ASX Clear

Understanding Margins

Before you begin

This booklet explains how ASX Clear calculates margins for options traded on ASX's option market. You should note that brokers' margins may be different from ASX Clear. This is explained further on page 3. Simply stated, margins serve to protect the integrity of ASX's options market. As not all options transactions involve margin payments this booklet explains when they are required, how they are calculated and what collateral ASX Clear will accept to cover margin obligations.

This booklet assumes that you have a basic understanding of the workings of ASX's options market.

You may also find Understanding Options Trading and the LEPO Explanatory Booklet helpful. Copies can be obtained free from our website at **www2.asx.com.au/content/dam/asx/investors/investment-options/options/understanding_options.pdf** or by contacting ASX or your broker. The terminology associated with margins is explained in the Glossary of Terms on page 18.

Throughout this booklet examples are used to explain how the margining system works. All examples assume an option contract size of 100 shares and, for simplicity of explanation, ignore exchange fees or commissions that may also be payable. Examples are provided for illustrative purposes only and may not reflect current market levels.

What are margins?

Definition

A margin is the amount calculated by ASX Clear as necessary to cover the risk of financial loss on an options contract due to an adverse market movement. Simply put, the minimum level of cover required to cover margin obligations is the liquidation value of your option contracts.

When are margins paid?

If you only buy options, then margins are not payable. It is when you write options that margins may be payable.

Margins are paid to cover your obligations to your broker (Clearing Participant). Brokers in turn pay these margins to ASX Clear. ASX Clear recalculates margins intraday and at the end of each day to ensure an adequate level of margin cover is maintained. ASX Clear then debits or credits your account with your broker according to whether your margin obligation has increased or decreased. Where there is a shortfall in your account you will usually be required by your broker to pay margins within 24 hours. When an obligation to the market no longer exists, all margin amounts are credited back to your account with your broker.

For example, the writer of a call option would be required to add to their margin cover if the share price moved up from its current level. This is because the writer has a larger potential obligation under the option contract and may need to buy shares in order to deliver them at the exercise price. If the share price falls, the writer's margin obligations would be reduced. Potential obligations arise from:

- written call option contracts;
- written put option contracts; and
- both taken and written LEPO positions.
- ASX Equity OTC Clear products.
- all other ASX Clear derivatives products.

Please note that margin obligations apply to these situations in isolation. If you establish certain types of option strategies, the margin obligations may be reduced because some positions may offset other positions.

Written calls and puts

Option writers have a potential obligation to the market because the taker of the option may decide to exercise their position.

Call options

For example, say you are the writer of a Boral Ltd (BLD) November $4.00 call option and the BLD share price is $4.10. In writing the position you receive the option premium and have an obligation to sell 100 BLD shares at $4.00 per share if the taker of the option exercises their right.

If the market rises, your written call option could be exercised. If this happens you would have to sell 100 BLD shares to the taker at $4.00 each. If you did not already own these shares you would have to buy them at the current market price but deliver them to the taker for $4.00, possibly incurring a loss.

The primary objective of requiring margin cover is to ensure that options positions can be liquidated (closed out) and the obligation removed. On the other hand, if you are the taker of a BLD $4.00 call option you would not be required to meet any margins. This is because you have no obligation to buy the BLD shares. In buying the option you would have already paid a premium to the writer for the right to buy the BLD shares. This premium represents your total outlay unless you decide to exercise your option, in which case you would be required to buy the 100 BLD shares at the exercise price of $4.00. Normally you would only want to do so if the market price was above $4.00 at the time you decide to exercise.

Put options

Like the writer of a call option, the writer of a put option has a potential obligation if the taker of the put decides to exercise their right to sell the underlying securities. For example, say you are the writer of a Woolworths (WOW) October $12.00 put option. You have the obligation to buy 100 WOW shares at $12.00 if the taker exercises their right to sell.

In return for taking on the obligation to buy 100 WOW shares at $12.00, you will receive the option premium. In our example, the option premium is $0.35 per share or $35 (35 cents x 100 shares) per WOW contract. To ensure you can meet your potential obligations you will be required to lodge margin cover. On the other hand, if you are the taker of a WOW October $12.00 put option you will have to pay the premium of $35 to the writer.

As the taker you have the right to sell the WOW shares at $12.00. In summary, writers of call and put options are required to lodge margin cover because of their obligations which arise from writing options.

LEPOs

When you buy an ordinary exchange traded option you are required to pay the entire option premium up front. However, when you buy a LEPO, the initial amount you pay is only a small fraction of the full premium. Therefore ASX Clear requires the taker as well as the writer of a LEPO to lodge margin cover. Takers of LEPOs are margined because they have an outstanding obligation to pay the balance of the premium to the writer. Writers of LEPOs, like writers of ordinary exchange traded call options, may suffer losses if the underlying security rises in value, and therefore writers of both LEPOs and ordinary exchange traded call options are required to lodge margin cover. A full explanation of the margining process for LEPOs can be found on page 9.

How can margins be met?

Margin obligations are calculated at the end of trading each day and ASX Clear notifies each broker of the margin obligations for each of that broker's accounts early the next trading day. As the broker is responsible for the margin obligations to ASX Clear, it is the broker who has the legal obligation to settle with ASX Clear. Each broker's total margin obligations must be lodged with ASX Clear by 11.00 am the same day and intraday margins must be met within 2 hours of the call. To enable the broker to settle their daily margin obligations with ASX Clear the broker will generally ensure that their clients have deposited cash or collateral, such as securities or bank guarantees.

Margins from your broker may be different to ASX Clear

ASX Clear's margining method calculate the margins required from your broker (Clearing Participant). Your broker's margin requirements for your account may be different to those of ASX Clear if your broker uses a different margining standard to ASX Clear. The explanations throughout this booklet apply where your broker adopts the same margining as ASX Clear.

Cash

A broker may require you to provide cash to enable the broker to meet their margin obligations to ASX Clear.

Collateral

In addition to, or as an alternative to cash, you may wish, (subject to your broker and/or ASX Clear agreeing), to provide certain types of collateral.

ASX Clear accepts your collateral as a third party, as you are providing it to ASX Clear as security for your broker's margin obligations to ASX Clear. Your broker may allow you to provide collateral which is different to what ASX Clear will accept. You should check what collateral your broker will accept. In addition, in the event that your broker's margin obligation is less than the value of collateral which ASX Clear requires at any particular time, your broker may (subject to your instructions) hold on to that surplus or return it to you. You should check what your broker's practices are, as different brokers use different practices.

