STRUCTURED WARRANTS INFORMATION SHEET

1. What is a Structured Warrant?

Structured warrants are financial instruments issued by third-party financial institutions and traded on a securities exchange.

There are 2 types of warrants:

1) Call Warrants

   Call warrants gives the holder the right but not the obligation to buy an underlying asset at the predetermined strike price on the expiry date (European-style) or on or before the expiry date (American-style). Investors buying call warrants usually have a bullish view of the underlying asset.

2) Put Warrants

   Put warrants gives the holder the right but not the obligation to sell an underlying asset at the predetermined strike price on the expiry date (European-style) or on or before the expiry date (American-style). Investors buying put warrants usually have a bearish view of the underlying asset.

The underlying asset can be a particular security or a basket of securities or an index. The securities may not may not be listed on the same exchange which the structured warrants are traded.

Structured warrants are usually cash-settled, i.e. when settled, holders receive a cash profit which is the difference between the underlying asset and the exercise price.

2. Who are Structured Warrants for?

Structured warrants are for investors who are willing to accept the risk of substantial losses up to the principal investment amount, possibly within a very short timeframe. Investors should also have sufficient understanding of the product and should possess either a high level of knowledge or sufficient trading experience to properly evaluate and assess the product structure, associated risks, valuation, costs and expected returns. All investors need to be Specified Investment Products (SIP) qualified to invest in structured warrants.

3. Interpreting the names of Structured Warrants

SGX typically uses the below convention for Structured Warrants

Example: DBS MB eCW230309 A

DBS	Underlying asset
MB	Issuer: Macquarie Bank = MB
e	Exercise style: a = American Style, e = European style
CW	Type: CW = Call Warrant, PW = Put Warrant
230309	Expiration date in YYMMDD
A	Serial Number (Optional): When an issuer lists more than one structured warrant with the same underlying asset and expiry date, the structured warrants are distinguished by letters A, B, C and etc.

4. Key Features of Structured Warrants

1) Call or Put Warrants

Call warrant holders benefit from an upside price movement of the underlying asset. Put warrant holders benefit from a downward trend.

2) Exercise Price/Strike Price

The exercise or strike price is the price at which the warrant holder can buy (call warrant) or sell (put warrant) the underlying asset at.

3) Expiry Date

Structured warrants will lapse on expiry date.

4) Exercise Style

Structured warrants are either of American or European-style. American-style warrants can be exercised any time prior to expiry, but European-style options can only be exercised at expiration.

The moneyness of the structured warrant will determine if the European-style options are exercised. In-the-money warrants will be exercised automatically on expiry date, at the time specified in the listing documentation. At or Out-of-the-Money structured warrants will be deemed to have expired on the expiry date, at the time specified in the listing documentation.

Exercising of American-style structured warrants will depend on the requirements specified in the listing documentation.

All investors should refer to the listing documentation for the relevant structured warrant to ascertain how that particular structured warrant is to be exercised.

Structured warrants listed on SGX are primarily European-style warrants.

5) Conversion Ratio

Conversion ratio is the ratio of the number of structured warrants one will need to buy or sell for 1 unit of the underlying asset. For example, a conversion ratio of 5:1 means that an investor will need 5 structured warrants to convert them into 1 unit of the underlying asset.

5. Definition of "Moneyness"

"Moneyness" is determined by whether the price of the underlying asset is higher or lower than the exercise price / strike price of the structured warrant.

Generally, only structured warrants which are "In-The-Money" will be exercised by the holders as otherwise, they will be able to buy (or sell) the underlying assets directly at the same or better price.

Scenario	Call Warrant	Put Warrant
Underlying Asset Price > Exercise Price	In-The-Money	Out-of-the-Money
Underlying Asset Price = Exercise Price	At-The-Money	At-The-Money
Underlying Asset Price < Exercise Price	Out-of-the-Money	In-The-Money

6. Benefits of trading Structured Warrants

1) Leverage and Lower Capital Outlay

Structured warrants provide exposure to an underlying asset at a fraction of its price, allowing investors to trade more structured warrants than the underlying shares for the same investment outlay. A small percentage change in the price of the underlying asset can lead to a large percentage change in the price of the structured warrant. This can also free up the capital of investors.

