

# Introduction to Covered Warrants

December 2018

### Introduction to Covered Warrants

1. What are Covered Warrants?
2. Covered Warrant Terms
3. Benefits of Covered Warrants
4. Risks of Covered Warrants

### General Information on Covered Warrant

1. Understanding the Covered Warrant Structure
2. Factors Affecting Covered Warrant Prices
3. Examples

### KIS & KIS VN Covered Warrants

1. KIS the OTC Derivatives Expert
2. KIS VN Covered Warrants

# 1. What are Covered Warrants?

## Definition

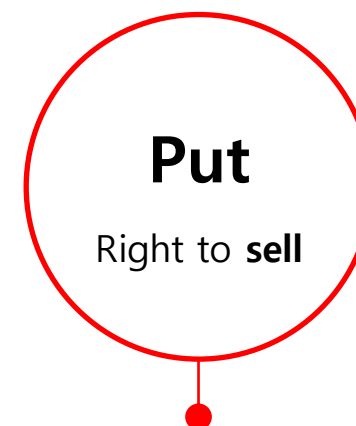
- A "Covered Warrant" is an instrument that gives an investor the **right to buy or sell** an underlying asset at a **pre-determined price (Strike)** on a **specified expiry date (European exercise style)**
- "Covered" refers to the issuer guarantee payment of the warrant

European exercise style: Can only be exercised at expiry / American exercise style: Can be exercised anytime before expiry  
As of Dec. 2018, only European exercise style is approved in Vietnam

### Call vs. Put



- **Increase** in value when **underlying asset goes Up**



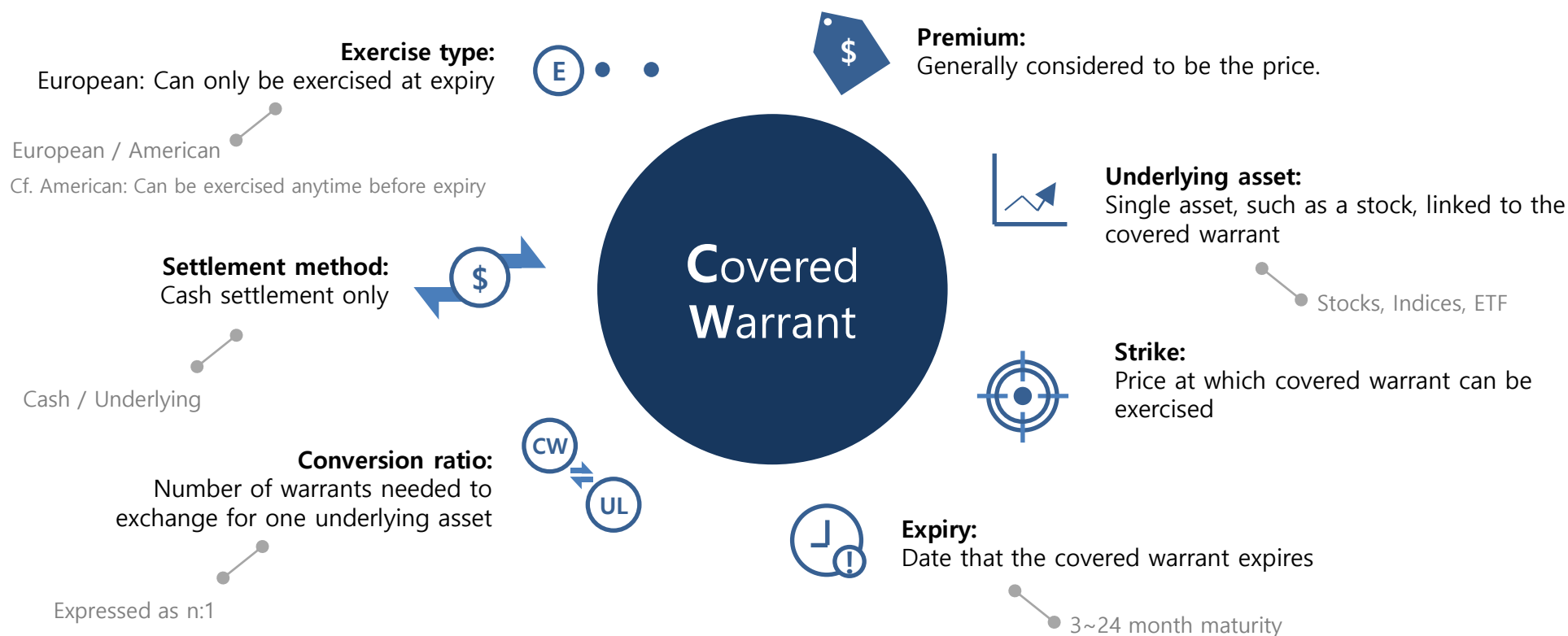
- **Increase** in value when **underlying asset goes Down**

