



ASX

AUSTRALIAN SECURITIES EXCHANGE

# Introduction to Index Futures and Options

#### **Disclaimer of Liability**

Information provided is for educational purposes and does not constitute financial product advice. You should obtain independent advice from an Australian financial services licensee before making any financial decisions. Although ASX Limited ABN 98 008 624 691 and its related bodies corporate ('ASX') has made every effort to ensure the accuracy of the information as at the date of publication, ASX does not give any warranty or representation as to the accuracy, reliability or completeness of the information. To the extent permitted by law, ASX and its employees, officers and contractors shall not be liable for any loss or damage arising in any way (including by way of negligence) from or in connection with any information provided or omitted or from any one acting or refraining to act in reliance on this information.

No part of this Booklet may be copied, reproduced, published, stored in a retrieval system or transmitted in any form or by any means in whole or in part without the prior written permission of the ASX Group.

For these product/s the market is operated by ASX Limited ACN 008 624 691.

All Ordinaries<sup>®</sup>, All Ords<sup>®</sup>, ASX<sup>®</sup>, ASX100<sup>®\*</sup>, ASX200<sup>™\*</sup>, CHESS<sup>®</sup>, and ITS<sup>®</sup> are trade marks of ASX Operations Pty Limited, a member of the ASX Group. For those trade marks indicated with an asterisk, ASXO has entered into an arrangement with Standard & Poor's (S&P<sup>™</sup>). Those trade marks must be prefaced by the mark S&P when used to describe indices. S&P<sup>™</sup> is a trade mark of Standard & Poor's, a division of The McGraw-Hill Companies, Inc.

Edition 11 printed May 2008.

© Copyright 2008 ASX Limited ABN 98 008 624 691. All rights reserved 2008.

Exchange Centre, 20 Bridge Street, Sydney NSW 2000 Telephone: 131 279 [www.asx.com.au](http://www.asx.com.au)

# Contents

---

<b>Introduction to Index Futures and Options</b>	<b>2</b>
<b>The Indices</b>	<b>3</b>
<b>Index Futures</b>	<b>4</b>
<b>Index Options</b>	<b>10</b>
<b>Introduction to Options Strategies</b>	<b>16</b>
<b>Glossary</b>	<b>19</b>

# Introduction to Index Futures and Options

Index futures and options allow investors exposure to movements in a range of Australian indices or index sectors in one single transaction. This allows investors to invest or divest in up to 200 of Australia's largest stocks without the need to buy or sell any shares. As a result, the use of index futures and options provides substantial reductions in transaction and brokerage costs.

Trading futures and options also provide the following benefits:

**Leverage:** the ability to undertake a comparatively large position for a very small initial outlay. This concept is similar to what is experienced when you buy a house. Imagine paying 10% deposit on a house worth \$100,000 and borrowing the remainder from a bank. If the property increases in value by 5% in one year, the return on your initial investment of \$10,000 is 50% ( $100,000 \times 0.05 = \$5000$ ). Futures and options provide a similar form of 'Leverage'.

**Reduced cost of funding:** ASX futures and options enable a private investor to gain exposure to Australian equities at a fraction of the cost of traditional investments. This results in a reduced cost of funding for those borrowing the money to invest.

**Making money from both a rising or a falling market:** unlike traditional investment products which profit only when the market is going up, with futures and options you can also make money when the market goes down. Investors simply buy a future when the market is expected to rise and sell futures when the market is expected to fall. For every point that the market moves in your favour you gain the value of the contract size (e.g. AUD25 for ASX SPI 200™ Index Futures<sup>1</sup>).

To achieve this in traditional markets may necessitate the borrowing of stock, which incurs considerable cost. As there are no short selling restrictions in the futures market these costs and additional complications can be avoided.

**Developing trading strategies:** futures and options provide traders with the flexibility and opportunity to exploit trends and variations in the marketplace that are not possible with traditional traded products. By trading options and/or futures, traders can create a wide range of potentially profitable scenarios regardless of the direction of the market. Some of these are discussed later in this document.

Notwithstanding, this increased potential to profit may bring with it an increased potential for loss when trading futures and options. For this reason this document is intended as a simple introduction to the world of trading futures and options. We recommend all investors seek expert advice from an experienced client adviser prior to participating in these markets.

**Flexibility:** options are among the most flexible instruments available. Even in times where investors are uncertain regarding how the markets will perform, options allow investors to defer the decision until expiry to form a view of the likely direction of the market.

**Limited losses:** for buyers of options, losses are limited to the premium paid.

**1 index point = \$25**  
**Contract Value =**  
**\$25 x ASX SPI 200™**  
**Index Level**

<sup>1</sup> Formerly known as SFE SPI 200™ Index Futures.

# The Indices

---

ASX Index Futures and Options are based on the following indices which are maintained by Standard & Poors:

## **S&P/ASX 200 Index**

The S&P/ASX 200 index is recognised as the investable benchmark for the Australian equity market and covers approximately 78% of Australian equity market capitalisation. It addresses the needs of investment managers to benchmark against a portfolio characterised by sufficient size and liquidity. The S&P/ASX 200 is comprised of the S&P/ASX 100 plus an additional 100 stocks.

## **S&P/ASX 50 Index**

The S&P/ASX 50 index comprises the 50 largest stocks by market capitalisation in Australia. The constituent companies represent the biggest national and multi-national publicly listed companies in the Australian equity market. The S&P/ASX 50 index places an emphasis on liquidity and investability.

## **S&P/ASX 200 A-REIT Index**

The S&P/ASX 200 A-REIT Index contains the listed vehicles classified as Real Estate Investment Trusts (REITs). REITs own property and derive income from rental returns. A GICS REITs sector has been created for the Australian market, where REITs are treated almost as a separate asset class to equity, and are often managed on a separate basis.

# Index Futures

## What is a Future?

Broadly, a future is an agreement to buy or sell a particular asset on a specified future date at a price agreed upon today.

When you buy an index future (go long), you agree to **buy** the underlying index at a particular date in the future. Your profit (loss) is dependent on where the price of the future is at expiry of the contract or at the time you close out your position (i.e. buy it back).

When you sell an index future to open a position (go short), you agree to **sell** the index at a particular date in the future. Your profit (loss) is dependent on where the futures price is at expiry or at the level at which you close out the contract and the price at which you bought the contract.