2) Portfolio Protection

Put warrants allows hedging against the falling prices of a stock or an index. Investors are assured of a minimum value equivalent to the exercise price for the stock in their portfolio. The put warrants will increase in value if the price of the underlying asset falls. This increase in value will help to offset the fall in the underlying asset price.

3) Losses capped at investment capital

The maximum potential loss of structured warrants is limited to the total amount paid for them which is a fraction of the underlying asset price whereas the potential losses from a direct investment into the underlying asset can be much higher. Potential gains however, are unlimited for call warrants.

4) Diverse Market Access

Structured warrants can be issued for a particular stock or a basket of stocks or an index, offering investors opportunities to participate in an overall market or a sector without having to own a large portfolio of constituents. Structured warrants issued on underlying assets listed on other exchanges provide investors with an avenue to invest in overseas markets.

5) No Margin Calls

Structured warrant investors do not have to make a cash top-up if the price of the underlying asset moves in a direction which is adverse to their positions.

7. Key Risks of trading Structured Warrants

1) Time (Limited Lifespan)

Structured warrants have a finite lifespan and their value may decay over time.

Investors holding At or Out-of-the-Money structured warrants will lose their entire investment capital on expiry date.

It is essential that investors select warrants that have sufficient time to expiry to match their market expectations.

2) Issuer Risk

Structured warrants are financial instruments issued by third-party financial institutions so there is a risk that the warrant issuer will not be able to fulfil its obligations during the exercise of the warrants.

Investors should therefore assess the credit risk associated with the warrant issuer.

3) Market Risk

Similar to other investments in the securities market, the market value of a structured warrant is susceptible to other prevailing market forces including the demand and supply of the structured warrants. Market value of investments will fluctuate accordingly.

4) Leverage

Leverage can be a double edged sword. With leverage, losses can be magnified if the price of the underlying asset moves against the warrant position. In other words, any move in the underlying asset's price will therefore have a greater percentage impact on the price of the structured warrant.

For instance, a fall in the price of an underlying asset can lead to a larger percentage loss in the value of its call warrant.

5) Currency Risk

In the event that a warrant is denominated in a currency other than Singapore dollars, local investors will be subjected to exchange rate fluctuations that may have an adverse effect on the value, price or return of the warrant.

6) Difference in Trading Days and Hours Between the Underlying Asset and its Structured Warrant

The price of the underlying share or index is published during the trading hours of its relevant stock exchange but it may not be the same trading days or hours of the structured warrant which may be listed on a different exchange.

For example, the price of the underlying share listed in Hong Kong may be volatile during which the SGX is not open for trading of the structured warrants. There may also be certain period of time during the trading hours of the SGX when the prices of the underlying share or index are not available. The market maker will not be able to provide liquidity for the structured warrants during such times.

7) Suspension from Trading

Trading of structured warrants will be halted or suspended if the underlying stock is halted or suspended from trading.

8) Liquidity Risk/Default on Market-Making Obligation

A warrant issuer who has committed to make a market in the warrants it issued may not fulfil its obligation due to unforeseen circumstances. Hence, investors may experience liquidity risk despite a commitment from the warrant issuer to make a market.

9) Extraordinary Circumstances

There could be circumstances which will allow the issuer of the structured warrant to bring forward the expiry date or declare a lapse of the warrant. This arises out of certain circumstances such as delisting of the underlying asset. This will be stated in the structured warrants listing documentation.

8. Factors affecting warrant pricing

		Change in Call Warrant Price	Change in Put Warrant Price
Price of Underlying Asset	Increase	↑	↓
	Decrease	↓	↑
Exercise Price of Warrant	Higher	↓	↑
	Lower	↑	↓
Implied Future Volatility of Underlying Asset	Increase	↑	↑
	Decrease	↓	↓
Lifespan of Warrant	Longer	↑	↑
	Shorter	↓	↓
Interest Rates	Increase	↑	↓
	Decrease	↓	↑
Dividend Yield of Underlying Asset*	Increase	↓	↑
	Decrease	↑	↓

**Holders of structured warrant is not entitled to receive any dividends payable on the underlying asset.*

The above factors work together to determine the **theoretical price** of a structured warrant.

The most important of these factors are the prevailing price/level of the underlying asset relative to the exercise price, the implied volatility and time to expiry, along with market forces, i.e. the supply of and demand for the structured warrant.

