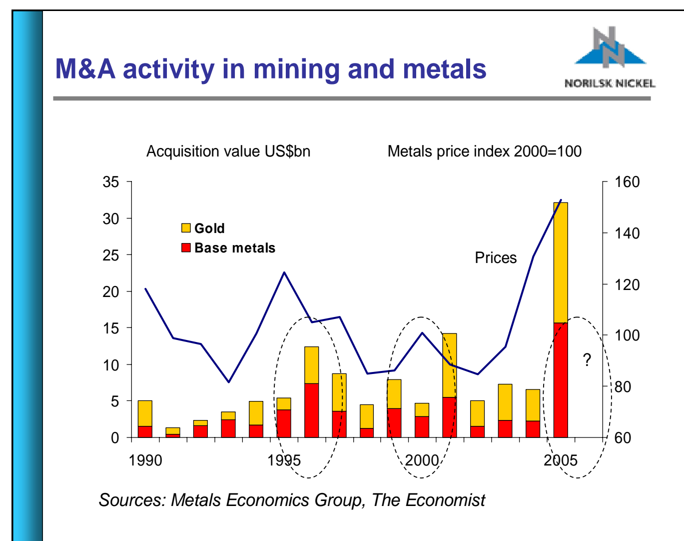
Industry Consolidation and Integration: Implications for the Base Metals Sector[1]

David Humphreys
Chief Economist
Norilsk Nickel, London

Introduction

The mining and metals industry is undergoing one of its periodic waves of corporate M&A. So much has been happening in the nickel sector lately that it has sometimes been hard to keep up. The question inevitably arises as to what is driving the wave. Is it just a bout of cash-fuelled management megalomania or is it underpinned by cold industrial logic? The history of M&A has not, after all, always been a happy one for the shareholder.

Since 1990, there have been three distinct waves of M&A in mining and metals; one in the mid 1990s, one around 2000, and a third which started in 2005 and is still going on. However, as the chart below makes evident, these waves of M&A have taken place at distinctly different points in the price cycle. That taking place now is at a price peak, as was that in the mid 1990s. That between 1999 and 2001, however, was at a price trough, suggesting a different set of drivers.



[1] *Paper for presentation to GFMS's Precious & Base Metals Seminar, London, 14 September 2006.*

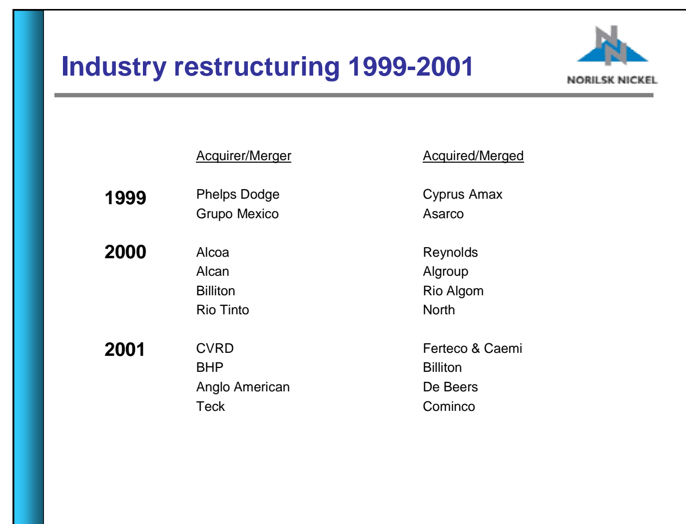
M&A in the trough 1999-2001

Although the focus here is the base metals, the last major wave of M&A, in 1999-2001, extended across both base metals and precious metals sectors. For all metals this was a period of low prices and, it has to be said, considerable investor disenchantment with the mining and metals sector. Not only were returns to the sector dismal but the history of the two previous decades, during which the industry seemed to face persistent oversupply and declining real terms prices, suggested a systemic problem. Research by UBS has concluded that over the twenty-year period between 1984 and 2003, quoted mining companies collectively destroyed some $48 billion of shareholder capital.

Alongside the seductions of the tech revolution, with its casual dynamism and promise of a weightless economy, the mining and metals sector looked tired and dull. By 2001, the combined value of quoted mining and metals companies had fallen to around $300 billion, equivalent to only 1% of global equity markets and half the value of Microsoft.

