Profits in a slowdown

How Australian mining companies can cut costs and grow stronger
Contacts

DC
Joseph Vandenberg
Partner
+1-703-682-5710
joseph.vandenberg
@strategyand.pwc.com

Melbourne
Ben Gilbertson
Partner
+61-3-9221-1924
ben.gilbertson
@strategyand.pwc.com

São Paulo
Luiz Vieira
Partner
+55-11-5501-6212
luiz.vieira
@strategyand.pwc.com

Sydney
Tim Jackson
Partner
+61-2-9321-1923
tim.jackson
@strategyand.pwc.com

Houston
Jason Palmenberg
Partner
+1-713-650-4115
jason.palmenberg
@strategyand.pwc.com

Moscow
Steffen Leistner
Partner
+7-985-368-78-88
steffen.leistner
@strategyand.pwc.com

Harsh Kumar, Stephen McDonald, Shyamala Chandrasekar, Richard Thomas, and Joseph Vandenberg also contributed to this report.
About the authors

Tim Jackson is the managing partner for Strategy& in the Australia, New Zealand, and Southeast Asia (ANZSEA) region. Based in Sydney, he specialises in change management, strategy, and operations improvement for industrial companies.

Ben Gilbertson is a partner with Strategy& based in Melbourne. He leads the ANZSEA operations practice and has broad experience with operations improvement in the mining, industrials, and energy industries.

This report was originally published by Booz & Company in 2012.
**Executive summary**

**Between 2002 and 2011**, Australian mining companies saw costs rise and productivity fall as they raced to meet surging commodity demand. The global commodity boom is fading now, undermining growth strategies based on the assumption of ever-higher prices. Falling prices will squeeze profits at firms with boom-era costs. But those that adopt a *Fit for Growth* approach — adjusting their cost structure to support key differentiating capabilities, such as improved market awareness or operations — will boost margins, increase production, and create more value even as the market slows. The techniques outlined in this report, using Australian mining companies as an example, show how resource and commodity producers around the world can cut costs while growing stronger.

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Cooling markets bring a reckoning for Australian miners

Ten years of rising demand for coal, iron ore, and other commodities have boosted the fortunes of mining companies around the world — and their related national economies. This has been especially true for Australia. Low-cost mineral deposits and proximity to fast-growing Asian markets generated big returns for Australian miners and insulated the country from the global financial crisis.

Demand is cooling now, exposing an unhappy legacy of the boom. Years of rapid growth left many mining companies with high costs and low productivity. As commodity prices fall, their profits are at risk. But resource producers, in Australia and elsewhere, can still reap high returns in a declining market if they act now to realign their cost structures around a set of distinctive capabilities.

The remarkable exponential growth in the Australian mining business between 2002 and 2011 was driven almost entirely by rising volume and prices: 18 percent annual growth in revenues, and 11 percent annual growth in prices. But relatively few mining companies experienced the profit margin growth that usually flows from such exponential increases. Thus, earnings before interest and taxes (EBIT) margins stagnated, and did not keep up with prices (see Exhibit 1, next page). In part, that's because costs for labour, fuel, and other inputs kept pace with rising commodity prices, and productivity declined in the rush to meet demand. A recent Strategy& study showed that current Australian productivity has fallen to levels last seen in the 1990s. In short, the mining industry as a whole benefited only from the rising output, not from the marginal profit growth that could have come with it.

Today, as the market cycles downward, the industry faces price declines. After rising sixfold between August 2002 and January 2011, Australian coal prices had dropped 35 percent by August 2012. Iron ore prices similarly fell more than 30 percent from their 2011 peak.

Forecasters expect pricing pressure to continue, for several reasons: slowing growth in China; recession in Europe; low natural gas prices
Exhibit 1
The missing commodity margin boost

Source: Company financial reports and Strategy& analysis
in North America; and rising competition from mines in Indonesia, South Africa, and Mongolia. Bulk commodity prices are expected to drop about 3 percent annually for the next several years, as demand normalises and increased supply comes online. Metal prices are expected to show only moderate growth — an average of 3 percent total between 2012 and 2017 — barely keeping pace with inflation; the value of gold is expected to decline (see Exhibit 2).

