THE EFFICIENT MARKET CONCEPT

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(This article draws heavily on material presented to the recent A.A.S.A. Portfolio Management Seminar at Macquarie University, and in particular acknowledgement is made to Dr. R. Officer and Professors R. Ball and P. Brown for the lucid exposition of the efficient market hypothesis in their addresses.)

Extending and maybe manipulating the logic of the efficient market theory could lead one to conclude that we are all, us analysts, redundant. We know this to be untrue, of course, but readers should perhaps take care to ensure that this document does not fall into the hands of their employers. Remember the old ASIO maxim: "Don't tell anyone anything until you're forced to".

Before going on to discuss whether or not stock markets are in fact efficient, it may be as well to define what is meant by an efficient market. We are all aware that the theoretical role of the stock market in a free?)-enterprise economy is to help allocate the scarce resource of capital in the most economically desirable way - desirable in this context implying that which will produce the greatest flow of future returns. From here it is not a long step to see that an efficient stock market is one that rapidly and accurately incorporates into the prices of shares all currently available information which affects the expectation of future returns.

In an efficient market share prices will on average be 'right', i.e. neither over nor undervalued relative to the expectation of future returns at any point in time. It is not suggested for one moment that share prices correctly forecast the actual flow of future returns. New information is constantly coming forward to affect expectations and hence share prices.

It will be noted that no mention is made of the notion of a perfect market. Whilst a perfect market would be perfectly efficient by definition, a market need in fact be very far from perfect for it to be acceptably efficient. The theory runs that in the event of a piece of 'news' significant enough to affect future returns and hence price, becoming publicly available about a stock, only a small number of the potential traders in that stock need know the news; further there need be no actual transactions in that stock for the price to reflect the changed circumstances.

To explain: supposing fictional company Earwigs Limited announced a sharp and unanticipated rise in profits and dividend, (an event that can be presumed to be 'good' news) and the announcement was hidden away on page 37 of the Financial Review, but ignored by all the other papers. If we assume that those persons who, through their brokers, were up on the boards as buyer and seller the previous night, were both avid readers of the F. R. and duly spotted the announcement, then it is likely that the seller would either decide not to sell, or would raise his asking price, while the buyer would be encouraged by the news to raise his bid. The phenomenon of the price altering without transactions taking place is probably even more obvious where there is a formal jobbing system.
If only one party to the transaction was a F.R. reader, say the buyer, and the seller an 'Australian' fan, the buyer would in theory rapidly take-out the seller, and if he required more stock, should be prepared to raise his bid to bring in other sellers. In practice of course these simplified bi-lateral arrangements are not at all realistic, and are used merely to illustrate the point. (In passing it may be noted that in theory market efficiency would be improved if shorting were allowed).

The efficient market theorists then go on to say that if the market is indeed efficient and prices at any moment do indeed impound all public information then it is impossible for anyone using only such publicly available information to make, on a long term and consistent basis, returns better than 'normal' returns. (Beta followers will recognise, of course, that it is possible to make returns better than average market returns, but only by accepting a higher element of risk. 'Normal' returns do not therefore necessarily equate with average returns). *

Two forms of public information are identified. The first is the historical price or price series of the stock. Efficiency in incorporating information relating to this is known as the 'weak' form of the efficient market theory. The second is published information such as profits, dividends, takeover offers, balance sheets, chairman's addresses, and so on. Efficiency in impounding this type of information is referred to as the 'semi-strong' form of the theory.

So far, however, this discussion has concerned itself solely with publicly available information. The efficient market concept is also concerned with non-public information and argues that to some extent even such non-public information is in fact incorporated into stock prices. (The 'strong' form of the theory). I hesitate to use the word insider information because it carries overtones of shady practice in high places, and I think Dr Officer's expression 'monopoly information' fits the bill most neatly because it immediately carries with it implications of monopoly - e.g. above normal-profits.

Monopoly information includes, of course, information that is available to genuine insiders - a company's directors, auditors, perhaps bankers or merchant bankers and so on - but the term can be used to include two other types of information:

1) Information available to those that I would term accidental insiders. This could include a company's suppliers, distributors or subcontractors, all of whom may by observation be in a position to know that the company is doing well, badly or whatever. This group also includes those who come by information from one of the almost infinite opportunities for accidental security leakages, from the classic indiscreet word to a mistress to the equally classic conversation overheard in a pub.

2) Monopoly information also includes information which may theoretically be public, but which by its nature is time-consuming, expensive, or requires special skills to obtain. I might cite by way of example, the accounts of subsidiaries locked away in Companies' Offices in New Guinea or Edinburgh (even Melbourne's hard enough if you're in Sydney) or perhaps special knowledge of engineering or chemistry in assessing the impact of a newly developed product on the future of a company.