It was against this backdrop that the leaders of the mining and metals sector determined that enough was enough and embarked on a wave of defensive M&A to try to rescue the situation. Consolidation has, after all, long been a conventional response of companies in a mature industry facing adverse market conditions. In going this route, miners had the example of the oil industry to follow. This had seen the coming together of Exxon and Mobil, BP, Amoco and Arco, Total, Elf and Petrofina, and Chevron and Texaco, for similar reasons. Ironic as it may seem now, recall that, at the end of 1998, the price of crude oil dropped to under $10 a barrel.

Some of the major M&A of this period is shown in the chart below. In addition to these headline-grabbing moves, were a raft of smaller-scale consolidations and a large amount of corporate tidying up as companies bought out minorities and simplified their group structures.



Trawling back over the explanations offered at the time for this wave of mergers, the impression left is of an industry under siege but also of one wanting take back control of its destiny. Some key themes emerge.

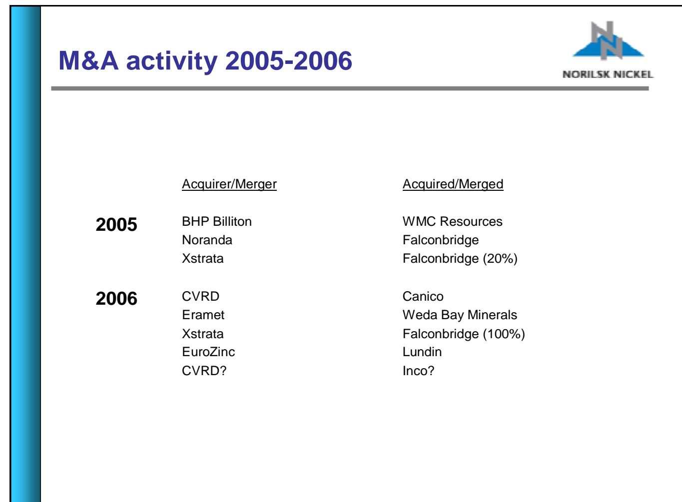
There were frequent references to the fact that mining companies had dropped off the radar screens of institutional investors and needed to merge in order to acquire critical mass in financial markets. Many of the companies were becoming too small to warrant banks and brokers following them. As might be expected, there was a big emphasis on cost reductions that could be achieved by merging – for example, in the spreading of overheads like head office costs – and on the opportunities within larger companies for capturing economies of scale and scope. In this regard, particular attention was given to the possibilities offered by developments in information and communication technologies (ICTs) to manage companies more effectively on a global scale and to extract benefit from global purchasing and marketing.

Perhaps unsurprisingly given the prevailing state of the markets, there was much talk of the opportunities that mergers would offer to allocate capital more efficiently, to rationalise surplus capacity and make the remaining assets work harder; in short, generally to manage better the supply response of the industry to market imbalances. And finally, there were frequent references to the pressures of globalisation, both in the sense of requiring companies in the industry to have a scale of operations sufficient to make an impact at the global level and in the sense of being better able to service customers who were themselves globalising. The pressure to globalise was reinforced amongst US producers by the fact that they were having to contend at this time with a loss of competitiveness resulting from an extremely strong US dollar.

If the need for greater geographical diversification was an important part of this process, the need for commodity diversification was rather less apparent. Most of the big mergers and acquisitions that took place at this time were done within the confines of a particular metals sector, aluminium-producing companies linking with aluminium-producing companies, copper-producing companies with copper-producing companies and iron ore-producing companies with iron ore-producing companies. Following its acquisition of Cyprus Amax, Phelps Dodge swiftly divested its gold and coal assets in order to focus on its copper. Rio Tinto similarly divested the non-iron ore assets of North following its acquisition.

The current round of M&A

Bull market bouts of M&A, like the present one, have a different set of drivers and come with a different range of explanations. The stars of the piece so far has been BHP Billiton's acquisition of WMC Resources last year and Xstrata's acquisition of Falconbridge this year, though there are other possible deals still in play. Nickel is a major component of many of the actual and prospective deals listed below, suggesting that several companies have concluded that this is a business they want to get into or to be bigger in.



Generally, the spirit driving this wave of activity - and what distinguishes it from that in 1999-2001 - is that it is expansionary rather than defensive. The language of management engaged in it emphasises growth and opportunity rather than cost cutting and the restoration of profitability. Sometimes the moves are portrayed as elements of a longer term corporate strategy. And it is led by companies which are confident and cash-rich as a result of high prices not ones which are weak and scrabbling for survival.

