

# Double Options in Mining and Oil

## (I) Introduction

Stock options are futures to buy or sell shares at a specified price on or before a specific date—usually one, three or six months hence. Four types of options are traded in Australia.

(1) Puts or options to sell which give the holder, for the payment of a premium per share, the right to sell a specified quantity of shares in a listed public company, at the current price, to the writer of the contract on or before a specified date.

(2) Calls or options to buy giving the holder, for the payment of a premium per share, the right to buy a specified quantity of shares in a listed public company, at the current price, from the writer of the contract on or before a specified date.

(3) Double options which, for a premium per share, give the holder the right to exercise either a put or a call on a specified quantity of shares on or before a specified date.

and (4) Straddle options which give the holder, for the payment of a premium per share, the right to exercise both a call option and a put option on a specified quantity of shares on or before a specified date.

For example, on 21st July, 1967, a six month call option was purchased on 600 B.H.P. shares. The exercise price was \$10 and the premium was \$1.05 per share. That is, for the payment, at the time of the taking out of the option, of \$1.05 per share the purchaser of the call option buys the right to buy 600 B.H.P. shares at the contract price of \$10 each at any time during the next six months. On the 18th December, 1967, the holder of the call option could have exercised this option and purchased the 600 B.H.P. shares at \$10 each plus brokerage and stamp duty. He could

By

**C. R. WESTON,**  
**B.Com. (Melb.),**

**Faculty of Economics,**  
**Monash University.**

then have sold them immediately on the Stock Exchange at the market price of \$15.10 a share, making \$5.10 a share profit, less brokerage, stamp duty and the option premium.

If the purchaser of the option had purchased instead the 600 B.H.P. shares at \$10 each (plus brokerage and stamp duty), it would have cost him in excess of \$6,120. By taking out the six month call option for \$1.05 per share, the option cost totals \$630 for the 600 shares. In six months the price of B.H.P. rose to \$15.10. Had our speculator originally purchased the shares his profit would have been of the order of 50% after allowing for brokerage and stamp duty. Having purchased the option and exercised it the profit is about 500% of the funds outlaid. Option trading thus represents a highly leveraged means of trading in shares. Had the price dropped to \$5 our speculator, if he had purchased the shares outright, has a paper loss of \$3000 approximately. If, on the other hand, he had taken out the call option instead of directly purchasing the shares, his loss is limited to \$630, the cost of the option. A speculator who had taken out a double option could have exercised the put option part of it if the price had dropped to \$5, or the call part of it if the price rose (as it did) to \$15.10. If a straddle option had been taken out and over the six months' term of the option the price of the shares had fallen to \$5 and then risen to \$15.10 the speculator could have exercised the put option when the

price dropped and then the call option when the price rose.

Since 1966 when the Stock Exchange opened Option Trading Posts, there have been two ways by which options may be purchased in Australia.

(1) Through Stock Exchange channels, options, endorsed by members of the Stock Exchange are obtainable at the suppliers' (i.e., writers) price, plus pre-payment of half the brokerage normally payable on exercise if the option becomes profitable. These options must be exercised through the nominated Broker if profitable, and commission paid to that Broker.

(2) Through Member Companies of the Option Brokers' Association Ltd., options are obtainable without any brokerage having to be paid to exercise the option, either at the time of exercise or in advance. If a holder decided to exercise a call option he may either accept the share scrip itself or arrange for payment of the net profit on the transaction.

For example, a three month call option on a share selling at approximately \$2.60 could cost 18 cents a share. Under method (1) in order to exercise the option and take the profit, approximately 10 cents brokerage must be paid, part of it in advance and in addition to the cost of the option whether the option is exercised or not.

Under method (2) the net cost of taking a profit through the option is 18 cents a share. The options supplied under method (2) are either warranted by a Life Assurance Company, a Trustee Company or a Bank, or guaranteed as to performance by the lodgement of scrip and transfers, or the deposit of adequate funds, by the supplier of the option.

