value.

Although these margins are still too low to incentivise significant new developments, the 25% forecast EBITDA margin for 2018 gets closer to the higher EBITDA margin required to sustain a capital-intensive industry like mining.

Shareholders rewarded

We saw the beginning of this trend in 2017 when Anglo American re-introduced its dividend[9], which was suspended in 2016, and Rio Tinto paid a record level dividend of $5.2 billion in addition to an announced $4.5 billion share buyback[10].

Of the Top 40, 23 have a formalised dividend policy that on average aims to pay dividends at 30-40 per cent of annual net profit. Based on current performance and expectations, dividends paid are likely to remain high in 2018.

9 *Source: Anglo American 2017 Annual report page 4*

10 *Source: Rio Tinto 2017 Strategic report page 1*

Shareholders have long expected to realise returns from the industry's asset base and have demonstrated their patience through the boom cycles of 2008 and 2012 as companies deployed excess capital back into the business, and then again as the industry weathered the downturn over the past few years.

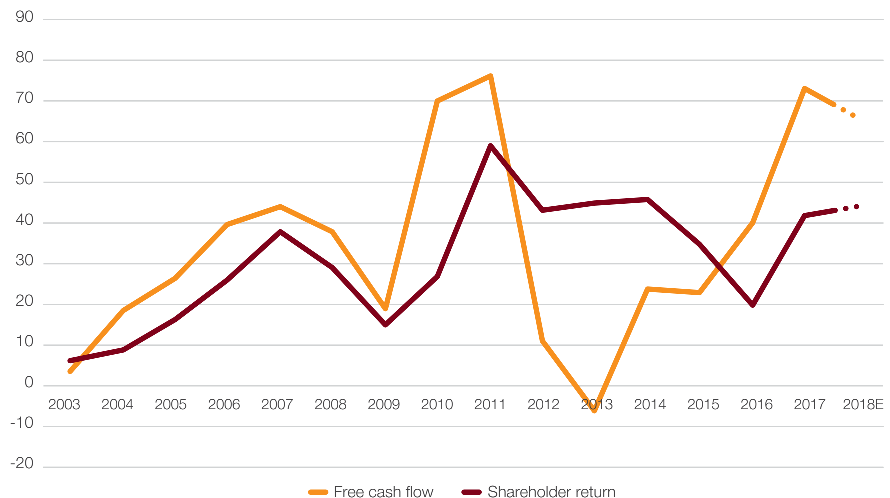
With a return to optimism in the market, the industry will need to reward shareholders by continuing to distribute capital through dividends or share buy-backs. However Top 40 miners need to be cognizant of competing demands and work to balance the immediate temptations for larger shareholder returns with investing for sustainable value.

From risks disclosure, we see that the Top 40 are still comfortable that low levels of exploration and new resource acquisition pose a relatively low risk. They are comfortable that they can acquire at will and at reasonable prices when they want to expand. However, the current lack of investment in exploration and capital projects will eventually catch up. Following a clear growth strategy through the cycle will help companies avoid the mad rush for resources at the top of the cycle.

Market cap up by 30% from $714bn to $926bn

Dividends paid increased by 125% from $16bn to $36bn

Figure 9: Free cash flow and shareholder returns ($ billions)



Source: PwC analysis

Three clear trends were evident in 2017:

1. Companies are seeking to optimise their asset portfolio by divesting non-core assets in order to refocus and redeploy capital. For example, Rio Tinto was very successful in monetising its non-core Australian coal assets and becoming the only major in the Top 3 to no longer hold any interest in coal. The total consideration received, which exceeded market expectations, was in excess of $6 billion[11].

2. Companies are seeking to increase their existing ownership interests in operating mines – for example, Glencore increasing its ownership interest in Mutanda Mining SARL (to 100 per cent) and the Katanga mine in the Democratic Republic of Congo (both copper-cobalt) as well as the Volcan Compañía Minera S.A.A. zinc asset in Peru[12].

3. Top 40 members are partnering with other majors or mid-tier miners in order to leverage infrastructure, identify operating synergies and/or provide access to finance.For example, in 2017 Barrick Gold entered into agreements with Shandong Gold and Goldcorp, establishing partnerships to operate, develop and explore in Argentina and Chile respectively.

Portfolio optimisation **drives long-term** ***value***

[11, 12] *Source: S&P Capital IQ (see page 24 for waiver)*

The role of a responsible corporate citizen

Since our 2016 report, sustainability reporting performance has remained consistent across traditional mining markets, with a wide disparity between those in developing and emerging markets.

Mining companies face increasing pressure in many jurisdictions to show what activities they are currently undertaking to minimise environmental damage, improve safety performance, embrace diversity and contribute to the communities in which they operate. They are also under intense scrutiny to demonstrate how these challenges will be addressed in the future and how they are being incorporated into their overall business strategy.

