Warrants

Understanding trading and investment warrants

AUSTRALIAN STOCK EXCHANGE

ASX Derivatives
A division of Australian Stock Exchange Limited
(ABN 48 001 314 503)

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Edition 7, printed April 2001.
ABN 98 008 624 691

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Introduction

Warrants – A new investing alternative

The 1990s saw a dynamic financial market become established in Australia offering concepts that were innovative for private investors. In the past decade characterised by its innovation, the rapidly growing warrants market was at the cutting edge. This was achieved by an increased variety of investing choices and opportunities for active traders and medium and long term investors. The growth in the use of warrants and the development of warrant concepts continue to create a new investing alternative for personal investors alongside traditional choices like shares, interest paying securities and investment trusts.

Warrants:

- are financial products traded on ASX;
- include a no-obligation entitlement to either acquire or relinquish an interest in another investment asset, like shares or units in a trust;
- have a set life during which they exist – a time period – that must always be considered;
- serve a particular purpose that concentrates on important aspects of investing in the related assets over a period of time: for example, to pursue a short term trading opportunity, to maximise the income potential or to maximise the capital gain that can be earned.

Because different warrants serve different purposes, this makes it important to distinguish between them and appreciate exactly what they offer and how they can be used. Before you consider becoming involved in warrants you need to know the differences between call and put warrants, between different warrant types such as endowment and instalment warrants, what index warrants do and how currency, portfolio and enhanced income warrants work.

You need to understand the risks of trading or investing in warrants and the market generally, and what makes warrants different from the related investments on which they are based. All forms of investing have risks and within investment categories, like the warrant family, the different risks of participation should be appreciated in order to invest in an informed manner.

This booklet will provide you with a basic introduction to warrants that you can then work from.

John Wasiliev

Before you begin

What are warrants?

Warrants are financial instruments issued by banks and other institutions and are traded on the Australian Stock Exchange (ASX) equities market. They are very broadly split into products with investment purposes and products with trading purposes.

Warrants are a form of derivative – that is, they derive their value from another 'thing' (underlying instrument). Some are contracts which give holders the right to call for delivery of, or to put the underlying instrument (eg. a share) to the warrant issuer for a particular price according to the terms of issue. Alternatively, others entitle holders to receive a cash payment relating to the value of the underlying instrument at a particular time (eg. index warrants).

Warrants may be issued over securities (such as shares or debentures), a portfolio of different securities, a share price index, currencies, or commodities.

The range of financial instruments traded as warrants has evolved over time so that it is now difficult to define particular characteristics of all warrants. Warrants cover a wide spectrum of risk profiles, investment objectives and likely returns.

Some warrants have higher risk/return profiles than others that offer lower risk features such as capital guarantees.

About this booklet

This booklet contains an outline of common features and a general description of most types of warrants. It is not an exhaustive or complete analysis of all warrant types and features.

The main objective is to provide you with general information about warrants and about some of the risks of trading or investing in warrants.

Before buying warrants, you should understand the terms and risks associated with the particular warrant series. You should read the disclosure document (called the offering circular) prepared by the issuer of the warrants and seek specific advice from your accredited derivatives adviser.

Warrants are often a form of option and so (to varying degrees), the basic principles of options generally apply to warrants. This booklet assumes you have a reasonable understanding of the basic principles of options. Page 36 contains details of where you can obtain further information about options.

Risk/Return Spectrum

Capital Guaranteed Products
eg Capital plus

Medium or Shorter Term Investments
eg Instalments

Short Term Sophisticated Trading Products
eg Barrier index warrants

Lower Risk → Higher Risk

Lower Return → Higher Return

Longer Term Investment Style Products
eg Endowments and Instalments

Short Term Trading Products
eg Equity and Index Warrants

The booklet also contains various comments by John Wasiliev, a financial reporter. John has many years experience reporting on financial markets. In particular, John currently has a weekly warrant column in "The Australian Financial Review" which reports on the latest trends and products which are brought to the marketplace.

Important

It is important that you understand:

- ASX grants permission for warrants to be traded on its market (called 'admission to trading status') on the application of warrant issuers. ASX does not guarantee the performance of warrant issuers nor does it vouch for the accuracy of the offering circular.
- You must make your own credit assessment of the warrant issuer of a particular warrant series.
- Warrants have a limited life and cannot be traded after the relevant expiry date. The terms of a warrant series may be subject to adjustments or the warrants may expire early in particular circumstances. Depending upon the circumstances the price of most warrants will fall rapidly as they approach expiry.
- Warrants do not have standardised terms. The terms may vary considerably between different series (even between warrants of the same type) and different warrant issuers. You should seek information regarding the specific terms of issue for a series of warrants before you trade in a series.
- There are different risk and return profiles for different warrant series. Some warrants have features that make them more risky than others. You should seek specific advice about the risks and features of a warrant series from your accredited derivatives adviser.
- Some advisers may be paid commissions or other benefits by warrant issuers in relation to the sale of particular warrants. Your adviser is obliged to disclose to you any commissions or other benefits which may influence his/her recommendation.

Warrants and ETOs

ASX also operates a derivatives market for exchange traded options (ETOs). To varying degrees (depending on the type), warrants have similarities to ETOs which distinguish them from shares.

Warrants and options are primarily financial products that allow you to gain exposure to the underlying instrument without necessarily owning that instrument.

Warrants and ETOs do not give direct control over the underlying instrument until exercise and unlike shares, will expire after a certain period of time. There are however some key differences between warrants and ETOs such as:

- Warrants are traded on the ASX equities trading system – SEATS – whereas ETOs are traded on the ASX options trading system – DTF (Derivatives Trading Facility).
- Settlement of warrant trades occurs on CHESS in the same manner as share transactions are processed. The Options Clearing House Pty Ltd (OCH), which controls the clearing of ETOs has no involvement in settling warrant trades.
- Unlike ETOs, you cannot write warrants and there are no margin payments associated with warrants to cover the risk of financial loss due to adverse market movements.
- The terms of ETOs are standardised and are set by ASX, whereas the terms of different warrant series are set by the issuer and can be quite diverse.
- There are more types of warrants than ETOs. Some of these types of warrants have little in common with ETOs.

The ASX warrant market

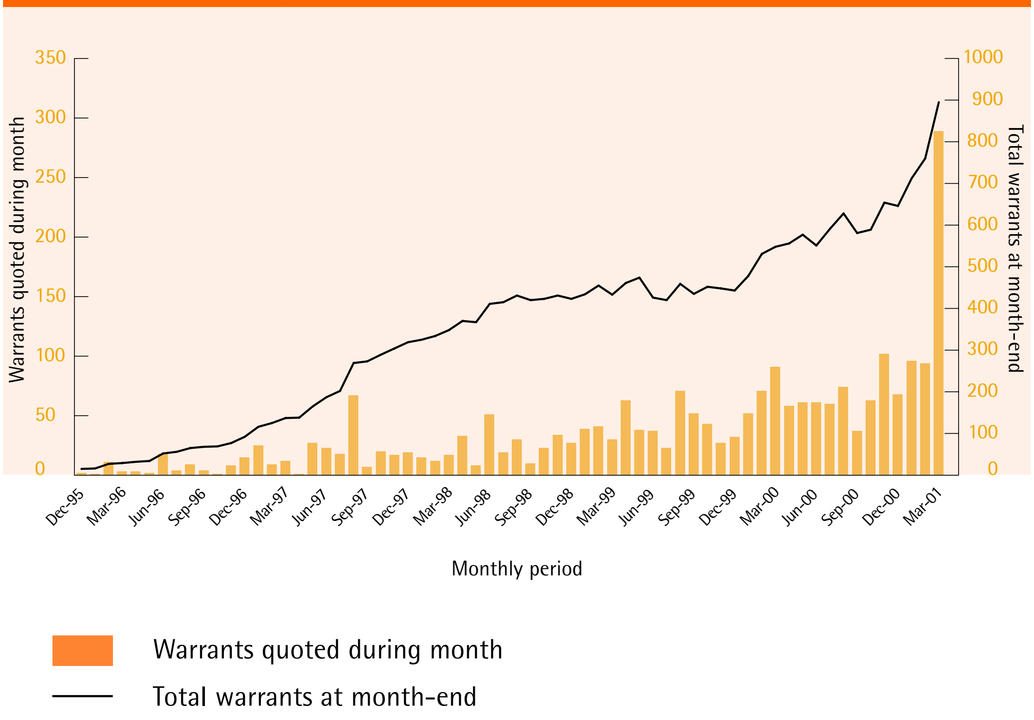
Warrants are traded in many key financial markets of the world. ASX has operated a warrant market since 1991.

Trading in warrants in Australia has become increasingly popular in recent years. The first chart shows the increase in the number of warrants traded. The second chart shows trading volume and value in recent years.

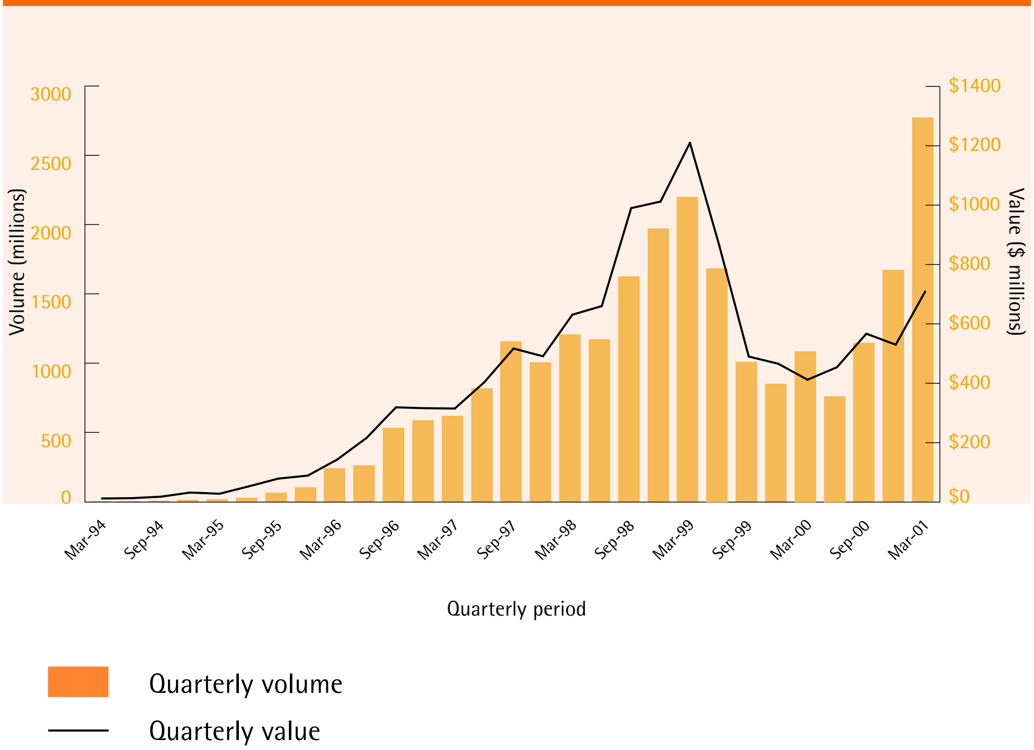
The market began by trading equity call warrants only. Others types have been introduced over time. There are now a number of different warrants available for trading or investment including equity warrants, instalment warrants, index warrants, currency warrants and endowment warrants. These (and others) are discussed later in this booklet.