My analysis is concerned with

double options traded on mining and oil shares during the period 1963 to 1967 inclusive.

1963 was a rising year for the mining market, but the oil market fell overall. The latter market boomed in the third quarter of 1964 but ended the year at about the same level as it closed in 1963. The mining market continued to rise in 1964. However, it received a set-back in its rise during 1965 and the oil market declined to lower levels than in the previous three years. In the first quarter of 1966 the oil market hit its lowest level but regained almost its 1964-5 level by the end of 1966. The mining market experienced a strong revival in 1966. Between September 30th, 1966, and September 30th, 1967, the Melbourne Non-Ferrous Metals Index rose by 71.8%. The oil market experienced a strong rise in 1967.

This period, then, covers all periods of a market cycle for both the mining and oil markets.

### (II) Data

The options used in the following analysis are:—

(1) For 1963-65 the options traded by Stock Options of Australia and Montgomery Hughes Ltd., in Melbourne and Sydney, all published in the Australian "Financial Review". For the first half of 1963 only the prices, premiums, types and term of options were available. Thereafter the quantity of shares to which options related were published.

(2) For 1966-67 in addition to the options, as above, published in the "Financial Review", and in the "Australian", options traded on the Sydney and Melbourne Stock Exchange as listed in both these papers.

(3) For 1966-67 the list of options included a list of shares on which options were being sought. These are included as being indicative of traders' intentions to trade in options on particular shares even though no option was actually traded because no writer was available.

It is not thought that every single option traded over the period is included in my analysis but rather that a sample of options is analysed, large enough to enable conclusions to be drawn which can refer to the performance of double options in general over the period, 1963-67.

### (III) Double Options 1963-67

Double options, as stated above, offer the holder the choice of exer-

Year	No. of Companies	No. of Options	of which Profitable (1)	Unprofitable	% Profitable
1963	15	38	29	9	76.3
1964	28	105	95	10	90.4
1965	30	186	175	11	94.4
1966	24	74	69	5	93.2
1967	33	166	162	4	97.5
Total		569	530	39	93.10

(1) "Profitable" = a sufficient change in price to cover the option premium.

cising either a put or a call option on a specified quantity of shares at the current price on or before a pre-determined date.

Premiums on double options have been more expensive than those on puts, calls or straddles over the period I am considering. Double option premiums have been as high as 50% of the market price of the shares concerned, e.g., a six month double traded on the 13th June, 1967, on 2000 Transoil shares at a contract price of 8 cents had a premium of 4 cents a share; and a considerable proportion of double options have needed to predict a movement of at least 15% of the

for the period 1963 to 1967 inclusive, 530 succeeded in predicting a sufficient price movement in the shares concerned to cover at least the option premium. The 39 unsuccessful double options are considered in detail below.

Woodside contributing shares were the only shares on which double options were traded for every year from 1963 to 1967. Un-

til 1967 it was not possible to include options traded on Magellan Petroleum shares or on Consolidated Gold Mining Areas partly paid shares in my analysis because of the lack of price data available from the Stock Exchange of Melbourne's **Official Record** and the Sydney Stock Exchange **Gazette**.

### 1963

Of the 38 double options traded on shares in 10 oil and 5 mining companies, 13 were successful as puts and 16 as calls in predicting a sufficient price movement in the shares concerned to cover at least the option premium. The following double options were unsuccessful:—

Week Ending	Term	Company (1)	Contract Price	Option Premium
20/2	1 month	A.A. Oil	21/9	3/8
	1 month	A.A. Oil	22/9	3/9
	1 month	Planet Oil	4/-	1/5
	1 month	Santos	9/6	1/11½
	3 months	Associated Freney	7/-	2/-
	3 months	Woodside	4/2	1/3½
3/4	3 months	A.O.G.	46/6	7/-
8/5	3 months	B.H. South	14/1	1/7
22/5	6 months	Woodside	4/10	1/5½

(1) No details regarding the number of shares concerned in options were available until August 1963.

contract price in order to cover the cost of the option premium.