9. Settlement for In-The-Money Structured Warrant on Expiry

On exercise, structured warrants must be either physically settled or cash settled. The settlement method must be specified at the time of the launch of an issue. Structured warrants listed on SGX are all cash settled warrants.

For cash-settled structured warrants which are In-The-Money, the settlement amount less any transaction cost will be deposited into the structured warrant holder's bank account on the fifth business day from the structured warrant's expiry date. Therefore, structured warrant holders do not have to take any action in this regard.

The cash settlement price for structured warrants on stocks is based on either (a) the average of the closing prices of the underlying securities (subject to any adjustment to reflect any capitalisation issue, rights issue, distribution or the like) for the 5 market days prior to and including the market day immediately before the relevant exercise/expiry date; or (b) the closing price of the underlying securities on the market day immediately before the exercise/expiry date, as determined by the structured warrant issuer at the time of the launch of an issuance.

For structured warrants on indices, the settlement level is generally determined based on the final settlement level of the index futures contract for the month in which those structured warrants expire.

Call Warrant = (Settlement Price – Exercise Price)/Conversion Ratio

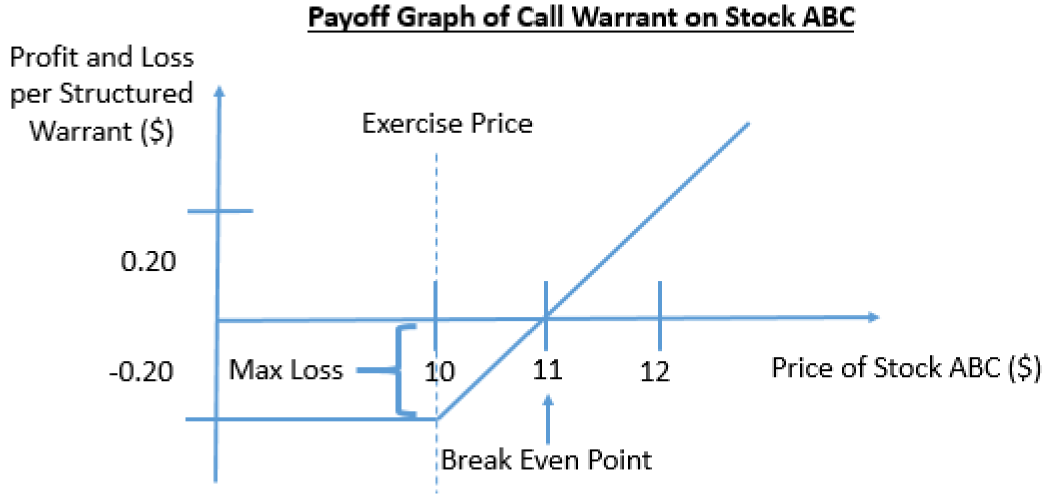
Put Warrant = (Exercise Price – Settlement Price)/Conversion Ratio

For underlying assets denominated in foreign currencies, issuers will convert the settlement surplus into Singapore dollars by applying the appropriate foreign exchange rate.

10. Example of Profit and Loss Calculation for Structured Warrants

Please see the examples below to understand how profit and loss for Structured Warrants are calculated.

Illustration 1 – European-style Call Warrants Issued on Stock ABC



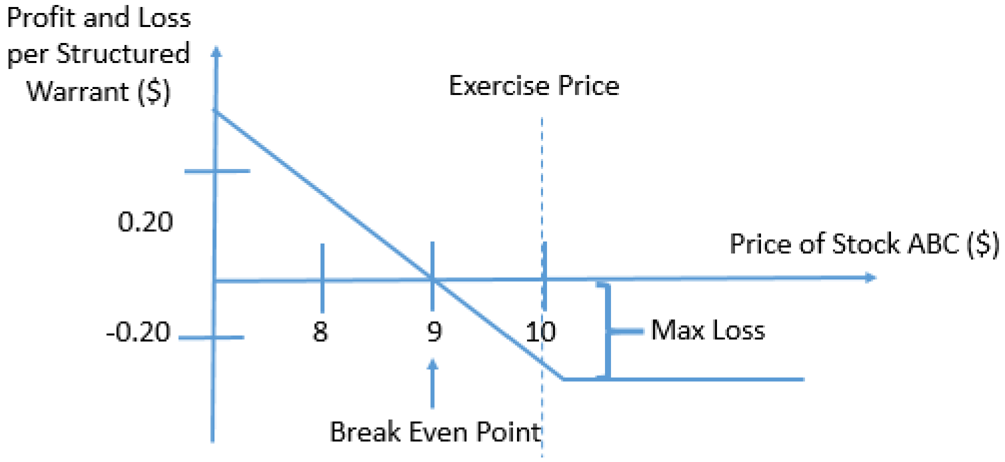
European-style Call Warrant Issued on Stock ABC	
Current price of underlying Stock ABC	$10
Exercise price of Call Warrant	$10
Conversion ratio of Call Warrant	5 structured warrants : 1 share
Current price of Call Warrant	$0.20

