Apart from the philosophy that dog should not eat dog, I feel public criticism of another’s work normally serves no useful purpose. However, several points were raised in the article “The Effect of Taxation on the Valuation of Options” (Jassa No. 2 1977) which I feel need comment. In general, recognising that Dr. Noti is an academic engaged in research, I was sorry to see him confusing that function with practical advice of a quite impractical nature. I was also disappointed to read such an elementary and in parts simplistic explanation of the Black and Scholes model — there being a number of unsettled questions in the model such as the shape of the distribution function which distorts the “fair value” of certain options; the projection of historical share volatility into the future; dividend adjustments; conceptual problems of a priori models versus empirical models etc. A discussion of these points would have been far more useful than an examination of tax and options — this topic being one of quite amazing confusion. Indeed Gastineau, Bird and Henfrey, Samuelson, Black and many others have contributed a great deal to the literature in the aforementioned points and it would have been useful to see an adaptation of their comments applied to Australia. Also, it is worth noting the large number of empirical models which have sprung up over the last few years in order to compensate for the inadequacies of the original Black and Scholes model; it is thus disturbing to see conclusions of the sort drawn by Dr. Noti founded on a suspect base.

The Paper — Its Structure

It was very difficult to comment in a logical point-by-point fashion on the article as a large array of not fully developed subjects was covered in such a short paper. It was hard therefore to know whether some of the ideas mentioned were understood by the author, or were mentioned glibly in passing. For instance, he launches boldly into the unqualified opinion that investors have been neglecting “the variability of return” while using “return on investment” criteria for investment decisions. Such an imprecise allegation immediately costs the author his credibility for although investors might not perhaps make an effort to assign a numerical quantity to risk (this is an extremely difficult and subjective task), there is always a strong intuitive understanding present. One suspects therefore that this rather baffling statement was made merely to introduce the Black and Scholes model into the body of the paper, and to be an introduction to the control of risk concept involving the hedge ratio! The author then continues with a number of simple explanations of the model which although accurate are quite frankly nugatory. Such comments would have been interesting and most appropriate four years ago when the model was first developed. And finally the reader gets to the guts of the paper and finds no discussion of tax problems such as the nature of the business activity of buyers/sellers and the reasons for investing in the options; carrying on a business of investing versus speculating; purchasing options so as to obtain the shares at a later date; etc. The possible reasons for investing in options are numerous. Thus, what is important is, for instance, whether tax on unrealised losses can be deducted, and whether tax on unrealised profits can be deferred to a later year; under what circumstances will premiums and income from exercise be classed as a capital receipt not subject to tax; when will capital receipts generate into an income stream for tax purposes; when a speculator has a spread which straddles 2 years will the premium received from the short leg be taxed in the first year (recognising in a cash covered situation he does not receive the premium until the position is closed); one could go on for pages! Such questions require answers to a number of further questions such as the number and consistency of transactions, the amounts involved and an indication of any related activities of the investor. Indeed it is true to say that many investors when considering options are uncertain both of their tax
status and their marginal rate of tax. It was disappointing therefore to see that the author appears, by default, to assume these problems have been resolved. And then the reader is presented with less than a page of mathematics with no intuitive explanation (this is the one area where a simple commentary, like the rest of the paper, would have been of assistance).

A Few Specific Inadequacies

a) Fair Value — the author states that based on the “fair value” of the option, the investor can see whether an option is over or undervalued and “can decide whether he should sell or buy that option in order to improve his investment performance.” Such a statement is not only totally impractical, but it is irresponsible if not placed within the framework of systematic risk. Although the hedge ratio theoretically indicates a method of removing this category of risk, in practice (as the author points out later in the paper) charges and managerial time make this concept of academic interest only. Thus while recognising that the model is based on the supposition that the market is efficient, most practitioners must make an effort to predict the volatility of the stock to obtain an indication of the magnitude of future movement. If this future movement should be down then buying an undervalued option will still, in the short term, result in losses.

b) Common stock variance rate of return — The author correctly points out that it is reasonable “to attach more importance to more recent values of the volatilities”. But he fails to address himself to the real problem; the problem of future volatility. Any competent analyst must make a serious effort to make a “future estimate” and then adapt the historical volatility figures accordingly.

c) Portfolio effects — the author states that “it is no longer necessary for a portfolio manager to reduce market risk by selling the high volatility stocks from his portfolio” but “to simply write options against the high volatility stocks he holds”. Such advice can only be given after recognising that after dividend and tax considerations, it is often better to sell the stock than to write options against them. A written call option can only give downside protection to the extent of the premium received, and although switching further out or to a lower exercise price to follow the shares down is a legitimate strategy to defend against declining stock values, the investor will, in almost all cases, be a net loser where a large fall in the share price occurs.

d) The results — due to the short time involved, the model is fairly insensitive to changes in the interest rate. Putting the model on an after tax basis by this method therefore merely reveals this insensitivity and the results in Table 1 appear to be trivial. Thus, the options’ value for various tax rates in many instances differed by only a few tenths of one cent. Also, that the author should seriously ask investors to finesse to this level while purchasing/selling options was a little surprising. Indeed it is almost breathtaking to see such innocence of the problems of getting set in what is an extremely difficult market due to its thinness.

Finally

There has to my knowledge, been no major work published on tax and options. This is a little surprising if one recognises American and British enthusiasm to publish (not forgetting Ph.D. hopefuls looking for thesis ideas!); perhaps therefore this subject is more complex than Dr. Noti realises.