

Digging for dross?

The economic performance of an 'old' industry

The mining industry has given investors poor returns for the past quarter-century. R.J. McDONALD says market forces will not allow this to continue: the industry must lift its game or watch share prices fall to levels reflecting real financial performance.



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The mining industry represents a small part of the international economy. Comprising few large companies, the industry exhibits volatile returns and over the past 25 years has failed to produce a long-term return that meets its cost of capital.

It is not surprising, therefore, that the minerals extraction and processing industry is under pressure from the investment community to lift its game. Management and boards are responding to this pressure with more exacting cost control measures,

capital management programs and consolidation. However, the cost of capital to the industry appears to have increased in recent years, and investor attention seems to be preoccupied with the "new" economy. Both of these influences will conspire to raise the bar for acceptable industry economic performance.¹

This paper provides a snapshot of the minerals and extraction industry as it enters the 21st century. It remains cautious about future performance other than to conclude that

TABLE 1 Industry scale is modest

	Total market capitalisation \$US billion	Minerals \$US billion	%
International	19,000	320²	1.5%
Australia	360	50	14%
Canada	500	60	12%
South Africa	300	60	20%

As at 31 December 1999

Source: Bloomberg

single-digit returns are likely to prevail, albeit at higher levels than over the past 25 years.

INDUSTRY SCALE AND STRUCTURE

The minerals industry makes up only 1.5% of the international sharemarket. Table 1 shows the relative importance of the minerals sector. As can be seen, even in those markets oriented towards minerals, its size is modest.

The top 150 listed international minerals companies had a combined market capitalisation of only \$US320 billion at the end of 1999. This global industry market capitalisation is lower than that of a number of individual companies such as Microsoft (\$US600 billion) and GE (\$US500 billion).

After making adjustments for non-minerals activities, cross-shareholdings and debt³, the enterprise value⁴ of the listed minerals sector is even smaller. Table 2 suggests that the enterprise value of the industry is closer to \$US270 billion.

Using the Australian All-Mining index as a surrogate measure, Figure 1 shows that mining asset values have been significantly higher in the past 50 years than they are now. This was particularly evident with the surge in asset values during the late 1960s resulting from the discovery and development of Australia's vast iron ore, energy, nickel and bauxite resources, linked with strong economic growth in Asia.

The assets of the minerals industry are currently employed in six major geographic regions and cover five major commodity groups (Table 3).

Of the top 150 listed minerals companies at the end of 1999 only eight companies have a market capitalisation of more than \$US10 billion. Together these eight companies represent about 50% of the industry's total market capitalisation. Of the sample, some 53 minerals companies carry a market capitalisation in excess of \$US1 billion each.

The spate of mergers and industry consolidation occurring in the gold, aluminium and copper sectors will change the industry structure, resulting in fewer but larger companies. Likewise, the continuing government privatisation programs will alter the make-up of the industry.

FIGURE 1 Is the value of mining assets in decline?