In this respect, the current M&A boom echoes those which took place during the price peaks of the mid 1990s and, indeed, the mid 1970s. The earlier of these two waves of M&A was distinguished by an invasion of the mining sector by the oil industry, an invasion which proved extremely costly to the oil companies concerned and from which they subsequently, if slowly, completely retreated. The boom of the mid-1990s also featured some investments of questionable value to their shareholders, including BHP's $2400m acquisition of Magma and Inco's $3375m acquisition of Voisey's Bay. However, it also featured the merger between RTZ and CRA (not included in MEG's chart above) which worked out rather better. There were at this time, in addition, some fairly high priced mining property deals, notably in South American copper.

Some of the reasons given by the companies engaged in M&A activities this time around are, unsurprisingly, similar to those which were employed during previous cyclical peaks. Certainly, the focus on volumes is there. PricewaterhouseCoopers in their annual survey of the mining industry for 2005 noted, "Our interviews with CEOs indicate that their main focus in the current environment is on mine supply and maximising production." There is also, as there inevitably tends to be at such times, talk of prospective synergies. CVRD, with reference to its bid for Inco, has emphasised the benefits of acquiring expertise and technology in nickel and copper. And then there are the factors that are not so much talked about but which are nonetheless present, such as the fact that companies have a great deal of cash in their pockets which they might have to give back to shareholders if they cannot find a better use for it. However, there are some significant differences too.

The first is the common presumption about the strength of demand for minerals and metals resulting from the industrialisation of Asia, and of China in particular. The conviction that this has many years to run is viewed as highly supportive of the corporate growth case. It is a perception that clearly did not exist in the same degree ten years ago.

Second, is the more pronounced focus on commodity diversification. BHP Billiton's acquisition of WMC Resources may have strengthened its position in copper but also catapulted the company into a leading position in uranium and nickel. Diversification also appears to have been a factor in Xstrata's acquisition of Falconbridge and in CVRD's bid for Inco. The case for commodity diversification commonly flows from the observation that more diversified companies are better able to handle the inherent price volatility of commodity markets. This volatility may be increasing as a result of the growing involvement in the metals markets of financial institutions. Having less volatile earnings, companies should be more attractive to investors over the long term and enable them to raise capital more cheaply. In this regard, the development can be seen as part of a continuing progression away from the traditional North American model of the single commodity mining and metals company offering a cyclical play to investors towards a more 'European' model which emphasises the need to deliver returns throughout the entire cycle and is focused more on long term institutional investors

However, perhaps some of the most interesting aspects of this wave of M&A are those relating to resource availability. Low levels of exploration and investment in the years following the investment peak of 1997, and the preoccupation during much of the intervening period with capital efficiency and productivity at existing operations, have resulted in a limited supply of good quality projects in companies' pipelines. The cost of finding economic deposits of base metal minerals appears also to be rising. BHP Billiton has estimated that these costs have doubled in real terms during the past thirty years. Moreover, the failure of exploration to turn up new monster deposits of the likes of Carajas, Escondida, Grasberg and Norilsk in recent years has resulted in a growing perception that finding and developing very large projects in the future is going to be much more challenging than in the past. Most of the low hanging fruit appears to have gone.

Aggravating the problem of physical resource availability is growing geopolitical risk in resource-rich regions. The 1980s and early 1990s saw a significant opening out of countries to the mining industry with over one hundred of them re-writing their mining codes in order to attract inward investment. The last decade has seen something of reversal of this tendency, associated in part with the recovery of metals prices. Governments have become more assertive towards the mining industry. This has manifest itself in tougher regulatory conditions and in attempts to extract a larger share of the rent from mining by raising taxes and royalties. In some cases, most notably in Latin America, it has expressed itself in more overt forms of resource nationalism and in the re-emergence of pressures for the nationalisation of mineral producers. At a local level too, higher commodity prices have created pressures from communities to win greater social benefits from mine developments. Such pressures can significantly complicate and stretch out the mine permitting process and even block development entirely.

Industry consolidation through M&A is both a response to this set of conditions and a possible means to overcome them. It is response in so far as the increased difficulty of finding and developing large new projects increases the relative attractiveness of M&A as a mode of corporate growth. M&A not only enables companies flush with cash to short-circuit the process of having to find and develop large new deposits, it has the additional benefit of giving the acquirer immediate access to the cash flows from the operations acquired and thus to participate in what remains of the present cyclical boom. Of course, there is a scarcity premium to be paid, since there is only a limited pool of high quality resources that are not already securely tied up in one of the large diversified mining companies or else are in state ownership.