Scenario 1: - Settlement Price > Exercise Price - Call Warrant expires In-the-Money	
At expiry, settlement price of Stock ABC	$12
Cash payoff per Call Warrant	($12.00 - $10.00) / 5 = $0.40
Profit per Call Warrant	$0.40 - $0.20 = $0.20

Scenario 2: - Settlement Price ≤ Exercise Price - Call Warrant expires At or Out-of-the-Money	
At expiry, settlement price of Stock ABC	$8
Cash payoff per Call Warrant	0
Loss per Call Warrant	$0.20 (Purchase price of Call Warrant, i.e. initial investment capital

Illustration 2 – European-style Put Warrants Issued on Stock ABC

Payoff Graph of Put Warrant on Stock ABC



European-style Call Warrant Issued on Stock ABC	
Current price of underlying Stock ABC	$10
Exercise price of Put Warrant	$10
Conversion ratio of Put Warrant	5:1
Current price of Put Warrant	$0.20

Scenario 1: - Settlement Price < Exercise Price - Put Warrant expires In-the-Money	
At expiry, settlement price of Stock ABC	$8
Cash payoff per Put Warrant	($10 - $8) / 5 = $0.40
Profit per Put Warrant	$0.40 - $0.20 = $0.20

Scenario 2: - Settlement Price ≥ Exercise Price - Put Warrant expires At or Out-of-the-Money	
At expiry, settlement price of Stock ABC	$12
Cash payoff per Put Warrant	0
Loss per Put Warrant	$0.20 (Purchase price of Put Warrant, i.e. initial investment capital

11. How do Structured Warrants differ from Company Warrants and Options?

	Structured Warrants	Company Warrants
Issuer	Financial institutions, like an investment bank	Listed Company
Purpose of Issue	As a leverage/hedging investment tool for investors	To raise funds for the company
Lifespan	Average lifespan of 3 to 9 months (maximum tenure of 3 years)	Often 3 years or longer
Settlement	Primarily cash settled	Physical delivery of shares when the warrant is exercised
Impact to Shareholding	None, as no new shares will be issued by the company (i.e. issuer of the underlying stock)	Causes dilution as new shares will be issued by the company (i.e. issuer of the underlying stock).
Liquidity	Designated Market Makers are appointed to provide liquidity	No Designated Market Makers are appointed
Transparency	Prices are calculated using option pricing models	Prices are determined by market forces
Maximum Liability / Maximum Loss	Capped at total investment sum and transaction fees	Capped at total investment sum and transaction fees
Exercise-style	Usually European style	Usually American style
SIP Qualification Required	Yes	No

	Structured Warrants	Options
Issuer	Financial institution, like an investment bank	Developed by an exchange
Trading Mechanism	Investors can only be buyers (no writing of positions) Bullish view: Investors can buy a call warrant Bearish view: Investors can buy a put warrant	Bullish view: Investors can buy a call option or write a put option Bearish view: Investors can buy a put option or write a call option
Product Features	Wide range of exercise prices and expiry dates which are determined by the issuers	Contracts are standardised with limited expiry periods and exercise prices
Settlement	Primarily cash-settled	Index options settle in cash, while stock options settle by physical delivery
Maximum Liability / Maximum Loss	Capped at total investment sum and transaction fees	Potentially unlimited liability / losses for short sales
Margin Requirements	None	Applicable to an option writer but not option buyer

12. Placing Orders

Trade orders can be placed using the following methods:

a) Self-execution via the Phillip Nova trading platform
b) Call-in service: Phillip Nova Dealing Desk at (65) 6535 1155 or through your Account Manager. Applicable administrative charges may apply.