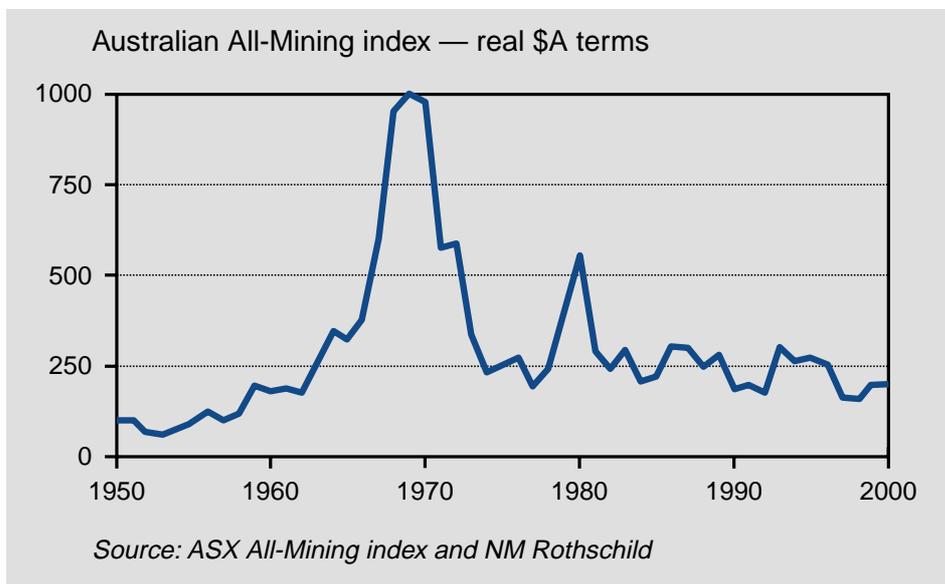


TABLE 2 Enterprise value of minerals industry smaller still

	\$US bn
Global market capitalisation	320
Less: non-minerals activities	(50)
Less: cross-shareholdings	(45)
Adjusted equity value	225
Add: estimated level of debt	45 ⁵
Estimated enterprise value of listed minerals companies	270
Estimated enterprise value of unlisted minerals companies	?
Total enterprise value	>270

Source: NM Rothschild

TABLE 3 Small but international

	By region		By commodity grouping		
	Enterprise value \$US billion	%	Enterprise value \$US billion	%	
Nth America	67	25%	Precious metals ⁶	60	23%
Sth America	38	14%	Base metals	50	20%
Asia	19	7%	Aluminium	60	22%
Australia	50	19%	Industrial minerals ⁷	40	15%
Africa	41	15%	Bulk commodities	60	22%
Europe	55	20%			
Total	270	100%	270	100%	

Source: NM Rothschild and ABN AMRO

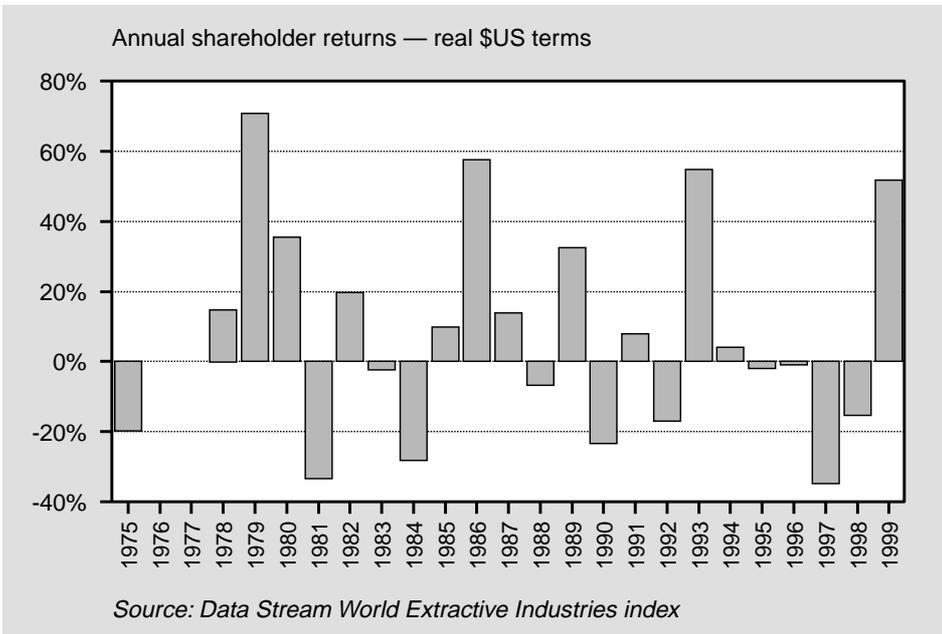
INDUSTRY ECONOMIC PERFORMANCE

The last year of the decade saw the mining industry offer a super return: the ASX All-Mining index was up 30%, the TSE Mine and Mineral index was up 27% and the Data

Stream World Extractive Industries index was up 51%.

However, the 1999 performance follows several years of negative returns. Figure 2

FIGURE 2 Industry returns have been very volatile



We believe that the real \$US cost of capital to the industry over the past 25 years has been between 7% and 8% pa (*Cost of Capital to the Mining Industry*, NM Rothschild 1999).

