

STOCK OPTION UNDERWRITING

By "Anon"

Background

A stock option underwriter confers to the purchaser a right to buy or sell a specified number of shares at a specified price at any time during a specified period. The amount the option purchaser pays the underwriter for the option is the option premium. The price at which the shares may be bought or sold is the exercise price.

Types of Options

There are four types of options, namely:

1. Call options - an option to purchase shares at a specified price at any time during a specified period.
2. Put options - an option to sell shares at a specified price at any time during a specified period.
3. Double option - an option to either buy or sell shares at a specified price at any time during a specified period.
4. Straddle option - an option to both buy and sell shares at a certain price at any time during a specified period.

Call options for periods of one, two, three or six months generally account for in excess of 90% of each days option transactions. The remainder are principally one and three month doubles. Typical premiums for each of these options on speculative shares expressed as a percentage of the exercise price are:

One month call option	15%
Two month call option	20%
Three month call option	25%
Six month call option	33%
One month double option	25%
Three month double option	33%

For better quality stock the premiums are somewhat lower.

Underwriting a Three Month Call Option

The most common option is a three month call option. For this reason the various approaches to such an underwriting proposition are considered:

1. Underwriting with 100% Cover

The terminology is used to denote the fact that the option underwriter is holding the shares which are the subject of the option. If the option is exercised the underwriters profit is the option premium (25% of the exercise price) less the costs incurred buying and selling the shares subject to the option (approximately 5% of the exercise price) i.e., his profit is approximately 20% of the exercise price. If the option is not exercised (i.e., the market price of the shares underwritten is not greater than 105% of the exercise price when the purchaser wishes to exercise) the underwriter's profit is jeopardised since he suffers the loss incurred due to the fall in market price of the shares held. The profitability curve is illustrated in Diagram 1. It shows clearly that in the event of a substantial market downturn the underwriter is vulnerable to heavy losses whereas in the event of a substantial upturn in market price his profit is limited to 20% of the exercise price.

Consequently a strategy must be developed to protect the underwriter from this potentially large loss. The only way this can be done is by deciding that if the market price of the shares underwritten falls 20% the cover is sold. The underwriter is then protected from any further losses which would be incurred if the stock price was to fall further. However, if the market price was to recover to 105% of the exercise price, i.e. a rise of 31%, the underwriter is again vulnerable since the option will now be exercised against him. His potential losses are shown in Diagram 2.

It has become apparent that the danger to the underwriter is a stock's volatility. In the preceding case a 20% fall in stock price followed by a 31% rise placed the underwriter in a difficult situation. Consequently, it is concluded that underwriting call options from a covered position should be restricted to stocks whose share price during the course of the option will:

- (a) probably rise by more than 5%;
- (b) not fall by more than 20% if it does not rise.

2. Underwriting from a Short Position

The term "short position" is used to denote the fact that the shares the subject of the option are not held by the underwriter. The profitability of underwriting from a short position is shown in Diagram 3. Basically this is the mirror image of the covered situation. If the stock falls the underwriter profits to the extent of the option premium but if the stock rises significantly the underwriter's losses can be substantial. Once again volatility of the stock market price is the danger. It is therefore concluded that underwriting options from a short position should be restricted to stocks whose market price during the course of the option will:

- (a) probably not rise by more than 5%;
- (b) not rise by more than 20% if it does rise more than 5%.

3. Underwriting from a 50% Covered Position

By covering the option 50% the underwriter is compromising between the covered and the short position. The profitability of this strategy is shown in Diagram 4. The fluctuations in stock price in either direction which can be profitably accommodated is increased substantially but at the same time the likely profitability is reduced. If on the upward side the cover is increased to 100% at the breakeven point, a 40% rise, the stock must fall 29% before the underwriter is again at risk. On the downward side if the underwriter goes short at his breakeven point, a 45% fall, the stock must rise by 91% to put the underwriter at risk. The underwriter is still endangered by large percentage oscillations about the exercise price, but the placing of a minimum value of say \$1.00 on the exercise price of stocks underwritten reduces this risk since the oscillations in price must now be large in actual monetary terms. With this minimum exercise price call options on any stock can be underwritten with a reasonable degree of confidence.