Note: As of Dec. 2018, only call Warrants are approved in Vietnam  
Derivative warrants in Hong Kong and Equity-linked warrants (ELW) in Korea may be viewed as benchmarks

## 2. Covered Warrant Terms

### Basic structure

- Seven elements of a covered warrant



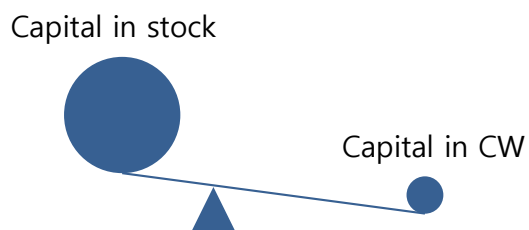
Note: As of December 2018, single stock underlying asset, 3-24 month expiry, cash based settlement, European style warrants approved in Vietnam

### 3. Benefits of Covered Warrants

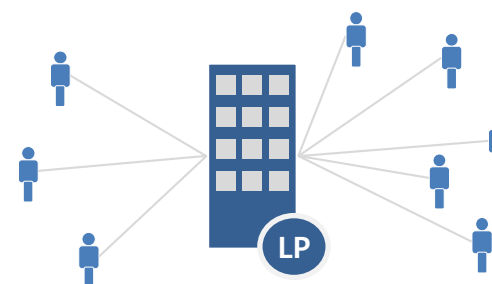
#### Advantages

- **Leverage:** Covered warrants give investors **leveraged exposure to underlying stock**
  - Price movement of CW is significantly large than underlying stock; investor can increase leverage at low financing cost
- **Better liquidity: Issuers (liquidity provider) provide liquidity** for issued covered warrants
  - Investors can lower trading costs (narrower bid-ask spread and larger volume)
- **Easier access:** Covered warrants **trade similarly as securities**
  - Investors can trade covered warrants on Ho Chi Minh Stock Exchange (HOSE) as easily as “traditional stocks”
- **Limited loss: Maximum potential loss is limited** to size of covered warrant purchase amount
  - CW investor can lose only the amount of CW purchasing value

#### Leverage



#### Better Liquidity

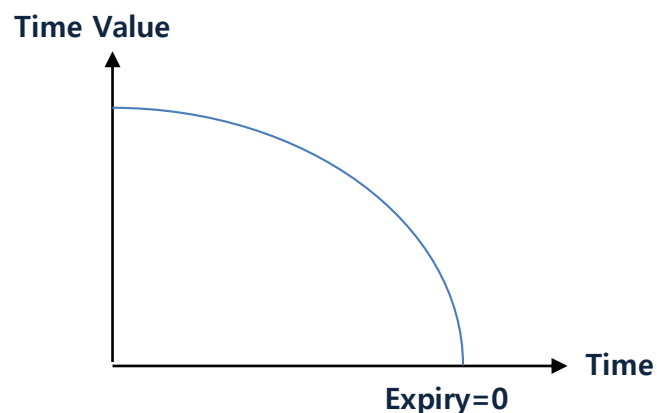


## 4. Risks of Covered Warrants

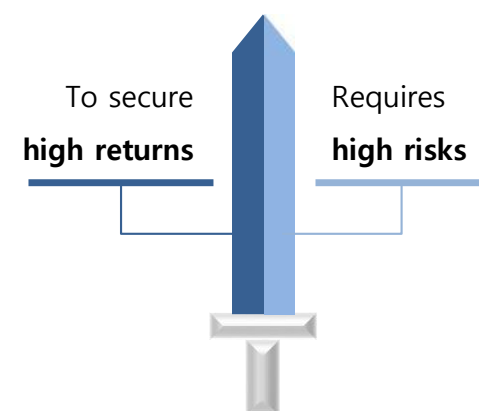
### Risks

- **Limited life:** Unlike single stocks, **covered warrants expire**
  - Time value of covered warrants steadily decay until expiry
- **No rights associated with stock ownership:** CW investors are **not eligible for dividends or other stockholder rights**
  - Stock dividends and other corporate events already embedded in covered warrant price
- **Price volatility:** Covered warrant prices can **change dramatically**
  - Heavy losses may be incurred if underlying asset moves in opposite direction due to leverage