Had the industry generated a real rate of return of, say, 7% pa over the last quarter of the 20 century, the index as at 31 December 1999 would have been 60% higher.

A review of the real rate of return enjoyed by the investment community over the past 25 years shows that the periods where the industry's real cost of capital of, say, 7% pa has been equalled or exceeded have been few indeed, although "islands" of acceptable returns appear every 10 years or so. These islands are less extensive in Australia than internationally, suggesting that the Australian minerals industry has lagged behind its competitors.

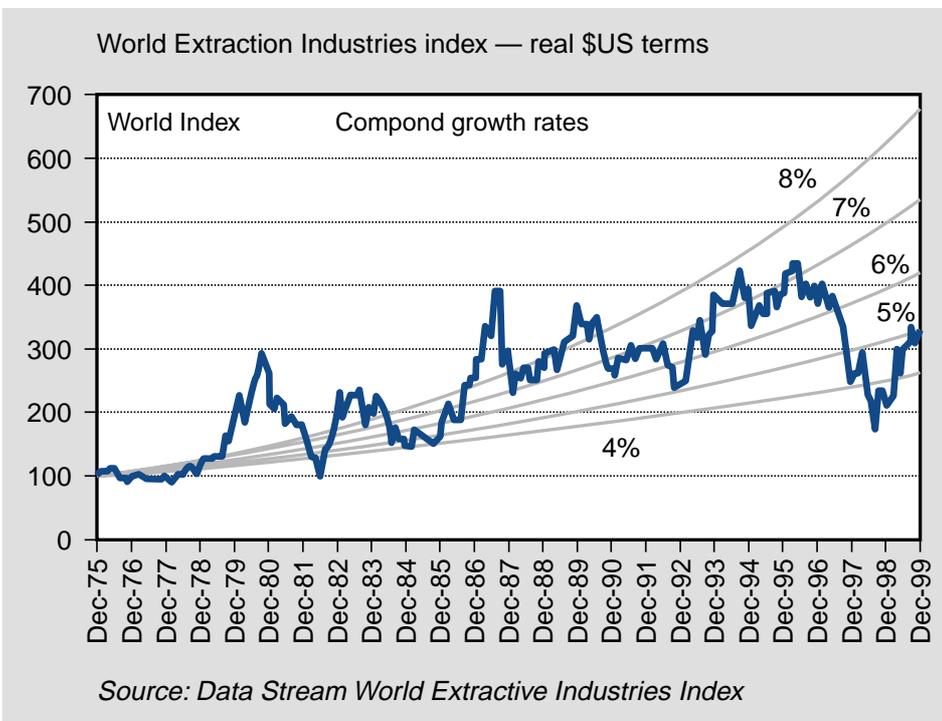
Capital markets however, simply do not allow a company, let alone an industry, to consistently generate an expected rate of return that differs from the return required by investors over the long term.

Clearly the investor's holding period (ie, the average time between acquiring and disposing of a share in a minerals company) determines return, as does the duration investigated. Using monthly data, average real returns to investors for the past 20 to 25 years have been calculated and are presented in Table 4.

As can be seen, the average return is a function of the holding period. A number of holding periods of five years or less have been shown in recognition that investors turn over their investment portfolios far more regularly than mining companies themselves. This is not to say, however, that investors adopt a short-term view; they simply take their profits, as capitalised in a company's share price, when it is considered to be the right time.

On balance it appears that over the past 20 to 25 years the international investment

FIGURE 3 Minerals industry offers 5% real return



shows that, over the past 25 years, annual returns have fluctuated dramatically.

Over the past 25 years a return index (Figure 3) made up of share price appreciation and dividends, covering most of the major international mining companies, shows that

the industry has generated a 5% pa compound real rate of return. Again, variability is evident.

Figure 3 also shows how the index would have tracked had the industry offered a range of returns.

community has enjoyed a real \$US rate of return of around 5% to 6% pa from the minerals sector. This level of return is certainly lower than the hurdle rates employed by minerals companies for new investment.