In a slowing market, growth strategies based on rising prices are no longer viable for mining companies. At current commodity prices, cost structures carried over from the boom times will suppress profits and shareholder returns. In addition, new carbon emissions taxes and mineral resource taxes in Australia will add significantly to mining company expenses over the next several years. Thus, though prices

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**Exhibit 2**

**Global commodity price forecasts through 2017: Slow growth at best**

![Graph of global commodity price forecasts](image-url)

Source: BREE Resources and Energy Quarterly, March 2012
remain high by longer-term historical standards, the realities of the business require a new focus on profitability.

Already, some major mining companies are putting multibillion-dollar projects on hold in the face of rising construction costs, falling prices, and the stronger Australian dollar. Such moves have serious implications for the Australian economy, which now depends on mining for 7.5 percent of GDP and even larger shares of capital investment and exports.

Opportunities for profitable investment in this industry remain, but they will not be captured by companies that follow the conventional approach to downturns. Executives should resist simple 10 percent “across the board” cost cuts, hiring freezes, and capital spending moratoriums. These mechanistic approaches can weaken a company without yielding sustainable reductions in its cost base.

A bolder, more informed approach is required, one that strengthens the company’s competitive position and boosts returns. This approach is called Fit for Growth. It reorients the cost and productivity agenda around the differentiating capabilities that give the company real advantages in the marketplace. This type of enterprise fitness channels investment and organisational support to activities that enhance distinctive capabilities, and seeks savings in other parts of the company. In the mining industry, this allows companies to rationalise costs, boost productivity (increasing output for the same costs), and capture the profit margin gains that eluded them during the boom.

Experience shows that this approach can reduce overall costs by 20 percent while maintaining or increasing production. It preserves the company’s capacity to invest in critical capabilities. And it positions a mining company to generate strong profits and shareholder returns throughout the ups and downs of commodity market cycles.
Any solution to the problems of this new environment will have to enable mining companies to expand EBIT margins and regain the competitive advantages they have lost in recent years. To accomplish this, the companies must address the two main sources of margin pressure during the boom: rising labour costs and declining productivity.

As labour costs surged during the boom, converting revenue growth to profits became more difficult for Australian mining companies. Until 2006, mining sector wages kept pace with the broader Australian labour market, where costs generally exceed global norms. But mining pay took off with the industry’s most recent wave of investment in 2007, and now runs about 10 percent higher than the national average (see Exhibit 3, next page).

Observers attribute the labour cost disparity to skills shortages in the mining sector and the premiums that companies must pay to attract workers to the remote mining regions of the Australian outback. The growing labour cost burden isn’t expected to ease for three to five years, given the reluctance of Australian legislators to allow large numbers of skilled foreign workers into the mines, and the length of time needed to train Australians to do the work.

As for productivity, it has been dropping steadily in the mining sector since the early 2000s. Indeed, some executives rightly worry that lower productivity levels have become entrenched in the sector and will create a “negative multiplier” effect as prices fall.

Australian Bureau of Statistics data shows that the gross value added (GVA) by the mining sector has lagged the growth in the two main factors of production input: labour hours and capital employed. This is reflected in a 7 percent annual decline in both labour and capital productivity since 2001 (see Exhibit 4, page 11). The value generated by each additional dollar of investment fell even as spending soared during the boom, pushing labour and capital productivity in the sector down to levels not seen since the early 1990s. (Labour productivity measures the
Exhibit 3
The Australian hourly wage gap: Mining vs. general industry

Source: Australian Bureau of Statistics ABS 6345.0 — Labour Price Index, Australia, April 2012
Exhibit 4
Declining mining productivity

Mining labour and capital productivity, 1985–2011

real GDP per hour worked and not labour efficiency alone; it is affected by changes in the amount of capital available per worker per hour worked. Capital productivity measures the real GDP per unit of capital service provided.)

This decline has played a key role in the mining industry’s lack of EBIT margin growth. Several factors contributed to the fall in productivity:

• As part of the general trend toward expansion to meet rising demand, companies pursued more marginal, harder-to-reach deposits and lower-grade ore, driving production costs higher relative to the quantities extracted.
• Infrastructure constraints such as limited rail-shipping capacity created bottlenecks.
• Labour scarcity led to wage pressures and strengthened union negotiating positions.

Mining executives can’t blame the productivity drop on broader trends in the Australian economy. For example, recent data shows labour productivity edging up in the economy as a whole, while falling sharply in mining (see Exhibit 5, next page). Indexed to 2001, mining labour productivity has been losing ground to non-mining productivity at a rate of about 8 percent per year.