As explained above, futures are only valid for a specific term. The term to expiry is a common feature of futures and options. Despite this there are a number of key differences between index futures and index options, including:

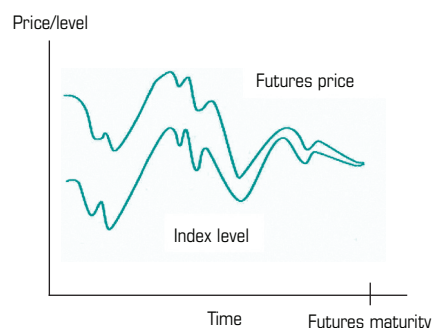
- There are no strike (or exercise) prices for futures. Futures transactions are traded at the market price for the selected expiry month.
- Futures represent an obligation to either buy or sell the underlying rather than just a right to do so.
- Futures require an initial margin\* for both buyers and sellers which is marked to market daily. Options require a premium.

## Futures Pricing

Futures contracts generally trade at a premium to the index prior to maturity (however it is possible for futures to trade at a discount in some market conditions). This premium is the 'cost of carry'. The cost of carry includes the price of holding the shares over the life of the contract less the dividends received over the

life of the contract. As expiry approaches, the futures price tends to converge to the price of the index. At expiry the index futures price and the index price are equal. This is illustrated in the diagram below.

### Relative Movement of Index Futures Price and Index over Life of Contract



## ASX Index Futures Offering

The ASX offers a variety of index futures contracts.

- ASX SPI 200™ Index Futures
- S&P/ASX 200 A-REIT Index Futures<sup>1</sup> (commonly referred to as XPJ Index Futures)
- S&P/ASX 50 Index Futures (commonly referred to as XFL Index Futures)
- S&P/ASX 200 Index Futures (commonly referred to as XJO Index Futures)

These are traded on either the ITS or SYCOM trading platforms on the markets operated by ASX Ltd and SFE Corporation Ltd respectively. To summarise:

PRODUCT	TRADING PLATFORM	MARKET
ASX SPI 200™ Index Futures	SYCOM	SFE
S&P/ASX 200 A-REIT Index Futures <sup>1</sup>	ITS	ASX
S&P/ASX 50 Index Futures	ITS	ASX
S&P/ASX 200 Index Futures	ITS	ASX

<sup>1</sup> Formerly known as ASX Listed Property Trust Futures. The name change is consistent with the broader change made by the ASX and the Property Council of Australia (PCA) to re-brand Australian Listed Property Trusts (LPTs) as Australian Real Estate Investment Trusts (A-REITs), in line with global practice

## ASX SPI 200™ Index Futures

ASX SPI 200™ Index Futures are the most liquid Australian index futures available and are traded on the SYCOM platform. They are widely used by institutions and retail investors for a variety of purposes including directional trading and hedging.

<b>Contract Unit</b>	Valued at A\$25 per index point (e.g. A\$150,000 at 6,000 index points).
<b>Contract Months</b>	March/June/September/December up to six quarter months ahead and the nearest two non-quarterly expiry months.
<b>Commodity Code</b>	AP
<b>Listing Date</b>	02/05/2000
<b>Minimum Price Movement</b>	One index point (A\$25)
<b>Last Trading Day</b>	All trading in expiring contracts ceases at 12.00pm on the third Thursday of the settlement month. Non-expiring contracts will continue to trade as per the stated trading hours. <sup>1</sup>
<b>Cash Settlement Price</b>	<p>The Special Opening Quotation of the underlying S&amp;P/ASX 200 Index on the Last Trading Day. The Special Opening Quotation is calculated using the first traded price of each component stock in the S&amp;P/ASX 200 Index on the Last Trading Day, irrespective of when those stocks first trade in the ASX trading day. This means that the first traded price of each component stock may occur at any time between ASX market open and ASX market close (including the Closing Single Price Auction) on the Last Trading Day.</p> <p>Should any component stock not have traded by ASX market close on the Last Trading Day, the last traded price of that stock will be used to calculate the Special Opening Quotation.</p>
<b>Trading Hours</b>	5.10pm – 7.00am and 9.50am – 4.30pm <sup>1</sup> (during US daylight saving time) <sup>2</sup> 5.10pm – 8.00am and 9.50am – 4.30pm <sup>1</sup> (during US non daylight saving time) <sup>2</sup>
<b>Settlement Day</b>	The first business day after expiry, SFE Clearing publishes the final settlement price of the contract. On the second business day after expiry, SFE Clearing settles cash flows as a result of the settlement price.
<b>Position Limit</b>	None
<b>Daily Price Limit</b>	None
<b>CFTC Approved</b>	Yes

<sup>1</sup> Unless otherwise indicated, all times are Sydney times.

<sup>2</sup> US daylight saving begins second Sunday in March and ends first Sunday in November.

## Directional Trading Using ASX SPI 200™ Index Futures

### Bullish View

#### How do you profit from a rising share market using futures?

Buy a ASX SPI 200™ Index Futures contract and then sell the contract when the price has risen. This is also known as going long a futures contract.

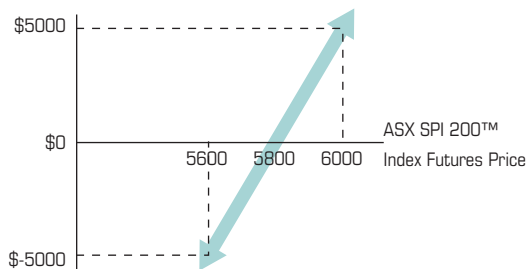
### Example

Buy a ASX SPI 200™ Index Futures contract when the price is 5800 points and then sell a ASX SPI 200™ Index Futures when the price has risen.

If the ASX SPI 200™ Index Futures contract price increased by 200 points to 6000 points then the value of your exposure would have increased to \$150,000 (ie 6,000 x \$25) from \$145,000. In this case you have effectively made \$5,000 or a 50% profit on your initial margin\* outlay of, for example, \$10,000. To realise your gain you simply sell your futures contract at the higher level.

### Profit from a Rising Market

Profit Diagram at expiry if you buy one ASX SPI 200™ Index Futures at 5800 points



### Bearish View

#### How do you profit from a falling share market?

Sell a ASX SPI 200™ Index Futures contract and then buy the contract when the price has fallen. This is also known as going short a futures contract.