As at 6 April 2001 there were 13 active warrant issuers and over 930 warrant series available for trading or investment.

Warrants – New Listings and Month-end Totals



Warrant Market Activity (per quarter)



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Appreciate the relationships

Warrants are offered on a range of traditional and non traditional investment assets. Examples of traditional assets are shares in companies and units in investment trusts. There are also warrants on some fascinating non-traditional investment assets. They include specially constructed portfolios of shares, warrants on currencies and on local and international market indices, like the S&P™/ASX 200 Share Price Index, the U.S. Standard & Poors (S&P 500) Index and the Japanese Nikkei 225 Index.

Because you're not buying or selling the actual investments, but rather buying warrants that give you the choice of whether to buy or sell – which you may not take advantage of – warrants can allow an investing position to be established for a fraction of the cost of a transaction involving the actual assets.

In some instances, warrants prices can represent a small proportion of the value of the related investment: as little as 1–to–2 per cent or less for 'highly geared' or 'leveraged' warrants. In other cases, there may be only a small price differential between the warrant and the investment. Yet in both circumstances and all situations in between, warrants can offer a different investment result than a commitment to the related investments.

John Wasiliev

Warrant characteristics

Some features or characteristics form part of many warrants. Some of these are described below – some appear in all warrant types and some do not. As we state many times, warrants do not necessarily have standardised terms. The terms are specified by the warrant issuer within the constraints of the ASX Business Rules and the law. This means the terms may vary significantly between different warrant types, between different series of the same type of warrant and between different warrant issuers.

The terms and conditions of a particular warrant series are set out in a document prepared by the warrant issuer called an offering circular. To obtain a copy of an offering circular, you should speak to your adviser or the warrant issuer. Some warrant issuers put their offering circulars on their web sites. A number of offering circulars are also available on the ASX website.

When reading the offering circular, you should be aware that some issuers use different terminology for different types of warrants. Where this occurs, the offering circular will generally contain a table to cross-reference the terms to generally known concepts.

Call or put warrants

Warrants can be either call warrants or put warrants. Call warrants benefit from an upwards price movement in the underlying instrument whereas put warrants benefit from a downward trend.

A deliverable call warrant generally gives you the right to buy the underlying instrument (eg a share) from the warrant issuer at a particular price on, or before, a particular date. A deliverable put warrant generally gives you the right to sell the underlying instrument to the warrant issuer at a particular price on, or before, a particular date. For cash settled calls and puts, the value of the warrant is paid to you in cash.

Deliverable or cash settled

Deliverable warrants are settled in the first instance by a transfer of the underlying instrument, eg. equity warrants. Cash settled warrants are settled by a cash payment by the warrant issuer to you, eg. index warrants. Some deliverable warrants may also provide for cash settlement in certain circumstances.

In some cases a large number of warrants may need to be exercised to give rise to a delivery obligation, eg. international equity warrants. The terms of issue will identify any exercise conditions.

Expiry date

The expiry date is the last date on which the warrant can be exercised. Trading in a warrant generally ceases on the expiry date. Under some circumstances warrants may be expired early if the warrant has been validly exercised the issuer will be obliged to deliver or take delivery of the underlying instrument or make a cash payment according to the terms of the warrant series.

Underlying instrument

A warrant derives its value from some other ‘thing’ or instrument. It is generally the instrument which you have the right to buy or sell or against which a cash payment is made. The underlying instrument may be a security (such as a share in a company), a share price index, a commodity or a currency. Some warrants are over a ‘basket’ or ‘portfolio’ of securities. The basket may consist of securities in entities with similar activities, for example mining or manufacturing. Warrants over a basket of securities give exposure to the performance of a group of securities or a particular industry. In some circumstances, the underlying instrument may be adjusted during the life of the warrant. The offering circular should explain when this may occur.

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A warrant derives its value from some other instrument.

Exercise style

Warrants are usually American style or European style exercise. American style means you can exercise the warrant at any time on or before the expiry date. European style means you can only exercise the warrant on the expiry date of the warrant. Occasionally warrants are a mixture of American and European, eg. they may be European up to a point and then American thereafter. The terms of the warrant series will set out how you may exercise the warrant. You should be familiar with the terms relating to exercise. A failure to follow the terms may mean the exercise of the warrant is not effective. Warrants may be traded on ASX up to and including the expiry date.

Exercise price (or strike price)

This is the amount of money which must be paid by you (in the case of a call warrant) or by the warrant issuer to you (in the case of a put warrant) for the transfer of each of the underlying instrument(s) (not including any brokerage or stamp duty charges).

In the case of cash settled warrants, the difference between the exercise price (generally called the exercise level) and the value of the underlying instrument at expiry is paid on settlement.

The exercise price is generally fixed when the warrants are issued. However, the exercise price could be variable. For example, the exercise price of endowment warrants and some instalment warrants is not fixed. Further, the exercise price of some warrants may be in a foreign currency – eg. currency warrants and international equity warrants.

Some issuers charge for costs associated with the exercise of the warrant (eg. stamp duty or brokerage costs), and so the amount payable on exercise may be more than the stated exercise price.

The exercise price or the basis for calculating the exercise price will be specified in the offering circular prepared by the warrant issuer.

Like the underlying instrument, the exercise price may be adjusted in certain circumstances. Again, the offering circular should explain when this may occur.

Issue size

This is the number of warrants that may be issued in a particular warrant series. The warrant issuer may reserve the right to apply to ASX to have more warrants issued in the same series without notice to holders.

Conversion ratio or 'Warrants per share'

The conversion ratio is the number of warrants that must be exercised to require the transfer of the underlying instrument. The terms of issue may require one warrant to be exercised to trigger settlement. Alternatively, a number of warrants may need to be exercised. These are sometimes known as 'fractional warrants'.

Example

A 4:1 call warrant over BHP ordinary shares requires you to exercise 4 warrants to buy 1 BHP share. Sometimes the ratio works the other way, for example, 1 warrant could be over 2 shares. This may be shown as 0.5:1, but of course, you must always exercise whole numbers of warrants.

Don't forget that the conversion ratio is not the only term that must be satisfied to trigger a settlement obligation – refer to the offer circular for other conditions relating to a valid exercise.

The conversion ratio will affect the price of the warrants (but not the leverage). A higher conversion ratio means a lower warrant price. While trading prices are quoted on a per warrant basis the exercise price is quoted on a per share (or underlying instrument) basis. It is therefore important to know the conversion ratio of a warrant series before investing.

The conversion ratio of a warrant may be affected following a corporate action by the underlying company, eg. as a result of a new issue or a capital reconstruction.

Covered warrants

A warrant is said to be covered if the warrant issuer places the underlying instrument in a trust or similar custodial arrangement on behalf of the holder. To be called 'fully-covered', the warrant series must meet particular criteria of the ASX Business Rules. Most instalment warrants are covered.

Index multiplier

This is only relevant to index warrants. It is the figure used to determine the amount payable to you on exercise or expiry.

As a formula,

The intrinsic value of a call index warrant on exercise or expiry
=
the index multiplier
x
(closing level of the index – the exercise level of the warrant).

Example

If the closing level of the index is 3,000 points and the exercise level of a call index warrant is 2,800 points then the warrant has an intrinsic value of 200 points. If the index multiplier is 1 cent then you are entitled to receive $2.00 per warrant (being $0.01 x (3,000-2,800)).

Barrier levels

Some warrants have barrier features. A barrier level is a defined level that causes some event to occur. Some barriers cause the warrant to terminate before the original expiry date. Others may cause an adjustment to the exercise price and barrier level (and the warrant continues until expiry) but may require you to make an additional payment to the issuer. Other barriers simply cause the exercise price (or level) and barrier to be reset. The consequences of triggering a barrier level will be specified in the offering circular for the warrant series. Barrier levels are nominated by the issuer before warrants are issued. The barrier can be above or below the exercise price (or level) of the warrant. Warrants may expire worthless if they are out-of-the-money when the barrier is triggered. If however, the warrants are in-the-money, then the issuer may be obliged to pay a cash amount to holders. The descriptions of index warrants and equity warrants in the **Types of Warrants** section of this booklet include examples of warrants with barrier levels.

Cap levels

Some warrants have their upside potential capped at a certain level. This is sometimes called the cap level.

Cap levels are different to barriers. Cap levels generally do not cause the warrant to terminate but will limit the upside profit potential of the warrant. A cap level is fixed by the issuer when the warrant is issued. If, on exercise or expiry, the value of the underlying instrument is above the cap level, settlement of the warrant is based on a return equal to the cap level (and not the value of the underlying instrument). You could be entitled to a cash payment or to a transfer of the underlying instrument at value equal to the cap level. Cap levels are used in a number of different warrant types. In some warrants the cap level is an essential feature. In these warrants, the position of the cap relative to the current share price has a significant economic impact on how the warrant works. The description of capped warrants in the **Types of Warrants** section of this booklet has examples of these warrants.