Among those companies that do report, a trend of providing more comprehensive information appears to be emerging. For traditional miners, the percentage of companies disclosing quantitative key performance indicators (KPIs) for safety, water use, carbon/ GHG emissions and value added/ distributed either remained the same or showed a slight increase from 2016 to 2017. Only diversity saw a decrease in the level of reporting (55% versus 68% in 2016)[13]. The story is the same for emerging miners, with all key indicators, aside from diversity, being more frequently reported.

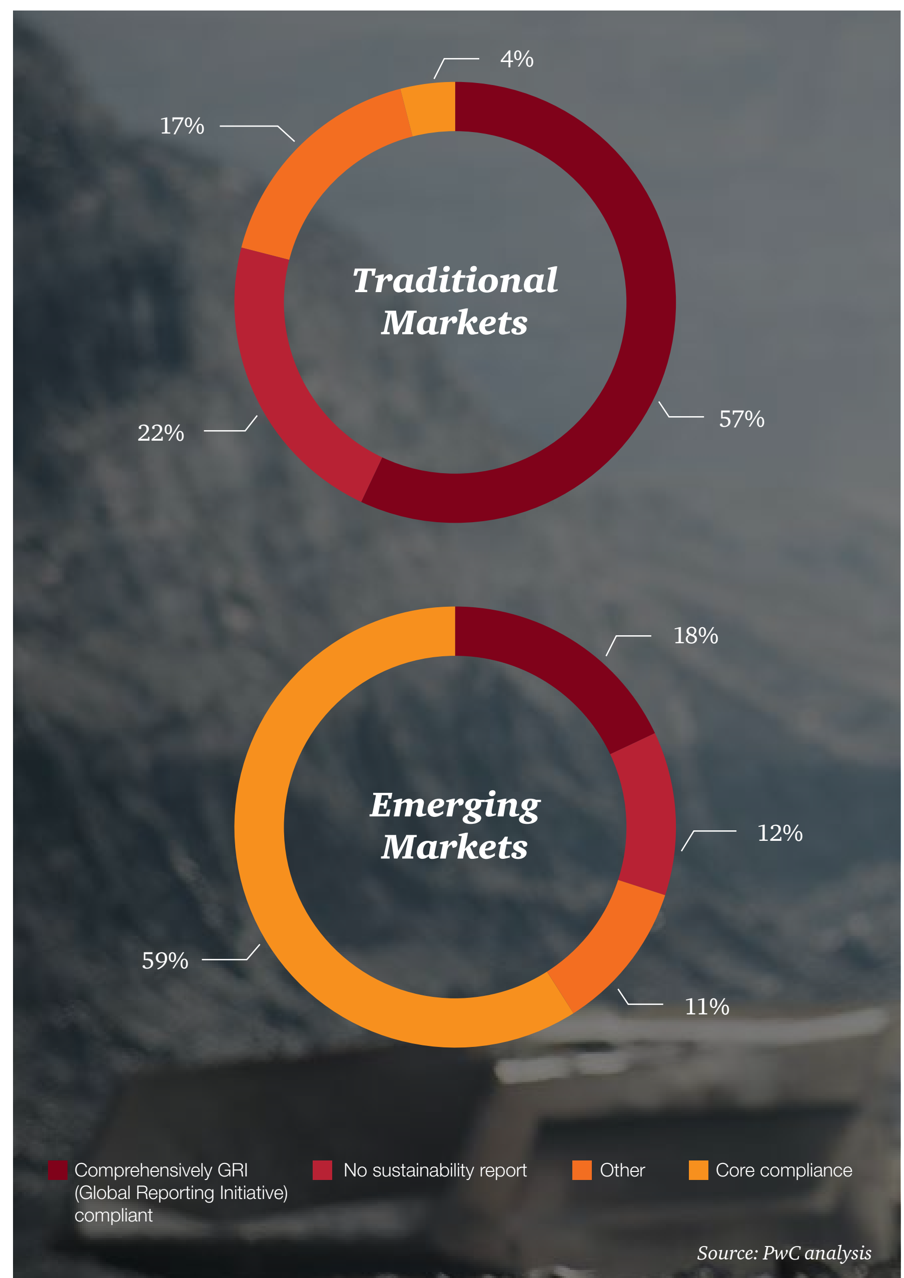
13, 14, 15 *Source: PwC analysis*

KPIs and executive bonus structure

It is interesting to note how few companies incorporate KPIs from their sustainability or strategic reports into the executive bonus targets.

Of the Top 40, only 12 companies include sustainability measures in bonus targets disclosed in their remuneration reports[14]. This is surprising given that many more companies proudly report their sustainability efforts in detail (partly due to the numerous requirements of frameworks such as the GRI (Global Reporting Initiative)).

An interesting point is that all of the 12 companies that linked sustainability KPIs to executive renumeration included safety as a target[15]. Given the importance of safety within the industry, this is an encouraging sign. Other companies should take note and incorporate safety into their key remuneration targets at executive level. Doing so will not only emphasise the importance of safety to employees, but also help to improve relationships with trade unions and other key stakeholders.



