Diggers, dreamers and Lady Luck

Why punters keep betting on Australian mining stocks

The history of Australian resource stocks shows their returns to have been relatively poor. The behaviour of investors, however, suggests that the prospect of big wins has more power than historical reality. TERRY ORD analyses the mining investor’s gambling instinct.

For most of the time since mining began in earnest in 1851 the average return to resource shares in Australia has been below that of industrials. That fact was most comprehensively established by Ball and Brown in 1979. It has even been shown that the real rate of return to resource investors over the two decades 1970 to 1990 was actually negative at about -1.2% (assuming dividends reinvested). The poor dividend return rates have continued to the present (see Figure 1).

This conclusion is interesting given that risks in the sector are far greater than in the sharemarket as a whole. Indeed, Ball and Brown estimate that in the period from 1964 to 1973 risk was about twice as high (using the value weighted index of monthly returns), and the volatility in mining shares since 1891 has been 24.7% compared with 8% for bonds and 19.5% for the whole market.

Figure 1: Dividends of Australian resource stocks and industrials 1982-95

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The CAPM obviously is in trouble, being based as it is on the positive relationship between risk and return. There has been little attempt to explain this phenomenon of overpriced Australian mining shares. The few writers who have done so have tried to explain it within the CAPM framework. One of the most recent of these has been McDonald (1993).

McDonald points out that Australian resource share prices have been very much in the hands of foreigners. He suggests that with the opening up of international markets in the early 1980s foreign investors regarded their marginal expenditure on Australian resource stocks as part of their internationally diversified portfolio. Moreover, he contends that gold and gold stocks in particular have moved in opposite directions to world markets, providing a negative beta effect when added to a diversified international portfolio. Demand from international investors has thereby kept Australian resource stock prices higher than CAPM would suggest.

There are several problems with this conclusion:
▷ From our 1997 survey it is clear that on average less than 5% of the shareholders in juniors come from overseas, and this represents less than 2% of the issued capital.
▷ It has been clearly shown by Ball and Brown and others that resource investors have been getting a lower return for their higher risk since the beginning of mining in Australia — long before free international capital markets. This is not a phenomenon which began in the 1980s, although it may have had an influence on the market.
▷ Foreign investors do not “dominate” the Australian resource equity market any more than other sectors of the Australian market, although in total they constitute more than 20% of the equity market. Foreign investors (particularly English) certainly played a significant role in providing large-scale capital for the Australian mining industry from as far back as 1851, from the Port Phillip and Colonial Gold Mining Company to the West Australian goldfields development in the later 1890s and early 1900s. However, the finance market in Australia has matured and actively provided funding for the nickel boom of the early 1970s as well as the more general mineral boom since the late 1980s.

It is the contention of this paper that the CAPM will simply not answer the question: Why has the return to mining stock in Australia been so low for so long while the risk has been so high? It would seem that the theory of gambling, or rather “Prospect Theory”, is a much better explanation of the pricing of mining stocks and the subsequent returns.

The conditions and characteristics discussed in prospect theory literature have been essential elements in the Australian mining-share market for more than 100 years. The mining sector entrepreneur and investor seeks to invest in projects which will replicate the great “wins” of the past, producing a very large short-term capital gain from the high-risk investment.

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Certainly the basic CAPM axiom that individuals’ risk profiles can be represented by a single convex utility curve has been discredited by many. The now famous paper by Kahneman and Tversky (1979) gave us all the opportunity to sigh with relief when they provided a replacement for Von Neumann and Morgenstern’s base exposition on utility and decision-making under conditions of uncertainty.

We had religiously and meticulously built our eloquent theories and models of wealth maximisation and rational individual behaviour on the two pillars of expected utility theory (EUT) — ordinal utility theory and revealed preference theory. Unfortunately none of our models appeared to work in any real environment in which they were tested. As Shapira (1986) pointed out: “In general, economists were not interested in the empirical validity of the concept. Rather, they took it as an axiom whose validity was derived from its logical superiority.”

Since 1979 social and economic psychologists have developed more clearly the elements outlined in Kahneman and Tversky’s prospect theory to suggest that individuals, as entrepreneurs:
▷ do not always consider, or are necessarily influenced by, objective probabilities when making investment decisions. In some situations there are no objective probabilities. It is the relativity of the opportunity which is important. In part, at least, that relativity appears to be with other people in the higher socio-economic group.
▷ will be more likely to take risks the lower the entry price to the “gamble”. The low entry price tends to make entrepreneurs risk-takers.
rather than risk-avoiders. Even though it is recognised that the situation may not be "fair" and produces a negative expected outcome, the entrepreneur is prepared to pay the entry price. There is an entertainment value in the gamble and the negative outcome can be regarded as the "load" or entertainment cost.