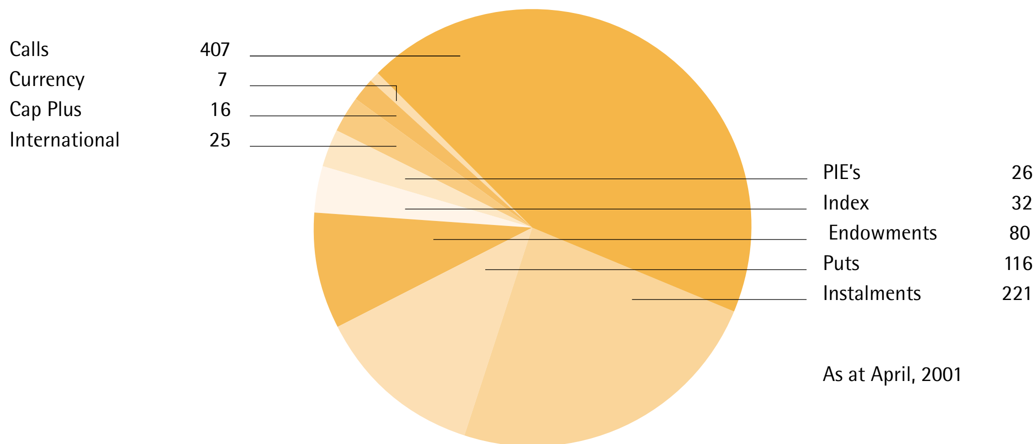
Types of warrants

There has been strong growth and much product innovation in the warrant market in recent years. This is likely to continue. In broad terms, warrants can be viewed as trading products or investment products. Some may fall into both categories. Trading products are generally frequently traded and relatively short dated. They have a higher risk/return profile to the investment style products. Index warrants, currency warrants and equity warrants usually fall within this category. Investment style products have other features to attract investors. These warrants tend to be longer dated and are less frequently traded. They have a lower risk/return profile and often have a higher initial outlay compared to trading warrants. Endowment warrants, capital plus warrants and PIE warrants are investment style products. Instalment warrants bridge the trading-investment gap, ie. some investors hold shares for trading purposes and some hold them for longer term investment purposes and the same could be said for instalment warrants.

Before buying warrants, you should understand the risks and features of the warrant series you are considering. We recommend you read the offering circular prepared by the warrant issuer and seek advice from your accredited derivatives adviser. Offering circulars are available on the ASX web site (www.asx.com.au).

Set out below is a general overview of some different types of warrants. It does not describe all warrants on the market. Further, some warrants may have different features or a combination of the features described. Therefore, you should not assume that these descriptions will reflect particular warrants you may consider buying. From time to time we may add further information about new warrant types or features to the ASX web site at www.asx.com.au.

Types of warrants on ASX



Equity warrants

Equity call and put warrants are issued over securities (in some cases securities quoted on an Exchange other than ASX). The exercise price is usually set reasonably close to the value of the security at the time of issue. The expiry date is usually anything from about three months to three years from the date of issue (average 9 months). Equity warrants can be American or European exercise style and, if exercised, are settled in the first instance by delivery of the underlying security. Equity warrants are generally highly traded, particularly when they are short dated.

Example

Warrant code	QANWDA
Underlying Instrument	Ordinary shares Qantas Airways Ltd
Warrant type	Equity call warrant
Expiry date	23 November 2000
Exercise price	$3.75
Exercise style	American
Conversion ratio	1 warrant : 1 share
Settlement	Physical delivery

This is a call warrant over the ordinary shares in Qantas Airways Limited (QAN). It is an American style warrant with an expiry date of 23 November 2000 and an exercise price of $3.75. The holder of a QANWDA warrant has the right to buy one QAN share for $3.75 on or before 23 November 2000.

International equity warrants

International equity warrants are equity call and put warrants over securities quoted on an overseas exchange. This raises other issues that you should consider. You should speak to your accredited adviser about the additional complexities of these warrants. For example:

- Time zone differences between ASX's market and the overseas market – ie. the home market for the underlying securities may not be open for trading at the same time as ASX's market is open for trading in the warrants. Note however the securities may be quoted on more than one exchange and there could be trading hours overlapping with ASX (such as in Hong Kong).
- Delivery of the underlying securities – the settlement, ownership and custodial arrangements in the overseas jurisdiction will differ from arrangements in relation to ASX quoted securities. You may need to make arrangements to hold the securities overseas.
- ASX supervision – ASX does not supervise or regulate trading in relation to the underlying securities. This is primarily the responsibility of regulatory bodies within the jurisdiction of the underlying securities. As a result company announcements and historical trading data will not be available from ASX, although offering circulars will identify other places where this information can be accessed.
- Restrictions on exercise – additional conditions may be placed on exercise, for example, requiring a minimum (large) number of securities to be delivered before the warrants can be validly exercised.

Example

Warrant code	ZMSWGA
Underlying Instrument	Microsoft Corporation Common stock
Home (Principal) Exchange	NASDAQ
Warrant type	International equity call warrant
Expiry date	23 May 2001
Exercise price	US$110
Exercise style	American
Conversion ratio	10 warrants: 1 share
Minimum Exercise Quantity	10,000 warrants
Settlement	Physical delivery

This is an international equity call warrant over the common stock of Microsoft Corporation. It is an American style warrant with an expiry date of 23 May 2001 and an exercise price of US$110. The amount paid to exercise the warrants is the Australian dollar equivalent of the exercise price based on the exchange rate at the time of exercise (calculated in accordance with the terms of issue). In this example, you must exercise a minimum of 10,000 warrants (with an equivalent exercise value of US$110,000) to call for delivery of the stock (1000 shares). You could take a smaller position (ie. hold less than 10,000 warrants) and profit from movements in Microsoft shares by selling the warrants in the market rather than exercising and taking delivery of the stock.

Equity barrier warrants

Equity barrier warrants are equity warrants with a barrier feature that generally causes the warrant to terminate before the original expiry date. In some cases the triggering of a barrier level may cause the exercise price and barrier to be reset.

Example

Warrant code	ECPWNA
Underlying Instrument	Ecorp Limited Ordinary shares
Warrant type	Equity barrier call warrant
Expiry date	29 September 2000
Exercise price	$1.00
Barrier Level	$1.70
Exercise style	European
Conversion ratio	2 warrants : 1 share
Settlement	Physical delivery

This is a barrier call warrant over the ordinary shares in Ecorp Limited (ECP). It is a European style warrant with an expiry date of 29 September 2000 and an exercise price of $1.00. The holder of two ECPWNA warrants has the right to buy one ECP share for $1.00 on 29 September 2000. If prior to expiry the market price (as defined in the terms of issue) closes at or below $1.70 the warrant will terminate before the original expiry date. In the event that the barrier is hit the warrant holder may receive a payment equal to the difference between the exercise price and the average market price over the period immediately following the barrier being triggered (as calculated in accordance with the terms of issue).

Index warrants are based on a share price index and may be settled in cash.

Index warrants

Index warrants are linked to the performance of a share price index such as the S&P™/ASX 200 Share Price Index or a foreign index. The exercise level (rather than exercise price) is expressed in index points. These warrants are cash settled on exercise or expiry. Generally speaking, index warrants are highly traded and short dated (average 3 months).

Example 1 – Call index warrant

Warrant code	XPIWSA
Underlying instrument	Share Price Index
Warrant type	Index call warrant
Expiry date	29 November 2000
Exercise level	3,100 points
Index multiplier	$0.005 (1 index point = half a cent)
Exercise style	European
Settlement	Cash Payment

If the closing level of the Share Price Index is at 3,300 points on the expiry date, then you will be entitled to receive a cash payment equal to $1.00 per warrant. This is calculated as the (closing level of the index – exercise level) x index multiplier ie. (3,300–3,100) x $0.005 = $1.00 per warrant.

Barrier index warrants

Some index warrants contain barrier levels (see the Warrant Characteristics section of this booklet about barrier levels). The consequences of triggering the barrier will be defined in the terms of issue of the particular warrant series.

Example 2 – Barrier index warrant

Warrant code	XJOWMA
Underlying instrument	S&P™/ASX 200 Share Price Index
Warrant type	Resetting barrier index call warrant
Expiry date	28 November 2000
Exercise level	3,075 points
Reset Exercise level	3,275
Barrier levels	At or below 2,775 points on any business day then the Exercise Level will change to 3,275 points.
Index multiplier	\$0.005
Exercise style	European
Settlement	Cash payment

If the closing level of the S&P™/ASX 200 Share Price Index is at or below 2,775 points on any business day before 28 November 2000, then the Exercise Level of the warrant will change to 3,275 points. As discussed in the section on barriers, some barriers have different consequences which you will find in the terms of issue.

Foreign index warrants

Index warrants may also be issued over foreign indices which represent movements on overseas exchanges. These warrants can have index multipliers in either Australian dollars or the foreign currency (with the foreign amount converted back to Australian dollars at the time of settlement). You should speak to your accredited derivatives adviser about the unique features of foreign index warrants.

Innovation

Index warrants were successful new innovations for the warrants market in 1998. In late 1998 and early 1999 this concept was extended to warrants on the US S&P 500 Composite Stock Price Index and the Japanese Nikkei 225 Index and to barrier and dual barrier index warrants. Currency warrants and capped warrants continued the trend toward innovative products.

John Wasiliev

Example 3 – Foreign index warrants

Warrant Code	XSPWME
Underlying instrument	S&P 500 Composite Stock Price Index
Warrant type	Index Call warrant
Expiry date	15 December 2000
Exercise level	1,525 points
Index multiplier	US\$0.005
Exercise style	European
Settlement	Cash payment

If the closing level of the S&P500 Composite Share Price Index is 1,675 points on the expiry date, then you will be entitled to receive a cash payment equal to US\$0.75 per warrant. This is calculated as the (closing level of the index – exercise level) x index multiplier ie. (1,675-1,525) x US\$0.005 = US\$0.75 per warrant.

There tends to be a close relationship between movements in instalment warrant prices and movements in the underlying share or other instrument.

Instalment warrants

Instalment warrants give holders the right to buy the underlying shares or instrument by payment of several instalments (usually two or three) during the life of the warrant. Instalment warrants are often covered warrants with the underlying instrument being held in trust/custody for the benefit of the holder.

A common feature of instalment warrants is that you are entitled to any dividends or distributions and possibly franking credits paid by the underlying instrument during the life of the warrant. Some instalments also pass on voting entitlements of the underlying instrument. An interest component is usually part of the payments due.