Call Options of Different Durations Compared

The shorter the term of the options underwritten the greater the potential annual earning rate on funds employed. As a compensating effect however, the shorter the term of the option, the lower the percentage premium and consequently the lower the percentage fluctuation in share price which has to occur for the underwriter to be in a loss situation. To the writer the best balance is achieved with two and three month terms. The premium for a one month call is only 15% and is considered not to offer enough cover. At the other end of the scale six months seems too long a period to commit oneself for.

Underwriting Double Options

In Diagram 5 the profitability of underwriting a double option is compared to that of underwriting a call option from a 50% covered position. Except when the share price is in the range between 88% and 117% of the exercise price, the call option is more profitable than the double option to underwrite. Consequently, it would seem pointless to underwrite double options when there are call option underwriting propositions available.

Underwriting Approach

No matter what precautions are taken the underwriter is still vulnerable to sudden movements of a large magnitude in the market price of any stock underwritten. The only action the underwriter can take to protect himself here is to spread his risks. It is suggested that the commitment on any particular stock should be limited to 10% of the underwriter's total commitment.

An underwriter's commitment to a stock is also limited by the market turnover in that stock since his strategy requires him to buy or sell stocks according to the movement in the stock's market price. A particular stock's turnover may vary greatly from month to month so it is suggested that underwriting be restricted to stocks which have a record of being well traded.

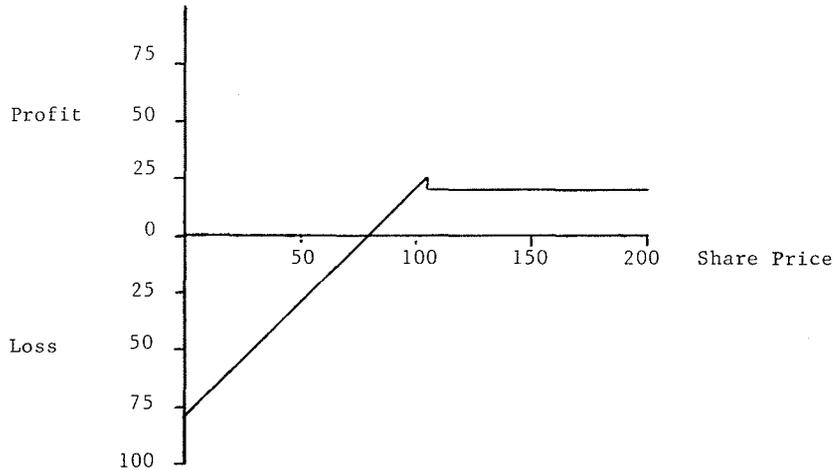


Diagram 1 - Profitability of underwriting a Three Month Call Option with 100% Cover

Note: All figures shown on all diagrams are percentages of the option exercise price.