In the light of the considerable price movements necessary to cover option premiums, a surprisingly high number of double options succeeded as either puts or calls. Of the 569 double options analyzed

The one month options on A.A. Oil would have been successful as puts had they been for three months and the Santos option would also have succeeded as a put but only if it had been a six month option. The one month option on Planet Oil could not have succeeded as a put

or a call even as a six month option.

As a six month option the double on Associated Freney would have been successful as a put, and the double on Woodside traded in February would have succeeded as a call over six months.

The three month A.O.G. option and the six month Woodside option would not have succeeded in either direction during 1963. However, the three month double traded in May on B.H. South would have succeeded as a call had it been a six month double.

A.A. Oil had 5 doubles traded on its shares during 1963. Apart from the two already considered above, two 3 month doubles traded at the end of January and the beginning of February succeeded as puts when the price of these shares tumbled to 16/- in April and 13/- in May, and an option in September at 30/- with a 5/10 premium also succeeded as a put.

During 1964, 105 double options on shares in 10 oil and 18 mining companies were traded. 66 doubles were traded on shares in the 10 oil companies and the remaining 39 doubles were traded on shares in the 18 mining companies.

More than half of the successful doubles traded for the year (55 out of 95) predicted a sufficient decline in the market price of the relevant shares to profit as puts. Most of the 40 double options which succeeded in predicting a sufficient rise in the price of the relevant shares to gain as calls were traded in the first half of the year.

The 10 unsuccessful doubles (i.e., those doubles which failed to predict a sufficient price movement in either direction to at least cover the cost of the premium) recorded for 1965 appear below.

Date	Term	No. of Shares	Company	Contract Price	Premium
17/2	3 months	1000	Santos	21/-	5/11
9/7	3 months	500	A.O.G.	40/6	6/4½
	3 months	600	A.O.G.	41/3	6/4½
20/7	3 months	400	A.O.G.	40/-	6/4½
27/7	3 months	400	A.O.G.	41/4½	7/-
19/8	6 months	500	Peko Wallsend	15/2	2/4
8/9	6 months	200	Endurance Tin	8/-	2/1
21/10	1 month	200	Santos	32/9	3/6
8/12	6 months	1000	Oil Search	2/1	/9
17/2	6 months	100	Aberfoyle	19/6	2/8

The one month double on Santos would have been successful as a put had it been a 2 month or longer option. The earliest 3 month double, on Santos, would have been successful as a call had it been a 6 month option. Likewise the four unsuccessful 3 month doubles on A.O.G. in July would have succeeded as puts had they been 6 month options when the price of these shares fell to 32/- in December, although over their three month terms they only fractionally failed to be successful as puts.

The only double option traded on Peko Wallsend during the year was taken out at a price exactly mid-way between the highest and lowest prices for the year and as this range was only 16/4 to 14/- the option would not have been successful during 1964. Over the 6 months of its term the option on Endurance Tin also was taken out at the middle price in a 7/- to 9/- range. The price of Oil Search on

Date	Term	No. of Shares	Company	Contract Price	Premium
18/2	3 months	500	A.O.D. (4/- pd.)	1/-	/4
25/2	6 months	2000	Woodside (ctg.)	2/-	/8
6/4	3 months	1000	Santos	21/3	3/5
7/4	3 months	200	Santos	21/3	3/5
6/5	3 months	300	K.I.S.	14/11½	2/2
24/5	3 months	200	Kathleen Investments	15/6	2/2
8/6	3 months	200	Tablelands (deferred)	37/-	3/6
15/6	3 months	600	Woodside (4/- pd.)	1/7	/5
21/6	3 months	1000	Santos	19/-	3/-
8/7	6 months	500	Ampol Exploration	10/9	2/3
7/12	6 months	1000	A.O.G.	26/9	4/6

which an unsuccessful double was traded in December, fell by 20% over the term of the option, but the option premium required a price drop of almost one-third in order to succeed as a put. The double in the same month on Aberfoyle required a decline of 2/8 to cover the option premium as a put.