A strong financial position provides sustainability and flexibility

Consolidated balance sheet

Financial position

Statement of financial position $ billions	Financial Year-End		Change (%)
	2017	2016	
Current assets			
Cash	102	87	17%
Inventories	78	66	18%
Accounts receivable	62	59	5%
Other	40	41	(2%)
Total current assets	282	253	11%
Non-current assets			
Investment in associates and joint ventures	47	43	9%
Property, plant and equipment	663	638	4%
Goodwill and other intangibles	50	48	4%
Other investments and loans granted	23	18	28%
Other	64	67	(4%)
Total non-current assets	847	814	4%
Total assets	1,129	1,067	6%
Current liabilities			
Accounts payable	92	81	14%
Borrowings	45	49	(8%)
Other	52	47	11%
Total current liabilities	189	177	7%
Non-current liabilities			
Borrowings	232	245	(5%)
Other	152	142	7.0%
Total non-current liabilities	384	387	(1%)
Total equity	556	503	11%
Total equity & liabilities	**1,129**	**1,067**	**6%**

Source: PwC analysis

In 2017, we saw a continued strengthening of the balance sheet focused on the repayment of debt (net repayment $25 billion) and capital expenditure remaining at record low levels ($48bn).

In 2018, we expect that favourable market conditions, higher commodity prices and strong internal discipline will produce increased liquidity and balance sheet strength. That in turn will tempt the Top 40 to reinvest in the business, pursue investment or growth opportunities and enhance shareholder returns.

While we expect to see an increase in value and growth opportunities in 2018, we anticipate that this will be tempered by a continued focus on maintaining a robust and flexible balance sheet.

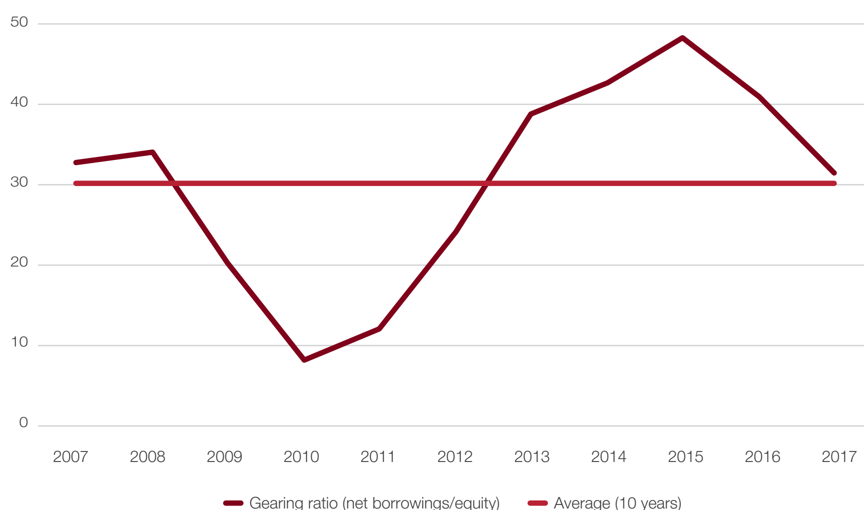
Gearing and liquidity position resolved ($ billions)

$ billion	2018 Outlook	2017	2016	Change %
Cash flow related to financing activities				
Dividends paid	(41)	(36)	(16)	125% ↑
Share buybacks	(3)	(7)	(13)	(46%) ↓
Proceeds from borrowings	45	51	62	(18%) ↓
Repayment of borrowings	(61)	(76)	(91)	(16%) ↓
Share issuances	2	6	2	200% ↑
Other	-	(1)	5	(120%) ↓
Net financing cash flows	(58)	(63)	(51)	24% ↑

Source: PwC analysis

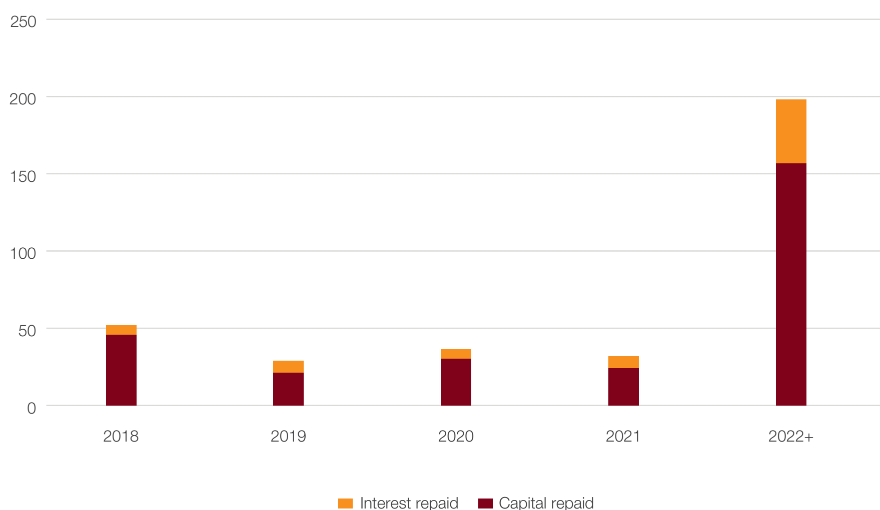
It is pleasing to note that 75 per cent of aggregated debt is still fixed and therefore not exposed to the recent increased interest environment.