Those who are more risk-averse, but have a tendency to weight the more likely outcomes of failure, prefer a more even distribution of prizes.

will flock to new investments or gambles whenever the prizes appear to increase. The prospect of a larger prize this will bring forth a larger number of often new gamblers. There is strong evidence to suggest that people are as much concerned with winning the large prize as with the absolute increase in wealth that is a consequence of that win.

are often ignorant of the true nature of the probabilities related to their decision and make biased decisions based on the framing of the problem. Moreover, they do not necessarily want to process all related information, or have the ability to do so. This tends to suggest that investors not only fail to seek all the information, but select it in a way which will result in a biased decision anyway.

Australians were and are prepared to seek mining shares not because of their risk-return trade-off or company fundamentals, but because they are maximising their utility as entrepreneurs and gamblers. In many ways, and for more than 100 years, the market for mining stocks has exhibited every element of a successful lottery —

a very low entry price, and schemes to ensure that remained so;
a few very large wins which are well known and considered repeatable;
a very large number of losses, remembered by only a few;
inadequate but apparently sufficient information for the investor; and
new entries and new schemes for the punters on a continual basis.

THE TWO GREAT GAMBLING SESSIONS

Gambling takes place when change and activity occur, not in periods of stagnation. Australian private investors have always entered the market in volume during times of apparent good trading opportunities in resources.
The two major activity periods over the past 100 years are shown in Figure 2. (The earlier Victorian gold boom of 1851-70 preceded the existence of formal records.) The first crest shown in the figure represents the Peak Downs and Queensland booms of the late nineteenth century, which ended when the price of silver fell from £1,000 a tonne in 1884 to about £570 in 1894. The second was the WA nickel boom of the late 1960s and early 1970s. Both provide ideal examples of the characteristics identified above. Between these two peaks of feverish activity, events occurred which should have created frantic dealing but in fact hardly stirred the market.

SMALL ENTRY PRICE, BIG PROMISES

Nineteenth century
From the 1850s thousands of speculators and gamblers purchased shares from door-to-door salesmen who offered scrip (mainly £1 to £5 par value shares) for an easy down-payment of typically one or two shillings with further payments to be made in the future.

The tendency to pay dividends on each gold shipment meant that some companies were paying money to their adventurous investors every couple of weeks. This prospect of a rapid return helped to account for the much of the nightly gambling in mining shares which took place in many Victorian and South Australian towns. During the day the miner gambled on each rock as he sweated in anticipation of the gold it contained, and after work he made haste to the local ale-house to buy or sell mining shares on the rumour of the day.

It was not only the rich entrepreneurs of Melbourne who gambled on gold shares. “Goldmine share scrip was displayed in picture frames in thousands of homes as proud evidence of ‘interests’ in the most prestigious industry of the times” (Reynolds 1974).

More important, the “Fishburn effect” was well known even in the 1870s. The Victorian government recognised the reluctance of Melbourne’s rich to invest in high-risk mining stock because they were liable to lose their total wealth, and so introduced the no-liability company in 1871 — a unique entity designed to encourage speculation without threat of ruin.

Twentieth century
The tendency to issue partially-paid shares as a means of keeping down the entry price had diminished considerably and was replaced with small-denomination shares (20 or 25 cents) sold in tight capital environments.

Unlike oil shares, base-metal shares were relatively few, with tight capitalisation, at the beginning of the nickel boom. This can be seen from Table 1, which includes some of the greatest speculator shares of all time.

The twentieth century added a new cheap vehicle for the punters - the option. This often went hand-in-hand with new issues. The options, often selling on the market place at one to five cents, attracted the small and the ignorant punter, as well as the professional speculator.

But in spite of the tightness of the capital, thousands of ordinary individuals became speculators and brokers were pressing to introduce minimum dollar deals to put off the small investor. Sykes (1995) noted that by the end of 1969, with the Poseidon share boom well under way, “The man in the street had now become involved in the boom and brokers suddenly found themselves swamped by thousands of new customers, most of whom had only the vaguest idea of how the market worked.”

BIGGER PRIZES, NEW HORSES TO BACK
Prospect theory suggests that new players enter the market whenever the prizes appear large, and that has certainly been true in the two gambling
periods in Australia.

**Nineteenth century**

Within 12 months in 1871, 1,207 new mining companies started up in Victoria. In a one-month period, 16 new floats took place, each of them oversubscribed. The Victorian government insisted that the occupations of all shareholders be declared in the share registers of companies, showing that the butcher, baker, candlestick maker and every other walk of life sought wins from buying gold stocks.

From day one, the stories of massive success abounded, even though distortion of the truth was everywhere designed to encourage the punter to part with his/her money.

Many of the companies listed had the same name — some because they were working the same reef and in some cases because they wanted investors to believe they were working the same reef.