However, the price fell by 2/6 in the 6 month term.

Of the 10 unsuccessful doubles, six would have been successful over a longer term, two having only fractionally failed to succeed as puts and two completely failing to predict a significant price movement in the shares concerned.

It may be concluded that of the 105 double options considered for 1964 all but two have predicted a significant price movement in the shares concerned.

During 1965 some 186 double options were traded on shares in 32 mining and oil companies. This excluded four double options traded, three on Consolidated Gold Mining Areas 3/- paid shares, and one on Magellan Petroleum shares, price data for which was not given for the period of the option, by either the Melbourne **Official Record** for 1965, or the Sydney Stock Exchange **Gazette** for 1965.

The options on Woodside contributing shares, Tableland deferred shares, and on A.O.G. failed over their terms and would still have failed had their terms been extended. Those options on A.O.D. (4/- paid), K.I.S., Woodside 4/- paid shares, and the 2 April doubles on Santos would have succeeded as calls had they been 6 month options; and those on Santos in June and Kathleen Investments in May would have succeeded as puts over 6 months. The option on Ampol Exploration would have succeeded as a put if it had been traded one month later.

102 options succeeded as puts in

predicting a sufficient fall in price to cover at least the option premium. The decline in oil shares during 1965 led to, e.g., 18 double options on Exoil all succeeding as puts. However, 29 doubles on oil shares were successful in predicting a sufficient rise in price to cover at least the option premium.

Six one month double options on Mt. Isa in January, February, June and November, all successful in predicting a decline in price, were the highest number of successful one month double options on any company for the period which I have considered.

For 1966, of the 74 double options traded on shares in 24 mining and oil companies only five were successful in predicting a sufficient price movement in the shares concerned to at least cover the option premium.

The double on Mt. Isa only marginally failed as a put when the share price fell to \$3.88 and the 3 month double on Hill 50 would have been successful as a put had it been a 6 month option.

Date	Term	No. of Shares	Company	Contract Price	Premium
5/1	3 months	200	Mt. Isa	42/2	3/8½
18/7	3 months	6600	Hill 50	.25	.05
6/9	6 months	1000	Alliance Petroleum	.09	.03½
31/1	6 months	1000	Consolidated Rutile	1.49	.22
15/12	6 months	500	Consolidated Goldfields	4.03	.53

The premium of more than a third of the price of the shares on the option on Alliance Petroleum was too great for the option to be successful for a term during which the price range was 7 to 10 cents.

Neither Consolidated Rutile nor Consolidated Goldfields moved sufficiently in either direction to make the two doubles indicated successful. However, shorter term doubles on Consolidated Rutile taken out at the same time with a third less premium were successful as puts.

Nine double options were traded on Mt. Morgan during 1966, two in the first half of the year which succeeded as puts and 7 in November and December, including two,

two month doubles in December, all of which succeeded as calls in predicting the price rise of these shares to \$3.58 in February, 1967.

For 1967 a total of 166 double options traded on shares in 33 mining and oil companies were considered. Only four double options, detailed below, failed to predict a sufficient price movement in either direction for the shares involved to at least cover the option premium.

Date	Term	No. of Shares	Company	Contract Price	Premium
12/1	3 months	200	Ampol Exploration	1.14	.15½
16/1	6 months	500	United Uranium	.68	.16
2/5	3 months	800	Interstate Oil	1.00	.21
	3 months	200	Interstate Oil	1.00	.19

The three 3 month doubles would have been successful as 6 month options, the option on Ampol Exploration would have succeeded as a call over this longer period during which the price rose to \$1.77; and the two 3 month options on Interstate Oil would have succeeded over 6 months as puts.