Figure 10: Gearing ratio



Source: PwC analysis

Figure 11: Debt repayment profile



Source: PwC analysis

Over the last few years, companies improved their financial positions through various strategic actions. The result is that gearing is now comparable to the 10 year Top 40 average of 30%. The repayment profile of debt for the Top 40 has also improved significantly and will continue to reduce over time in the absence of significant new debt.

Companies' net debt to EBITDA ratio dropped to 1.5 from 2.2 in the previous year and only five companies had a ratio above four.

Capital buybacks

Although there was an increase in capital raised, this largely related to two state-owned companies and is not seen as a trend that will continue. It is more likely that companies will continue buying back equity as they see value in their underlying operations and are not yet committing to new developments.

Equity raised by the mining industry as a whole, on the traditional mining markets in Toronto, Australia and London, decreased by $1.7 billion from 2016 to 2017. London saw an increase of 47%, whereas Toronto and Australia decreased by 36% and 9% respectively.

Quarter 1 in 2018 reveals that activity in Toronto and Australia is starting to pick up and signals a renewed interest in exploration and early development projects.

New entrants staking their claim

Confirming their status as potentially significant players, private equity investors are taking a keen interest in mining investment opportunities. (Read more on the potential disruption of new market entrants in PwC's Future of Mining report)[16].

One of Rio Tinto's Australian coal assets in March 2018 sold for $2.25 billion to a consortium consisting of one of Indonesia's largest coal producers, PT Andaro Energy Tbk, and EMR Capital Pty Ltd, a private equity firm with a resource focus[17].

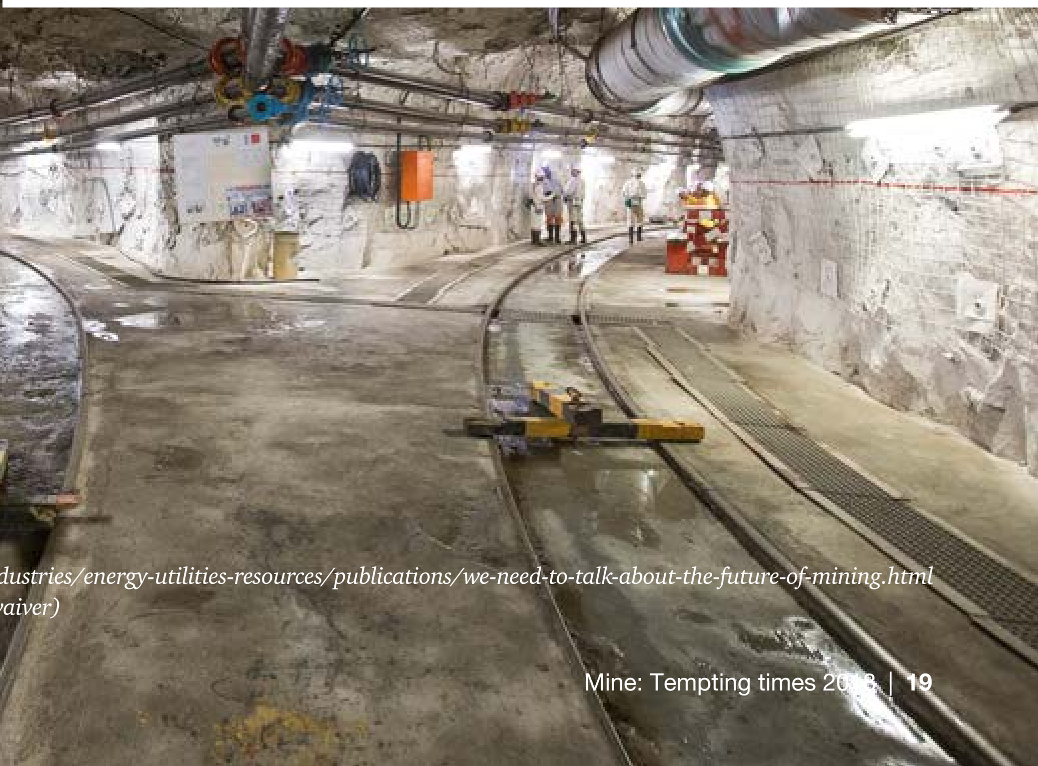
Private equity firms were also reportedly active participants in almost every quality coal deal brought to market in Australia in 2017.