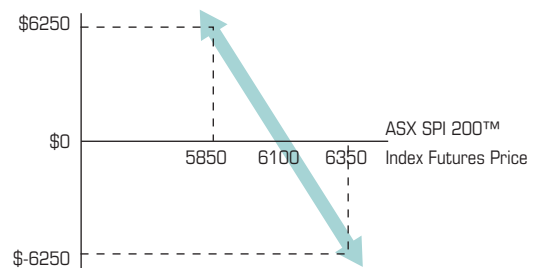
### Example

Sell a ASX SPI 200™ Index Futures contract when the price is 6,100 points and then buy a ASX SPI 200™ Index Futures contract when the price has fallen.

By paying your broker an initial margin\* of, for example, \$10,000 you can sell a ASX SPI 200™ Index Futures contract. Unlike when you bought the futures contract, this time you make a profit if the market falls. If the ASX SPI 200™ Index Futures price decreases by 250 points to 5,850 points you are able to close out your futures contract by buying at the lower level. If you originally sold the contract at 6100 and bought at 5850 you would have made a profit equal to \$6,250 (ie 250 x \$25) or a 62.5% profit on your initial margin\* of \$10,000.

### Profit from a Falling Market

Profit Diagram at expiry if you sell one ASX SPI 200™ Index Futures at 6100 points



## Using futures to protect the value of your portfolio (hedging)

If you own a portfolio of stock that broadly tracks the index and believe that the market is going to fall but do not want to sell (for either cost or tax reasons) you can safeguard the value of your portfolio by selling ASX SPI 200™ Index Futures. This act of protecting your portfolio is known as hedging.

When you implement a hedging strategy using futures any decrease (increase) in the value of your sharemarket portfolio will be compensated for by an increase (decrease) in the value of the futures contract.

## Why hedge?

- To reduce your exposure to the market without incurring the transaction costs of selling your entire portfolio of stock.
- To lock in a buying and selling price for your stock market portfolio.
- To lock in a particular return for an equity portfolio (eg a trader may have achieved their target return for a period and they want to lock this in. By trading a futures contract they do not have to sell their shares).

## How do you protect your portfolio?

Sell ASX SPI 200™ Index Futures. By selling an ASX SPI 200™ Index Futures contract you can lock in the value of your portfolio for the life of the futures contract.

### Example

Assume you hold a portfolio that approximately tracks the S&P/ASX 200 Index worth \$280,000 and that the current index level is 6000 points. You expect that the market will drop by approximately 5% within the month.

To avoid this you could sell your portfolio and re-enter the market when you have more confidence that the market will continue to rise. By doing this you would incur significant transaction costs, both on the sale and the re-

purchase of the portfolio.

The alternative is to sell futures. Not only are futures transaction costs lower than those associated with portfolio liquidation, but the selling process is faster. Another benefit of using futures is that the original portfolio is maintained.

The first step is to determine how many futures contracts will be required to hedge the portfolio.

With the ASX SPI 200™ Index Futures price at 6000 points<sup>1</sup>, one futures contract is worth \$150,000 (6000 points x \$25). To determine the number of contracts that will be required, divide the value of the portfolio by the face value of the futures contract, which in this case is  $\$280,000 / \$150,000 = 1.87$ . Rounding up to the nearest whole number, two futures contracts will be required to provide an adequate hedge for this portfolio. The investor should therefore sell two ASX SPI 200™ Index Futures contracts to hedge this portfolio.

Assume that your prediction turned out to be correct and your market portfolio dropped by 5% and lost \$14,000 and that the futures price fell by 300 points to 5700 points. At this time you could choose to close out the position by buying back the two futures contracts.

PERIOD	INDEX LEVEL	STOCK POSITION	FUTURES POSITION
Day 1	6000	\$280,000	Sell Futures: Number of futures = Stock portfolio value/Face Value of Futures Contract = $\$280,000 / (6000 \times \$25) = 1.87 = 2$ Futures contracts (rounded to the nearest whole digit) Position Value \$300,000
Day 30	Index Level drops 5% to 5700	Stock Portfolio value falls 5% to \$266,000	Buy back futures Notional Value at 5700 Index Level = $5700 \times \$25 \times 2$ Position Value (\$285,000)
GAIN		-\$14,000	\$15,000
NET GAIN			\$1,000

Since you sold the futures contract at 6000 points and you bought at 5700, the profit on the futures transaction is \$15,000 (ie 300 points x \$25 x 2).

Accordingly, even though the market and value of the portfolio declined \$14,000, the short futures position increased in value by \$15,000, offsetting the equity loss.

<sup>1</sup>In this example, the futures price equals the index level. In reality, the Index Futures may be trading at a discount or premium before expiry.

## XPJ Index Futures

The Australian Real Estate Investment Trust sector has been growing strongly in recent years. The XPJ Index Futures contract is a small sized contract with a AUD10 contract value. XPJ Index Futures were listed on ASX in August 2002 to provide the market with an effective, liquid derivative product to manage exposure to the A-REIT sector. XPJ Index Futures are traded on the ITS platform.

ASX A-REIT Futures provide the following benefits for investors:

- **Exposure:** One transaction provides exposure to every A-REIT in the S&P/ASX 200 Index.
- **Reduce Trading Costs:** By accessing the entire sector with one transaction, investors save on transaction fees. Also, investors are able to use shares as collateral to cover initial margins\*. Interest paid on cash lodged with ASX's Clearing House to cover initial margins\*.

<b>Name</b>	XPJ Index Futures.
<b>Underlying index</b>	S&P/ASX 200 A-REIT Index.
<b>Contract code</b>	The futures contract code is a five character code. The first three letters are the ASX code of the underlying index, XPJ. The fourth character is a number designating the year of maturity and the fifth character represents the maturity month.
<b>Contract multiplier</b>	Valued at AUD \$10 per index point.
<b>Quotation/ Tick size</b>	Prices quoted as the number of points, with a minimum price movement of 1 index point = AUD \$10.
<b>Contract months</b>	March, June, September, December up to four quarter months ahead
<b>Expiry Day</b>	The third Thursday of the contract month, unless otherwise specified by ASX.
<b>Last trading day</b>	Trading will cease at 12 noon on expiry Thursday.
<b>Trading hours</b>	6.00am to 5.00pm and 5.30pm to 8.00pm (Sydney time)
<b>Cash settlement</b>	Cash settlement is based on the opening prices of the stocks in the Underlying Index on expiry morning. An index calculation (the Opening Price Index Calculation (OPIC)) is made using these opening prices. This means trading will continue after the settlement price has been determined.
<b>Settlement method</b>	The cash settlement amount is calculated by the calculation agent (Standard & Poors) and forwarded to ACH. The settlement amount is then paid or received net of margins on the next business day.
<b>Initial margin</b>	Initial margins for both buyers and sellers are determined by ACH according to the volatility of the underlying index and are reviewed regularly.
<b>Daily variation margin</b>	Futures positions for both buyers and sellers are settled to market each day and subject to variation margins. An intra-day margin call may also be made by ACH.
<b>Margin cover</b>	Settlement to market margin obligations must be settled daily by the payment of cash. Initial margins can be cash or collateral covered.

