

Xstrata's strategic position was partly determined by the commodity and geographic diversity of its asset base and its embedded acquisition options, as well as the capabilities that allowed it to respond rapidly to changing industry conditions. The platform acquisition of similar sized rivals - such as MIM - quickly increased Xstrata's scale and diversity, and gave it growth options in various commodities such as coal copper and zinc.

Once uncertainty about the success of the first stage of the consolidation was resolved, management could either continue to expand operations if demand remained strong in a commodity, or proceed with the next stage of the acquisition strategy – in effect, select one of the newly created real options over another – as conditions dictated. The early success of the MIM acquisition was followed by further smaller asset acquisitions - including in copper mines such as Las Bambas (2003) or Tintaya (2006) and in coal such as in Cerrejón (2006) - and the platform acquisition of Falconbridge in 2006.

Subsequent acquisitions of Jubilee Nickel in Western Australia, Eland Platinum, and a 25 per cent participation in Lonmin - providing an option to acquire a major platinum producer - created further diversity and optionality in the platform portfolio. Each transaction in a different commodity on this path had its own dynamics, but each was designed to fill specific gaps in Xstrata's strategy and to deliver, step-bystep, a re-rating relative to its competitors that would help Xstrata towards its aim of becoming a global diversified company.

An innovative set of analytics can now underline such serial acquisitions strategies which defy traditional approaches in M&A. Essentially, these intersect finance and strategy in a dual framework for valuing potential options - 'top down' (by 'backing out' the value of a firm's assets from its market value) and 'bottom up' (from the firm's assets, with an acquisition strategy likened to a series of call options).

The attraction of the 'top-down' methodology is that, instead of complex real option models, financial markets determine growth options value, avoiding the need for detailed specific company information. The market value of companies - especially of known consolidators and of their targets - incorporates the prospective value of their growth options.



The success of this bold strategy gave Xstrata a size that propelled them into 'the virtuous circle of value creation'

As a starting point, the differential market value of leading industry players can be seen as reflecting their superior set of real options. The gap between a company's market value and the present value of the future earnings capacity of its assets represents the value placed on the firm's strategy to appropriate profitable corporate growth opportunities.

The present value of its growth options (PVGO) can be estimated from the value of assets in place and the market value of the firm. This method 'backs out' the value of the firm's growth option set from its equity value by deducting the static present value (PV) component associated with the firm's continuing current operations or assets. This is performed in a 'no-growth' scenario. The value of assets in place is estimated using standard present value techniques,

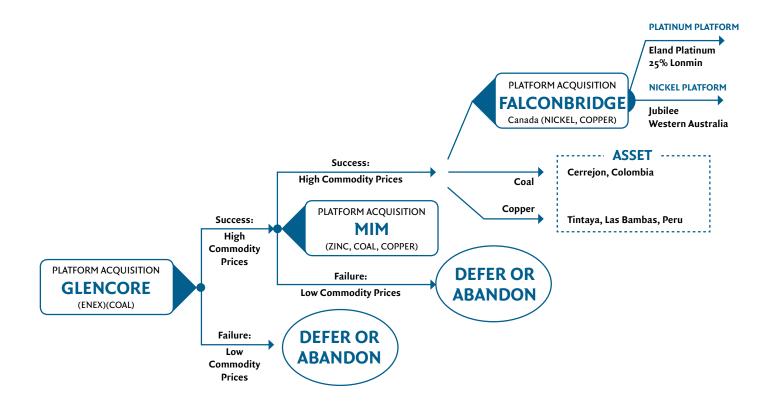
and the residual equity value is then taken to reflect the firm's set of growth options.

Table 1 lists leading players in the mining industry (as at mid 2005), ordered from the least to the most diversified, and estimations of the value of their future growth options at that point. The market value of equity (column 1) is the stock price times the number of shares. Continuing value estimations of assets in place (column 2) are based on the current earnings and the average of 2006 and 2007 analyst's earnings forecasts using the Institutional Brokers Estimate System (I/B/E/S), adjusted for the phase of the economic cycle. The market's assessment of growth options to equity (column 3) equals the value of equity (column 1) minus the value of assets in place (column 2), which is then expressed as a percentage of equity value.

TABLE 1: 'GLOBAL DIVERSIFIEDS' HAVE A HIGHER PROPORTION OF GROWTH OPTION VALUE (PVGO) TO EQUITY

Firm	Price	Assets in Place		PVGO/P
	1.		2.	3. Growth Options to Equity
	Market Value of Equity (Million US\$)	Various Estimates of Assets in Place		
	(Current	I/B/E/S	
		Earnings @ Ke	Earnings @ Ke	
Inco	11,400	7,700	11,300	1-32%
Teck Cominco	14,400	9,300	13,400	7-35%
Xstrata	26,600	13,800	20,400	23–48%
Rio Tinto	92,600	52,600	66,800	28–43%
BHP Billiton	141,500	83,300	107,300	24-41%

Source: Thomson as of 5-5-2006 (before announcement of Teck on Inco).



MAIN FOCUS OF ACTIVITY					
2002	2003	2004	2005 and beyond		
Listing on LSE and ambition to grow through acquisitions depending on evolution of commodity prices	Platform businesses with reputation and mining competencies in coal, copper and zinc	Diversification, consolidation, scale in commodities and geographies in a fragmented market	Exploit portfolio of options Further acquisitions Mega-merger to become a major miner		

FULL VALUE

The top down approach should be complemented with a bottom-up option valuation. This new theory may point to a promising avenue in the development of rigorous models for the design and assessment of serial acquisitions. To give an example, Figure 1 maps Xstrata's journey as a series of options, and shows the complexity of a serial acquisition strategy as a series of different types of interacting acquisition options, new platform acquisition options, follow-on asset acquisition options and exit or merger options.

By expressing an acquisition path as a series of such options, with clear 'go or no go' intersections, the methodology focuses attention on key uncertainties, such as in commodity prices, and provides a rational way to choose whether to prosecute, alter or defer decisions, depending on the expected evolution of the external environment.

We propose that real options analysis be used as a framework to review a firm's potential growth paths (and predict those of its competitors), and to resolve the perennial tension between 'strategic design' and 'opportunism' by integrating strategy, finance and acquisition strategy with a view to enhancing long-term shareholder value in uncertain environments.

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Xstrata is a major global diversified mining group, listed on the London and Swiss stock exchanges and headquartered in Switzerland. Thras joined in 2003 and is responsible for the Group's strategic development, post-acquisition integration, leadership development, external affairs and investor relations as well as the Group's technology businesses. Thras has postgraduate degrees in Electrical Engineering and Computer Science and an MBA from the University of the Witwatersrand, South Africa. He now lives in London with his wife and two children.



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Han's work focuses on private equity, valuation and serial acquisition strategies. Recently, he published a book: Strategic Investment: Options and Games – synthesises valuation and strategy. He has been a Visiting Fellow at NIAS (Netherlands Institute of Advanced Studies in the Humanities and Social Sciences) and Harvard University, Columbia University and UC Berkeley.

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