Time Value



High Leverage



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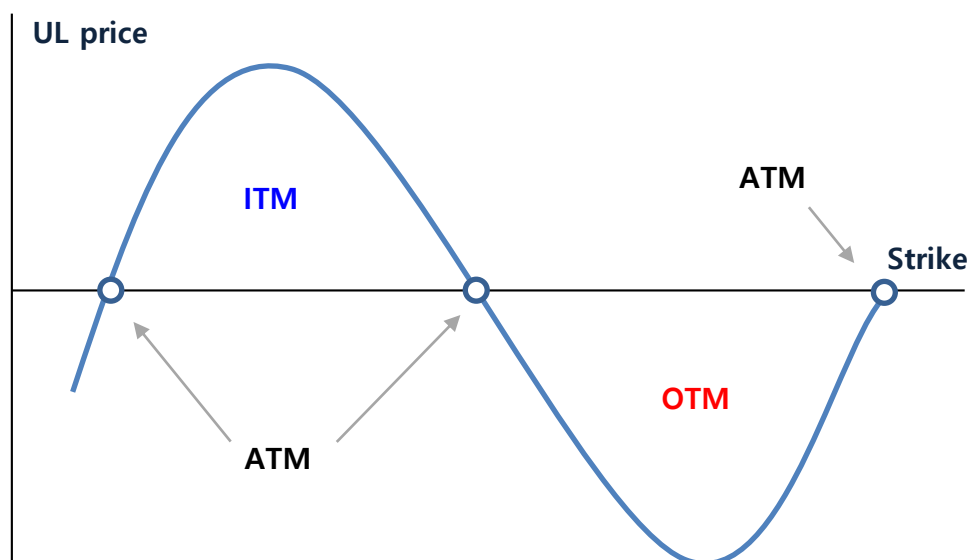
1. Understanding the Covered Warrant Structure
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# 1. Understanding the Covered Warrant Structure

## Moneyiness of covered warrants (Call CW)



Moneyiness	Call Warrants	Put Warrants
<b>ITM</b>	UL price > Strike	UL price < Strike
<b>ATM</b>	UL price = Strike	UL price = Strike
<b>OTM</b>	UL price < Strike	UL price > Strike

	<b>In the money (ITM)</b>	<b>At the money (ATM)</b>	<b>Out of the money (OTM)</b>
<b>Warrant Price</b>	<b>Highest</b>	Mid	<b>Cheapest</b>
<b>Intrinsic Value</b>	○	X	X
<b>Leverage</b>	<b>Lowest</b>	Mid	<b>Highest</b>

Note: Intrinsic value refers to the difference between the current underlying asset price and strike price when CW is in the money



## 2. Factors Affecting Covered Warrant Prices

### Covered warrant pricing model

- Black-Scholes model is mostly commonly used for option pricing
- Covered Warrant Price = BS (  $S$ ,  $K$ ,  $T$ ,  $\sigma$  (Volatility),  $q$ ,  $r$ , Call/Put )

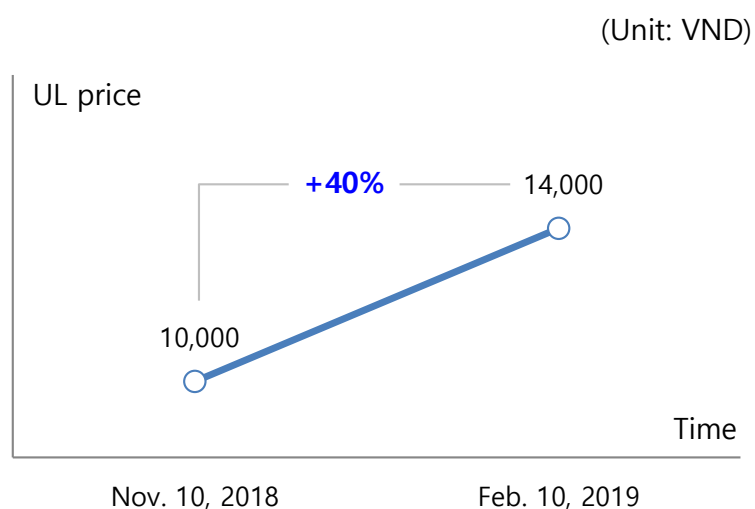
#### Factors affecting Covered Warrant price