## ASX Index Futures

ASX Index Futures are small sized futures contracts. Like the XPJ Index Futures contract they have a contract size of AUD10. The contracts are offered over the S&P/ASX 50 Index (commonly referred to as XFL Index Futures) and the S&P/ASX 200 Index (commonly referred to as XJO Index Futures). This product offering allows investors to tailor their exposure to either the leading stocks (S&P/ASX 50) or the broad sharemarket (S&P/ASX 200).

ASX Index Futures are traded on the ITS platform.

The benefits accruing to investors in ASX Index Futures include:

- **Reduced Trading Costs** – investors in ASX Index Futures may reduce their trading costs by:
  - lodging shares as collateral to cover initial margins\*
  - interest accrued on any cash lodged with ASX clearing house to cover initial margins\*.
- **Trade Across Different Markets** – when trading ASX Index Futures investors may trade across any number of ASX markets including exchange traded options, XPJ Index Futures, LEPOs and stocks with ease as they are on the same trading platform, ITS.

<b>Name</b>	ASX Index Futures
<b>Underlying index</b>	Contracts are over the S&P/ASX 200 Index and the S&P/ASX 50 Index
<b>Contract code</b>	The futures contract code is a five character code. The first three letters are the ASX code of the underlying index. The fourth character is a number designating the year of maturity and the fifth character represents the maturity month.
<b>Contract multiplier</b>	Valued at AUD \$10 per index point.
<b>Quotation/ Tick size</b>	Prices quoted as the number of points, with a minimum price movement of 1 index point = AUD \$10.
<b>Contract months</b>	March, June, September and December up to four quarter months ahead (XFL Index Futures). March, June, September and December up to six quarter months ahead with serial contracts up to two non-financial quarter months ahead (XJO Index Futures).
<b>Expiry Day</b>	The third Thursday of the contract month, unless otherwise specified by ASX.
<b>Last trading day</b>	Trading will cease at 12 noon on expiry Thursday.
<b>Trading hours</b>	6.00am to 5.00pm and 5.30pm to 8.00pm (Sydney time)
<b>Cash settlement</b>	Cash settlement is based on the opening prices of the stocks in the Underlying Index on expiry morning. An index calculation (the Opening Price Index Calculation (OPIC)) is made using these opening prices. This means trading will continue after the settlement price has been determined.
<b>Settlement method</b>	The cash settlement amount is calculated by the calculation agent (Standard & Poors) and forwarded to ACH. The settlement amount is then paid or received net of margins on the next business day.
<b>Initial margin</b>	Initial margins for both buyers and sellers are determined by ACH according to the volatility of the underlying index and are reviewed regularly.
<b>Daily variation margin</b>	Futures positions for both buyers and sellers are settled to market each day and subject to variation margins. An intra-day margin call may also be made by ACH.
<b>Margin cover</b>	Settlement to market margin obligations must be settled daily by the payment of cash. Initial margins can be cash or collateral covered.

## Settlement

All ASX Futures are settled using the Opening Price Index Calculation (OPIC). The settlement price is calculated using the first traded price of each stock comprising the index. This method is widely used to settle index futures contracts internationally including contracts over the S&P 500 and Dow Jones Industrial Indices in the United States and the Nikkei 225 and Nikkei 300 in Japan. The wide acceptance of the OPIC method is credited to the effective management of volatility that generally occurs at maturity of index futures contracts.

# Index Options

## What is an Index Option?

An index option is a contract between two parties which gives the buyer the right but not the obligation to buy or sell a specified index value at a specified price on or before a specified date.

There are two types of options: call options and put options. Call options give writers the right but not the obligation to buy the index value while put options give buyers the right but not the obligation to sell the index value.

At the time of the options transaction, the option buyer pays the options seller a premium. The premium is the cost of the option.

The act of converting the option into the cash return/loss or the underlying futures contract is referred to as exercise. The Exercise Price (also called Strike Price) is the price at which an option taker has the right to buy (in the case of a call option) or sell (in the case of a put option) the underlying index or contract. Options are listed with multiple exercise prices.

## Terms for describing options

### In-the-Money

A call option is in-the-money when the underlying price is greater than the exercise price. A put option is in-the-money when the exercise price of the option is greater than the price of the underlying.

Options that are in-the-money have 'intrinsic value' equalling the difference between the exercise price of the option and the market price of the underlying futures price.

### At-the-Money

An option where the underlying price equals the exercise price.

### Out-of-the-Money

A call option is out-of-the-money if the exercise price is greater than the underlying price. A put option is out-of-the-money if the underlying price is greater than the strike price.

The buyer of the option is not obliged to exercise the option. The buyer may sell the option before expiry. Alternatively, the buyer may allow the contract to lapse at expiry.

## Options Pricing

### Premium

The premium of an option is the sum of the intrinsic value and time value of that option. This is illustrated below.

### Intrinsic Value

The extent to which an option is in the money is its intrinsic value. The intrinsic value is calculated as follows:

**For a Call Option:**  
 $\max(\text{Index Price} - \text{Strike Price}, 0)$

**For a Put Option:**  
 $\max(\text{Strike Price} - \text{Index Price}, 0)$

An illustration of the intrinsic value for a call option is shown below.

	STRIKE	INDEX PRICE	INTRINSIC VALUE
Call Option (In-the-money)	6000	6050	$= \max(6050 - 6000, 0) = 50$
Call Option (At-the-money)	6000	6000	$= \max(6000 - 6000, 0) = 0$
Call Option (Out-of-the-money)	6000	5950	$= \max(5950 - 6000, 0) = 0$

	STRIKE	INDEX PRICE	INTRINSIC VALUE
Put Option (Out-of-the-money)	6000	6050	$= \max(6000 - 6050, 0) = 0$
Put Option (At-the-money)	6000	6000	$= \max(6000 - 6000, 0) = 0$
Put Option (In-the-money)	6000	5950	$= \max(6000 - 5950, 0) = 50$

## Time Value

An option with a long period of time remaining until expiration commands a higher premium than an option with a short time to expiry because it has more time in which to become profitable. Time value is determined by subtracting intrinsic value from the option premium. (ie Time value = option premium - intrinsic value).