Details of eligible collateral are published on the ASX website at **www2.asx.com.au/data/data/acceptable_stocks.pdf**

How are margins calculated?

Standard Portfolio Analysis of Risk (SPAN) v4.0 arrives at a margin by calculating two margin components for each position: the premium margin and the SPAN requirement (also called initial margin). The sum of these is the Total requirement.

The SPAN requirement contains further charges and concessions which make up the following formula:

SPAN Requirement = Max (SCAN Risk + Intra- commodity spread Charge + Delivery Risk – Inter- commodity spread Credit, short Option Minimum).

These components will be explained in detail further on in this document.

By using a set of pre-determined parameters set by ASX, SPAN assesses what the maximum potential loss will be for a portfolio of derivative and physical instruments over typically a one-day period. The gains and losses that the portfolio would incur under different market conditions are computed.

In its simplest form, SPAN can be considered as a risk based portfolio approach system for calculating initial margin requirements. SPAN uses risk arrays, which is a set of numeric values that specify if a particular contract will gain or lose value under different conditions (risk scenarios). The value for every risk scenario symbolises the gain or loss for that contract for a certain combination of volatility change, price (or underlying price) change, and decrease in time to expiration.

The minimum level of cover required to cover margin obligations is equivalent to the liquidation value of your option contracts.

For example, if the market value of an option contract is $0.38, the writer would be required to lodge at least $38 ($0.38 x 100 shares per contract) as margin cover. However, this does not take into consideration the possibility of inter-day price movements.

Generally only one margin call is made each day. However, if the market moves strongly up or down, ASX Clear may call for extra margin cover to be lodged during the day (i.e. an intra-day margin call) to cover changes in value of the underlying securities.

Software is available for purchase from CME that offers margin calculation, the ability to load daily SPAN risk parameters and define portfolios. The software is available at the following link: **www2.asx.com.au/content/asx/home/investors/learn-about-our-investment-solutions/asx-options-knowledge-hub/options-margin-estimator.html**

Calculating the premium margin

The premium margin (also referred to as available net option value) is the market value of the particular position at the close of business each day. For example, if an option is valued at $0.35 at the close of business on day 1, the premium margin component of the total margin requirement the following day would be $35 per contract.

At the end of day 2, if the option is valued at $0.45 the premium margin component of the total margin requirement the following day would be $45 per contract. At the end of day 3, if the option is valued at $0.40, the premium margin component of the total margin requirement the following day would be $40 per contract.

This is summarised in the table below:

DAY	1	2	3	4
Option market value	$0.35	$0.45	$0.40	$0.36
Market value per contract	$35	$45	$40	$36
Premium margin	$35	$45	$40	$36

PREMIUM MARGIN + SPAN REQUIREMENT = TOTAL REQUIREMENT

For a call option writer, the worst case scenario would arise if the market rose. For the put option writer, the worst case scenario would arise if the market fell.

A single security portfolio

Below is an example of a single security portfolio and the margin that would be applied.

IN THE ACCOUNT ARE THE FOLLOWING POSITION	CURRENT MARKET VALUE
1 Written BHP August 12 $31.50 Call	$1.07
1 Taken BHP August 12 $32 Put	$0.91
2 Written BHP September 12 $31 Put	$1.015
1 Taken BHP October 12 $31 Call	$1.83

SPAN requirement calculations for single security portfolios

Firstly, SPAN uses the price scan range to calculate the maximum probable interday rise and fall in the underlying security. That is, if the price scan range for BHP is 6%, then CME SPAN calculates the risk arrays based on the movement in BHP shares.

SPAN requirements are offset between series

CME SPAN calculates the SPAN requirement for each position by adding the risk arrays that SPAN produces. The risk arrays are then applied to the portfolio of positions, with profits and losses being aggregated by scenario. The largest loss (represented by a positive value) across the 16 scenarios becomes the scan risk for that portfolio. A further explanation of this process is provided further on in this document.

The below table illustrates the risk arrays for the portfolio of positions listed above.

SCENARIO	SCENARIO TYPE	1 WRITTEN BHP AUG $31.50 CALL	1 TAKEN BHP AUG $32 PUT	2 WRITTEN BHP SEP $31 PUT	1 TAKEN BHP OCT $31 CALL	SCENARIO TOTAL
13	Underlying equity price down 3/3 range; Volatility up; time reduced by 2 days	$-79.82	$-130.89	$215.06	$95.19	$99.54

The SPAN requirement for this portfolio would therefore be $99.54.

Premium margin calculations for single security portfolios

As mentioned earlier the premium margin is based on the current market value of the position. Where a portfolio has both long and short positions over the same underlying security the premium margin is calculated by subtracting the market value of the long positions from the market value of the short positions. In other words, the net premium margin is obtained by subtracting the taken positions from the written positions. For example, using the above portfolio, there are two written BHP options and two taken BHP options so the premium margin from the taken positions will serve to reduce the premium margin on the written positions and vice versa.

POSITION	CURRENT PRICE	PREMIUM MARGIN
1 Written BHP Aug 12 $31.50 Call	$1.07	-$107 dr
1 Taken BHP Aug 12 $32 Put	$0.91	$91 cr
2 Written BHP Sep 12 $31 Put	$1.015	-$203 dr
1 Taken BHP Oct 12 $31 Call	$1.83	$183 cr
TOTAL		**$36 dr**

In this example the total premium margin would be $36 dr. Note that while a net written position (i.e. where the end result is unfavourable) is margined, a net taken position (i.e. where the end result is favourable) is not margined.

This is because the value of your bought option contracts is enough to offset the obligations arising from any sold option contracts.

Total margin payable for single security portfolios

FOLLOWING ON WITH THE BHP PORTFOLIO EXAMPLE THE TOTAL REQUIREMENT WILL BE:	
SPAN requirement	$99.54
Premium margin	$36
Total requirement	$135.54

Please note the example used ignores other SPAN parameters including volatility risk. A further explanation of the impacts other parameters have on margins is discussed further on in this document.

Calculating the SPAN requirement

SPAN parameters

ASX has determined the following SPAN parameters, which mirrors ASX's, preferred degree of risk coverage:

- **Price scan ranges –** the maximum price movement realistically likely to take place, for each instrument or, for options, their underlying instrument.
- **Volatility scan ranges –** the maximum change realistically likely to take place for the volatility of each option's underlying price.
- **Intracommodity spreading parameters –** rates and rules for evaluating risk among portfolios of closely related products.
- **Intercommodity spreading parameters –** rates and rules for evaluating risk offsets between related products.
- **Delivery (spot) risk parameters –** for evaluating the increased risk of positions in physically-deliverable products as they approach or enter their delivery period.
- **Short option minimum parameters –** rates and rules to provide coverage for the special situations associated with portfolios of deep out-of-the-money short option positions.