By their nature, instalment warrants are call warrants that can be either European or American exercise style and they usually have a life of between 12 months and 10 years. On valid exercise and payment of the final instalment, the holder will be entitled to receive the underlying instrument. Some also give you an option to put the underlying instrument back to the issuer and receive a cash payment. Not all instalment warrants have the same structure or features and you should talk to your accredited derivatives adviser about the taxation consequences of investing in instalment warrants.

At the time of issue, the gearing level of instalments is usually about 50%, i.e. you pay 50% up front and the issuer lends you the remaining 50% (plus interest). Some instalments have higher gearing levels (50% to 100%) when issued. These have sometimes been called 'HOTS'.

Example

Warrant code	AMPIXA
Underlying instrument	Ordinary shares of AMP Limited
Warrant type	Instalment warrant
Expiry date	26 July 2001
Exercise price	$10.00
Exercise style	European
Settlement	Physical delivery

If AMP's share price was around $20 at the time of issue of the warrants then you would have paid about $11 for the warrant (about half the share price at the time plus an element of prepaid interest). You can then pay $10 to exercise the warrant any time on or before 26 July 2001 to receive one AMP share per warrant.

Because you only pay about half of the underlying share price when buying the instalment, the issuer lends you the other half of the purchase price. This is why there is a prepaid interest component in the first instalment.

There tends to be a close relationship between movements in instalment warrant prices and movements in the underlying share or other instrument.

Rolling instalment warrants are a new variation on existing instalments. They have a much longer life – up to 10 years. Each year the exercise price may be reset by the issuer. At the end of each year, you may choose to take delivery of the underlying security, cash out the warrant or roll into the following year. If you do nothing you will automatically be rolled into the following year. Rolling into the following year means that you accept the new exercise price. This may mean that you will need to pay an additional amount to the issuer. If you don't pay this amount, the issuer may terminate some of your warrants and use the proceeds to meet the amount due. Conceptually, these warrants can be seen as a series of consecutive one year instalment warrants with the exercise price being reset each year.

Some instalment warrants may be accepted as collateral by OCH.

Endowment warrants

Endowment warrants are long term warrants typically with a 10 year life. They are generally over an ASX quoted security or basket of securities and have a European exercise style. Endowment warrants are promoted as investment products to be bought by investors and held until expiry.

The structure of an endowment warrant provides for you to pay between 30 and 65 percent of the market value of the underlying security at the time of issue. The exercise price (called the outstanding amount) is initially the remaining sum plus other costs and is specified when the warrant is issued. The outstanding amount varies over the life of the warrant. In this respect endowment warrants differ from most warrants as they do not have a fixed exercise price.

The outstanding amount is reduced by any dividends that are paid in relation to the underlying security. In some instances franking credits and other payments may also reduce the outstanding amount. However, an interest rate is also applied and the outstanding amount is increased by these interest amounts.

At expiry, if you exercise the warrant and pay the balance of the outstanding amount (if any) the issuer will transfer the underlying securities to you. If the reductions applied against the outstanding amount exceed the interest incurred over the life of the warrant, the outstanding amount will have decreased. It could reduce to zero prior to or at expiry. If this occurs you may only have to pay a nominal exercise price such as one cent.

An investor in endowment warrants is taking a long term view on the underlying company's dividend policy versus interest rates with the hope that the dividends will outweigh the interest payments and the outstanding amount will reduce over time.

The issuers of endowment warrants can provide you with details of the outstanding amount and the expiry dates of particular endowment warrant series.

Example

Warrant code	CBAECE
Underlying instrument	Ordinary shares in Commonwealth Bank of Australia
Warrant type	Endowment warrant
Expiry date	18 August 2006
Outstanding amount when first issued – 14 February 1996	9.95
Outstanding amount as at 30 June 2000	7.502
Applicable interest rate* (as at 30 June 2000)	6.203
Market price of CBA shares (as at 30 June 2000)	Bid $27.53, offer $27.68
Conversion ratio	1:1
Exercise style	European

*The interest rate used for this warrant is the 180 day Bank Bill Swap Rate.

Capital Plus warrants

Capital Plus warrants cover a basket of securities specified by the issuer. They are issued for around $1,000 and at least this amount will be returned to you at expiry which is usually about 5 years from the issue date. They are generally European style warrants and you can elect to either receive the underlying securities or a cash payment (following the sale of the underlying securities).

Around the issue date, the warrant issuer will assign a gearing rate, generally between 10% and 30%, to the warrants. On expiry the issuer applies this rate to any increase in the value of the portfolio.

Sorting out investment warrants

Instalment and endowment warrants are both more investment style than trading warrants. With endowment warrants, the time period is long term – about 10 years. Endowment warrants are structured in such a way that dividends are applied toward the outstanding amount and at expiry a payment as small as 1 cent may be all that is necessary to exercise the warrant, although it could be more if the dividends don't cover the balance owed and interest obligations.
The time involved in instalment warrants is shorter: from 12 months to 3 years (but up to 10 years in some cases). The initial deposit is also substantial, generally around 50 per cent of the agreed purchase price. But the agreement this time is that any dividends and imputation credits that flow through from the shares are received by the warrant holder.

John Wasiliev

Derivatives
Division
1800 028 585

Example

You buy Capital Plus warrants on 30 March 2000 over a basket of securities in the following companies: AMC, AMQHA, BLD, CBA, CSR, GIO, LLC, NAB, ORG SRP, BHP, and WOW. The cost of each warrant is $1,000. The number of shares of each company in the basket is determined by the issuer so that the total value is $1,000. The gearing rate for these warrants is 15%.

Assume the value of the basket has risen to $2,000 on the expiry date. You could exercise the warrant and call for delivery of the basket or alternatively, you could instruct the issuer to sell the securities in the basket. If you decided to receive the cash payment, you would be entitled to receive your initial $1,000 investment plus an amount equal to the increase in the value of the basket plus an extra 15% of this increase.

Summary

Value of the basket on expiry	$2,000
Initial value of basket	$1,000
Increase in value	$1,000

Payment to holder

Initial investment	$1,000
Increase in value	$1,000
Gearing (15% of profit)	$150
Total payment to holder	$2,150

If the value of the portfolio had fallen to say $500 at the expiry date then the initial investment of $1,000 would be paid to the warrant holder.

Low Exercise Price warrants

A low exercise price warrant is usually an equity call warrant with an exercise price that is very low relative to the market price of the underlying instrument at the time of issue (eg. 1 cent). The buyer of a low exercise price warrant effectively pays the full value of the underlying instrument at the outset.

Capped warrants limit the upside profit potential for warrant holders and give some other benefit in return.

Capped warrants

Capped warrants are marketed under many names even though their structures may be quite similar. Capped calls, blocs, COS, DYNO, Disco are some of these names.

These warrants limit the upside profit potential for warrant holders and give some other benefit in return. They also have a low exercise price relative to the price of the underlying instrument and are usually European in exercise style.

Where the value of the underlying instrument is less than the cap level on expiry, you may exercise and call for delivery of the underlying instrument. If however, the market value of the underlying instrument is equal to or greater than the cap level on expiry then you may be entitled to receive a return equal to the cap level.

Example 1 – Cap level above the current market price

Warrant code	DVTXPB
Underlying instrument	Davnet ordinary shares
Warrant type	Capped call warrant
Expiry date	26 October 2000
Cap level	$1.40
Market Price at time of issue	$1.20
Exercise Price	$0.01
Conversion Ratio	1 warrant: 1 share
Exercise style	European
Settlement	Physical Delivery or Cash

In this example the cap level was above the DVT share price at the time of issue. If DVT was greater than or equal to $1.40 on the expiry date, you would receive a cash payment of $1.40. If DVT was less than $1.40 on the expiry date you could take delivery of DVT shares by exercising the warrant. This would give you a discounted share purchase relative to the share price of DVT at the time the warrant is purchased. The expectation of a holder of this type of capped warrant is to make a discounted acquisition of the underlying instrument.

Example 2 – Cap level below the current market price

Warrant code	DVTXPA
Underlying instrument	Davnet ordinary shares
Warrant type	Capped call warrant
Expiry date	26 October 2000
Cap level	$1.00
Market Price at time of issue	$1.20
Exercise Price	$0.01
Conversion Ratio	1 warrant: 1 share
Exercise style	European
Settlement	Physical Delivery or Cash

In this example the cap level was below the DVT share price at the time of issue. If DVT was greater than or equal to $1.00 on the expiry date, you would receive a payment of $1.00. If DVT was less than $1.00 on the expiry date you could exercise the warrant and take delivery of DVT shares for an effective purchase price of less than $1.00. In the event that you are paid the capped amount of $1.00, the return received can exceed the return obtained on cash deposits (such as bank accounts or cash management trusts). The expectation of a holder of this type of capped warrant is to receive the capped payment in cash.

Premium Income (PIE) warrants

Another type of capped warrant offers "premium income" as the benefit in return for giving up some profit potential. These warrants contain some of the capped warrant features mentioned above as well as some features of instalment warrants. They are issued over a parcel of shares so the warrants have a high face value. Warrant holders pay most of the value of the parcel up-front and have a right to purchase the parcel for a low exercise price relative to the face value. The parcel of shares is held on trust for the warrant holders and they receive any dividends and franking credits. In addition, holders will receive a further distribution called premium income which is payable by the issuer twice a year and ranges from 2% to over 6%.

Like other capped warrants, the upside profit potential is capped. For the example shown below the cap level is 1.25 times the initial share price. If on exercise, the share price is equal to or less than the cap level, you are entitled to receive the parcel of shares. However, if the share price is greater than the cap level then, on exercise, you are entitled to receive a reducing number of shares equal to the capped value of the basket. You may also exercise a put option and require the issuer to purchase the parcel and pay you cash.

Example

Warrant code	NCPXXY
Underlying instrument	Basket of 428 News Corporation Limited ordinary shares
Warrant type	Premium Income Equity Warrant
Expiry date	20 April 2001
Cap level	$14.406
Exercise price	$1.00
Conversion ratio	1 warrant: 1 basket
Exercise style	European
Settlement	Delivery/cash

Currency warrants give holders exposure to movements in the exchange rate between two different currencies.

Currency warrants

Holders of currency warrants may exchange an amount of foreign currency for Australian dollars on or before the expiry date. The value of the warrant rises and falls in line with movements in the exchange rate. For example, holders of AUD/USD call warrants benefit from an increase in the AUD/USD exchange rate and holders of AUD/USD put warrants benefit from a decrease in the AUD/USD exchange rate.