## Volatility

The greater the volatility of the underlying market/futures contract, the higher the premium. In a volatile market, the option stands a greater chance of becoming profitable to exercise over the life of the option.

## ASX Index Options Product Offering

ASX offers a variety of index options traded on both the SYCOM and ITS platforms on markets operated by ASX Ltd and SFE Corporation Ltd respectively. These include:

- S&P/ASX 200 Index Options (commonly referred to as XJO Index Options)
- ASX SPI 200™ Index Options<sup>1</sup>
- S&P/ASX 200 A-REIT Index Options (commonly referred to as the XPJ Index Options)
- S&P/ASX 50 Index Options (commonly referred to as the XFL Index Options)

## XJO Index Options

XJO Index Options are the trading vehicle of choice for many retail and institutional investors. This option is listed directly over the S&P/ASX 200 Index and has a contract size of AUD10. XJO Index Options are European style. Only 'in-the-money' options are automatically exercised at expiry. 'At-the-money' options will have to be manually exercised.

<b>Name</b>	XJO Index Options
<b>Underlying Index</b>	S&P/ASX 200 Index
<b>Security Codes</b>	XJO
<b>Index Multiplier</b>	\$10. Each index point is equal to AUD \$10.
<b>Tick Size</b>	Quoted as the number of points of the index. (Tick size 1.0 point)
<b>Exercise Style</b>	European, ie. exercisable only on expiry day.
<b>Exercise Intervals</b>	25 Index points
<b>Type</b>	Call and put options
<b>Contract Months</b>	March, June, September, December up to six quarter months ahead and serial months up to two non-financial quarter months ahead
<b>Expiry Day</b>	The third Thursday of the contract month, unless otherwise specified by ASX.
<b>Last Trading Day</b>	Trading will cease at 12 noon on expiry Thursday.
<b>Trading Hours</b>	6.00am to 5.00pm and 5.30pm to 8.00pm (Sydney time)
<b>Settlement</b>	Index options are cash settled using the opening price index calculation on expiry morning. This means trading will continue after the settlement price has been determined.
<b>Settlement Day</b>	The first business day following the Last Trading Day

1 Formerly known as SFE SPI 200™ Index Options.

## Speculate

You can use index options to profit from the movement in the index per se even if you do not hold an underlying portfolio. Options provide exposure to movements in the index without having to buy each stock in the index in the same proportions. Because of the small initial outlay, you gain leveraged exposure to index movements.

### Bullish View

#### How do you Profit from a Rising Market?

Buy an XJO Index Call Option.

#### Example

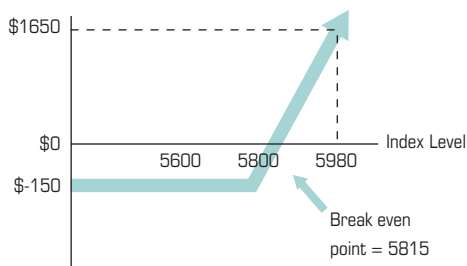
Buy a 5800 XJO Index Call Option for a price of 15 points.

By paying your broker a premium of \$150 (ie 15 points x \$10) you have bought the right to buy the index if the index value is greater than 5800 before the option expires. The diagram below shows the potential profit or loss on the strategy for different index levels at expiry. Since you paid \$150 for the option you will need the index value to be above the break-even point of 5815 to make a profit on the option. The diagram shows that while the index is below 5815 points the call option buyer would make a loss. The most the call option buyer can lose is the price of the option, worth \$150.

The maximum profit to the buyer is unlimited. If by the expiry date the index had risen to 5980 points, then your profit would be \$1,650 (\$1,800 - \$150).

#### Profit from a Rising Market

Profit Diagram at expiry if you buy a 5800 Call Option  
One Index Point = \$10



### Bearish View

#### How do you Profit from a Falling Market?

Buy a XJO Index Put Option.

#### Example

Buy a 6000 XJO Index Put Option for a price of 16 points.

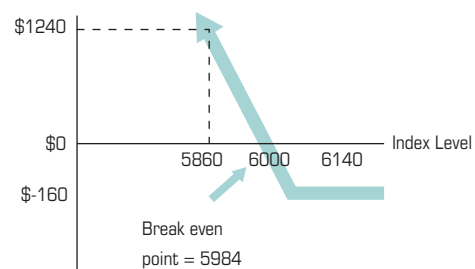
By paying your broker the premium of \$160 (ie 16 points x \$10) you have bought the right to sell the index for 6000 points before the option expires.

The diagram below shows the potential profit or loss on the strategy for different index levels at expiry. Since you paid \$160 for the option you will need the index level to be below the break-even point of 5984 to make a profit on the option. The diagram shows that while the index is above 5984 points the put option buyer would make a loss. The most the put option buyer can lose is the price of the option, worth \$160.

The maximum profit to the buyer is limited because the minimum index level is 0. If by the expiry date the index had fallen to 5860 points, then your profit would be \$1240 (\$1400 - \$160).

#### Profit from a Falling Market

Profit Diagram at expiry if you buy a 6000 Put Option  
One Index Point = \$10



## Hedge

If you hold a stock portfolio and are concerned about a short term fall in value, put options allow you to protect your portfolio against a market downturn. Buying a put option will lock in the value of your portfolio no matter how low it falls. Even if the market downturn you predicted does not come to pass, you have no obligation to exercise, rather you benefit from the increase in your portfolio and your loss is limited to the premium paid.

### How do you protect a stock portfolio position?

Buy put options. During a market fall the increase in the price of the put option will counter the fall in the value of the stock portfolio.

### Example

You hold a share portfolio of blue chip stocks that broadly track the index. The index is currently at 6000 points. You want to protect your portfolio from a fall in the index. You could place a 'Stop Loss' order with your broker, but that could result in you being 'closed-out' in some of your stocks just before the market rallies. An alternative is to buy a 6000 put option. This allows you to lock in the value of the index. The short writer of the put will pay you for the difference between the 6000 point index level and where the market falls to. The profit on your options position would compensate you for any loss on your stock portfolio until the option expiry date.

## Earn Income

Writing (selling) index call options against a portfolio position (that broadly resembles the index) allows investors to earn income over and above the dividends received. This is a popular strategy with investors who expect the price of the index to remain flat or fall slightly. Notwithstanding, selling options carries substantial risk if you do not have an underlying stock portfolio position to cover the option.