SPAN combined commodity evaluations

SPAN assesses what the maximum potential loss will be for a given combined commodity which is a portfolio of instruments over the same underlying instrument. For each combined commodity, SPAN evaluates:

- **The scan risk –** the basic evaluation of risk replicating how positions will gain or lose value under particular combinations of price and volatility movement.
- **The intracommodity spread charge –** risk levels related to particular patterns of calendar spreading.
- **Delivery risk –** risk related to positions in physically-deliverable products as they approach or enter their delivery period.
- **The intercommodity spread credit –** reductions to risk associated with risk offsets between associated products.
- **Short option minimum –** an evaluation of the irreducible minimum risk related to portfolios of deep out-of-the- money short option positions.

For each combined commodity in the portfolio, SPAN takes the sum of the scan risk, intracommodity spread charge and delivery risk, deducts the intercommodity spread credit, and takes the greater of this result and the short option minimum. The resulting value is the SPAN requirement (also known as initial margin).

SPAN margin example (ASX equity options)

An example of the SPAN calculation is provided in the following sections. The example is based on a hypothetical portfolio of equity options and set of margin rate assumptions (Appendix I). The example illustrates in detail each of the major SPAN calculations applicable to equity options, including the scan risk, intercommodity spread credit and short option minimum.

SPAN evaluates the basis risk between contract periods with different expirations within the same product. Given the nature of a portfolio consisting solely of equity option contracts as outlined in the sample portfolio in Appendix I, intra-commodity spread charges do not apply. This is because the intracommodity spread charge is based on equivalent units in the underlying equity, where the equity does not have an expiration date. It should be noted however that if a portfolio were to consist of a combination of low exercise price options (LEPO) and ordinary options on the same equity, that an intracommodity spread charge may apply. This is because the LEPO is treated like a futures contract in SPAN, so that a series of LEPOs on the same equity will have different expirations and potentially varying levels of risk for each expiry.

The delivery risk charge is used to account for risk associated with positions in physically-deliverable products as they approach or enter their delivery period. Given the nature of a portfolio consisting solely of equity option contracts, as outlined by the sample portfolio in Appendix I, delivery risk does not apply. This is because delivery risk is based on equivalent units in the underlying equity, where the equity does not have an expiration date.

It should be noted that the example does not demonstrate all SPAN functionality (e.g. the application of scanning based intercommodity spread credits, etc.). However, the example demonstrates the functionality appropriate for margining ASX Clear equity options.

Note: the conventions relating to currency and rounding demonstrated in this example may differ to the conventions used by ASX in determining actual margin requirements.

SPAN margin example - scan risk

SPAN risk arrays represent a contract's hypothetical gain/loss under a specific set of market conditions from a set point in time to a specific point in time in the future. Risk arrays typically consist of 16 profit/loss scenarios for each contract. The standard SPAN risk array structure, also used by ASX Clear, is outlined in Appendix II.

Each risk array scenario is comprised of a different market simulation, moving the underlying price up or down and/or moving volatility up or down. The risk array representing the maximum likely loss becomes the scan risk for the portfolio.

A sample set of margin rates, and a portfolio, are provided in Appendix I. These are used here to illustrate the calculation of scan risk.

The results from applying the 16 profit and loss scenarios are: summarised below and also provided in detail in Appendix II.

COMBINED COMMODITY	VOLATILITY RISK	UPSIDE PRICE RISK	DOWNSIDE PRICE RISK	WORSE CASE
BHP	$0.58 cr	$283.23 dr	$76.42 cr	$283.23 dr (scenario 11)
RIO	$1.08 dr	$313.07 dr	$95.29 cr	$313.07 dr (scenario 11)
CBA	$2 dr	$107.61 cr	$306.65 dr	$306.65 dr (scenario 13)

The largest loss for both BHP and RIO combined commodities is based on the market scenario where the underlying price increases by the full price scanning range (BHP and RIO equity prices increase by 6%), the volatility increases by the full volatility scanning range (implied volatility of BHP and RIO options increase by 2%) and time to expiry of the BHP and RIO options decrease by 2 days.

The largest loss for CBA on the other hand is based on the market simulation where the underlying price decreases by the full price scanning range (CBA equity price decreases by 3%), the volatility decreases by the full volatility scanning range (implied volatility of CBA option decreases by 2%) and time to expiry of the CBA option decreases by 2 days.

COMBINED COMMODITY	SCAN RISK
BHP	$283.23 dr
RIO	$313.07 dr
CBA	$306.65 dr

The above scan risk estimates represent the maximum likely loss over 2 days for each combined commodity. The scan risk at this stage does not account for any possible offsets between these combined commodities and, if appropriate, will be reflected by a concession in the calculation of the intercommodity spread credit.

SPAN margin example – Intercommodity spread credit

SPAN evaluates whether a credit is applicable for positions in related instruments. The calculation of the delta based[1] intercommodity spread credit considers the weighted futures price risk (WFPR), delta per spread ratio (DPSR), number of spreads formed and the concession rate.

An example, based on the portfolio and margin rates provided in Appendix I, is outlined below. A summary of the net delta and weighted futures price risk is provided here, with further detail of these calculations provided in Appendices IV and V respectively.

COMBINED COMMODITY	NET DELTA	WFPR
BHP	-1.23630	$230.88
RIO	-0.8668	$360.14
CBA	1.9919	$153.96

The concessions are provided in priority order as defined in Appendix I and once net delta has been used to form spreads in a higher priority order concession, the net delta is no longer available to form other spreads in lower priority order concessions. Note that the priority of spreads will typically be ordered so that spreads with the largest concessions are given the highest priority. The concession can be calculated as:

WFPR x Number of spreads formed x DPsR x concession rate

Spread Priority 1

Starting with the first priority concession in Appendix I, spreads between BHP and RIO will receive a 55% concession. The concession definition requires net delta of BHP and RIO to be on opposite sides (i.e. long BHP and short RIO or short BHP and long RIO). However given that the net delta for BHP and RIO are both net short (referring to the table above, BHP net delta is -1.23630 and RIO net delta is -0.8668) no spreads are formed for this spread and therefore no concession is available.

Priority 1 BHP Concession = $230.88 x 0 x 1 x 55% = $0.00
Priority 1 RIO Concession = $360.14 x 0 x 1 x 55% = $0.00

Spread Priority 2

The second priority indicates a concession of 47% is available for spreads between BHP and CBA. As the net delta for BHP is net short -1.2363 and the net delta for CBA is net long 1.9919, there are on a 1 to 1 basis, 1.2363 spreads available for a concession.