OTHER IMPORTANT INFORMATION

1. Fees and Charges

Commission Rates
For enquiry on the respective rates, contact our Client Service Desk at (65) 6538 0500 or refer to our latest commission list.

Multi-Currency Account Charges[1]
Based on customers' funds in excess of those utilised towards the required margin (margin excess), a credit balance in some currency accounts will accrue a competitive interest[2]. Similarly, a deficit in any currency will incur a debit interest.

The latest interest rates can be obtained through the Client Portal under Trading Information. Or you can contact our Client Service Desk at (65) 6538 0500 or to email nova@phillip.com.sg for details on the interest rates for respective currencies. Please note that rates will change from time to time. Phillip Nova will not do any currency conversion to cover the deficit without the customer's consent or instructions. An exception is made when customers' accounts are in danger of going into over loss due to exchange rate fluctuations. Phillip Nova reserves the right to do an auto-conversion of the deficit amount to maintain a positive account balance.

2. Fund Transfer Methods

Deposit or Top up[3]
For customers who wish to deposit or top up their Phillip Nova account, they may do so through the following methods:

1) PayNow – SGD only
2) Fast and Secure Transfer (FAST) – SGD only
3) DBS/POSB Bill Payment – SGD only

[1] Not applicable to MT5
[2] Not all positive currency balances will be accrued interest. Log in to https://myaccount.phillipnova.com.sg to check the interest-earning currencies. Credit and Debit Interest are not applicable to MT5 account.
[3] Phillip Nova only accepts deposits made from bank accounts bearing the account holder's name. Supporting document(s) may be required to ascertain the source of funds.

4) eNETS[4] – SGD only
5) Telegraphic Transfer[5]
6) Internal Transfer within PhillipCapital Group

Please note that only selected currencies may apply for some transfer methods. For more information on transfer methods, contact your account manager or the Client Service Desk at (65) 6538 0500.
Withdrawal[6]
For customers who wish to withdraw funds from their Phillip Nova account, they may do so through the following 2 methods:

Client Portal: Log in to https://myaccount.phillipnova.com.sg > Fund Withdrawal.

Physical form[7]: Customers may download and fill out the physical form available on the Phillip Nova website> Support > Forms & Downloads, and send it back to us via email at nova@phillip.com.sg or fax to (65) 6536 7367.

3. Phillip Nova's Currency Conversion Policy[8]

Phillip Nova does not generally perform currency conversion to cover the deficits in your account without your consent or instruction. An exception is made when we deem that your account is in danger of going into over loss after being evaluated*.

At such circumstances, the following action may take place:

(1) We will attempt to contact you by phone to seek your instructions to convert the deficit for you. If you wish to convert the deficit by yourself, or top up the account, please do so by 4pm on the day when we had contacted you.

We will proceed with the conversion if you do not complete the conversion or top up your account by 4pm.

(2) In the event we are not able to contact you by phone, we will email you to inform of your deficit and the actions that you need to take by 4pm on the same day.

We will proceed with the conversion if you do not complete the conversion or top up your account by 4pm.

[4] Available on Client Portal. Log in to https://myaccount.phillipnova.com.sg to make funds transfer via eNETS.
[5] Funds received via telegraphic transfer will be charged a USD10 processing fee.
[6] Phillip Nova proposes no additional fees or charges through the abovementioned methods. However please take note for Telegraphic Transfer, banks' remittance charges are applicable and will be borne by customers.
[7] Not applicable to customer who applied for account online, fund withdrawal request has to be submitted through Client Portal.
[8] Not applicable to MT5.

An illustration as shown below:

	Actual Account Status	**Account Status Based on 3% Movement in Exchange Rate**
SGD	50,000	50,000
USD	-36,000	-36,000
Exchange Rate to SGD	1.3700	1.4111
Total Net Equity in SGD Based	50,000 – (36,000 X 1.3700) = 50,000 – 49,320 = 680	50,000 – (36,000 X 1.4111) = 50,000 – 50,799.60 = -799.60
		Under such circumstances, Phillip Nova will contact you for necessary actions.

Note:

*The evaluation is based on the assumption that the daily exchange rate moved **3%** against your account. This percentage is taken by Phillip Nova as a benchmark for the daily exchange rate movement. It may be changed based on Phillip Nova's discretion.

Please note that Phillip Nova reserves the right to do an auto-conversion of the deficit amount to maintain a positive account balance.

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