## Opportunistic View

### How do you earn extra income by selling options?

Sell options against an existing portfolio of stocks. These are known as 'covered options'.

### Example

Assume you hold a stock portfolio that broadly tracks the index. The index is currently at 5900 points and you expect the index to remain relatively flat over the next three months and would like to earn some income in that time. You find out that XJO Index Call Options with an exercise price of 6000 expiring in 3 months are worth around 32 points. As you do not expect the index to rise above 6000 points before expiry, you instruct your broker to sell one of these options. You receive \$320 premium.

If the market stayed neutral as expected, then you keep the premium of \$320 (\$10 x 32 points).

## ASX SPI 200™ Index Option

This product is listed over the ASX SPI 200™ Index Future. The ASX SPI 200™ Index Option has a contract size of AUD25.

ASX SPI 200™ Index Options are American style and may therefore be exercised on any business day up to and including the Last Trading Day (expiry day). Only 'in-the-money' options are automatically exercised at expiry. Note that generally traders do not exercise their options but sell them to realise their gain or loss.

The ASX SPI 200™ Index Options are available to be traded on the SYCOM platform.

Unlike the index options mentioned above, where the seller received the premium when the contract is struck, the seller of ASX XJO Index Options receives the option premium during the life of the contract. This transaction occurs via the margining process\*. A futures style margining methodology\* is applied to ASX SPI 200™ Index Options positions and there is a daily mark-to-market over the life of the option.

## ASX SPI 200™ Index Options

<b>Contract Unit</b>	Valued at A\$25 per index point (e.g. A\$150,000 at 6,000 index points).
<b>Contract Months</b>	ASX SPI 200™ <sup>1</sup> index options expire in the same calendar month as the underlying ASX SPI 200™ <sup>1</sup> index futures contract. Put and Call options available on existing ASX SPI 200™ <sup>1</sup> index futures contracts. ASX SPI 200™ <sup>1</sup> Index Options available four quarter months ahead.
<b>Commodity Code</b>	AP
<b>Listing Date</b>	02/05/2000
<b>Minimum Price Movement</b>	0.5 index points (A\$12.50)
<b>Exercise Prices</b>	Set at intervals of 25 index points. New option exercise prices created automatically as the underlying futures contract price fluctuates.
<b>Last Trading Day</b>	The last day of trading of the underlying futures contract. All trading in expiring contracts ceases at 12.00pm on the Last Trading Day. Non-expiring contracts will continue to trade as per the stated trading hours. <sup>2</sup>
<b>Cash Settlement Price</b>	The Cash Settlement Price of the underlying futures contract.
<b>Trading Hours</b>	5.10pm – 7.00am and 9.50am – 4.30pm <sup>2</sup> (during US daylight saving time) <sup>3</sup> 5.10pm – 8.00am and 9.50am – 4.30pm <sup>2</sup> (during US non daylight saving time) <sup>3</sup>
<b>Settlement Day</b>	Options may be exercised on any business day up to and including the Last Trading Day. Only 'in-the-money' options are automatically exercised at expiry, unless abandoned. Upon exercise, the holder will receive an underlying ASX SPI 200™ <sup>1</sup> index futures contract position at the option strike price.
<b>Position Limit</b>	None
<b>Daily Price Limit</b>	None
<b>CFTC Approved</b>	Yes

1 ASX SPI 200™ is a trademark of the Sydney Futures Exchange

2 Unless otherwise indicated, all times are Sydney times.

3 US daylight saving begins second Sunday in March and ends first Sunday in November.

## XPJ Index Options

The XPJ Index Options are listed over the S&P/ASX 200 A-REIT Index. XPJ Index Options are European style. They have a contract size of AUD10 and are traded on the ITS platform. Only 'in-the-money' options are automatically exercised at expiry. 'At-the-money' options will have to be manually exercised. This product is available to be traded on the ITS platform.

<b>Name</b>	XPJ Index Options
<b>Underlying Index</b>	S&P/ASX 200 A-REIT Index
<b>Security Codes</b>	XPJ
<b>Index Multiplier</b>	\$10. Each index point is equal to AUD \$10.
<b>Tick Size</b>	Quoted as the number of points of the index. (Tick size 1.0 point)
<b>Exercise Style</b>	European, ie. exercisable only on expiry day.
<b>Exercise Intervals</b>	25 Index points
<b>Type</b>	Call and put options
<b>Contract Months</b>	March, June, September, December up to four quarter months ahead
<b>Expiry Day</b>	The third Thursday of the contract month, unless otherwise specified by ASX.
<b>Last Trading Day</b>	Trading will cease at 12 noon on expiry Thursday.
<b>Trading Hours</b>	6.00am to 5.00pm and 5.30pm to 8.00pm (Sydney time)
<b>Settlement</b>	Index options are cash settled using the opening price index calculation on expiry morning. This means trading will continue after the settlement price has been determined.
<b>Settlement Day</b>	The first business day following the Last Trading Day

## XFL Index Options

XFL Index Options are also AUD10 contract size. XFL Index Options are European style. Only 'in-the-money' options are automatically exercised at expiry. 'At-the-money' options will have to be manually exercised. This product is available to be traded on the ITS platform.

<b>Name</b>	XFL Index Options
<b>Underlying Index</b>	S&P/ASX 50 Index
<b>Security Codes</b>	XFL
<b>Index Multiplier</b>	\$10. Each index point is equal to AUD \$10.
<b>Tick Size</b>	Quoted as the number of points of the index. (Tick size 1.0 point)
<b>Exercise Style</b>	European, ie. exercisable only on expiry day.
<b>Exercise Intervals</b>	25 Index points
<b>Type</b>	Call and put options
<b>Contract Months</b>	March, June, September, December up to four quarter months ahead
<b>Expiry Day</b>	The third Thursday of the contract month, unless otherwise specified by ASX.
<b>Last Trading Day</b>	Trading will cease at 12 noon on expiry Thursday.
<b>Trading Hours</b>	6.00am to 5.00pm and 5.30pm to 8.00pm (Sydney time)
<b>Settlement</b>	Index options are cash settled using the opening price index calculation on expiry morning. This means trading will continue after the settlement price has been determined.
<b>Settlement Day</b>	The first business day following the Last Trading Day

# Introduction to Option Strategies

The following introduction provides some examples of basic options strategies that traders can use for different market expectations and the potential profit opportunities that they offer the trader. In this introduction, the payoff characteristics of the options strategy are shown as at expiry.