Other new market entrants are consumers who want to secure their commodity supply. For instance, PotashCorp merged with Agrium, a fertilizer and chemical wholesale and retail company, to provide it with long-term potash supply. The new entity Nutrien traded from the beginning of 2018. Tesla continues to invest the in supply of lithium as illustrated in their recent transaction with Kidman Resources in Australia.

It is expected that there will be continued momentum in deals activity across the industry in 2018.

Cash flow related to investing activities

Cash flow related to investing activities	2018 Outlook	2017	2016	Change %
Purchases of property, plant and equipment	(56)	(48)	(48)	0% →
Purchase of investments excluding controlled entities including advances	(10)	(5)	(2)	150% ↑
Purchases of, or increased investment in, controlled entities	-	(4)	(1)	300% ↑
Exploration expenditure *	(1)	(1)	-	0% →
Proceeds from sale of property, plant and equipment	4	4	7	(43%) ↓
Proceeds from sale of investments	5	6	7	(14%) ↓
Other	-	2	(1)	(300%) ↓
Net investing cash outflows	(58)	(46)	(38)	21% ↑



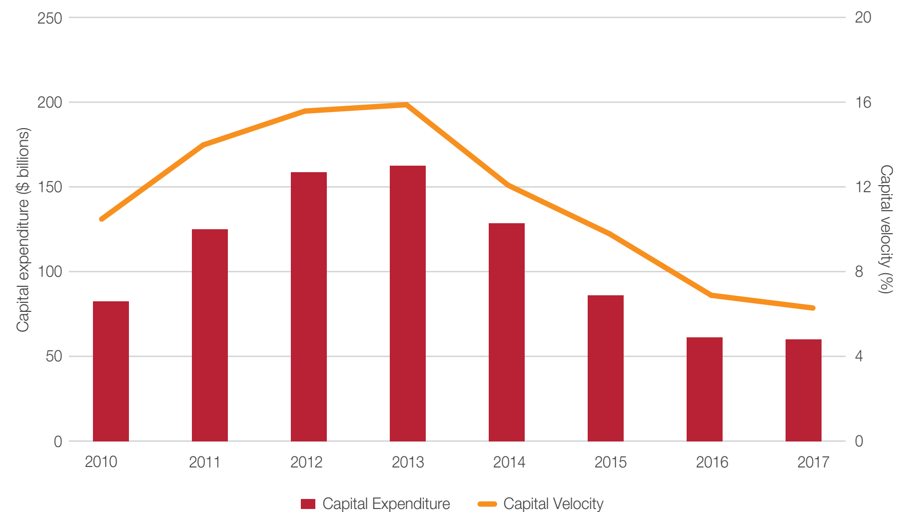
[16] *Source: https://www.pwc.com/gx/en/industries/energy-utilities-resources/publications/we-need-to-talk-about-the-future-of-mining.html*
[17] *Source: S&P Capital IQ (see page 24 for waiver)*

Low capital investment set to turn – but will it be disciplined?

The level of capital expenditure (capex) has remained at its lowest level over the last 10 years, with capital velocity at the lowest rate since the first edition of Mine in 2004. Other than sustaining capital expenditure, new projects above $500 million approved during the year were limited to a couple of copper projects.

Our analysis identifies an approximate two-year lag between a movement in EBITDA and a resultant impact on capital expenditure. After a number of years of record low capital expenditure, we expect next year's level to increase as companies press ahead with long-term strategies, be it growth through greenfield or brownfield investments, or new acquisitions. However, the miners are expected to maintain capital investment discipline and continue to assess each opportunity against consistent criteria. This means resisting the temptation to pursue acquisitions or projects at any price.

Figure 12: Capital velocity compared to capital expenditure ($ billions)



Source: PwC analysis

Sustaining capex also expected to increase

Given the challenging environment for the last five years, it is likely that sustaining capital expenditure has fallen behind as some mining companies moved into harvesting mode in order to survive the downturn. As a result, our capital expenditure forecasts include a significant step up from the current low levels, despite the lack of new projects announced.

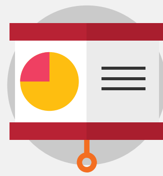
The low exploration levels will also impact the pipeline of future development projects. However, there are encouraging signs of a turnaround with S&P Global Market Intelligence reporting global exploration expenditure grew by 15 per cent from 2016 to $8.4 billion in 2017[18].

The current low levels of expenditure across capex, sustaining capex and exploration will need to be addressed to deliver on long-term demand growth. Will this expected investment for 2018 and beyond be sufficient to redress potential underinvestment or will there be a temptation to spend without sufficient capital discipline when demand outstrips supply?