Clearly, mining companies must act now to reverse this trend. Low productivity and high costs will magnify the impact of falling commodity prices on Australian mining profits. As prices drop, more companies will struggle to cover their costs. The risk is greater in coal than in iron ore. Our analysis suggests that a 20 percent price drop from current levels would make 30 percent of Australia’s coal production unprofitable. Marginal mines will have to close or cut back significantly, causing job losses and other economic hardships (see Exhibit 6, page 14).
Exhibit 5
Labour productivity in mining, relative to other industries

Labour productivity GVA/hour

Source: Australian Bureau of Statistics; Strategy& analysis
Exhibit 6
The economic viability of Australian mines with declining prices

Proportion of Australian mines that become uneconomic as prices change

Percentage of mines where production is uneconomic

Price reduction

Coal
Iron ore
The Fit For Growth agenda

If you are a mining company CEO or senior executive, the low productivity rates and high costs remaining from the boom leave you with a dilemma. Commodity prices are still high enough to justify new investments, but not at current cost levels.

Traditional cost-cutting methods, such as the hiring freeze or the across-the-board spending cut, won't permanently lower the cost base or strengthen your company over the long term. What's needed is a new productivity agenda centred on the unique capabilities that give your company real competitive advantages. You need to improve performance — increasing production for the same or lower costs — while preserving the ability to invest in promising projects that hold the key to future profitability.

This *Fit for Growth* approach starts with an analysis of the distinctive ways you create value for customers. Identifying the capabilities that directly support your value proposition gives management a road map for setting investment priorities, realigning cost structures, and reorganising the company (*see Exhibit 7, next page*). Company activities that support the differentiating capabilities get more investment, while unrelated functions get less. The result is a powerful, coherent set of differentiating capabilities that give your company a “right to win” in the market.

Capabilities are interconnected people, knowledge, systems, tools, and processes that distinguish a company in the market, fostering such benefits as sustained profitability or higher market share. Capabilities are becoming more valuable as forces such as technological change and outsourcing diminish the value of traditional corporate assets. An effective combination of capabilities in support of a powerful value proposition differentiates a company in a way that's hard to imitate. The key is choosing the right set of capabilities.

There are many types of potentially differentiating capabilities. Examples include the market and customer knowledge embodied in organisations such as Amazon.com, and the product excellence
Exhibit 7
The *Fit for Growth* building blocks

*Fit for Growth* framework

**Company’s strategy & “way to play”**

Articulates how the business creates differentiated value for customers

**Building blocks of *Fit for Growth***

- **Invest in growth**
  - Builds sustainable and differentiated capabilities for growth
  - Creates a *right to win*
  - Invest in higher value-added priorities

- **Transform cost structure**
  - Eliminates low-productivity investments and operating costs to free up cash for more attractive investments

- **Enable and sustain reductions**

- **Reorganise for growth**
  - Establishes a *fit-for-purpose* organisational operating model

Source: Strategy&
of manufacturers like Honda. Differentiating capabilities in the mining industry could include a particular way of finding and profitably developing low-cost deposits, a unique deployment of market understanding to optimise trading positions on a global basis, or the distinctive use of technology to drive lowest-cost mineral extraction.

After identifying its differentiating capabilities, a company should realign its cost and organisational structure to support them. This nontraditional approach segments costs based on their relevance to critical capabilities. On this basis, executives determine which activities need more investment, and which can be cut by as much as 40 percent without weakening the company (see Exhibit 8, next page).

A structured approach is then required to drive savings across these cost segments (see Exhibit 9, page 19). It starts with fundamental questions such as the following: What do we do? Where do we do it? How (and how well) do we do it? Answers to these questions can reveal opportunities to reduce costs while fostering priority capabilities. For example, some of the greatest opportunities for improvement come from operations overhead. Using this approach, one major Australian mining company identified opportunities throughout the mining value chain, driving a 25 percent reduction in costs.