The one 6 month option which was unsuccessful, on United Uranium, would have succeeded as a call had it been taken out one month earlier.

Not surprisingly in a booming

year for the mining market, 133 of the successful doubles predicted rises and 29 predicted falls. Doubles were traded on 13 oil companies and 20 mining companies during the year. 20 doubles were traded on shares in King Island Scheelite during the year: the first nine traded were successful in predicting the year's low of \$2.50; the latter 11 profited from the price appreciation to \$4.90 in November. Similarly six early doubles in January and February succeeded as puts in predicting the year's low of \$2.48 in April for Kathleen Investments; and six later doubles gained as calls from predicting the appreciation in price to the year's high of \$5.00.

Many doubles on partly paid shares in oil companies, e.g., Mid-Eastern Oil 10c pd. shares, Woodside contributing shares, A.O.D. 5c. pd. shares and Planet Oil contributing shares were traded in 1967 and although the premiums were frequently very high on these options (e.g., in April a 6-month option on 10,000 Mid-Eastern Oil 10c pd. shares at a contract price of 9½ cents, had a per share premium of

4 cents), all of these options predicted a movement in price sufficient to cover the premium.

Only one double was traded on Great Boulder shares for the year and this 3 month option on 300 shares taken out at the end of October was successful as a put.

### Summary

Although at first sight it would appear obvious that double options, as they offer the holder the opportunity of exercising a put or a call, should be more successful than either puts or calls looked at individually, the cost of the options requires a much greater percentage change in market price than puts or calls in order to cover the option premium. For this reason it is unexpected to find that only 39 double options, out of 569 considered, failed to predict a sufficient price movement to cover the option premium over the five year period under review. Only nine of these 39 double options were concerned with shares which had little price fluctuation over the term of the option or (where the term was short) over a period six months from the date of the option.

### Some Features of Double Option Trading 1963-67

(1) The frequency with which double options appear at turning points in share price movements. In terms of economic theory the appearance of a double option traded on a company's shares is the equivalent to a change in future ex-

pectations regarding the market price. Double options may therefore be considered as indicators of changes in expectations on the part of traders in the shares of this company as to the future price movement, perhaps taken out by an informed market.

As doubles are more expensive than either puts or calls and if double options have occurred at turning points in share price movements why are there not clusters of call options at lower turning points and put options at upper turning points when the cost of these options are much less?

Several answers are possible. First of all, a double option trader may merely have doubts about a share price's continued movement in one direction but wishes to cover himself in case he is wrong. If, for example, he has a holding of shares the price of which has been rising but which he anticipates will shortly fall, if he sells the shares and he is wrong, he has forgone some potential profit; if he is wrong and he has a double option, he may buy some more shares and profit on these, as well as on his original holding; if he is right then he has protected the profit on his original holding.

Secondly, a trader, believing that a company is about to announce a rights issue, may take out a double option rather than a put or a call in order to take advantage of one of three possibilities that may eventuate:

(i) the share price, which may be high owing to the anticipated announcement, may drop away if an issue is not forthcoming or if the terms are considered unfavourable (e.g., too high a premium) and he can then exercise a put;

(ii) the share price may appreciate sufficiently prior to the announcement or because of the favourable terms of the issue and he may exercise a call;

or (iii) the price may drop away very sharply when the shares go ex-rights (if no substantial price move-

ment occurs beforehand) and he may exercise a put.

Thirdly, in a buoyant market, especially near a peak, an underwriter for a put option may be very hard to come by, but the added premium of a double option may be sufficient incentive to an underwriter who may, in the prevailing market conditions, consider it more likely that the trader will exercise the call rather than the put side of the option.