A recent survey of some 60 middle management executives attending the 1999 Zinc College in Korea indicated that while all the participants believe their organisations use a hurdle rate of 10% pa or more, none believed their organisations had achieved the nominated threshold. This scepticism is well founded.

The major disconnect between expectations and delivered performance clearly suggests that the industry must review its evaluation approach to new investment or run the risk of further alienating the investment community. Adopting hurdle rates of return in excess of a company's cost of capital has clearly not been the answer.

SPECIFIC COMPANY PERFORMANCE

Index performance disguises the performance of individual companies. Take, for example, a sample of 40 international resources companies that have remained listed since around 1970; the top quartile performers produced a long-term real \$US return of around 10% pa, while the bottom

TABLE 4 Real rates of return (% pa) for different holding periods

Snapshot	World index returns - US\$		Australian index returns - A\$	
	1975-2000	1980-2000	1975-2000	1980-2000
25 yrs	4.9%	n/a	1.8%	n/a
20 yrs	n/a	1.7%	n/a	-1.7%
Rolling				
5 yrs	5.2%	5.2%	2.0%	2.0%
4 yrs	5.5%	4.9%	2.3%	1.9%
3 yrs	5.3%	4.3%	2.2%	1.8%
2 yrs	5.9%	4.5%	2.8%	2.1%
1 yrs	8.6%	6.1%	5.7%	4.0%
Monthly	7.3%	6.5%	6.4%	4.9%

Source: NM Rothschild

quartile delivered -2 per cent pa (Figure 4). Clearly, an active selection strategy was warranted by international investors.

Much of the variability of performance between companies can be attributed to the quality of management decision-making. It should be noted that the sample suffers survival bias in that a number of poor performers have either gone bankrupt or have been taken over by the more successful companies.

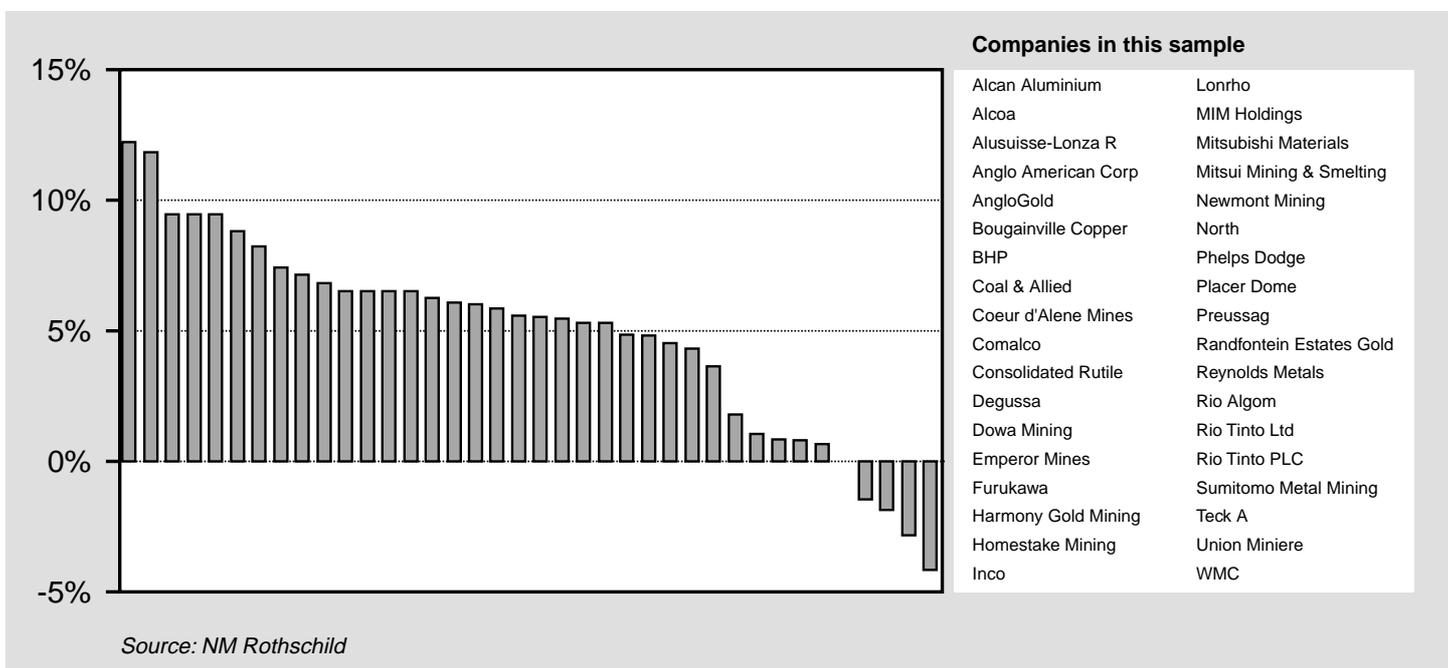
To put this performance variability into perspective, take two minerals companies,