To achieve these reductions, this company applied a variety of performance drivers and levers. These measures included the following:

- *Portfolio and project rationalisation*: Releasing cash flow and focusing on the core business by eliminating or consolidating unnecessary projects and nonperforming lines of business.
- *Business support*: Streamlining management, IT, and HR processes to minimise labour content and improve effectiveness.
- *Asset productivity and utilisation*: Improving operations and removing bottlenecks to maximise throughput per unit of capital and labour. This involved new equipment operations and manning practices, new equipment configuration, and improved value chain integration and mine planning.
- *Maintenance*: Reducing the incidence and duration of breakdowns and the impact of accidents through reductions in waiting time for labour and parts, reengineering for reliability, changes in operating procedures, and optimisation of maintenance schedules.
- *Sourcing*: Improving supply chain management, consolidating suppliers and renegotiating contracts, improving inventory management, and optimising the mix of outsourced versus in-house services.
Exhibit 8
Expense structure and requisite investments

*Fit For Growth* perspective: “lights on” costs and discretionary investment

**Starting cost base breakdown**

- **Not required**
  - Nonessential capabilities
  - Challenge the need to have investments at all
  - Increase efficiency or lower service levels for what you keep
  ➤ Eliminate or be parsimonious

- **Lights on**
  - Activities required to “keep the lights on”/operate (e.g. legal requirements)
  - Look for opportunities to increase efficiency
  ➤ Aim for best-in-class cost levels

- **Essential capabilities**
  - Three to six differentiating capabilities that build sustainable advantage
  - Streamline for effectiveness and efficiency
  - Invest in critical activities to reach best-in-class service levels
  ➤ May spend more than competitors

- **Table stakes**
  - Activities required by industry dynamics to compete in a given sector
  - Look for opportunities to increase efficiency
  ➤ Aim for best-in-class cost levels

- **Aim for best-in-class service levels only for the capabilities that are essential for you**
- **Look for opportunities to lower service levels/eliminate low-priority discretionary activities**
- **Enhance the efficiency of all the activities you keep**

Source: Strategy&
**Exhibit 9**

Potential opportunities for cost reduction in mining

### Cost reduction opportunities

*Increasing impact on cost structure*

- **What do we do?**
  - Product portfolio
  - Capabilities system

- **Where do we do it?**
  - Footprint strategy
  - Shared services
  - Insource/outsource decisions
  - Sourcing strategy
  - Technology choices

- **How (and how well) do we do it?**
  - Process efficiency
  - Operating systems and practices
  - Tactical planning

### Potential mining opportunities

- Exit specific minerals (e.g. iron ore vs. base metals vs. coal)
- Exit value chain elements (e.g. exploration, operations, processing)
- Use a variety of mining methods (e.g. underground)
- Rationalise project portfolio
- Consolidate overhead structures
- Outsource part or full operations and optimise workforce mix
- Employ remote mine operations
- Consolidate spend to fewer suppliers and harmonise prices across mines
- Expand shared services and migrate to low-cost locations (e.g. engineering)
- Rationalise product grades
- Optimise supply chain and reduce inventory holdings
- De-bottleneck mining and ore processing
- Improve maintenance processes and effectiveness
- Optimise shift structures and staffing (residential status, "first-in first-out") policies

*Source: Strategy&*
• **Labour relations:** Revisions in salaries and benefits, roster changes, new forms of employee engagement and culture interventions, and staff relocation with changes in flights and other travel expenses.

One powerful aspect of the *Fit for Growth* approach is the ability to expand profit margins by investing more in high-priority differentiating capabilities while you capture significant savings through improved efficiency in other areas. In one major industrial company, savings of AUS$1.3 billion were obtained by improving overhead structures (especially in operations), optimising the mix of insourcing and outsourcing, and finding better sourcing opportunities. This cash was divided into two parts: $1 billion was returned to the bottom line, and $300 million was reinvested in differentiating capabilities that set this company apart from competitors.

One further element in the *Fit for Growth* agenda is building a better organisation model. This allows you to share resources more effectively across businesses and functions, and to sustain savings by trimming organisation-related costs. In mining companies, as in most large organisations, entrenched relationships among the central core, the local business units, and functions such as HR and IT have become ongoing, often unseen sources of overhead. Functions and business units duplicate one another’s efforts or act inconsistently; corporate controls generate unnecessary work.

The solution typically involves creating more appropriate structures and spans of control. This may mean having more people report to each manager and reducing the number of hierarchical layers. It may also mean rationalising pay scales or finding new ways to share resources. When these measures are consistent and broadly understood, people throughout the company typically support them.