[18] *Source: S&P Capital IQ (see page 24 for waiver)*

Tempting times ahead

While Top 40 miners are enjoying a bounce back, vigilance is key. Temptations loom in many guises for miners and their stakeholders. Miners will need to stay focused and deliberate towards the long-term goal of creating sustainable value for all stakeholders. In particular, a watching brief will be on the following issues:



Financial capital

- Manage increased shareholder demands
- Consider response to more private equity entrants on an investment-for-value basis and subsequent disruption

Intellectual capital

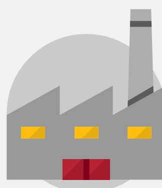
Maintain relentless focus on costs

Human capital

Manage technology & workforce considerations

Market disruption

- Ongoing macro-economic fluctuations including sanctions and tariffs
- Increased vertical integration as commodity users position themselves in anticipation of price increases
- Consolidation in the steel industry might create greater purchasing power and pressure on prices
- User trends, such as single sourcing vs spot buying



Manufactured capital

Address deficit in capex and exploration levels while maintaining investment discipline

Social and relations

Address stakeholder demands, including changing environmental regulation and tax regimes

Top 40 global mining companies

We have analysed 40 of the largest listed mining companies by market capitalisation as at 31 December 2017

Name	Country/region	Commodity focus	Traditional (T) v Emerging (E)	Year End	2017 Ranking	2016 Ranking*
BHP Billiton Limited	Australia/UK	Diversified	T	30-Jun	1	1
Rio Tinto Limited	Australia/UK	Diversified	T	31-Dec	2	2
Glencore plc	Switzerland	Diversified	T	31-Dec	3	3
China Shenhua Energy Company Limited	China/Hong Kong	Coal	E	31-Dec	4	4
Vale S.A.	Brazil	Diversified	E	31-Dec	5	5
MMC Norilsk Nickel	Russia	Nickel	E	31-Dec	6	7
Anglo American plc	UK/South Africa	Diversified	T	31-Dec	7	9
Freeport-McMoRan Copper & Gold Inc.	United States	Copper	T	31-Dec	8	10
Grupo México S.A.B. de C.V.	Mexico	Diversified	T	31-Dec	9	8
Coal India Limited	India	Coal	E	31-Mar	10	6
China Molybdenum Co. Limited	China/Hong Kong	Diversified	E	31-Dec	11	29
Newmont Mining Corporation	United States	Gold	T	31-Dec	12	12
Potash Corporation of Saskatchewan Limited	Canada	Potash	T	31-Dec	13	13
Barrick Gold Corporation	Canada	Gold	T	31-Dec	14	11
Saudi Arabian Mining Company (Ma'aden)	Saudi Arabia	Diversified	E	31-Dec	15	16
Teck Resources Limited	Canada	Diversified	T	31-Dec	16	19
Zijin Mining Group Co. Limited	China/Hong Kong	Diversified	E	31-Dec	17	26
Fresnillo plc	Mexico	Diversified	T	31-Dec	18	21
South32 Limited	Australia	Diversified	T	30-Jun	19	22
Newcrest Mining Limited	Australia	Gold	T	30-Jun	20	20
Antofagasta plc	UK	Copper	T	31-Dec	21	28
Sumitomo Metal Mining Company	Japan	Diversified	T	31-Mar	22	31
Shaanxi Coal Industry	China/Hong Kong	Coal	E	31-Dec	23	32
Fortescue Metals Group Limited	Australia	Iron Ore	T	30-Jun	24	15
Goldcorp Inc.	Canada	Gold	T	31-Dec	25	18
Agnico-Eagle Mines Limited	Canada	Gold	T	31-Dec	26	27
Polyus Gold International Limited	UK	Gold	T	31-Dec	27	14
The Mosaic Company	United States	Potash	T	31-Dec	28	23
China Coal Energy Company Limited	China/Hong Kong	Coal	E	31-Dec	29	25
First Quantum Minerals Limited	Canada	Copper	T	31-Dec	30	34
ALROSA	Russia	Diamond	E	31-Dec	31	17
Randgold Resources Limited	Channel Islands	Gold	T	31-Dec	32	30
Tianqi Lithium Industries, Inc.	China	Lithium	E	31-Dec	33	39
Shandong Gold Mining Company Limited	China/Hong Kong	Gold	E	31-Dec	34	24
Yanzhou Coal Mining Company Limited	China/Hong Kong	Coal	E	31-Dec	35	37
Jiangxi Copper Company Limited	China/Hong Kong	Copper	E	31-Dec	36	33
China Northern Rare Earth (Group) High-Tech Co. Limited	China	Rare Earth	E	31-Dec	37	35
NMDC Limited	India	Iron Ore	E	31-Mar	38	38
KGHM Polska Miedz Spólka Akcyjna	Poland	Copper	E	31-Dec	39	New
KAZ Minerals plc	UK	Copper	T	31-Dec	40	New

* *https://www.pwc.com/gx/en/industries/energy-utilities-resources/publications/mine-2017.html*

Our analysis includes major companies from 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. Our report also expresses PwC's point of view on topics affecting the industry, developed through interactions with our clients and other industry leaders and analysts.