## XJO Index Options

### Market View One

You believe there will be high volatility in the market that will move the price significantly but do not know in which direction.

### Strategy LONG STRADDLE

Buy a put option and buy a call option with the same exercise price that is at-the-money.

### Profit and loss characteristics at expiry

**Profit:** Unlimited for a decrease or increase in the underlying index level.

**Loss:** Limited to the premium paid to establish the position. This is greatest if the index level equals the exercise price of the options at expiry.

**Break Even:** If the underlying rises or falls above or below the exercise price by the same amount as the premium cost to establish the position.

### Example

Assume the index price when you establish the strategy is 6000.

### Establish the Options Strategy

Buy one 6000 XJO Index Call Option for the price of 25 points. Buy one 6000 XJO Index Put Option for the price of 20 points.

### Cost of the Options Strategy

The total cost of the strategy is 45 points or \$450 (ie 25 + 20 points x \$10).

### Payoff

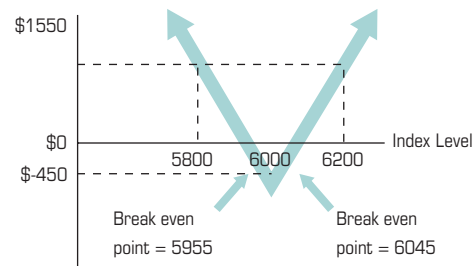
The diagram to the right shows the potential profit or loss on the strategy for different index levels at expiry. Since you paid 45 points (\$450) for the strategy, to profit you will need

the index price at expiry to have increased above the break-even point of 6045 or decreased below the break even point of 5955 points.

The maximum profit is unlimited. If at the expiry date the futures price had risen to 6200 or fallen to 5800 points, then your profit would be \$1,550 (\$2000-\$450).

### Payoff Diagram for a Long Straddle

Profit Diagram at expiry if you buy a 6000 Call Option and buy a 6000 Put Option  
One Index Point = \$10



### Market View Two

You believe there will be low volatility in the market and you don't expect the underlying index to move significantly in either direction.

### Strategy SHORT STRADDLE

Sell a put option and sell a call option with the same exercise price that is at-the-money.

### Profit and loss characteristics at expiry

**Profit:** Limited to the premium you receive from establishing the position.

**Loss:** Unlimited for an increase or a decrease in the underlying futures price.

**Break Even:** If the underlying rises or falls above or below the exercise price by the same amount as the premium received to establish the position.

### Example

Assume the S&P/ASX 200 Index when you establish the strategy is 6000.

### Establish the Options Strategy

Sell one 6000 XJO Index Call Option and receive 25 points in premium. Sell one 6000 XJO Index Put Option and receive 20 points in premium.

### Premium Received Options Strategy

The total potential premium that you could receive is 45 points or \$450 (25+ 20 points x \$10).

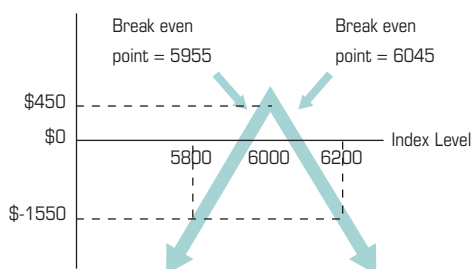
### Payoff

The diagram below shows the potential profit or loss on the strategy for different index levels at expiry. The maximum profit you could receive is the premium or 45 points (\$450). To lose, the index expiry needs to have increased above the break-even point of 6045 or decreased below the break even point of 5955 points.

The maximum loss is unlimited. If at the expiry date the index had risen to 6200 or fallen to 5800 points, then your loss would be \$1,550 (\$2,000-\$450).

### Payoff Diagram for a Short Straddle

Profit Diagram at expiry if you sell one 6000 Call Option and sell one 6000 Put Option  
One Index Point = \$10



### Market View Three

You believe there will be a major movement in the market but are unsure of the direction.

### Strategy LONG STRANGLE

Buy a put option and buy a call option with a higher exercise price. A larger directional move is required to make a profit compared to a Long Straddle.

### Profit and loss characteristics at expiry

**Profit:** Unlimited – although a significant movement in either direction is necessary to make any profit.

**Loss:** Limited to the premium paid to establish the position. This is greatest if the underlying index does not move.

**Break Even:** If the underlying rises above call exercise price or falls below the put exercise price by the same amount as the premium cost to establish the position.

### Example

Assume the S&P/ASX 200 Index when you establish the strategy is 6000.

### Establish the Options Strategy

Buy one 6100 XJO Index Call Option for the price of 25 points.

Buy one 5900 XJO Index Put Option for the price of 20 points.

### Cost of the Options Strategy

The total cost of the strategy is 45 points or \$450 (ie 25+20 points x \$10).

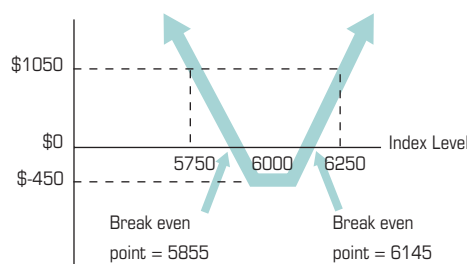
### Payoff

The diagram below shows the potential profit or loss on the strategy for different index levels at expiry. Since you paid 45 points (\$450) for the strategy, to profit you will need the index to have increased above the break-even point of 6145 or decreased below the break even point of 5855 points at expiry.

The maximum profit is unlimited. If at the expiry date the futures price had risen to 6250 or fallen to 5750 points, then your profit would be \$1050 (\$1500-\$450).

### Payoff Diagram for a Long Strangle

Profit Diagram at expiry if you buy a 6100 Call Option and a 5900 Put Option  
One Index Point = \$10



### Market View Four

You believe there will not be a major movement in the futures price. Whilst the profit potential spans a larger range this is a more conservative strategy than a Short Straddle as the maximum potential profit will be lower.

### Strategy SHORT STRANGLE

Sell a put option and sell a call option with a higher exercise price.

### Profit and loss characteristics at expiry

**Profit:** Limited to the premium you receive from establishing the position. This will be highest if the index is between the put's exercise price and the call's exercise price.

**Loss:** Unlimited for a significant movement in the market either up or down.

**Break Even:** If the underlying rises above call exercise price or falls below the put exercise price by the same amount as the premium cost to establish the position.