Example

Warrant code	AXUWMB
Underlying instrument	AUD
Warrant type	Call warrant
Expiry date	30 November 2000
Exercise Level	$US6.20
Exercise style	European
Settlement	Physical Delivery or Cash

In this example, you pay $US6.20 and receive $A10.00.

"Trigger" currency warrants are essentially 'binary' or 'digital' currency options (also known as 'all or nothing' options). In this particular type of warrant, if a trigger event occurs prior to expiry you receive a fixed cash payment. If a trigger event doesn't occur the pay out is zero.

The trigger level is normally set 'out of the money'.

Advantages of warrants

Leverage or gearing

Warrants often offer some degree of leverage or gearing. This can range from negligible gearing to a high level of gearing, depending on the type of warrant. Some warrants, such as those with a low exercise price (eg. capped warrants), effectively have no leverage and generally speaking, investment style warrants offer less gearing than trading style warrants. Leverage or gearing means that small percentage changes in one variable are levered or geared up into larger percentage changes in another variable. For example, the market value of a warrant might increase by 20% (say) for a 5% change (say) in the underlying share price.

Example

	XYZ Warrant	XYZ Shares
29/01/2000	$0.47	$13.68
17/02/2000	$0.68	$14.44
Absolute Profit	$0.21	$0.76
Percent return	44.7%	5.6%

In the example shown here, on 29 January 2000 the shares of XYZ Limited were trading at $13.68 and the XYZ warrant was $0.47.

By 17 February 2000, the warrant in the table was trading at $0.68 and the shares were trading at $14.44 giving you a 44.7% return from the warrant (not annualised) compared with a 5.6% return on the shares.

Understanding leverage

Leverage is a major issue in warrants trading. The leverage calculation – also called gearing – is fairly straightforward and can be done using easily available information. It indicates the sort of result you might expect from warrants.

To obtain a leverage or gearing figure, you divide the current warrant price into the current price of the shares and then multiply this by the warrant delta, obtained either from the warrant issuer or your broker. Say shares on which a particular call warrant is based are trading at $10, the warrant is priced at 75c and the delta is 45 per cent. Using the above method gives you effective gearing or leverage of 6 times. If the reciprocal of this is then converted into a percentage – 16.7 per cent – then provided the market goes up, 16.7 per cent of your money invested in the particular warrant should give you roughly the same result as 100 per cent invested in shares.

Compare this to another warrant priced at $1 where the delta is 50 per cent. The same calculation gives you a gearing of 5 times, or 20 per cent.

Of course the risk with warrants is the other side of the equation: an adverse price movement will cause the warrant price to move by the same gearing in the opposite direction, causing a much larger loss relative to the money you have invested in warrants. Another important factor to consider is that the warrant price may not always behave exactly as expected. Market factors can come into play.

While it is not perfect, gearing or leverage is one way of assessing value between different warrants as well as how warrants shape up against other investments.

John Wasiliev

This higher gearing effect associated with the warrant is also known as leverage. However a decrease in the value of the underlying instrument will also result in greater percentage decreases in the value of the warrant, ie. leverage works in both ways.

Speculation

A speculator is a trader who is prepared to bear more risk in return for an expected higher return. If a speculator believes that the value of a particular asset will rise in the future they could purchase the asset now in anticipation. An alternative would be to buy a deliverable call warrant over the same asset. The difference between these and other alternatives is the cost of investment.

Purchasing a leveraged warrant costs less than purchasing the underlying asset. There is however the risk that the warrant will be worthless at the expiry date.

Investment

Some warrants are structured as longer term investment style products. The advantages of investing in these types of products might be capital growth, income, capital protection or a combination depending on the nature of the product.

Portfolio protection – hedging

Equity and index put warrants allow you to protect the value of your portfolio against falls in the market or in particular shares. Put warrants allow you to lock in a selling price for the underlying instrument. Protecting your position in this way is called hedging. A hedge is a transaction which reduces or offsets the risk of a current holding.

Limitation of loss

If the value of the underlying instrument is less than the exercise price of the warrant at expiry then a call warrant will expire worthless. Your maximum loss* is the amount paid for the warrant. While you can lose your entire investment in the warrants, you have to compare that loss to the size of the exposure the warrant holding gave you, and what an equivalent exposure in the underlying instrument would have cost.

Example

If you buy 1000 ANZ call warrants which have a current market price of $0.50 per warrant, then the maximum amount you can lose is $500 (ie. $0.50 x 1000)*.

However, these warrants may give you exposure to $10,000 (say) of ANZ shares, so a similar exposure in the shares would cost you $10,000. If the share price dropped significantly you could lose far more than the $500 you invested in the warrants.

(*excluding transaction costs when you purchase the warrant)

Market exposure

Some warrants, such as index and basket warrants, offer you the opportunity to profit from movements in the market or in a sector without necessarily owning a large portfolio which effectively tracks the market or sector. Foreign index warrants, international equity warrants and currency warrants allow you to gain exposure to overseas and other markets.

Tailored to meet specific requirements

Warrant issuers have flexibility in structuring warrants which allows a warrant series to be tailored to the investment needs of a particular kind of investor. For example, index warrants may appeal to investors looking to profit from moves in a particular index over a short period of time, while endowment warrants may appeal to investors looking for long term exposure.

An opportunity to pursue a view

When you buy investments like shares, you do so with the over-riding expectation the price will go up. There are investment-style warrants – instalment, endowment, and capital plus portfolio warrants – where the same strong positive price-related expectation is the main reason for buying.

On the other hand, your expectation when you buy a warrant for trading purposes can be the same or you may think the price is more likely to retreat. And depending on how strongly you think the price movement might be – in whatever direction and over what time period you expect your view to be proved correct – a particular warrant can be chosen from the range on offer that will best suit your opinion.

This is one of the most important characteristics of warrants: their specific purpose of allowing a personal view about certain investments over a specified time to be pursued. The time may be very short, a day, a few days, weeks or months in the case of warrants that serve a trading purpose. Or there are warrants that are designed as investments as they can be bought with a time horizon measured in years. Yet because warrants are traded on the market, it is possible to change a view either after it has delivered a desired result; or if for some reason, a strategy no longer seems appropriate.

John Wasiliev

Risks with warrants

There are certain risks involved in investing and trading warrants. This section outlines some of the general risks associated with most warrants, but it does not deal with all aspects of risks associated with warrants. Different warrant series will have specific risks and different risk profiles. You should only invest in warrants if you understand the nature of the products (specifically your rights and obligations) and the extent of your exposure to risk. Before you invest you should carefully assess your experience, investment objectives, financial resources and other relevant considerations and discuss these with your accredited derivatives adviser. You should not rely on the booklet as a complete explanation of the risks of investing in warrants.

Issuer risk – ASX is not a guarantor

While ASX provides the platform for warrants to be traded, neither ASX nor its subsidiaries in any way guarantee the performance of the warrant issuer or the warrants issued.

Each warrant is a contract between the warrant issuer and you. You are therefore exposed to the risk that the issuer (or its guarantor, where relevant) will not perform its obligations under the warrant. You must make your own assessment of the credit risk associated with dealing with the warrant issuer.

Warrant issuers are not covered by margins or other forms of security lodged with ASX, OCH, or any other party. The risks associated with issuing warrants are managed entirely by the warrant issuer. Covered warrants allow the issuer to reduce this risk by placing the underlying instrument in a cover arrangement to meet its obligations under the warrant.

To help you evaluate the ability of an issuer to meet its obligations, the offering circular contains information on the financial situation of the issuer and guarantor (if applicable). Some issuers are listed on ASX and therefore provide this information to the market on a regular basis.

...there are no spread or quantity obligations applied to the market making requirements.

Liquidity risk

This is the risk that you will not be able to sell your warrants for a reasonable price in the market. This could be because there are insufficient orders to buy your warrants, or the price at which others are prepared to buy them is very low. Warrant issuers undertake to ASX to make markets by maintaining buy and sell orders in the market for the life of the warrant. This is to ensure there is sufficient liquidity in a warrant series so that you can readily buy and sell warrants. However, there are no spread or quantity obligations applied to the market making requirements. The quality of market making will depend on competitive pressures. In times of extreme volatility the reliability of market makers to maintain a market will be put under stress. You should be aware that in these situations, the presence of suitable quotes in the market cannot always be assured.

Currency risk

International equity warrants and index warrants may give rise to foreign currency risk. In the case of index warrants this currency exposure may arise where the index multiplier is denominated in foreign currency. Likewise, international equity warrants may give rise to currency risk.

Leverage (or gearing) risk

As well as being a benefit, leverage or gearing is also a risk of trading warrants. This concept is discussed in the Advantages of warrants section.

Suspension from trading

ASX may suspend or remove a warrant series from trading, for example, if the warrant issuer is unwilling, unable or fails to comply with the ASX Business Rules. ASX may also suspend trading in warrants in the interests of maintaining a fair and orderly market and to protect investors. A relevant consideration would be the suspension of the underlying security of an equity warrant.

Limited life

Warrants have an expiry date and therefore a limited life. On expiry warrants cease trading and can no longer be exercised. It is possible a warrant will expire without your expectations being realised. You should make an assessment whether the warrants you have selected have sufficient time to expiry for your market views to be realised. Also, a warrant's value erodes over its life. This is called time decay. Time decay accelerates as warrants near expiry.

Early termination or expiry – Extraordinary Events

In certain circumstances a warrant may terminate or lapse before the expiry date. An example would be where an extraordinary event occurs or some barrier levels are triggered. Barrier levels are discussed in the **warrant characteristics** section of the booklet.

Issuers generally reserve the right to nominate extraordinary events which may result in the early expiry of the warrant series. These events may vary depending on the type of warrant. Examples of the possible extraordinary events include:

- the suspension of trading in the warrant (except if it is caused by the issuer);
- the suspension of trading in the underlying securities;
- the de-listing of the underlying company;
- compulsory acquisition of the underlying securities following a successful take-over bid.

What actually happens when an extraordinary event occurs depends on the type of warrant in question and the terms of issue for that series. The expiry date may be brought forward or the warrants may simply lapse with a payment in certain circumstances.

Extraordinary events should be taken into consideration when assessing the merits of a warrant.

National Guarantee Fund not a guarantor in all cases

The National Guarantee Fund (NGF) is a pool of assets that is available to meet valid claims arising from dealings with brokers in certain circumstances. Under certain circumstances you may be able to claim against the NGF in relation to secondary trading in warrants on the stock market conducted by ASX. Claims can in no way relate to the primary issue of the warrants or the settlement obligations of the issuer arising from the exercise or lapse of the warrant.