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 individual companies and no adjustments have been made to take into account different reporting requirements. This year we aligned as far as possible the financial results of reporters to be as at, and for the year ended 31 December 2017. For companies that don't have December year ends it required adding and deducting reviewed results to reflect the comparable 12-month period. For the two Indian companies, balance sheets were used as at 30 September.

All figures in this publication are reported in US dollars ($), except when specifically stated. The balance sheets of companies that report in currencies other than the US dollar have been translated at the closing US-dollar exchange rate and the cash flow and financial performance was translated using average exchange rates for the respective years.

Some diversified miners undertake part of their activities outside the mining industry, such as the oil and gas businesses of BHP and Freeport, parts of the Rio Tinto aluminium business and Glencore's marketing and trading revenues and costs. No attempt has been made to exclude such non-mining activities from the aggregated financial information, except where noted. Where the primary business is outside the mining industry, they have been excluded from the Top 40 listing.

All streamers such as Franco Nevada and Silver Wheaton have been excluded from the Top 40 list. Entities that are controlled by others in the Top 40 and consolidated into their results have been excluded, even when minority stakes are listed.

Notable takeaways from this year's Top 40

- Limited movement among the Top 40 with only two new entrants, KGHM Polska Miedz Spólka Akcyjna and KAZ Minerals, both off the back of strong copper prices. They replaced AngloGold Ashanti Limited and Zhongjin Gold Coro. Limited, who dropped off due to the suppressed gold price in 2017.
- This reduced the dominance of Top 40 gold companies to eight, copper increasing to six and diversified companies still accounting for 13 of the list.
- The Top 40's overall market capitalisation increased by more than $200m (30%) with the movement in the threshold for entry directionally consistent, increasing by 16% from c.$4.6 billion to c. $5.4 billion.
- The key mover in 2017 was China Molybdenum Co. Limited, which jumped 18 spots to number 11 as a result of its improved performance following its 2016 acquisition of Anglo American's Niobium and Phosphate business.
- The Top 5 companies make up 47% of total market capitalisation[19]

2018 Outlook Methodology

The 2018 outlook information is based on historic performance with adjustment for a range of factors including those described in summary below.

Income statement

- Revenue splits by product are broadly consistent with those for 2017. Consideration was given to price forecasts from a range of sources including the World Bank (April 2018), IMF and consensus views from on a wide range of market analysts. The prices applied in each instance sit within the ranges provided by these sources.
- Production increases are based on guidance provided by Top 40 mining companies (where available) and general industry forecast production levels. This resulted in an overall expected increase of approximately 3%.
- The outlook remains extremely sensitive to commodity prices. As a guide, if resultant prices are at the more conservative end of the expected range, then revenues would drop to below 2017 year levels and EBITDA drops even further (but still above 2016). Conversely, if the top end of the range was achieved, then revenue increases by more than 10% and EBITDA by more than 20% (compared to 2017).
- Operating costs took into account the estimated breakdown of operating costs in Figure 8, and then applied expected increases provided from sources such as World Bank, ILO and Baltic shipping index forward rates.

[19] *Source: PwC Analysis*

2018 Outlook Methodology cont'd

- Impairment provisions have been set to zero, reflecting the improved price environment. Low levels of impairments that do arise are expected to be offset by reversals of impairment provisions from prior years.
- Depreciation increases reflect the increase in the PPE balance and the slight increase in expected production volumes.
- Net finance cost was left unchanged. The impact of lower outstanding borrowings and the higher available cash balances will largely be offset by higher prevailing interest rates where applicable.
- The tax expense was increased using a normalized effective tax rate for 2017 and applying that to the calculated profit before tax.

Cash flow statement

- Cash flow from operations increases in line with EBITDA. No major variances in working capital have been assumed.
- Investing cash flows assume that property plant and equipment additions will increase taking into account the EBITDA growth of two years ago and an increase in capital velocity from the current low levels. Cash outflow from other investing transactions is expected to increase having regard to the higher levels of recent merger and acquisition activity.
- Dividends paid is expected to increase based on the final dividends declared for 2017 and the higher anticipated earnings for 2018. A number of Top 40 companies have set fixed dividend policies which will result in higher dividends flowing from the expected growth in earnings for these companies.
- The net outflow from borrowings repaid is expected to slow down as many Top 40 companies have already resolved excessive gearing positions. Share issues are estimated to decrease, reflecting statements by many Top 40 companies that they have sufficient capital in the short term (and in the absence of limited new large project announcements).