currently of a similar size. Assume that for the next 25 years the two companies will fund growth from retained earnings and pay out a 3% dividend yield. If, over this same period, one company generates a return of 10% pa and the other 5% pa, the better performer will have grown to more than three times the size of the poorer performer.

EXPECTED INDUSTRY RETURNS

Previous sections have suggested that the minerals industry has failed to generate return thresholds demanded by shareholders and management alike. As can be seen in

FIGURE 4 Performance of 40 minerals companies over 25 years



Source: NM Rothschild

FIGURE 5 Returns trend lower as volatility increases

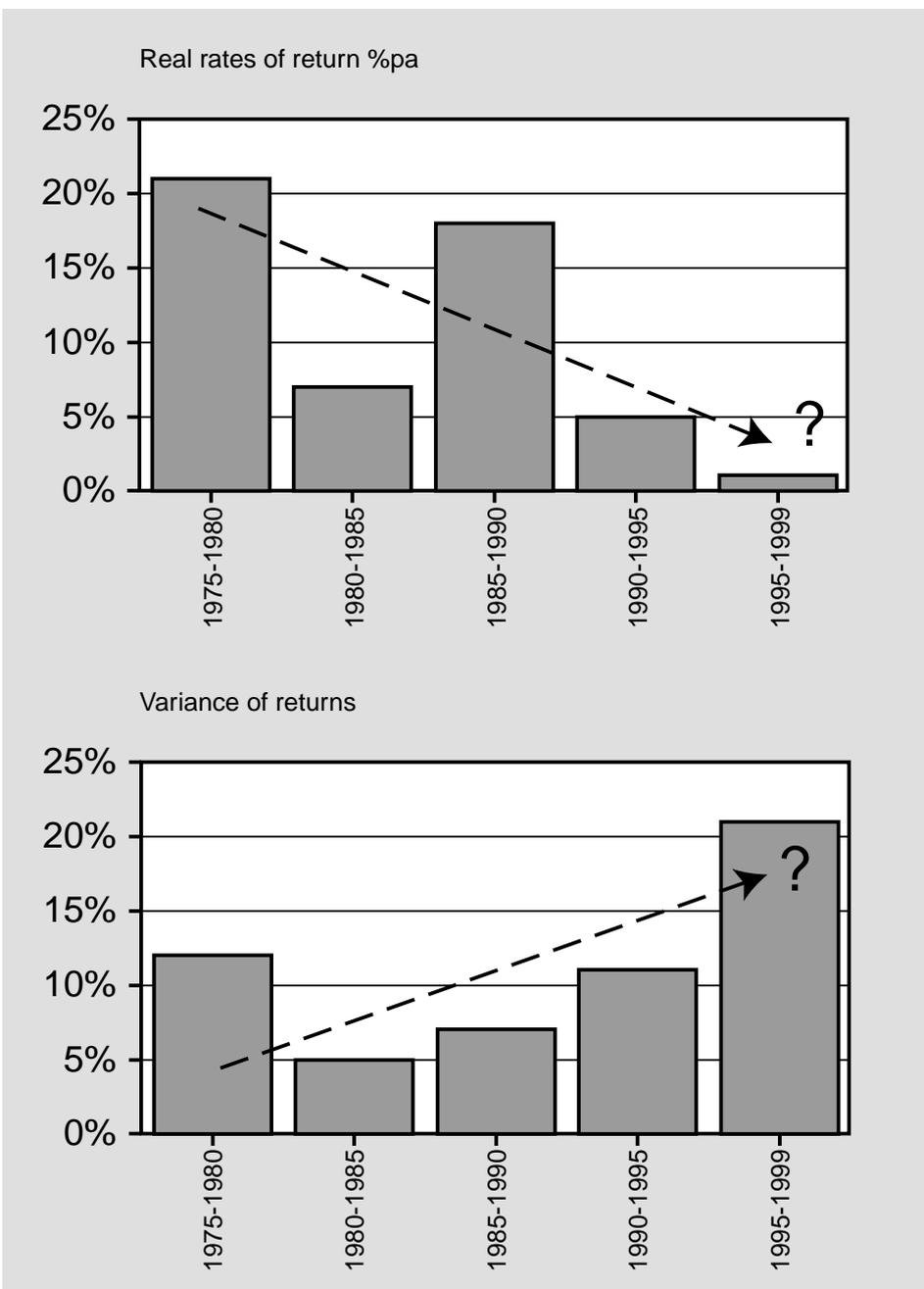


Figure 5, there is some evidence that industry returns are falling at the same time as volatility is increasing.

Capital markets however, simply do not allow a company, let alone an industry, to consistently generate an expected rate of return that differs from the return required by investors over the long term. Asset values (and share prices) will either increase or decrease to reflect expected performance so that the expected return will equate to the

cost of capital.

Therefore, for the minerals industry to generate its cost of capital, one of two things will happen:

- management gets on top of the multitude of value-creation issues; or
- share prices will sharply fall to levels where the combination of future capital appreciation and dividend yield equates to the return requirements of the investment community.

Over the long run, a typical equity investment has generated a return of 6% pa more than the cost of debt, although a recent UK study suggests that the average equity premium over debt has been closer to 4.5% pa (London Business School/ABN AMRO 1999). At present, the 10-year and 30-year US bond rate is 6.8% pa and 6.6% pa respectively, or around 3% to 4% in real terms, assuming a long-term \$US inflation rate of around 3% pa.