General market risks

The market price of warrants is affected by the same risks that affect all stock market investments such as movements in domestic and international markets, the present and anticipated economic environment, investor sentiment, interest rates, exchange rates and volatility (see the later discussion for the impact of volatility on warrant prices).

Disciplines and strategies

The trading nature of many warrants makes it essential to develop disciplines and strategies in order to capitalise on opportunities and manage the risks of investing. Given the most important fundamental is what happens to the price of the investment on which the warrant is based, a logical strategy is trying to predict which direction this will go and how powerfully the price move is likely to be over a period of time.

Establishing a system to predict related investment price movement must be part of any serious medium term warrant strategy. A system may be fundamentally driven or based on technical analysis, or a combination of both. The bottom line is that it will help determine which warrants to buy. In warrant-speak, this trading approach is described as a directional strategy. It is a straightforward strategy for new entrants and the aim is trying for a maximum profit based on a directional view. But the directional view must also include a view on time. You will buy a different warrant if you expect investment action to take place next week as distinct from some time over the next three to six months. You might be prepared to take more premium decay risk in a more immediate transaction. Decay is always greater the closer a warrant moves towards expiry. Warrant premiums decay slower the more time there is before the warrant expires.

An alternative strategy is to trade on views of whether warrants are cheap or expensive. This is a short term “quick profits” strategy for the dedicated, informed and well resourced market participant.

The strategy is generally described as volatility trading as it focuses not so much on broad directional trends but on the volatile price vibrations that warrants can display. When the price of a related investment (like shares) becomes volatile, rising sharply or falling dramatically, a gap can develop in the relationship between the investment and the warrant. The warrants can trade in a more volatile or a less volatile fashion than the shares, by displaying extreme or unexpected price behaviour.

If a warrant price becomes more volatile, say a call warrant rises more sharply on a relative basis when a share price rallies or remains strong and independent of any price retreat, it becomes more expensive. Warrants become cheap if the price doesn’t move in line with the related investment or even moves in the opposite direction than expected.

John Wasiliev

Warrant issuers and the Offering Circular

Who issues warrants?

Warrants may only be issued by institutions that meet the eligibility criteria set out in the ASX Business Rules. In general terms, institutions eligible to issue warrants must:

- be subject to the Banking Act; or
- be a government; or
- have a securities dealers licence (or overseas equivalent), an investment grade credit rating, and sufficient net tangible assets;
- have a guarantor that meets any of the above categories, or
- issue fully covered warrants.

In addition, other institutions which are not objected to by ASX and the Australian Securities and Investments Commission (ASIC) may also issue warrants.

A list of all warrants and warrant issuers is available on the ASX internet site. Go to www.asx.com.au and look in the Warrant section under Trading Information.

Offering Circulars

Warrant issuers are required to produce an Offering Circular for warrant series. An Offering Circular sets out information for investors to assess the risks, rights and obligations associated with the warrant and the warrant issuer's capacity to fulfill its obligations. An offering circular must be given to all persons offered or invited to subscribe for the warrants.

A list of all warrants and warrant issuers is available on the ASX internet site. Go to www.asx.com.au and look in the warrant section under Trading Information.

The Offering Circular will generally contain the terms of issue of a warrant series. The terms of issue are the contractual rights and obligations of both the issuer and warrant holder. In addition to the terms, the issuer may have other obligations, for example, under the ASX Business Rules.

You are encouraged to read the relevant offering circular and terms of issue document before investing in a particular warrant series. Offering circulars are available on the ASX web site (asx.com.au).

Important

While ASX considers a proposed warrant series as part of an application for admission to trading status, ASX does not warrant the accuracy or truth of the contents of the offering circular. Admission to trading status should not be taken in any way as an indication of the merits of the particular warrants or issuer.

Neither ASX, its subsidiaries, and the National Guarantee Fund in no way guarantee the performance of the warrant issuer. You must independently assess the credit worthiness of the warrant issuer.

Trading and settlement

Secondary trading of warrants

Warrants are traded on the ASX equities trading system, SEATS, and are subject to its dealing rules.

Warrant Codes

All warrants have a six-letter code. For example, warrants with the code.

BHPWAA are issued by ANZ Banking Group Limited over the ordinary shares of The Broken Hill Proprietary Company Limited (BHP).

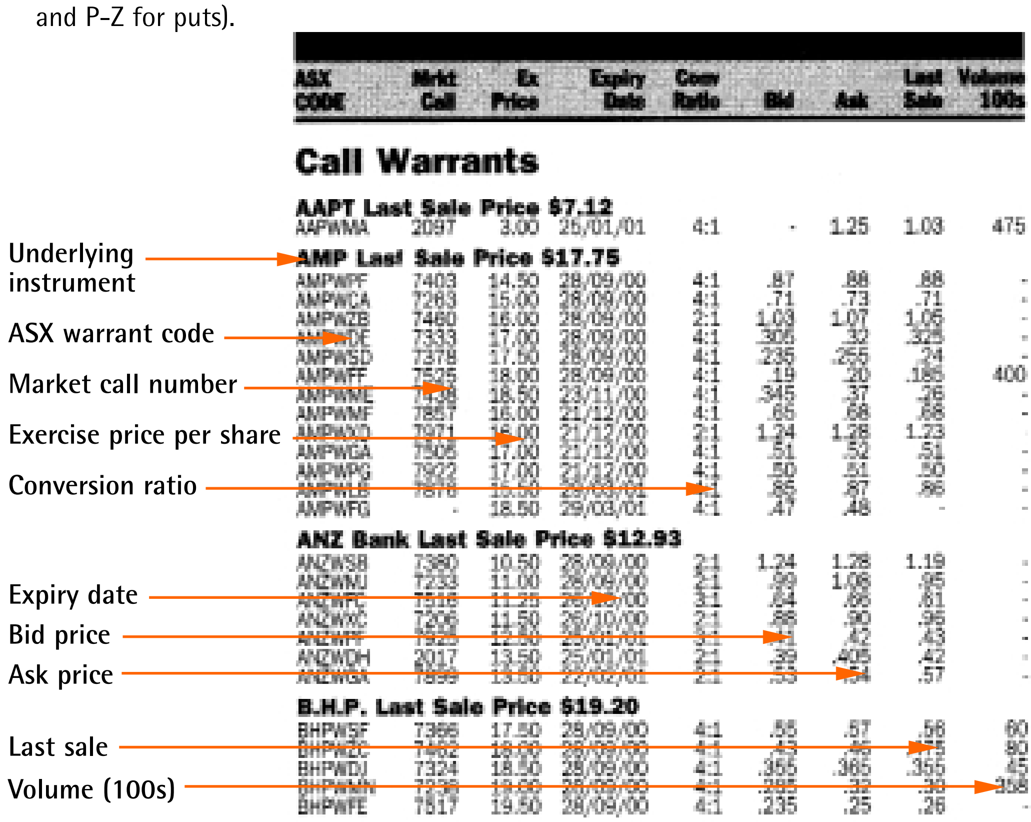
- The first three letters **BHP** indicate the underlying instrument
- The fourth letter is either **W, I, E** or **X** depending on the type of warrant. Generally, W = equity, index and currency warrants, I = instalments, E= endowments and X = all other types
- The fifth letter **A** indicates the warrant issuer (ANZ Banking Group Limited)
- The last letter A is the market code for the warrant series (generally warrants are sequentially allocated letters A-O for calls and P-Z for puts).

Market making

Warrant issuers undertake to ASX to maintain markets for the life of their warrants. However, there are no spread or volume requirements. This means that ASX does not prescribe the difference between an issuer's buy and sell quotes on SEATS, nor what volumes it must offer to buy or sell. Issuers often arrange for a broker to handle the day to day running of the market in the warrant. This broker may or may not be affiliated with the issuer.

Trading information

Twenty minute delayed trading details are available on the ASX internet site. To access this go to www.asx.com.au and click on the link to Warrant Prices. Current prices are also available from your broker. The trading prices of warrants are published daily in a number of major newspapers. The information in the newspapers does not necessarily contain details of all relevant factors to enable you to make a decision about a warrant series.



Call Warrants

ASX CODE	Mrkt Call	Ex Price	Expiry Date	Conv Ratio	Bid	Ask	Last Sale	Volume 100s
AAPT Last Sale Price $7.12								
AAPWMA	2097	3.00	25/01/01	4:1	-	1.25	1.03	475
AMP Last Sale Price $17.75								
AMPWFF	7403	14.50	28/09/00	4:1	.87	.88	.88	-
AMPWCA	7263	15.00	28/09/00	4:1	.71	.73	.71	-
AMPWZB	7460	16.00	28/09/00	2:1	1.03	1.07	1.05	-
[illegible]	7333	17.00	28/09/00	4:1	.305	.32	.325	-
AMPWSD	7378	17.50	28/09/00	4:1	.235	.255	.24	-
AMPWFF	7525	18.00	28/09/00	4:1	.19	.20	.185	400
AMPWME	[illegible]	18.50	23/11/00	4:1	.345	.37	.36	-
AMPWMF	7857	16.00	21/12/00	4:1	.65	.68	.68	-
AMPWXD	7971	[illegible]	21/12/00	2:1	1.24	1.28	1.23	-
AMPWGA	7505	17.00	21/12/00	4:1	.51	.52	.51	-
AMPWPG	7922	17.00	21/12/00	4:1	.50	.51	.50	-
AMPWLB	7878	[illegible]	[illegible]	[illegible]	.85	.87	.86	-
AMPWFG	-	18.50	29/03/01	4:1	.47	.48	-	-
ANZ Bank Last Sale Price $12.93								
ANZWSB	7380	10.50	28/09/00	2:1	1.24	1.28	1.19	-
ANZWNU	7233	11.00	28/09/00	2:1	.99	1.06	.95	-
[illegible]	7516	11.25	[illegible]	3:1	.64	.66	.61	-
ANZWXC	7206	11.50	26/10/00	2:1	.88	.90	.95	-
[illegible]	7923	12.50	[illegible]	2:1	[illegible]	.42	.43	-
ANZWDH	2017	13.50	25/01/01	2:1	.39	.405	.42	-
ANZWGA	7899	13.50	22/02/01	2:1	.53	[illegible]	.57	-
B.H.P. Last Sale Price $19.20								
BHPWSF	7366	17.50	28/09/00	4:1	.55	.57	.56	60
BHPWZC	7462	[illegible]	[illegible]	4:1	.43	.45	[illegible]	80
BHPWDJ	7324	18.50	28/09/00	4:1	.355	.365	.355	45
BHPWMN	[illegible]	[illegible]	[illegible]	4:1	.295	.32	.30	[illegible]
BHPWFE	7517	19.50	28/09/00	4:1	.235	.25	.26	-

Short selling

Short selling occurs where a person sells securities which he or she does not own at the time of the transaction. As a general rule, warrants are not permitted to be short sold in the market. This means that you must generally own a warrant before you may sell it.