Disclaimer

This paper makes a number of predictions and presents PwC's vision of the future environment for the mining industry. These predictions are, of course, just that – predictions. These predictions of the future environment for the mining industry address matters that are, to different degrees, uncertain and may turn out to be materially different from what is expressed in this paper. The information contained in this report includes certain statements, calculations, estimates and projections that reflect various assumptions. Those assumptions may or may not prove to be correct due to known and unknown risks, uncertainties and other factors, PwC has exercised reasonable care in the collecting, processing, and reporting of this information but has not independently verified, validated, or audited the data to verify the accuracy or completeness of the information. PwC gives no express or implied warranties, including but not limited to any warranties of merchantability or fitness for a particular purpose or use and shall not be liable to any entity or person using this document, or have any liability with respect to this document.

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Glossary

Terms	Definition
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
Cash to cash cycle	Days inventory outstanding plus days sales outstanding less days payables outstanding
Current ratio	Current assets/current liabilities
CFR spot Australia	Cost and freight spot price from Australia
DIO	Days Inventory Outstanding
DSO	Days Sales Outstanding
DPO	Days Payable Outstanding
EBIT	Earnings before interest and tax
EBITDA	Earnings before interest, tax, depreciation, amortisation, and impairments
EBITDA margin	EBITDA/revenue
Emerging miners/markets	Referring to Top 40 companies that are operated from Brazil, China, India, Russia and Saudi Arabia
ETR	Effective tax rate
Free cash flow	Operating cash flows less investment in property, plant and equipment
GDP	Gross Domestic Product
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
Net assets	Total assets less total liabilities
Net assets ratio	Total assets/total liabilities
Net Asset Value (NAV)	Net asset value based on analyst consensus estimates (not the net assets derived from the financial statements)
Net borrowings	Borrowings less cash
Net profit margin	Net profit/revenue
NPV	Net present value
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
Return on capital employed (ROCE)	Net profit excluding impairment/capital employed
Return on equity (ROE)	Net profit/equity
Top 40	40 of the world's largest mining companies by market capitalisation as of 31 December 2017
Traditional miners/markets	All of the companies included in the Top 40 that are not Emerging
Working capital	Inventory and trade receivables less trade payables

10 year trend

$ billion	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Aggregate market capitalisation	**926**	**714**	**494**	**791**	**958**	**1 234**	**1 202**	**1 605**	**1 259**	**563**
Aggregated income statement										
Revenue	600	496	539	690	719	731	716	435	325	349
Operating expenses	(454)	(390)	(448)	(531)	(554)	(553)	(487)	(246)	(217)	(208)
EBITDA	146	106	91	159	165	178	229	189	108	141
Impairment charges	(4)	(19)	(53)	(27)	(57)	(45)	(16)	(1)	(11)	(31)
Amortisation, depreciation and impairment	(41)	(44)	(42)	(48)	(42)	(34)	(26)	(33)	(20)	(26)
PBIT	101	43	(4)	84	66	99	187	155	77	84
Net finance cost	(11)	(9)	(19)	(15)	(16)	(6)	(6)	(7)	(6)	(6)
PBT	90	34	(23)	69	50	93	181	148	71	78
Income tax expense	(29)	(15)	(4)	(24)	(30)	(25)	(48)	(38)	(22)	(21)
Net profit	61	19	(27)	45	20	68	133	110	49	57
Adjusted net profit excl. Impairment	64	38	26	72	77	113	149	111	60	88
Year on year increase/ (decrease) in revenue	21%	(8%)	(22%)	(4%)	(2%)	2%	65%	34%	(7%)	12%
Year on year increase/ (decrease) in EBITDA	38%	16%	(43%)	(4%)	(7%)	(22%)	21%	75%	(23%)	4%
Year on year increase/ (decrease) in net profit	221%	(170%)	(160%)	125%	(71%)	(49%)	21%	124%	(14%)	(29%)
EBITDA margin	24%	21%	17%	23%	23%	24%	32%	43%	33%	40%
Aggregated cash flow statement										
Operating activities	119	89	92	127	124	137	174	137	83	104
Investing activities	(46)	(40)	(69)	(93)	(125)	(169)	(142)	(79)	(74)	(102)
Financing activities	(63)	(44)	(31)	(31)	(3)	21	(28)	(35)	10	14
Dividends paid	(36)	(16)	(28)	(40)	(41)	(38)	(33)	(22)	(15)	(22)
Share buy backs	(7)	(4)	(7)	(6)	(4)	(5)	(26)	(5)	-	(7)
Free cash flow	71	40	23	24	(6)	11	76	70	19	38
Aggregated balance sheet										
Cash	102	86	82	83	168	104	113	105	74	52
Property, plant and equipment	663	616	579	745	712	701	601	511	467	402
Total assets	1 129	1 063	1 047	1 231	1 256	1 245	1 139	943	801	676
Total liabilities	573	563	569	630	624	563	482	387	354	339
Total equity	**556**	**500**	**478**	**601**	**632**	**682**	**657**	**556**	**447**	**337**

Note: The information included above includes the aggregated results of the Top 40 mining companies as reported in each respective edition of Mine

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