Priority 2 BHP Concession = $230.88 x 1.2363 x 1 x 47% = $134.16
Priority 2 CBA Concession = $153.96 x 1.2363 x 1 x 47% = $89.47

Spread Priority 3

The final concession available is between CBA and RIO and offers a credit of 33%. The portfolio is net long 1.9919 CBA, however given 1.2363 net delta has already been used for the BHP and CBA spread, only 0.7556 is available for the CBA and RIO spread. As such, 0.7556 spreads are available for a concession, on 1 to 1 basis.

Priority 3 RIO Concession = $360.14 x 0.7556 x 1 x 33% = $89.80
Priority 3 CBA Concession = $153.96 x 0.7556 x 1 x 33% = $38.39

The concessions for each priority are then aggregated for each combined commodity, to arrive at concession for the combined commodity.

COMBINED COMMODITY	CONCESSION
BHP	**$134.16**
Priority 1 Concession	$0.00
Priority 2 Concession	$134.16
Priority 3 Concession	$0.00
RIO	**$89.80**
Priority 1 Concession	$0.00
Priority 2 Concession	$0.00
Priority 3 Concession	$89.80
CBA	**$127.86**
Priority 1 Concession	$0.00
Priority 2 Concession	$89.47
Priority 3 Concession	$38.39

[1] SPAN provides two approaches in calculating intercommodity spread credits: 1) delta based and 2) scanning based

SPAN margin example – short option minimum

Deep out-of-the-money short options may show zero or minimal scan risk given the price and volatility moves in the 16 market scenarios. However, in extreme events these options may move closer to-the-money or in-the- money, thereby generating potentially large losses. To account for this potential exposure, short option minimum can be set for each product. If the scan risk is lower than the short option minimum then the short option minimum is charged.

The short option minimum is calculated, for each combined commodity, by charging each short option the corresponding short option minimum charge. In the case of options on equities, given that short calls and short puts on the same underlying equity cannot be simultaneously deep-out-of-the-money, the maximum of the number of short put option contracts and short call option contracts is used in the calculation.

Using the portfolio and margin rates outlined in Appendix I, the number of short option contracts used in the calculation of the short option minimum is provided below.

COMBINED COMMODITY	NUMBER OF CONTRACTS	NUMBER OF SHORT CALLS	NUMBER OF SHORT PUTS	NUMBER OF SHORT OPTIONS FOR SOM
BHP	**2**	**2**	**0**	**2**
BHP Aug 12 $31.50 Call	-1			
BHP Oct 12 $30.50 Call	-1			
RIO	**2**	**1**	**0**	**1**
RIO Aug 12 $56.00 Put	1			
RIO Aug 12 $58.00 Call	-1			
CBA	**3**	**0**	**2**	**2**
CBA Aug 12 $53.00 Call	1			
CBA Nov 12 $54.00 Put	-2			

The number of short option contracts for each combined commodity is then charged the short option minimum charge, to arrive at a short option minimum for each combined commodity.

COMBINED COMMODITY	NUMBER OF SHORT CALLS	SHORT OPTION MINIMUM CHARGE	SHORT OPTION MINIMUM
BHP	2	$0.50	$1.00
RIO	1	$0.50	$1.00*
CBA	2	$0.50	$1.00

*The short option minimum is rounded to the closest dollar in this example.

SPAN margin example – SPAN requirement

The SPAN requirement (also known as initial margin) consists of the scan risk, intracommodity spread charge, delivery risk, intercommodity spread credit and short option minimum. In particular the SPAN requirement is determined for each combined commodity as:

Maximum (scan risk + intracommodity spread charge + delivery risk – intercommodity spread credit, short option minimum)

Using the sample portfolio and margin rates outlined in Appendix I, the SPAN requirement for each combined commodity is summarised below. The calculation of the scan risk, intracommodity spread charge, delivery risk, inter-commodity concession and short option minimum are provided in previous sections of this document.

	BHP	RIO	CBA
SPAN Requirement	$149.07	$223.27	$178.79
Scan Risk	$283.23	$313.07	$306.65
Intracommodity Spread Charge	n/a	n/a	n/a
Delivery Risk	n/a	n/a	n/a
Intracommodity Spread Charge	$134.16	$89.80	$127.86
Short Option Minimum	$1.00	$1.00	$1.00

SPAN margin example – Premium Margin

The premium margin is the market value of a "premium style" option position at the point in time of the margin calculation. For example, if an option is valued at $0.35 at the close of business, the premium margin component of the total margin requirement the following day would be $35 per option contract (i.e. $0.35 * 100 underlying equities[2]).

Using the example portfolio in Appendix I, the premium margin for each contract would be calculated as follows:

Number of contracts x Option Market Price x Number of underlying equities.

[2] The number of underlying shares is typically 100, however may vary due to corporate actions.

The premium margin for each combined commodity in the portfolio:

COMBINED COMMODITY	CURRENT PRICE	PREMIUM MARGIN
BHP		
Written 1 Aug 12 $31.50 call (on 100 BHP equities)	$1.07	$107.00 dr
Written 1 Oct 12 $30.50 call (on 100 BHP equities)	$2.155	$215.50 dr
TOTAL		**$322.50 dr**
RIO		
Taken 1 August 12 $56.00 put (on 100 RIO equities)	$1.42	$142.00 cr
Written 1 August 12 $58.00 call (on 100 RIO equities)	$1.275	$127.50 dr
TOTAL		**$14.50 cr**
CBA		
Taken 1 August 12 $53.00 call (on 100 CBA equities)	$0.815	$81.50 cr
Written 2 November 12 $54.00 put (on 100 CBA equities)	$3.12	$624.00 dr
TOTAL		**$542.50 dr**

The premium margin for this portfolio:

COMBINED COMMODITY	PREMIUM MARGIN
BHP	$322.50 dr
RIO	$14.50 cr
CBA	$542.50 dr
TOTAL	**$850.50 dr**

SPAN margin example – Total requirement

The SPAN requirement and premium margin for each combined commodity in an account are aggregated to arrive at the total requirement.

Note ASX allows the premium paid up front on long option positions to be used to offset the SPAN requirement on both that long option position and any other position in the same account.

Using the portfolio and margin rates outlined in Appendix I, the SPAN requirement and premium margin for each of the combined commodities in the portfolio are provided in the table below. The detailed calculations used to arrive at these figures are provided in previous sections of this document.