Suspension from trading

Refer to discussion in the section **Risks with warrants**.

Warrant settlement – secondary trading

For secondary trading warrants are settled in the same manner as other securities traded on SEATS. This is through the equities settlement system, CHESS. OCH, which clears ETO transactions, is not involved in warrant transactions.

Details of warrant trades are sent to CHESS to effect settlement. For this to occur, you must be either issuer-sponsored or broker-sponsored. Your broker can help you with sponsorship arrangements.

You are required to settle your warrant transaction within the normal settlement period for a share transaction and you will receive regular statements of your warrant holdings in the same manner as share holdings. You will receive a Holder Identification Number (HIN) if you are broker-sponsored or a Shareholder Reference Number (SRN) if you are issuer-sponsored.

If the warrant has an intrinsic value on expiry, warrant issuers are generally required to pay you a cash payment of at least 90% of the intrinsic value if you don't exercise.

Warrant settlement – exercise or expiry

A warrant offering circular will explain the requirements for a valid or effective exercise of the warrant. Generally, you will be required to lodge an exercise notice on or before a certain time. You must ensure the requirements for exercise are met to ensure the warrants are validly exercised. A failure to validly exercise (or an ineffective exercise) may mean that you are not able to insist on transfer of the underlying instrument. It should be noted that in the case of international equity warrants, transfer of the underlying instrument is likely to occur in an overseas jurisdiction. For further information, see the **Types of Warrants** section of the booklet about international equity warrants.

When no exercise has occurred

If you hold deliverable warrants but do not exercise them before expiry you may be entitled to a cash payment, often called an "assessed value payment" (or AVP). If the warrant has an intrinsic value on expiry, warrant issuers are generally required to pay you a cash payment of at least 90% of the intrinsic value. Again the offering circular will explain the circumstances in which this payment will be made and how the payment will be calculated.

Issuer fails to meet its obligations

When a deliverable warrant is exercised the terms of issue will provide for delivery of the underlying instrument and payment of the exercise price. If a warrant issuer does not meet its settlement obligations within 20 business days following valid (or effective) exercise, you may ask for a liquidated damages payment. Alternatively, you could pursue other legal remedies against the issuer.

Adjustments

The offering circular may contain terms providing for adjustment to the exercise rights of warrants where there is a change to the underlying instrument. Where the underlying instrument is an equity security, adjustments generally occur where there is a corporate action such as a reduction in capital, a new issue or reconstruction in the underlying security. In the case of index warrants, adjustments often relate to the modification or discontinuance of the index. When an adjustment occurs, the underlying instrument, the exercise price and other variables could be changed.

Warrant pricing

It is important to have some understanding of how the market prices of warrants are determined. There is no simple answer to this question and a complete explanation is far beyond the scope of this booklet.

Warrant pricing is a subset of general option or derivative pricing and involves the use of complex mathematical techniques to build pricing models. These pricing models have been developed over the past 30 years. The pioneering work was published by Fischer Black, a mathematician, and Myron Scholes, an economist, in 1973.

Warrants prices are influenced by:

- the price or level of the underlying instrument
- the exercise price of the warrant
- the expiry date or the time left to expiry
- the volatility of the underlying instrument
- interest rates
- dividends

The table below shows how the variable factors affect warrant prices.

Price or level of the underlying instrument

This is perhaps the most obvious of the pricing determinants and it is also the most important. However, a common misunderstanding is to assume that the price of the underlying is the only determinant of warrant value. It is quite possible in some situations for a share price to go up and yet the price of a corresponding equity call warrant to remain steady (or even fall in value). This could occur if one or more of the other factors had changed and outweighed the effect of the increasing share price. In practice, it is often changes in volatility or an impending dividend payment which causes this effect.

Delta

The rate of change of a warrant price with respect to a change in the price of the underlying instrument is called the delta of a warrant. Theoretical values for call warrant deltas range from 0 to 1 and put warrant deltas from 0 to -1.

Factors in Pricing	Change in Variable	Change in Call Warrant price	Change in Put Warrant price
Exercise Price	Increase	↓	↑
Underlying Share Price	Increase	↑	↓
Time to Expiry	Decrease	↓	↓
Volatility	Increase	↑	↑
Interest Rates	Increase	↑	↓
Dividend Expectations	Increase	↓	↑

A delta of 1 means that for every 1 cent change in a share price, the warrant price also changes by 1 cent. This will be the case if the underlying share price was $10 and the exercise price of a call warrant was $5 so the warrant was so far in the money it should approximately move 1 for 1 with the share price.

A delta of 0 means that for every 1 cent change in a share price, the warrant price does not change. This will be the case if the underlying share price was $5 and the exercise price of a call warrant was $10 so the warrant was so far out of the money that the price should theoretically not move if there is a 1 cent rise in the share price. Most equity call and put warrants and index warrants are issued with an exercise price (level) in close proximity to the current share price (or index level) which gives them a delta of around 0.5.

The delta of a warrant is affected by the conversion ratio, for example, for a 2:1 warrant, the theoretical delta range of a call is 0 to 0.5 and a put is 0 to -0.5.

However, you should not think of fractional warrants as providing more leveraged returns or being more highly geared. They are not. When you are comparing the leverage benefits of one warrant with those of another, you should compare like with like and take into account the fact that one warrant may have a conversion ratio greater than the other.

To make things more complicated, the delta of a warrant is not a constant but also changes with the changing share price.

It is common for equity warrants to be issued with an exercise price close to the price of the underlying instrument at the time of issue.

Exercise price and expiry date

The higher the exercise price is relative to the underlying instrument at the time of issue, the lower the price of an equity call warrant will be. Similarly, the further away the expiry date is, the more opportunity there is for the price of the underlying instrument to rise above the exercise price and so, all other things being equal, longer dated warrants are more expensive.

It is common for equity warrants to be issued with an exercise price close to the price of the underlying instrument at the time of issue. You should always consider the time to expiry of all warrants as some warrants have expiry dates of 3 months (or less) while others are long term such as 10 year products.

Volatility of the underlying instrument

Volatility is a measure of the amount of movement observed in the price or level of the underlying instrument. Historic volatility is a statistical measurement that can be applied to an historical sequence of prices or levels. An instrument whose price or level has varied dramatically in the last couple of months would have a higher historical volatility measure than one whose price or level has remained relatively constant in that time. Option and warrant pricing has to take into account a trader's expectation of volatility from the time they enter the trade until the expiry of the option or warrant. Historical volatility may provide a guide to future volatility, but the market's expectations of future volatility may differ considerably from what has transpired in the past. The volatility at which a trader (or the market) is prepared to buy or sell options or warrants at any point in time, is often referred to as the implied volatility of those options or warrants.

All other things being equal, the more volatile the underlying instrument, the higher the theoretical price of the warrant will be. This is because the underlying price has a greater probability of moving above (for a call) the exercise price of the warrant which makes the warrant more valuable.

The volatility concept

One of the most important warrant concepts is volatility. However, it is a concept that can bewilder because the term can mean different things. When volatility is a measure of the historic price fluctuations of related investments, like shares or an index, it is described as historic volatility. It can help illustrate price behaviour over different time periods, which may be months or years.

In models used to price warrant fair values, historic volatility helps to determine prices. Once warrants are trading, another measure called implied volatility is calculated working back from the actual warrant price. Implied volatility is important for traders seeking to assess whether certain warrants are cheap or expensive and then trading on this information.

John Wasiliev

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Interest rates

Interest rates also affect warrant pricing. For example, if you buy a call warrant you are able to defer the payment of the exercise price until expiry. This saves you the funding costs compared to buying the underlying instrument directly. When interest rates are high, there is a bigger saving, and therefore you will have to pay more for the call warrant and less for puts.

Also, the issuer has to fund the underlying instrument position. When interest rates are high, this is more expensive and so the issuer has to sell the warrants at a higher price.

Dividends

This price determinant is relevant when looking at warrants whose underlying instruments pay dividends to the holders of those instruments.

The effect of dividend payments varies depending on the type of warrant, and any entitlement of the warrant holder to receive dividends paid on the underlying instrument. Even in the case of warrants where holders are not entitled to receive dividends paid on the underlying instrument, the warrant price may still be influenced by changes in dividend expectations.

Generally, call warrant prices fall and put warrant prices rise when a dividend is above market expectation. It is also relevant to consider whether the warrant is American or European. You should ask your accredited derivatives adviser about the impact of dividends.

Exchange rates

In some cases exchange rate movements can affect the pricing of a warrant (even when the underlying instrument is not a currency warrant). This may affect international equity warrants, foreign index warrants and foreign currency warrants.

Other influences on price

For some warrant types, the theoretical option value is less important in determining price than other specific factors. For instance, the price of an instalment warrant is closely related to the present value of the loan component of the instalment.

Other non quantifiable factors such as supply and demand, investor sentiment, and general market expectations can also influence the market value of all warrants. A warrant issuer may be able to influence the warrant price (because for example, it holds a large percentage of the warrants on issue, and makes a market in the warrant series).

The importance of supply and demand

Like shares or any other investments, an important influence on warrant price volatility is the supply and demand of warrants. If a warrant issuer has plenty of warrants for sale to meet any trader or investor demand based on expectations of a change in the price of the related investment, the price changes of warrants can be smooth and controlled.

Some issuers will reduce prices of warrants – thereby lowering implied volatility – in order to get them moving. Warrant issuers will often expand the issue size of popular warrants if there is strong demand. It can be useful to follow new supply and situations of limited supply to see how these influences are shaping the market. If warrants are however in short supply or demand is such that traders are selling to each other at increasing prices – lifting the volatility – it can become a different ball game.