A typical equity investment therefore can be expected to generate a real return of around 9% pa for investors. Mining, perhaps counter-intuitively, has exhibited a lower financial risk than a typical equity stock (McDonald 1993). The industry's real-terms \$US cost of equity has been around 7% to 8% pa. However, the risk of the industry, as measured by the covariance of its returns against those of a well diversified portfolio, appears to have increased in recent years (Figure 6).

The beta or covariance of returns of the World Extractive Industries index

The industry's real cost of capital is now probably in the range of 8% to 9% pa. We expect the industry to continue to generate this range of long-term return but there are many challenges for management. These include the persistent downward pressure on metal prices and the continued need for the minerals industry to replenish its resource base, often when only lower-quality resources are available.

NOTES

1 In this paper economic performance is measured by the returns enjoyed by the investment community. Investor returns are a combination of capital gains or losses, as measured by share price appreciation (or depreciation) plus the dividend yield. When measured over a long enough period, longer than 25 years, the cost of capital that investors use in determining the value of a minerals asset can also be observed.

2 Market capitalisation of the largest 150 minerals companies as at 31 December 1999.

3 The industry is conservatively financed with net debt to net debt plus the book

value of equity, presently around 27%. When using total debt to total debt plus the market value of equity, this measure falls to 21%. The use of debt has declined; for example, in the 1980s the international minerals industry had a capital structure of $D/[D+E]$ of between 28% and 38%.