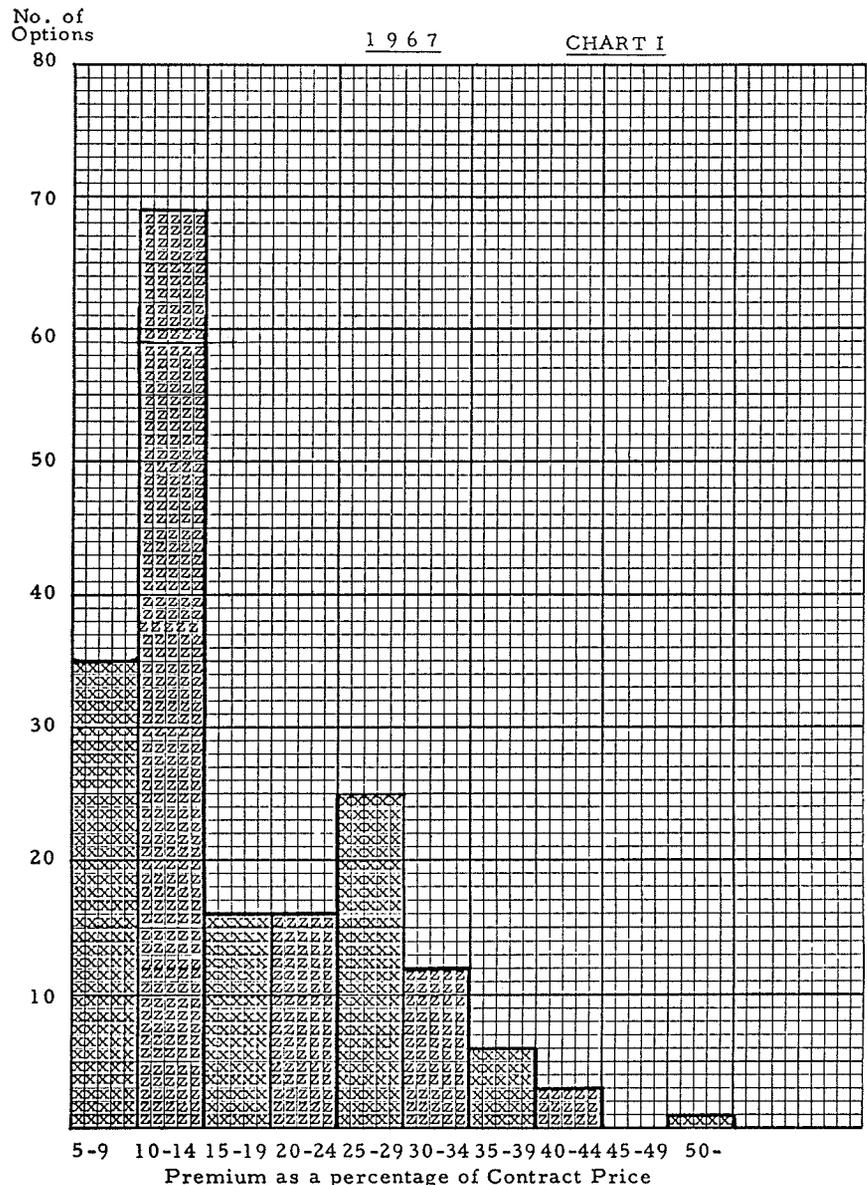
Finally, the taking out of a double option indicates doubt as to the continuation of current price movements of shares in a particular

company and not sufficient conviction as to whether the share price will boom or slump to take out a call or a put option.

(2) The concentration of double options traded on shares which have big price fluctuations and the changing range of these shares from year to year.

Of the 15 companies on whose shares doubles were traded during 1963, shares in 14 of these had a 50% or greater fluctuation in price during 1963 and shares in 10 of

(Continued Page 10)



recorded by the off-shoot companies and their parents (as quoted in my article) in the period between August 16-19, 1968, during which time the S.S.E. indices hit new peaks and October 28-30, 1968,

during which time the indices reached "low" points compared with periods both before and after, with the price falls recorded by leading conglomerate mining companies in the same period.