Warrant issuers have an obligation to ensure there are markets in their warrants. These prices are usually determined by warrant pricing models. When trading in the market you may trade with the issuer, or perhaps just another investor taking the other side of your trade. Issuers typically provide indicative prices to stock brokers at which they will trade in their own warrants (relative to a range of prices in the underlying share). This is called a pricing matrix. You should ask your broker if they think they can get the issuer to improve the best price shown in the screen before trading.

However if market activity has taken prices beyond what issuers are willing to pay, the risk for traders who become involved in progressively volatile trading, is being caught with only one way to go when the buying merry-go-round stops.

Before buying any warrant it is a smart idea to ask your broker to have a look at the warrant issuer's matrix and compare this to the current price activity. What the broker will probably look for is whether the matrix projections are being borne out by market activity. Matrix prices are based on theoretical valuations of warrants but they are also (or should be) a guide to what the issuer thinks its warrants are worth as well as the prices its appointed market maker is likely to pay should you wish to sell.

But there are other things that can be derived from the matrix. For example, if a warrant price change for a given share price change in a matrix is out of whack with what is actually happening in the market and the warrant seems overvalued it could signal a warning for some traders. The warrant may be potentially overvalued because the issuer is somehow not involved in the market. Perhaps they have stopped selling warrants and are letting the current holders trade among themselves. Or the issuer may have sold all its available warrants and the same scenario is occurring: all trading is happening among current holders. The hazard for new and less experienced traders is that the price being asked for the warrant may be unpredictably volatile.

John Wasiliev

Time value and intrinsic value

The price determinants discussed above give a theoretical value for a warrant. This may be the basis for the market value that an adviser quotes you. It may also take into account other non quantifiable factors. The market value of a warrant price can be divided into two components – intrinsic value and time value.

The intrinsic value of a warrant is the difference between the exercise price of the warrant and the market price of the underlying instrument at any given time. If this number is less than zero, the warrant is said to have no intrinsic value.

As a rule of thumb, a warrant will lose 1/3 of its time value during the first half of any given time period and 2/3 during the second half.

The time value is the remaining value that has been attributed to the warrant by the market, ie. the market price minus the intrinsic value of the warrant. Time value takes into account all the factors discussed above and represents the possibility that the market may move so that the warrant is in-the-money. Obviously, the closer you get to the expiry date, the less likely it becomes that the market will move in your favour and so time value drops. This is called time decay, and it does not happen at a linear or even rate. As a rule of thumb, a warrant will lose 1/3 of its time value during the first half of any given time period and 2/3 during the second half. For some warrants, eg, low exercise price warrants, the time value makes up a much smaller component of total value than for other warrants such as equity warrants.

Example – Call warrants

Consider a series of NAB call warrants with an exercise price of $25.00 and expiring in December 2000. If the warrants are trading at $4.20 per warrant while NAB shares are trading at $27.55 per share in June 2000, then the warrant has $2.55 intrinsic value. This is because you have the right to buy the NAB shares for $25.00, which is $2.55 lower than the current market price of the shares. In this example, the remaining $1.65 of the warrant's market value is time value, ie. there is a further 5 to 6 months from June 2000 before the warrants expire and the share price may move so that the warrant is deeper in the money. Say in 3 months time the underlying NAB shares were still trading at $27.55, you would expect the time value to have eroded, say for example, from $1.65 to approximately $1.05 and hence the expectation is that the warrants would be trading at about $3.60 ($1.05 time value plus $2.55 intrinsic value). This example of time value being attributed to the warrant shows the impact of the time to expiry and the volatility of the underlying share price on the warrant's price.

Example – Put warrants

Equity put warrants work the opposite way to equity calls. If the exercise price is greater than the market price of the underlying share the put warrant is in-the-money and has intrinsic value. Exercising the in-the-money put warrant allows you to sell the shares for a higher price than the current market price. For example, consider a NAB $28.00 put warrant which may be exercised in December 2000. If the NAB shares are trading at $27.55 and the market price of the warrant is $1.30, the warrant has 45 cents of intrinsic value ($28.00 minus $27.55) and 85 cents of time value ($1.30 minus 45 cents) representing the possibility that the market may move in favour of you.

How to start trading warrants

Accredited derivatives advisers

ASX requires that before making recommendations or giving advice in relation to options, warrants or any other derivatives products traded on ASX, an adviser must be accredited. The accreditation requirement is designed to enable advisers to give quality advice and service on ASX derivatives products.

There are two levels of accreditation: Level One Accreditation is required in order to advise on:

- warrants
- taking options
- selling options to close a taken position

Level Two Accreditation is required in order to advise on:

- writing options
- multilegged option strategies
- Low Exercise Price Options (LEPOs)

In order to be accredited at either Level One or Level Two, an adviser must meet certain criteria. This includes passing the relevant ASX exam, with a minimum mark of 80%. Accreditation is only available to employees of Participant Organisations (brokers).

If you require assistance in finding an accredited adviser, a list can be found on our website at asx.com.au. It contains names and contact information for individual advisers, as well as the type of service provided and research offered.

The criteria you use in selecting an adviser will vary according to your needs and level of trading experience. Note that options and warrants can be traded through full service, or 'advisory' brokers, as well as discount, or 'no advice', brokers. If a broker offers an execution-only service, without providing advice, accreditation may not be required for their representatives.

You can place an order for warrants with any broker, however you should only receive **advice** from an accredited derivatives adviser.

You should understand the details for the particular warrant series you wish to invest in. We strongly recommend you read the offering circular and the terms of issue of the warrant series to find out about your rights and obligations in relation to the warrant series. Your broker should be able to provide you with a summary of specifications for all warrants currently available for trading. Alternatively, you can download a list of warrant series from the ASX internet site.

Warrant client agreement form

Before you trade your first warrant via a particular broker you will be required to sign a Warrant Client Agreement Form and receive a copy of this booklet.

You can place an order for warrants with any broker, however you should only receive advice from an accredited derivatives adviser.

Incentive payments

Warrant issuers may have arrangements in place whereby financial or other incentives are provided to brokers in relation to the sale of that issuer's warrants. Brokers are required to disclose to you any commission, fee or other benefit which may influence their investment recommendation. You should be aware of this and feel free to ask your broker whether incentive payments are being made by the warrant issuer to the broker.

Subscribing for warrants

You may also be able to apply for warrants to be issued to you by the issuer by completing an application form attached to the offering circular (the primary issue). It is common for investors to subscribe for investment style warrants in this way, whereas trading style warrants will generally be bought on the secondary market.

Glossary of terms

American style Type of exercise style which allows the holder to exercise the warrant at anytime up to and including the expiry date.

CHESS Stands for Clearing House Electronic Sub register System and means the system established and operated by SCH for the clearing and settlement of CHESS approved securities, the transfer of securities and the registration of transfers.

Delta The rate of change of a warrant price with respect to a change in the price of the underlying instrument.

Derivative An instrument which derives its value from the value of an underlying instrument (such as shares, share price indices, fixed interest securities, commodities, currencies, etc.). Warrants and options are types of derivatives.

European style Type of exercise style which allows the holder to exercise the warrant only on expiry day.

Exchange traded options (or ETOs) Options which are bought and sold in the options market operated by ASX Derivatives Division.

Hedge A transaction which reduces or offsets the risk of a current holding. For example, a put warrant may act as a hedge for a current holding in the underlying instrument.

In-the-money When the exercise price is below (call) or above (put) the price of the underlying instrument.

Issue Price The amount a person pays to subscribe for a warrant. May also be called 'premium'.

OCH Stands for Options Clearing House Pty Ltd ABN 48 001 314 503 which is the clearing and settlement facility for ASX's Options market.

Offering Circular The document prepared by the warrant issuer which is dispatched to prospective subscribers of a warrant series.

Out-of-the-money When the exercise price is above (call) or below (put) the market price of the underlying instrument.

Primary issue The issue of the warrants by the warrant issuer to subscribers.

Secondary market The trading of warrants on SEATS after the primary issue.

Terms of issue The rights, conditions and obligations of the warrant issuer and the warrant holder. These terms are generally contained in the offering circular.

Volatility A measure of the amount of movement observed in the level of the underlying instrument over a period of time.

Warrant code A six letter code assigned to a warrant by ASX to identify it on SEATS.

Warrant issuer The institution that issues the warrant.

Warrant series All warrants with the same terms of issue and underlying instrument and having the same warrant issuer, exercise price, expiry date and settlement procedure. Each warrant series has a separate warrant code.

Further information

The ASX website offers:

- a range of free booklets
- information on educational courses
- free online courses
- trading information and tools
- ASX code lists for options and warrants
- links to issuers' websites

Booklets

If you require more information on options and their investment applications, there are many publications available. ASX publishes Explanatory Booklets about options and we recommend you read the "Understanding Options Trading" booklet.

Other Explanatory Booklets available from the ASX Derivatives:

- Understanding Options Strategies
- LEPO's Explanatory Booklet

Courses

ASX offers two Introduction to Warrants lectures that complement each other.

The first lecture focuses on 'Trading' warrants, their features and how they trade on the warrant market. The second lecture concentrates on 'Investment' warrants, providing an understanding of Instalment and Endowment warrants and their benefits to medium to long term investors. No prior knowledge of warrants is necessary however an understanding of the share market is desirable.

On completion of both these lectures, you will be able to:

- Evaluate the use of warrants in your investment portfolio
- Assess the suitability of particular warrants to your investment objectives

'An Introduction to Options' is a practical four hour course where audience participation is encouraged. No prior knowledge of ASX's Options Market is necessary. However it is assumed that those attending have a working knowledge of the sharemarket. The course is designed to provide participants with a practical knowledge of how to formulate and analyse different trading strategies and different risk management techniques. The course is also available in Self Learning Education format.

'Advancing in Options Trading Strategies' is a four hour course which builds on knowledge gained in the Introduction to Options course and demonstrates how the basic buying and selling of put options and call options can be used as building blocks for more advanced strategies.

Online Courses

You may prefer to complete the 'Introduction to Options' or 'Advancing in Options' courses online in your own time at a pace that suits you. These courses include interactive exercises to aid your learning, and a quiz at the end of each section to show your progress.

Contact details

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Please send me;

1. Information on the educational courses offered by the Derivatives Division ☐

2. The following booklets: ______________________

Name ______________________

Address ______________________ Postcode ______________________

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