COMBINED COMMODITY	PREMIUM MARGIN	SPAN REQUIREMENT
BHP	$322.50 dr	$149.07 dr
RIO	$14.50 cr	$223.27 dr
CBA	$542.50 dr	$178.79 dr
TOTAL	**$850.50 dr**	**$551.13 dr**

The total requirement for the above portfolio at an account level is:

MARGIN	REQUIREMENT
Premium Margin	$850.50 dr
SPAN Requirement	$551.13 dr
Total Requirement	$1,401.63 dr

NOTE: In the case where the total requirement is a credit i.e. where positive premium margin for the account exceeds the SPAN requirement, the final requirement for the account would be $0.00.

How can LEPO margins be met?

Low Exercise Price Options (LEPO) investors can lodge the same types of collateral as investors in ordinary exchange traded options to cover their initial margin. However, mark-to-market margin obligations must be settled daily by the payment of cash. This is because for every investor required to pay a mark-to-market margin there is another investor entitled to receive an equivalent mark-to-market margin payment in cash. This cash-in, cash-out process means mark-to-market margin obligations cannot be settled by non-cash collateral.

How are LEPO margins calculated?

To understand the margining process for Low Exercise Price Options (LEPOs) you should first read the LEPO Explanatory Booklet which sets out the features and benefits of LEPOs. This booklet can be downloaded from the ASX website, at **www2.asx.com.au/content/dam/asx/investors/investment-tools-and-resources/education/understanding-lepos.pdf**

Unlike ordinary exchange traded options, where only the writer is margined, with LEPOs both the taker and the writer are margined. This is because the taker of a LEPO does not pay the writer the full premium up front. As such, the taker is margined as they have an obligation to pay the premium.

Calculating the SPAN requirement

Just like ordinary options, the calculation of the SPAN requirement for a LEPO is based on the price scan range of the underlying security. Since the price of the LEPO moves in line with the price of the underlying security, the SPAN requirement for a LEPO is calculated by multiplying the price scan range by the price of the LEPO and the number of shares in the contract (usually 100). For example, if the price of the LEPO is $20 and the price scan range is 10% then the SPAN requirement will be $200 [($20 x 100) x 10%]. As the value of the LEPO changes so too will the amount of SPAN requirement.

Calculation the Premium Margin

The premium for an ordinary exchange traded option represents the market value of the option at the close of trading each day. For a LEPO, however, the premium margin is the difference between the closing prices of the LEPO from one day to the next. The margin is calculated by marking the position to the LEPO's current market value. This is called the "mark-to-market" margin.

This is further explained in the following example.

Assumptions

1. One BHP LEPO contract was traded at $31.885 on day 1.
2. On day 1 the closing September BHP LEPO price remains unchanged at $31.885 (or $3188.5 per contract).
3. Price Scan Range for BHP is 6%.
4. Only cash is applied to meet span requirement obligations.
5. Only cash is applied to meet margin obligations.
6. There are 100 shares per contract.
7. A cash payment by the investor is abbreviated as PAY.
8. A cash receipt by the investor is abbreviated as RCT.

On day 1 the two parties trade a BHP LEPO contract at $31.885.

DATE AND SHARE PRICE	WRITE A BHP SEPTEMBER LEPO	TAKE A BHP SEPTEMBER LEPO
Day 1 BHP = $31.885	Write 1 BHP Sep LEPO $31.885	Take 1 BHP LEPO $31.885
	SPAN Req. [@ 6% of $3,188.5] $191.31 PAY	Span Req. [@ 6% of $3,188.5] $191.31 PAY
	Mark to Market 0	Mark to Market 0
	Daily cash flow PAY $191.31	Daily cash flow PAY $191.31

The writer

To ensure the writer can meet their potential obligations in the event of an adverse market movement in the price of BHP shares, the writer is required to lodge margin cover. The SPAN requirement is equal to the closing price for BHP LEPO multiplied by the price scan range, $3,188.5 x 6% = $191.31. As the price of the LEPO has not moved from the time of trading to the close of trading on day 1 there is no mark-to-market margin payable for day 1.

The taker

To ensure the taker can meet their obligations to pay the variation margin, the taker is required to lodge margin cover of $191.31 on day 1. This amount represents the closing price for BHP LEPO multiplied by the price scan range, $3,188.5 x 6% = $191.31. As the price of the LEPO has not moved from the time of trading to the close of trading on day 1 there is no mark-to-market margin payable for day 1.

On day 2 the BHP LEPO price has fallen to $31.00.

DATE AND SHARE PRICE	WRITE A BHP SEPTEMBER LEPO	TAKE A BHP SEPTEMBER LEPO
Day 2 BHP = $31	Write 1 BHP Sep LEPO $31	Take 1 BHP LEPO $31
	SPAN Req. [@ 6% of $3,100] $186 (5.31 RCT)	Span Req. [@ 6% of $3,100] $186 (5.31 RCT)
	Mark to Market $88.50 RCT	Mark to Market $88.50 Pay
	Daily cash flow (5.31+88.5) $93.81 RCT	Daily cash flow (88.5-5.31) $83.19 Pay

The writer

On day 2 BHP's share price has fallen $0.885 to $31.00, the SPAN requirement is now $186, (3,100 x 6%) a reduction of $5.31. As the LEPO price has changed since the close of day 1, the mark-to-market margin is calculated as the difference between the two closing prices [$31.885 – $31.00] x 100 = $88.5. Accordingly, the writer of the LEPO is entitled to receive $93.81 ($5.31 + $88.5).

The taker

As for the writer, the SPAN requirement for the taker has fallen to $186 (31.00 x 6%), a reduction of $5.31. However as the LEPO price has moved against the taker, falling by $0.885 to $31.00, ASX Clear calculates a mark-to-market margin of $88.5. Accordingly, the taker must pay $83.19 ($88.5 – $5.31).

By the close of trading on day 3 the BHP LEPO price has continued its fall to $30.00.

DATE AND SHARE PRICE	WRITE A BHP SEPTEMBER LEPO	TAKE A BHP SEPTEMBER LEPO
Day 3 BHP = $30	Write 1 BHP Sep LEPO $30	Take 1 BHP LEPO $30
	SPAN Req. [@ 6% of $3,000] $180 (6 RCT)	Span Req. [@ 6% of $3,000] $180 (6 RCT)
	Mark to Market $100 RCT	Mark to Market $100 Pay
	Daily cash flow (6+100) $106 RCT	Daily cash flow (100-6) $94 Pay

The writer

As BHP has fallen further on day 3 to $30.00 the SPAN requirement is now $180 (a reduction of $6), down from $186 on day 2. The LEPO price fall also results in another mark-to-market margin adjustment. The mark- to-market margin on day 3 is $100 [($31.00 – $30.00) x 100]. Accordingly, the writer of the LEPO is entitled to receive $106 ($6 + $100).