**Twentieth century**

Any existing company which appeared to be physically near to the Poseidon tenements at Windarra, such as Omega Oil and Newmetal Mines NL, automatically drew attention. Then, to find new “horses” in a sparse field, interest turned to other minerals.

Al Consolidated shares almost doubled in one day when it found “something radioactive” in its tin lode at Glen Esk. Queensland Mines Ltd, operating 3,000 miles away, found its shares rising from $10.80 to $15 on a statement announcing a possible uranium find in central Queensland. Westmoreland Mines, which owned tenements next to Queensland Mines, found its shares rising from 33 to 90 cents on the same day.

Finally, the gamblers turned to the totally new “horses” and by November 1969, 40 new floats were in the pipeline on the Perth stock exchange alone. Over the 36 months of this great boom 241 company floats took place. Their initial capital totalled $476 million, and given that about $62 million of this was vendor shares, $414 million in cash was raised by the companies.

**THE BIG PAYOFF**

Gamblers need the stories of big wins. In both periods Australian mining provided plenty to choose from and the payoffs could be extraordinarily large and quick.

**Nineteenth century**

In March of 1887, BHP shares each had a nominal value of £19. On the back of the silver boom the shares rose to £413 in 1888 after the Melbourne-based company began full-scale smelting from its lead-silver deposits. In less than 12 months the astute investor who had purchased BHP shares in March 1887 made a capital return of more than 1,777%.

**Twentieth century**

The Laverton area of WA was the scene of the start of the Poseidon nickel boom, fuelled by the Canadian nickel strike and the already successful Kambalda project.

Regardless of the validity of the discovery information or the finance fundamentals of the company, the price of Poseidon shares rose from about $1 in early September 1969 to $280 on 5 February 1970 before quickly receding to zero by July 1976. It is interesting to note that, 27 years later, Bre-X shares reached the same price before crashing to 6 cents.

**THE MANY UNKNOWN FAILURES**

**Nineteenth century**

The failures were usually ignored and quickly forgotten. Between 1870 and 1871 some 1,203 new mining companies were formed on the back of

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the Victorian boom. Of these, a mere 70 or so were in existence by the end of the 1880s. Adamson (1989) noted: “Of 700 Australian companies floated on the City of London exchange between 1890 and 1896 only 140 remained alive by 1902.”

Twentieth century

The 241 companies which floated in the 36 months of the nickel boom raised $414 million. The companies which raised $338 million of that total never paid a cent in dividend. Some of them lasted only months, such as Kimberley Mineral Holdings Ltd, which managed by 1978 some 106 of the 241 had vanished from the market, being either delisted, liquidated or merged. Several more had changed their names and no more than 40 ever paid a dividend. Some of the companies which are still listed today have never paid a single cent to their investors.

THE IGNORANT GAMBLER (INVESTOR)

Prospect theory is keen to suggest that the entrepreneur or investor is not only ignorant of the objective probabilities of success — where they exist — but is also ignorant of the technicalities which would influence those probabilities.

This ignorance has changed little over the years, at least in terms of the individual investor, who is as susceptible to rumour and misinformation as he or she ever was.

Nineteenth century

In many cases prospectuses inviting the public to invest were either non-existent or, at best, consisted of useless or misleading information.

An excellent example is provided by Bayley’s West Gold Mining Co Ltd, which sought to issue 35,000 shares on the London market. The prospectus contained virtually no information for any investor but claimed their money on two main counts only:

- the property on which they had claim “immediately adjoins” that of the celebrated Bayley’s Reward Gold Mining Co.; and
- the late manager of that company is rumoured to have stated that he believed the reef on the adjacent Reward property continued right through the block held by West.

Twentieth century

The stock exchanges in Australia tried to improve the information provided in prospectuses so that by 1969 they did in fact include information on the directors and capital, as well as intent of the company.

Nevertheless, gamblers prefer rumours to the historical data and careful pronouncements of company officials. So when one English newspaper reporter declared to his readers that Poseidon had “the most valuable hole in the world”, the price leapt from $120 to $200. No new information had been provided. So susceptible to rumour was the market that a typographical error by Reuters saw the price increase by £50 in a day.

Every boom period in Australia has had its examples of trickery and fraud by company directors, managers, geologists and investors. Yet the investor comes back for more, each time believing himself to be more sophisticated and in control, prepared to gamble with limited real information. Another Bre-X awaits the punters.

CONCLUSION

Expected utility theory may well survive for some time, since many economists would argue it has provided a good descriptive theory of decision-making processes in aggregate, even though it may not apply well to individual situations.

This paper would suggest that CAPM, which so depends on EUT principles, cannot be and never has been applicable in either a normative or descriptive way to a major section of the Australian sharemarket. This is just another nail in the coffin of the trusty CAPM.

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