### Example

Assume the index level when you buy the strategy is 6000.

### Establish the Options Strategy

Sell one 6100 XJO Index Call Option for the price of 25 points. Sell one 5900 XJO Index Put Option for the price of 20 points.

### Premium Received Options Strategy

The total potential premium that you could receive is 45 points or \$450 (ie 45 points x \$10).

### Payoff

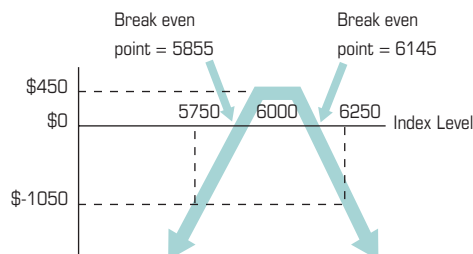
The diagram to the right shows the potential profit or loss on the strategy for different futures prices at expiry. The maximum profit you could receive is the premium or 45 points (\$450). To lose, the index at expiry needs to have increased above the breakeven point of 6145 or decreased below the break even point of 5855 points.

The maximum loss is unlimited. If at the expiry date the index had risen to 6250 or fallen to 5750 points, then your loss would be \$1050 (\$1500 – \$450).

### Payoff Diagram for a Short Strangle

Profit Diagram at expiry if you sell a 6100 Call Option and you sell a 5900 Put Option

One Index Point = \$10



### ASX SPI 200™ Index Options

By combining different options and futures contracts traders can create a wide range of potential profit scenarios that can be used to take advantage of views they have on the market.

### Bullish View

### How do you protect a short futures position?

Buy call options. During the market rise the increase in the price of the call option will help counter the fall in the value of the short futures position.

### Example

You have sold a ASX SPI 200™ Index Futures contract (gone short) for 6050 points and want to protect yourself from a significant rise in the futures price. You could buy a 6050 ASX SPI 200™ Index call option to ensure that you can buy if the market rises significantly. This allows you to at least close out your current bought futures position by buying at 6050 points. This option would protect your short position until its expiry date.

### Settlement

All ASX Index Options are settled at expiry using the Opening Price Index Calculation (OPIC). The settlement price is calculated using the first traded price of each stock comprising the index. The ASX SPI 200™ Index Options however will be settled using the cash settlement price of the underlying futures.

# Glossary

---

## **Hedging**

The act of protecting your portfolio is known as hedging. By entering into a futures or options contract you can also protect the value of your existing portfolio.

## **Closing Out**

In most cases, traders do not hold their open futures position until expiry. Instead, traders normally close out their futures positions by offsetting them with another trade. To offset a position the holder of a bought futures contract sells futures and the holder of a sold position buys futures. By offsetting a futures contract, the trader cancels any obligation they have made by entering into the original futures contract. The difference between the price of the futures contract when the trade was initiated and the price when it is offset is the net gain or loss on the trade.

## **Deposits and Margins**

When opening an account to trade futures and options your broker will ask you for an initial deposit to launch the account. This deposit will vary by broker and client and is retrievable when contracts are closed out if they are not eroded by loss. In addition to this deposit they will ask for enough money to cover the initial margin for each futures or futures options contract you wish to buy or sell.

At the end of each day, your broker 'marks-to-market' your open futures positions. This is the process by which your broker will add and deduct your gains and losses from your account balance. During volatile trading your broker might mark-to-market your positions more frequently than once a day. If your margin deposit falls below a certain level (as determined by your brokerage firm) your broker will ask you to deposit additional money to your account to bring your margin back up to the required minimum. This is called a variation margin. In the event that you have made a profit from your futures position your account will be credited accordingly.

## **Expiration of a Index Futures and Options Contract**

All index futures and options contracts are quoted with an expiration month (also known as contract month). For example ASX SPI 200™ Futures have expiration months of March, June, September and December. Broadly speaking when you enter into a futures contract you are trading an agreement about how many and at what price you will buy or sell the underlying product in the expiration month. The exact day when the futures or options expire is known as the expiry date or last trading date. If you do hold your futures contract until expiry then you must settle your position. In the case of ASX SPI 200™ Index Futures this is done via cash payment. If you are long an index option and the index has not gone in the expected direction, you allow your option to expire worthless, losing only the premium.

## **Contacts**

For contact details of brokers who can advise on trading futures and option, please refer to

[www.asx.com.au/resources/brokers/index.htm](http://www.asx.com.au/resources/brokers/index.htm)



**ASX**

AUSTRALIAN SECURITIES EXCHANGE

**Disclaimer:** This document provides general information for educational purposes only and does not constitute financial product advice. The information is subject to change. You should obtain independent advice from an Australian financial services licensee before making any financial decisions. Although ASX Limited ABN 98 008 624 691 and its related bodies corporate ("ASX") has made every effort to ensure the accuracy of the information as at the date of publication, ASX does not give any warranty or representation as to the accuracy, reliability or completeness of the information. To the extent permitted by law, ASX and its employees, officers and contractors shall not be liable for any loss or damage arising in any way (including by way of negligence) from or in connection with any information provided or omitted or from any one acting or refraining to act in reliance on this information. This document is not a substitute for the relevant SFE or ASX Operating Rules (collectively, the "Operating Rules") and in the case of inconsistency, the Operating Rules prevail. Futures and options trading involves the potential for both profits and losses and only licensed brokers and advisers can advise on this risk.

© Copyright 2008 ASX Limited ABN 98 008 624 691. All rights reserved 2008.

SPI 200™, ASX 200™, ASX 50™ are trade marks of the ASX Group (which includes ASX Limited ABN 98 008 624 691 (ASX), ASX Operations Pty Limited ABN 42 004 523 782 (ASXO) and its related bodies corporate).

In relation to ASX 200™ and ASX 50™, ASXO has entered into an arrangement with Standard and Poor's (S&P™) whereby these trade marks must be prefaced by the mark "S&P" when used to describe indices.

\*All references to margin and collateral in this document reflect the practices of SFE Clearing and ACH in risk managing their Clearing Participants. Individual clients may be risk managed differently - in terms of, for example, the type and quantity of margin applied, the type of collateral accepted and the interest paid on cash collateral - by their Clearing Participant or Broker and should contact their Clearing Participant or Broker to establish their practices.

**Domestic Information Line: 131 279**  
**www.asx.com.au**

**International Information Line: +61 2 9338 0000**

For these products the market is operated by ASX Limited ACN 008 624 691





ASX

AUSTRALIAN SECURITIES EXCHANGE