The taker

The SPAN requirement for the LEPO taker is also reduced by $6. The further decline in the LEPO price will mean the taker making another mark-to-market margin payment. Accordingly, the taker must make a payment of $94 ($100 – $6).

On day 4 the closing BHP LEPO price remains at $30.00

DATE AND SHARE PRICE	WRITE A BHP SEPTEMBER LEPO	TAKE A BHP SEPTEMBER LEPO
Day 4 BHP = $30	Write 1 BHP Sep LEPO $31	Take 1 BHP LEPO $31
	SPAN Req. [@ 6% of $3,000] $180 (NO CHANGE)	Span Req. [@ 6% of $3,000] $180 (NO CHANGE)
	Mark to Market NIL	Mark to Market NIL
	Daily cash flow (6+100) NIL	Daily cash flow NIL

Hence there is no change in the margin obligations on day 4 for either the taker or the writer.

On day 5 the LEPO price has fallen to $29.50 and both the taker and the writer elect to close out their BHP LEPO contract.

DATE AND SHARE PRICE	WRITE A BHP SEPTEMBER LEPO	TAKE A BHP SEPTEMBER LEPO
Day 4 BHP = $29.50	Write 1 BHP Sep LEPO $29.50	Take 1 BHP LEPO $29.50
	SPAN Req. Returned $180 RCT	Span Req. Returned $180 RCT
	Mark to Market $50 RCT	Mark to Market $50 Pay
	Daily cash flow (180+50) $230 RCT	Daily cash flow (180-50) $130 RCT

Closing out involves the writer buying the same LEPO series they initially sold and the buyer selling the same LEPO series they initially bought. Once the closing out transaction is registered ASX Clear makes the following margin adjustments:

The writer

While the position is closed out on day 5 the opening written LEPO is firstly marked-to-market just as for previous days. As the LEPO price has fallen yet again it results in a further mark-to-market margin adjustment.

This is calculated as the difference between the closing price of the LEPO on day 4 and the price at which the LEPO was closed out, in this case [$31.00 – $29.50] x 100 = $50. Next, the SPAN requirement of $180 is reversed.

Accordingly, the writer is entitled to receive $230 ($50 + $180). The writer of the LEPO now has no further obligations.

The taker

Closing out for the taker results in the opening taken position firstly being marked-to-market to reflect the change in the LEPO price from the close of trading on day 4 to the close out price of the LEPO on day 5, in this case a payment of $50 [($31.00 – $29.50) x 100]. However, as the position is closed out, the SPAN requirement of $180 is reversed. Accordingly, the taker is entitled to receive $130 ($180 – $50). The taker of the LEPO now has no further obligations.

The table below summarises the sequential cash flows for this particular example:

THE WRITER TOTAL PROFIT/LOSS = SUM OF MARK-TO-MARKET MARGIN PAYMENTS LESS COSTS:		THE TAKER TOTAL PROFIT/LOSS = SUM OF MARK-TO-MARKET MARGIN PAYMENTS LESS COSTS:	
Day 1	0	Day 1	0
Day 2	$88.50 RCT	Day 2	$88.50 Pay
Day 3	$100 RCT	Day 3	$100 Pay
Day 4	Nil	Day 4	Nil
Day 5	$50 RCT	Day 5	$50 Pay
Trading Profit	**$238.50 RCT**	**Trading Loss**	**$238.50 Pay**

Appendix I
Portfolio and Margin Rate Details

Hypothetical portfolio and margin rate assumptions used in the SPAN calculation example.

Portfolio

	BHP		RIO		CBA	
Contract	Aug 12 Call 31.50 AMER	Oct 12 Call 30.50 AMER	Aug 12 Put 56.00 AMER	Aug 12 Call 58.00 AMER	Aug 12 Call 53.00 AMER	Nov 12 Put 54.00 AMER
Underlying Equity Price	$31.80	$31.80	$57.42	$57.42	$53.32	$53.32
Time to Expiry (in years)	0.084932	0.238356	0.084932	0.084932	0.084932	0.334247
Risk Free Interest Rate	3.58%	3.5617%	3.58%	3.58%	3.58%	3.5467%
Volatility	23.1331%	25.77%	27.5069%	25.481%	12.0535%	15.2749%
Number of Underlying Equities	100	100	100	100	100	100
Number of contracts	-1	-1	1	-1	1	-2
Option Market Price	$1.07	$2.155	$1.42	$1.275	$0.815	$3.12
Option Market Value	$107	$215.5	$142	$127.5	$81.5	$312

Margin Rates

MARGIN RATE	BHP	RIO	CBA
Price Scanning Range	6%	6%	3%
Volatility Scanning Range	2%	2%	2%
Short Option Minimum Charge	$0.50	$0.50	$0.50

Charge

CONCESSION PRIORITY	COMBINED COMMODITY A	DPSR A	COMBINED COMMODITY B	DPSR B	CONCESSION
1	BHP	1	RIO	1	55%
2	BHP	1	CBA	1	47%
3	CBA	1	RIO	1	33%

Appendix II Risk Arrays

The standard 16 SPAN scenarios

1. Underlying equity price unchanged; Volatility up; time reduced by 2 days
2. Underlying equity price unchanged; Volatility down; time reduced by 2 days
3. Underlying equity price up 1/3 range; Volatility up; time reduced by 2 days
4. Underlying equity price up 1/3 range; Volatility down; time reduced by 2 days
5. Underlying equity price down 1/3 range; Volatility up; time reduced by 2 days
6. Underlying equity price down 1/3 range; Volatility down; time reduced by 2 days
7. Underlying equity price up 2/3 range; Volatility up; time reduced by 2 days
8. Underlying equity price up 2/3 range; Volatility down; time reduced by 2 days
9. Underlying equity price down 2/3 range; Volatility up; time reduced by 2 days
10. Underlying equity price down 2/3 range; Volatility down; time reduced by 2 days
11. Underlying equity price up 3/3 range; Volatility up; time reduced by 2 days
12. Underlying equity price up 3/3 range; Volatility down; time reduced by 2 days
13. Underlying equity price down 3/3 range; Volatility up; time reduced by 2 days
14. Underlying equity price down 3/3 range; Volatility down; time reduced by 2 days
15. Underlying equity price up extreme move (double the range) – cover 35% of loss; time reduced by 2 days
16. Underlying equity price down extreme move (double the range) - cover 35% of loss; time reduced by 2 days

Using the sample portfolio and margin rates in Appendix I, the risk arrays for the combined commodities are provided below for determination of scan risk and the intercommodity spread credit.