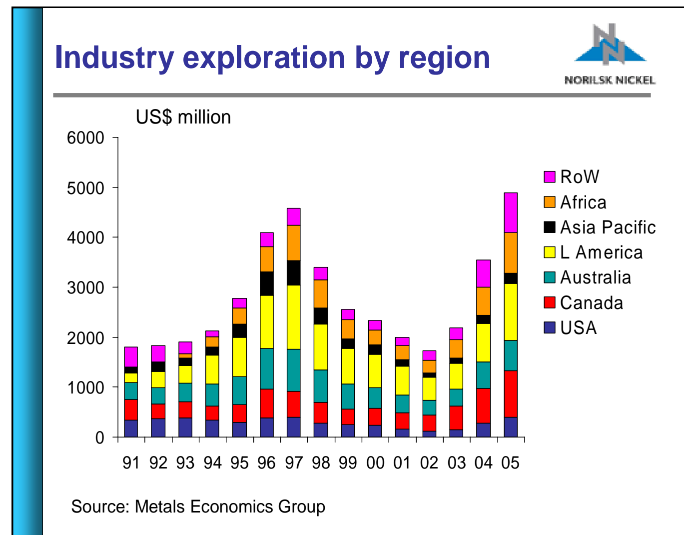
At the same time, by creating bigger and more financially secure companies which are better able to tackle large and technically-demanding projects in difficult parts of the world, consolidation through M&A helps address the longer term challenge of investment. The growing difficulty of finding and developing new resources, particularly those which have large infrastructure requirements or face extensive regulation, implies greater capital intensity and ever-longer lead times. However, it also implies increased barriers of entry to the industry which, by logical extension, implies a steepening of the cost curve for the mining industry and the likelihood of higher real prices longer term. The greater difficulties of entering and operating in the mining sector should, in effect, be compensated by the greater rewards to be derived from it.

In confronting these new economic realities, the mining industry is again following in the footsteps of oil, another industry that has to go where the resources take them and where expectations of long run prices have lifted. Faced with declining resources in some of their traditional producing areas and severe political barriers to investment in the large oilfields of the Middle East, international oil companies have increasingly been turning their attention to technologically more demanding projects in traditional producing areas and to figuring out ways to operate in some of the more geopolitically challenging countries of the Former Soviet Union (FSU) and Africa. Having bitten the bullet, a significant part of their growth is now coming from precisely these areas.

The resource dilemma facing mining and metals is perhaps not so acute, though the experience varies from commodity to commodity. The nickel industry certainly faces a significant challenge as its production growth shifts from a focus on sulphide ores to more abundant but more technically-challenging laterite deposits, which is perhaps one reason why the nickel sector has been such a magnet for M&A. For copper, the resource challenge is a little different. Large, potentially low cost, deposits such as Udokan, Tenke Fungurume, Resolution, Oyu Tolgoi are known about, but their development faces major obstacles with respect to their infrastructure, their depth and the political and legal conditions under which they will have to be developed. For the moment, the biggest new copper mine under development is rated at 200,000 tonnes a year; large but not a monster.

Mining is also showing a similar shift in the geopolitical mix of its exploration targeting to oil and gas. Data on exploration spending from Metals Economics Group show that, by comparison with the last exploration peak of 1997, a significantly higher proportion of

exploration in 2005 is headed for Africa and the countries of the FSU while a smaller proportion is going towards Australia, Latin America and Asia.



Growing role of emerging market companies

The geographical distribution of investment in exploration and mining introduces a further feature of the current wave of M&A activity. This is the increasing role being played by companies based in emerging markets. The traffic of exploration and investment is by no means all one way, from the developed to the emerging worlds. Some of the mining and metals companies based in emerging markets, for example, such companies as CVRD, Codelco, Vedanta, Norilsk Nickel and Rusal, are of a substantial size. Moreover, as low cost producers they are cash rich and winning increased access to global capital markets. While they obviously have special competitive strengths on their home territories, they are also interested to play on the global stage. CVRD, which is currently in the process of pursuing Inco having in 2004 taken an interest in the acquisition of Noranda, is a case in point.

However, amongst many companies based in emerging markets, there does appear to be a slight difference in emphasis in what is driving corporate activity. Thus, while much of the M&A activity amongst developed country players has been essentially horizontal, which is to say, focused on companies operating at a similar stage of production and processing as their existing activities, albeit in different commodities, much more of the activity of emerging market companies so far has a vertical component – the ‘integration’ referred to in the title of this paper.