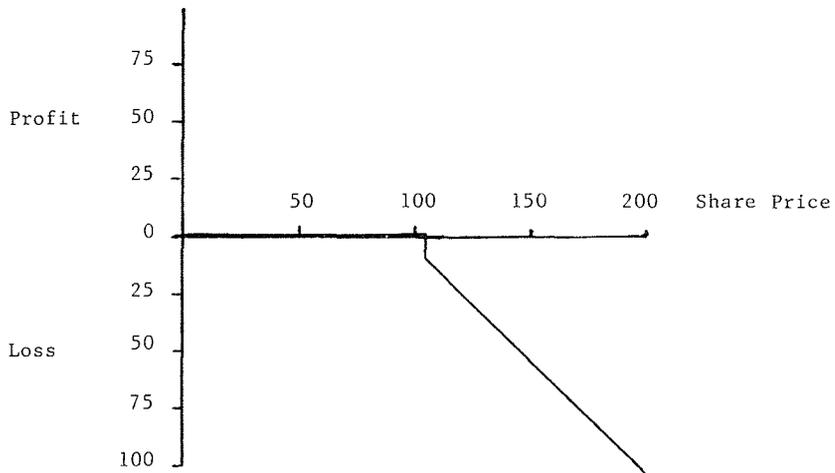


Diagram 2

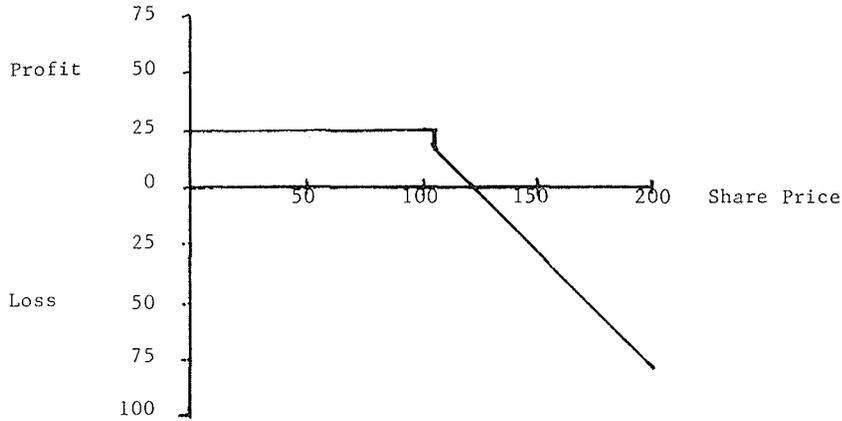


Diagram 3 - Profitability of Underwriting a Three Month Call Option from a Short Position

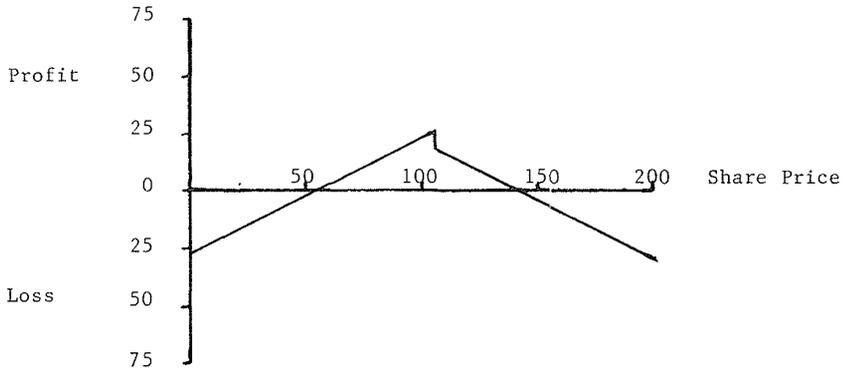


Diagram 4 - Profitability of Underwriting a Three Month Call Option from a 50% Covered Position

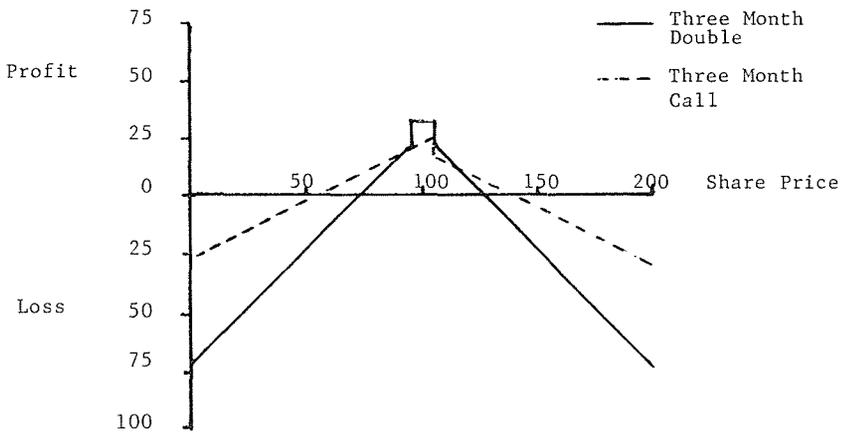


Diagram 5 - Comparison of the Profitability of Underwriting a Three Month Double and a Three Month Call with 50% Cover