Risk Arrays: BHP Combined Commodity

SCENARIO	BHP AUG 12 CALL 31.50 AMER	BHP OCT 12 CALL 30.50 AMER	SCENARIO TOTAL
1	-1.46	0.88	-0.58
2	-4.69	-4.5	-9.19
3	37.87	44.46	82.33
4	35.02	39.09	74.11
5	-34.88	-41.54	-76.42
6	-38.11	-47.36	-85.47
7	86.8	90.96	177.76
8	84.19	86.45	170.64
9	-62.2	-74.32	-136.52
10	-64.85	-80.15	-145.00
11	139.09	144.14	283.23 (Active)
12	137.35	140.52	277.87 (Paired)
13	-79.82	-105.27	-185.09
14	-82.49	-111.1	-193.59
15	110.62	109.53	220.15
16	-36.53	-60.91	-97.44

Risk Arrays: RIO Combined Commodity

SCENARIO	RIO AUG 12 PUT 56.00 AMER	RIO AUG 12 CALL 58.00 AMER	SCENARIO TOTAL
1	1.97	-1.36	0.61
2	8.8	-7.72	1.08
3	46	54.96	100.96
4	52.83	48.61	101.44
5	-50.38	-46.29	-96.67
6	-43.56	-51.73	-95.29
7	75.02	130.44	205.46
8	80.62	124.72	205.34
9	-114.77	-80.68	-195.45
10	-108.01	-85.45	-193.46
11	100.76	212.31	313.07 (Active)
12	104.54	208.44	312.98 (Paired)
13	-192.88	-99.75	-292.63
14	-187.32	-103.41	-290.73
15	46.56	181.65	228.21
16	-167.47	-43.78	-211.25

Risk Arrays: CBA Combined Commodity

SCENARIO	CBA AUG 12 CALL 53.00 AMER	CBA NOV 12 PUT 54.00 AMER	SCENARIO TOTAL
1	-2.35	4.35	2
2	-0.09	-7.54	-7.63
3	-37.33	-70.28	-107.61
4	-35.69	-83.41	-119.1
5	27.15	80.95	108.1
6	29.47	69.31	98.78
7	-80.68	-131.29	-211.97
8	-79.06	-145.81	-224.87
9	50.1	159.69	209.79
10	52.43	149.19	201.62
11	-127.42	-189.31	-316.73
12	-126.54	-204.05	-330.59
13	63.57	243.08	306.65 (Active)
14	65.36	235.74	301.1 (Paired)
15	-98.47	-121.72	-220.19
16	28.12	182.63	210.75

Appendix III Composite delta

Composite delta is derived as the weighted average of the deltas, where the weights are associated with each underlying price scan point. In effect, the composite delta is a forward looking estimate of the option delta. The standard SPAN seven delta points are:

SCENARIO	UNDERLYING PRICE CHANGE AS % OF PRICE SCAN RANGE	PROBABILITY WEIGHT
1	Unchanged	0.270
3	Up 33%	0.217
5	Down 33%	0.217
7	Up 67%	0.110
9	Down 67%	0.110
11	Up 100%	0.037
13	Down 100%	0.037

Using the sample portfolio and margin rates in Appendix I, the delta points for the combined commodities are provided below for determination of the intercommodity spread credit.

Composite delta – BHP combined commodity

SCENARIO	BHP AUG 12 CALL 31.50 AMER	BHP OCT 12 CALL 30.50 AMER	BHP
1	0.158411	0.178472	0.336883
3	0.100853	0.128142	0.228996
5	0.152639	0.158698	0.311337
7	0.037725	0.057334	0.095059
9	0.088234	0.087838	0.176072
11	0.008537	0.016213	0.024750
13	0.032125	0.031064	0.063189
Composite Delta		1.236286	

Composite delta – RIO combined commodity

SCENARIO	RIO AUG 12 PUT 56.00 AMER	RIO OCT 12 CALL 58.00 AMER	RIO
1	-0.110621	0.120149	0.009528
3	-0.111699	0.070695	-0.041003
5	-0.067251	0.124440	0.057189
7	-0.069202	0.023692	-0.045510
9	-0.025377	0.076681	0.051304
11	-0.026715	0.005089	-0.021625
13	-0.005760	0.029464	0.023703
Composite Delta		0.033585	

Composite delta – CBA combined commodity

SCENARIO	CBA AUG 12 CALL 53.00 AMER	CBA NOV 12 PUT 54.00 AMER	CBA
1	0.166915	-0.187351	-0.020436
3	0.103190	-0.160826	-0.057636
5	0.162982	-0.140531	0.022451
7	0.036321	-0.087801	-0.051480
9	0.094253	-0.065808	0.028445
11	0.007711	-0.030963	-0.023253
13	0.033936	-0.020011	0.013925
Composite Delta			-0.087983

Appendix IV Net Delta

In determining the intracommodity spread charge, intercommodity spread credit and delivery risk for a combined commodity, SPAN requires spreads to be formed/spot positions to be based on equivalent units in the underlying. Combined commodities may consist of many product types (e.g. equities, option on equities and equity low exercise price options) and as such requires units in these products to be converted into equivalent units of the underlying for SPAN to process its calculations indicated above at the combined commodity level.

In the case of the equity option portfolio in Appendix I, the number of equity option contracts is converted into equivalent units of the underlying equity. This is done by multiplying the number of option contracts by the corresponding delta for that option. An example of the net delta calculation for the portfolio in outlined in Appendix I is provided below. The net delta for this equity option portfolio is used particularly for the intercommodity spread credit, as the intracommodity spread charge and delivery risk are not applicable for this portfolio. As the underlying equity does not have an expiration date, the net delta is aggregated into a special period zero.

COMBINED COMMODITY	NUMBER OF CONTRACTS	SPAN'S COMPOSITE DELTA*	NET DELTA
BHP			
BHP Aug 12 $31.50 Call	-1	0.57852	-0.57852
BHP Oct 12 $30.50 Call	-1	0.65776	-0.65776
Net Delta			-1.23630
RIO			
RIO Aug 12 $56.00 Put	1	-0.41663	-0.41663
RIO Aug 12 $58.00 Call	-1	0.45021	-0.45021
Net Delta			-0.8668
CBA			
CBA Aug 12 $53.00 Call	1	0.60531	0.60531
CBA Nov 12 $54.00 Put	-2	-0.69329	
Net Delta			1.9919

*Further detail on SPAN's composite delta is provided in Appendix III.