It is evident from this table that:—

- (i) the percentage price falls recorded by the conglomerate companies were significantly below those recorded by both parent and off-shoot companies (with the exception of some members of the Aberfoyle group).
- (ii) larger percentage price falls occurred in the partly paid, or cheaper means of entry to a company, than in the fully paid shares of the same respective companies.
- (iii) there is little evidence however to support my earlier point that under unfavourable circumstances "the "off-shoot companies or those at the bottom of the pyramid tend to collapse in price whilst the parent company (at the top of the pyramid) may not move in price to any appreciable extent at all."

	Average Aug. 15, 16, & 19, 1968	Average Oct. 28-30, 1968	% Fall
Sydney All Ordinary Index	619	515	17
Non-Ferrous Metals Index	3914	2824	28
(o) Planet Gold	55	25	55
Planet Gold options	22	6	73
(o) Planet Metal	89	43	52
(p) Planet Oil	62	28	55
Planet Oil ctg	40	11	72
(o) Central Pacific	87	40	54
Central Pacific ctg	69	23	67
(o) Southern Pacific	97	51	47
Southern Pacific ctg	75	35	53
(p) Magellan	422	225	47
(o) Abrolhos ctg	52	19	63
(p) Longreach	111	33	70
(o) Ardlethan	53	29	45
(o) Greenbushes	31	19	39
(o) Cleveland	98	70	29
(p) Aberfoyle	180	120	33
Aberfoyle ctg	105	60	43
(o) Project Mining	99	44	56
(p) Project Development	76	41	46
C.R.A.	2313	1563	32
B.H. South	652	435(a)	33
W. M. C.	1310	920	30
C. G. F. A.	943	680	28
New B. H.	1900	1180	38

(o) = Offshoot Company

(p) = Parent Company

(a) on an equivalent cum rights basis

REGINALD KEENE.

## DOUBLE OPTIONS

(Continued from page 8)

these 14 had price fluctuations of 100% or more.

Doubles were traded on shares in 28 companies during 1964. Prices of shares in 14 of these companies had a 50% or more fluctuation during the year and in 7 of these 14 there was a price change of more than 100%.

In 1965 shares in 27 of the 37 companies on which doubles were traded had price fluctuations of 50% or more during the year and 15 of these 27 had price fluctuations of 100% or greater.

Of 23 companies on whose shares doubles were traded in 1966, price fluctuations of 14 were 50% or greater, and of 10 of these 14 were 100% or greater. For 1967 shares in 23 of the 41 companies on which doubles were traded for the year had price fluctuations of 50% or more and 16 of this 23 had price fluctuations of more than 100%.

Double options have thus been traded on a majority of volatile companies in terms of price movements during the period 1963-67, and as the list of companies with volatile share price movements has changed from year to year, so has the concentration of double options moved. Only Woodside contributing shares appear on the list of double options for every year.

(3) A high proportion of short-term, i.e., one month, doubles traded were successful in predicting a price movement at least sufficient to cover the option premium. Of the 30 one month doubles traded over the period 1963 to 1967, 25 were successful in predicting a sufficient price movement to cover the option premium. This high rate of success on short-term double options is a further indication of the ability of double option traders to predict volatile price movements on shares.

(4) The high percentage, 93.1, of

double options which succeeded in covering the cost of the option premium is surprising, as already indicated in view of the percentage movement in price required to cover the option premiums. Chart 1 indicates the premiums as a percentage of contract price for all doubles listed for 1967.

It should be noted that the Chart underestimates the average premium as a percentage of contract price for the complete period I have considered. This is so because the higher the contract price the lower the premium as a percentage of that price and in the mining boom of 1967 a greater number of options than in earlier years were traded on highly priced shares.

(5) As a general conclusion, it may be said that double options traded over this period provide a useful indicator of shares with potentially volatile price movements.