Whether reflecting strict commercial logic or a vestigial concern about the ability of the market to deliver amongst those brought up in more centrally-planned economies, a number of corporate moves by companies based in emerging markets have been explicitly driven by the objective of securing raw materials for metallurgical operations.

China's metals companies have been particularly prominent in this regard. China's steel companies have for a long time sought to acquire holdings in iron ore companies outside China. And there are numerous initiatives amongst Chinese companies on-going at present to acquire offshore assets in copper and nickel mining and in bauxite-alumina. Minmetals, it will be recalled, like CVRD, also had a tilt at Noranda in 2004.

India's and Russia's mining and metal industries have shown a similar propensity to integration. In Russia, the steel industry has followed a rather different path from that elsewhere with all the major steel companies seeking in recent years to integrate backwards to secure their supplies of iron ore and coking coal. Russia's aluminium producers have shown a similar commitment to integrating back upstream with Rusal making acquisitions of bauxite and alumina operations in Australia, Guinea, Guyana, Sardinia and, maybe, Jamaica. The rumoured tie-up between Rusal, Sual and Glencore would - should it come about - have both horizontal and vertical dimensions.

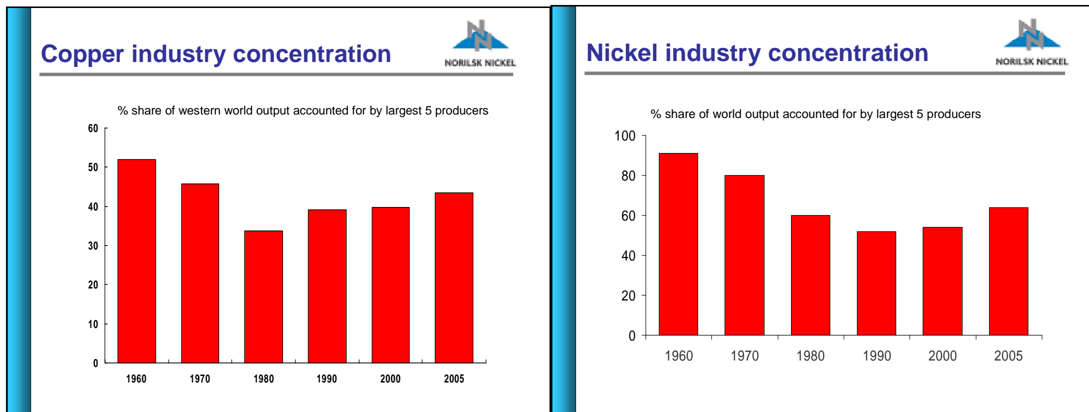
Implications for the structure of the producing industry

Whether the explanations underpinning this recent wave of corporate activity will prove soundly-based only time will tell. Most probably there is something in the depletion argument and the rising cost of entry to the industry to justify the M&A activity. Even so, a sharp reversal in the global economy and in the metals markets would inevitably test the economic logic of these moves.

M&A at, or near, the peak of the cycle potentially carries greater risks than that made at the bottom of the cycle, in so far as it is more likely to involve the payment of premiums and thus to be more dependent on cash flows in the early years of the union. It is, in this sense, more of a bet on the cycle than M&A which is driven by supply-side logic of cost reduction, productivity improvement and capital efficiency. It is a risk that can, of course, be mitigated - for managements if not necessarily for the shareholder - to the extent that payment for acquisitions can be made in high value paper. For the moment, problems of getting new capacity up and running because of equipment and skills shortages give some confidence that capacity creation will be constrained for some time to come.

The industry that emerges out the other side of the current wave of M&A will show a higher concentration of large diversified miners. This is in practice no more than a continuation of what has been going on in the industry for some years. Some of these diversified miners, like Rio Tinto, BHP Billiton, Anglo American and Xstrata, will have global reach. Others, like Norilsk Nickel, CVRD and Vedanta will have a stronger national focus, though may extend their global reach with time.

In so far as many of these corporate moves have been motivated by an ambition to diversify, the concentration of production of individual commodities will not generally be much affected. As the charts below for copper and nickel show, the reversal in the trend of industry fragmentation was a product of earlier waves of corporate activity and, even following the more recent increases in the concentration of production, the degree of concentration is still well below that which prevailed in the 1960s and 1970s.