A well-designed organisation model can fuel dramatic growth by empowering managers to act like owners of the business. The managers of business units are given explicit financial and operational targets, along with clear decision rights that spell out what they can and cannot do by themselves to reach those targets. They are also given greater control over the resources assigned to them, and they can deploy these resources more flexibly. With incentives (such as bonuses and promotions) determined accordingly, business unit leaders become accountable for results, which are aligned with the company’s broader objectives in both the long and short terms.
This tightly linked chain of empowerment, accountability, decision rights, and incentives allows the company to make decisions as close to the front lines as possible. Costs naturally come down, and the potential for growth improves, because the organisational structure reinforces the practices developed through cost optimisation.
Despite declining commodity prices, potential returns in the Australian mining business remain strong for companies able to expand profit margins that stagnated during the recent boom. To accomplish this, executives must scrap boom-era strategies predicated on rising prices, which sapped productivity and inflated cost structures. Mining companies in Australia and elsewhere should take a *Fit for Growth* approach that realigns spending and investment to support their differentiating capabilities. This approach brings down costs while enhancing the company’s competitive advantages, giving it a right to win even in slowing markets.

Many observers believe that, after a few years of continued decline, the price of commodities will reverse and rise again around the world. No matter what patterns of supply and demand are waiting in the future, the strategy outlined in this paper will be robust. It will allow mining companies and other producers of primary resources to cut costs and grow stronger, to navigate with confidence through the tough years, and to stake out a winning competitive position in years of better fortune. That’s because this strategy is not dependent on external factors, but on innate capabilities. Grounded in your people, policies, technologies, and culture, these capabilities become embedded in your day-to-day practices, and grow stronger year by year as you and your company continue to succeed with them.
Case study: Mine turnaround in 100 days

A large global mining company needed to act quickly as plunging demand for coal squeezed its profit margins. The combination of falling natural gas prices, shrinking electricity consumption, and slowing steel production meant the company could no longer rely on ever-higher coal prices for growth and profits. Executives realised they would have to drive returns internally, by boosting productivity and rooting out inefficiency. They asked Strategy& to help identify opportunities for improvement, capture short-term savings, and develop a more efficient operating model for the long term.

The initial analysis revealed significant opportunity for value creation in the company’s maintenance operations. On a base capital and maintenance budget of $1 billion, the analysis identified about $450 million in potential benefits from uptime improvements and greater efficiency in parts and labour. Notably, about 80 percent of this new value potential lay in just 10 percent of the company’s mines. A working group created a comprehensive plan to expand gross profit margins by redesigning the mining company’s maintenance program. The company launched a 100-day turnaround of maintenance at six of the high-value mines, targeting four areas for improvement:

1. Maintenance program design: Labour productivity increased 23 percent by scrapping the old staffing model based on work shifts that didn’t line up with actual demand. It was replaced with a demand-driven system that reallocates labour across the mines based on where it’s needed at any given time.

2. Planning and scheduling (P&S): The new approach boosted mine availability 5 to 20 percent by replacing outdated, reactive P&S processes with a proactive maintenance strategy that reduces unplanned downtime and extends component life cycles.

3. Reliability and predictive maintenance (PdM): Largely ignored by mine managers before the turnaround program, PdM compliance rose to 100 percent from 20 percent after the company put in place a new reliability-centred maintenance program, with dashboards to monitor, track, and improve asset performance.

4. Organisational design and performance management: Complex, nonstandard organisational structures at the mines led to poor resource management and unhealthy competition between maintenance and operations groups. The new maintenance program standardised the structure and developed RACI charts establishing clear decision rights for each position. Also, the lack of standard performance management metrics concealed the improvement potential of the mines. A new performance management metric tree enabled the company to track and improve mine performance.

Altogether, these cost savings and productivity enhancements enabled the mines to produce 20 to 35 percent more raw tons of coal per day. To lock in these gains and prevent backsliding into the old ways, the company established a strict meeting discipline and created weekly and monthly performance dashboards to monitor performance on the pilot mines. Company executives also drew up a road map for longer-term capability redesigns in critical areas such as operations, sourcing, and organisational redesign. Ultimately, this effort could boost gross profits by $600 million to $800 million, or 50 percent, and cut the per-ton cost of raw coal by 20 to 25 percent.
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This report was originally published by Booz & Company in 2012.

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