Appendix V
Weighted Futures Price Risk (WFPR)

The Weighted Future Price Risk (WFPR) is used in the determination of the intercommodity spread credit. The WFPR risk for each combined commodity is based on the price risk and net delta for the combined commodity.

Price Risk

In order to determine the WFPR, the price risk first needs to be extracted from the scan risk estimate. The scan risk, particularly for options, factors in movements in both the underlying price (price risk) and volatility (volatility risk) and a reduction in the time to maturity of the option (time risk). The extraction of price risk is to ensure consistency with the concession rate that is based on movements in the underlying price.

Scan Risk

The scan risk is derived from the risk arrays and is the worst case scenario for a combined commodity. This associated scenario is called the active scenario.

Scan Risk = Risk Array Value of active scenario ≈ Price Risk + Volatility Risk + Time Risk

Volatility Risk

The volatility risk is estimated from the risk arrays by using the combination of scenarios where price movement is the same but the opposite definition of volatility movement.

$$\text{Volatility Risk} = \frac{\text{Risk Array Value of active scenario} - \text{Risk Array Value of paired point}}{2}$$

Time Risk

The time risk is estimated from the risk arrays by using the combination of scenarios where there are no price movements and opposite volatility changes (Scenario 1 and Scenario 2).

$$\text{Time Risk} = \frac{\text{Risk Array Value of scenario 1} + \text{Risk Array Value of scenario 2}}{2}$$

Price Risk

The price risk is estimated using estimates of scan risk, volatility and time risk.

Price Risk = Scan Risk – Volatility Risk – Time Risk

Weighted Futures Price Risk

The price risk and net delta can then be used to determine the WFPR for the combined commodity as follows.

$$\text{Weighted Futures Price Risk} = \frac{\text{Price Risk}}{\text{Net Delta}}$$

The net delta is explained in Appendix IV.

Using the portfolio in Appendix I, the WFPR calculation is outlined below. The risk array values in the table are provided in Appendix II.

	BHP	RIO	CBA
Scan Risk	$283.23	$313.07	$306.65
Risk array Value (Active Scenario)	$283.23	$313.07	$306.65
Volatility Risk	$2.68	$0.05	$2.78
Risk array Value (Active Scenario)	$283.23	$313.07	$306.65
Risk array Value (Paired Point*)	$277.87	$312.98	$301.10
Time Risk	$-4.89	$0.85	$-2.82
Risk array Value (Scenario 1)	$-0.58	$0.61	$2.00
Risk array Value (Scenario 2)	$-9.19	$1.08	$-7.63
Price Risk	$285.44	$312.17	$306.69
Scan Risk	$283.23	$313.07	$306.65
Volatility Risk	$2.68	$0.05	$2.78
Time Risk	$-4.89	$0.85	$-2.82
Weighted Futures Price Risk (WFPR)	$230.88	$360.14	$153.96
Price Risk	$285.44	$312.17	$306.69
Net Delta	$-1.23630	$-0.8668	$1.9919

*Paired point – Risk Array value with the same definition for price movement as the active scenario, but the opposite definition of volatility movement.

Appendix VI Glossary of terms

ASX Clear
The clearing and settlement facility for all exchange traded options, LEPOs and futures traded on ASX Trade.

Adjustment to options contracts
Adjustments are made when certain events occur that may affect the value of the underlying securities. Examples of adjustments include changing the number of shares per contract and/or the exercise price of options in the event of a new issue or reconstruction of the underlying security. Adjustments are specific to the event affecting the underlying securities.

American
An option that is exercisable at any time prior to expiry.

Assignment
The random allocation of an exercise obligation to a writer.

At-the-money
When the price of the underlying security equals the exercise price of the option.

Broker
Market Participant of ASX you use to execute your options orders.

Brokerage
A fee or commission payable to a sharebroker for buying or selling on your behalf.

CHESS
Acronym for Clearing House Electronic Sub-register System. It is the settlement facility for ASX's equities and warrant markets.

Class of options
Option contracts covering the same underlying security.

Clearing Participant
Participant of ASX Clear whom margins are ultimately drawn by ASX Clear from. Note the your clearing participant maybe be different from your broker.

Closing out
A transaction which involves taking the opposite side to the original position i.e. if the opening position is taken (written) closing out would involve writing (taking) an option in the same series.

Collateral
Assets provided to cover margin obligations.

European
An option that is only exercisable at expiry.

Exercise
The written notification by the taker of their decision to buy or sell the underlying security pertaining to an option contract.

Haircut
A reduction in the value of securities lodged to cover margins.

Inter-day
From one business day to the next business day, or from one business day to the next business day plus one day.

In-the-money
An option with intrinsic value.

Intra-day
Within a particular day.

LEPO
An acronym for Low Exercise Price Option as traded on ASX's options market.

Margin
An amount calculated by ASX Clear to cover the obligations arising from options and LEPO contracts.

Margin cover
Cash or collateral lodged to meet margin requirements.

Margin interval
A measure of the daily volatility of the underlying security expressed as a percentage. It represents the largest most likely inter-day movement in the price of the underlying security.

Margin offset
The reduction in margin obligations as a result of other option positions in your portfolio.

Mark-to-market margin
The process whereby a LEPO position is revalued to its current market value resulting in either a payment to you (if the revaluation is favourable) or a payment by you (if the revaluation is unfavourable).

Out-of-the-money
An option with no intrinsic value. A call option is out-of- the-money if the market price of the underlying shares is below the exercise price of the option; a put option is out of-the-money if the market price of the underlying shares is above the exercise price of the options.

Premium
The current market price for an option.

Premium margin
Also referred to as available net option value. A component of the total margin that represents the current value of the option.

Random selection
The method by which an exercise of an option is allocated to a writer.

Series of options
All contracts of the same class and type having the same expiry day and the same exercise price.

SPAN Requirement
Also referred to as initial margin. The SPAN requirement is a component of total margin.

Taker
The buyer of an option contract.

Theoretical option price
The fair value of an option as calculated by an option pricing model.

Total margin
The sum of the Premium margin and the SPAN requirement (also known as Initial margin).

Volatility
A measure of the size and frequency of price fluctuations in the underlying security.

Writer
The seller of an option contract.

Further Information

ASX Explanatory Booklets

For ASX explanatory booklets on options, please phone 131 279, or download the booklets from the ASX website **www.asx.com.au/options**

Online Classes

Online options classes include interactive exercises that will aid your learning and a quiz at the end of each section to show your progress.

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