4 Market capitalisation plus net debt.

5 Total industry debt less (cross-shareholding debt + non-minerals activity debt).

6 Includes by-product gold production and platinum.

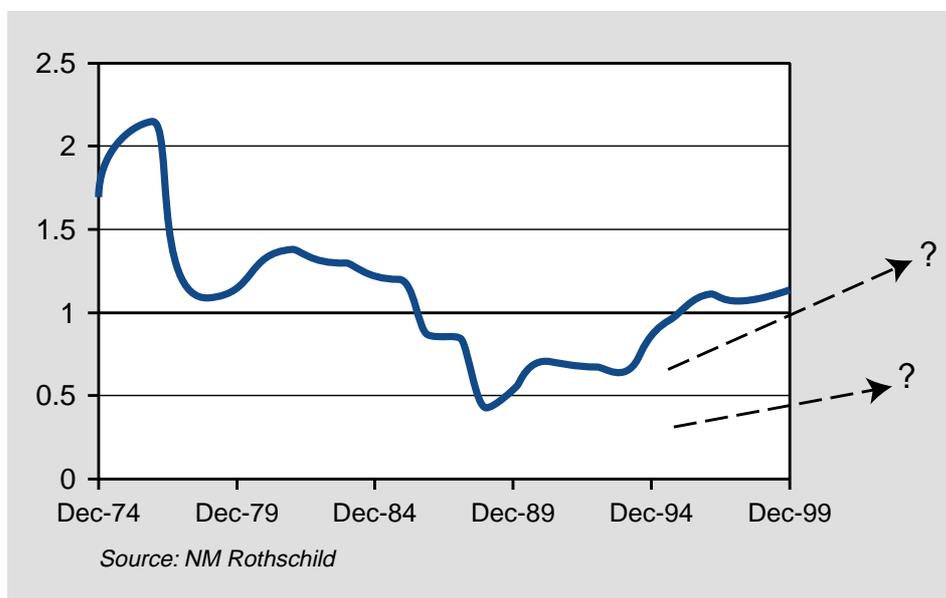
7 Includes diamonds.

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FIGURE 6 Relative risk of the minerals sector appears to be increasing



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Continued from page 19

also helped boost its regional profile. ASAF was created in the 1979 as a cooperative council representing Asian investment professionals and the SIA has played an influential role in its transformation into a federation incorporated in Australia.

Roslyn Allan, as honorary treasurer of ASAF, said at the time: "A regional federation will not only bind Australian professional investors closer to their Asian counterparts but will also provide the Asian region with a far more effective voice at a global level. And, significantly, ASAF's head office will be in Sydney, which represents an international vote of confidence and recognition in the Australian investment industry." Mrs Allan has held a number of influential positions with ASAF and was a key player in establishing the joint venture in Malaysia between Permodalan Nasional Berhad and the SIA.

As someone who admits to becoming easily bored, Mrs Allan says that the SIA and the

industry it serves presented sufficient opportunities, challenges and change over the past two decades to sustain her. "I had a great deal of autonomy and trust," she says. "Federal Council was prepared to say: 'Have a go.' And I was in the right place at the right time."

Leigh Hall, high-profile SIA board member, says that if he were asked to nominate his greatest contribution to the SIA over the past 25 years, he would answer: "I was one of the selection panel which appointed Roslyn Allan as head of the Institute 20 years ago." He adds:

"Roslyn Allan is one of those very rare people who not only have the vision, but also the strength, determination and moral fibre to implement the vision. She was market-oriented before that was truly accepted in many other organisations. And she had the knack of encouraging people in the industry at every level to assist the Institute in many ways. She established the Securities Institute as the most successful

and respected specialist provider of tertiary education in Australia's finance and investment sector. She was also instrumental in making us a powerful and influential voice with government, the industry and other key stakeholders . . . She truly is an outstanding person whose talents should not be lost to the community . . . Roslyn has the very clearly demonstrated ability to make a positive contribution to everything with which she is associated."

After 20 years of a chief executive's schedule, Roslyn Allan is looking forward to fresh challenges that involve fewer hours. Says Willis: "Whether she chooses to lead another organisation to similar success or focus on directorships, we would expect to see the same outstanding results."

The enthusiastic demand for the SIA's courses, domestically and internationally, continues to reflect her dedication and triumphs over the past two decades and leaves a challenging record for her successor. **J**