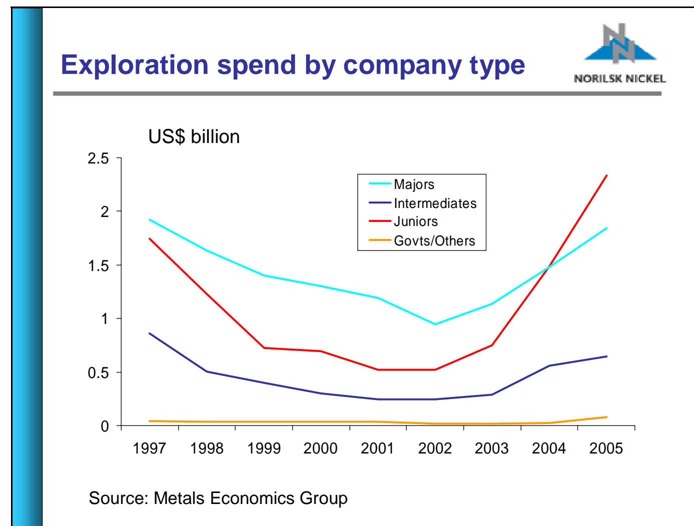


Despite the limited impacts that this recent wave of M&A will have on the concentration of production, there may, nevertheless, be some impacts on supply management. Larger, more diversified companies should be better able to establish the global marketing networks needed to meet the requirements of customers who may themselves be consolidating and globalising, as, for example, has been happening in the steel and auto industries. And because the prices of different commodities do not always exactly coincide, it should also be the case that diversified producers can use the cash flow generated by one commodity to invest, countercyclically, in another which is at a low point in its price cycle and where assets are cheap. They do not face an imperative to replace their reserves and production in the same commodity, as tends to be the case with single commodity players. At the same time, multi-plant operators should be better able to manage marginal capacity in an industry than single plant producers who are much more likely to be faced with the choice of 'produce or bust'.

A corollary of the increased concentration of the industry within large diversifieds is a polarisation of the industry between the large and the small. The middle ground would appear to be being progressively squeezed as mid-sized companies having world class assets get absorbed into the majors while those without such assets slide to a natural death. The smaller end of the business will be occupied by exploration companies, start-ups and niche producers, some of these themselves the product of spin-offs from the larger companies no longer wanting to devote scarce management time to them and considering them too small to have a meaningful impact on their overall performance.

This smaller company end of the industry seems generally to be thriving. This is only to be expected at a time of cyclically high prices since this is the most entrepreneurial part of the industry. However, it is possibly a little more than this. The changing risk profile of the industry may also be playing to the strengths of small, equity-financed companies. Junior exploration companies have significantly outrun larger mining companies over the past three years in the growth of their spend, as revealed by data from Metals Economics Group. Part of this can undoubtedly be ascribed to the revival of interest in gold. However, the nature of their financing, their incentive structures and their mobility make junior exploration companies pioneers in other commodities too. The MEG data show

junior exploration companies accounting for half of total exploration spend in 2005. In 1997, their share was under 40%.



An indication of how the small mining sector is thriving is provided by the success of London's Alternative Investment Market (AIM). Originally conceived as a market for technology companies in the 1990s, the light regulatory touch and the entrepreneurial spirit of AIM has made it popular with small miners seeking to operate in parts of the world where the majors are not yet ready to go. Thus, there have been significant listings recently for companies operating in the Democratic Republic of the Congo. As of the middle of 2006, the resources sector accounted for 30% of the market capitalisation of AIM with the 160 quoted mining companies representing half of this, i.e. 15%. Technology, by contrast, represented less than 7% of total market capitalisation. Capital raised for mining was £100 million in 2001. This year it will be well over £1 billion.

Concluding comment

The mining industry may be seeing a modest acceleration of growth in the demand for its products but it remains a mature industry, highly competitive and cyclical. It is also an industry with depleting assets, implying that the industry is going to have to invest substantial sums of money in some potentially difficult places in order to develop new resources and ensure mineral supplies for the future. The current wave of M&A can be seen as part of the industry's on-going efforts to structure itself to meet the challenges of the future; a future in which demand may be good but in which projects will be harder to do and where prices will need to be higher to square the circle. The changing risk-reward structure of mining makes it likely that the industry will see a polarisation towards large diversified companies able to take on the challenge of large projects and small companies to pioneer new regions and fill niches in the market.