* Professor Brown has calculated that the average rate of annual return on 543 Australian industrial shares in the period February 1958 to December 1970 was 12.6%. p.a.
How efficient is the stock market then? The answer seems to lie in the degree of publicity enjoyed by the information that needs to be assimilated. Professor Ball argues that the most public of the information that is available is the past price history of the stock (the 'weak' form) and he argues that if the market is indeed efficient then it is logically impossible to make supra-normal profits out of this information. This of course runs directly counter to the whole theory of technical analysis. I'm not sure that I can add too much to this debate: my personal attitude towards charts is much the same as my attitude towards ghosts, ESP and Ouija boards. I think I've seen them operating, but my logical and Virgoan mind won't really allow me to be a true believer. Professor Ball goes on to support his argument with a number of empiric tests. These are not exhaustive and more work probably needs to be done but they do serve to severely batter if not demolish the components of technical analysis that are tested. In particular the filter or Mr Hatch approach, which is central to traditional Dow Theory, is shown statistically to be unsound. Likewise runs tests and serial correlation tests (statistical tests no doubt elementary to the trained statistician but somewhat mind boggling to this unnumerate scribe) are used to test the validity of technical analysis theory, and this doesn't hold up at all well either.

Possibly the best empiric test of chart theory is to ask all those chartists who have consistently over a long period (say 20 years) significantly exceeded normal, adjusted for risk, market returns, to raise their right hands. Congratulations, by now you must all be exceedingly rich!

The semi-strong form of the theory says, as I have outlined, that information of the company announcement type is impounded into prices more or less straight away depending probably on how large and freely traded the stock concerned is. There are considerable statistical difficulties involved in measuring the reaction of share prices to news because news is good or bad depending on expectations, not on historical data. Thus if Earwigs Ltd. profit is up by 10% but the market is expecting 20%, that's bad news, but if profits are up by 10% when the market was expecting a 10% fall, that's obviously good news. The difficulty arises because you don't know in retrospect what the market was expecting.

Nevertheless it is estimated from U.S. and local experience that news of this type is incorporated into the price on average within about a quarter of an hour - in the case of a BHP or a Myers it might only be a few minutes. More complex news such as an annual report presumably takes somewhat longer, but will still be sufficiently quick to prevent monopoly returns being earned.

The 'strong' form of the theory is essentially more complicated, partly because U.S. experience cannot be validly compared to that in Australia because of differences in disclosure requirements. As a general statement however it is clear that on average some monopoly information is incorporated in share prices. Professor Ball produced some graphs which, to simplify, suggested that share prices on average did tend to rise in the months preceding a 'good' half-yearly or yearly profit report, but the greatest component of the rise tended to be in 'month zero' suggesting that on average the market was taken by surprise by profit announcements. The same applied to 'bad' reports, although there was some suggestion that bad news leaked rather more than good.
Similarly Professor Brown presented evidence based on U.S. data that dividend increases or decreases were partly anticipated by the market but not entirely. (U.S. companies don't necessarily announce their dividends at the same moment as their profit figures, but in Australia profits and dividends are inextricably entwined).

We can all think of plenty of cases where profit announcements or other price sensitive information has been fully discounted by the market when the news breaks, but there are equally numerous occasions when the market is taken by surprise. The 'strong' form of the efficient market hypothesis must on the evidence be regarded as at least partially invalid.

What is the significance of all of this for security analysts?

If one believes the theory - and it has gained considerable credence in the U.S. so we are led to understand - then the first implication from the 'weak' form is that those among us who earnestly practice or who dabble in charting, are wasting their time. They may make profits, but statistically they might do just as well with that old standby, the randomly directed pin. From the semi-strong form, we would have to conclude that time spent poring over balance sheets, doing instant analyses of company reports, or gazing at Statex's ranking and selector runs isn't going to earn us supra-normal profits either. (Although I seem to remember a story about Lord Keynes earning a vast fortune for his college on the basis of no more serious research than a half-hour study of his newspaper in bed each morning. Perhaps on reflection these were monopoly profits because he might legitimately be construed to have had 'special skills' relative to his contemporaries).

The conclusion from the 'strong' form, or more accurately the conclusion from the fact that the strong form is not wholly valid, is that the possession of monopoly information can lead to monopoly profits. This still poses some problems for the analyst. The first is that having gained possession of some information by say the 'special skills' route, it is difficult for him to know if it is in fact monopoly information. Secondly he runs into immediate ethical, not to say legal, problems if he becomes party to some genuine insider information. Nevertheless the conclusion must be that analysts would be most profitably employed if they were to spend their time trying to extract monopoly information.

At this point however I should like to wind up for the defence. It occurs to me that one of the reasons why markets may be efficient is not despite the analysts, but because of them. If for example there were no chartists, and the information was not thus disseminated to the market makers, then surely the market would not be efficiently impounding such information into prices? Likewise it there were no analysts calculating abstruse ratios, then the significance of those ratios for the future flow of returns from the company concerned might not be properly incorporated.

If this is valid, then the logical extension is that the better we do our research, our company visits, our earnings forecasts, our charts, even our campaigning for fuller disclosure, the more efficient the market will become, and the better will it perform its function.