	Factor	Call Warrant Price	Put Warrant Price
S	Underlying stock price ↑	+	-
K	Strike price ↑	-	+
T	Time to expiry date ↑	+	+
$\sigma$	Implied Volatility ↑	+	+
q	Dividends ↑	-	+
r	Interest rate ↑	+	-

### 3. Examples (simple)

#### Underlying asset (UL) vs. Covered warrant (CW)

- Simple UL vs. CW example



- **Terms on CW for above UL:**

- Expiry: February 10, 2019
- Conversion ratio: 1:1
- Exercise price: VND 10,000

- **Buy UL stock on November 10, 2018**

- Buy 10 UL at VND 10,000
- Total value: VND 100,000

- **Return on February 10, 2019**

- VND 40,000 =  $(14,000 - 10,000) * 10$
- **Return: 40%** =  $40,000 / 100,000$

- **Buy CW of UL on November 10, 2018**

- Buy 100 CW at VND 1,000
- Total value: VND 100,000

- **Return on February 10, 2019 at expiry**

- VND 300,000 =  $(14,000 - 10,000) * 100 - 100,000$
- **Return: 300%** =  $300,000 / 100,000$

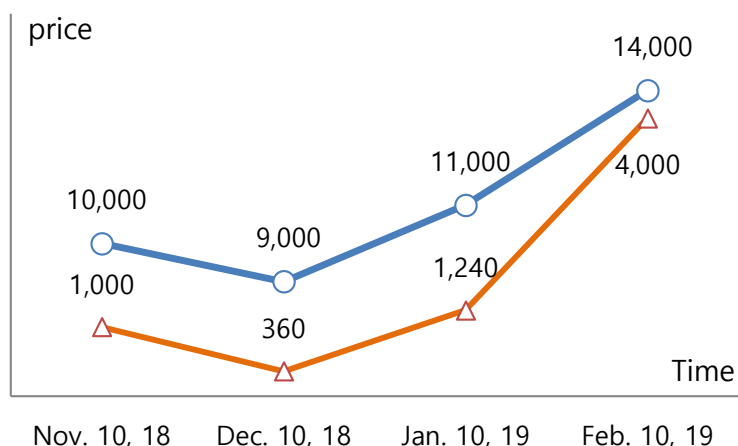
**CW return exceeds UL return by 7.5 times**

Note: Hypothetical model to be used only as a reference

### 3. Examples (detailed)

#### Underlying asset (UL) vs. covered warrant (CW)

- Detailed UL vs. CW example



- Detailed terms:

- Strike: VND 10,000
- Expiry: February 10, 2019
- Conversion ratio: 1:1
- UL price: Blue line
- CW price: Orange line
- Total investment: VND 100,000

#### Investment gains/loss in UL

Date (dd/mm)	Case	Nov. 10, 18	Dec. 10, 18	Jan. 10, 19	Feb. 10, 19
10/11	Buy 10 UL	-	-10,000	+10,000	+40,000
10/12	Buy 11 UL		-	+22,000	+55,000
10/01	Buy 9 UL			-	+27,000

#### Investment gains/loss in CW (held to maturity)

Date (dd/mm)	Case	Evaluation Nov. 10, 18	Evaluation Dec. 10, 18	Evaluation 'Jan. 10, 19	Profit 'Feb. 10, 19
10/11	Buy 100 CW	-100,000	-100,000	-	+300,000
10/12	Buy 277 CW		-99,720	+177,280	+1,008,280
10/01	Buy 80 CW			-19,200	+220,800

#### Investment gain/loss in CW (traded)

Date (dd/mm)	Case	Sell Nov. 10, 18	Sell Dec. 10, 18	Sell 'Jan. 10, 19	Sell 'Feb. 10, 19
10/11	Buy 100 CW	-	-64,000	+24,000	+300,000
10/12	Buy 277 CW		-	+88,000	+364,000
10/01	Buy 80 CW			-	+276,000

Note : Hypothetical model to be used only as a reference

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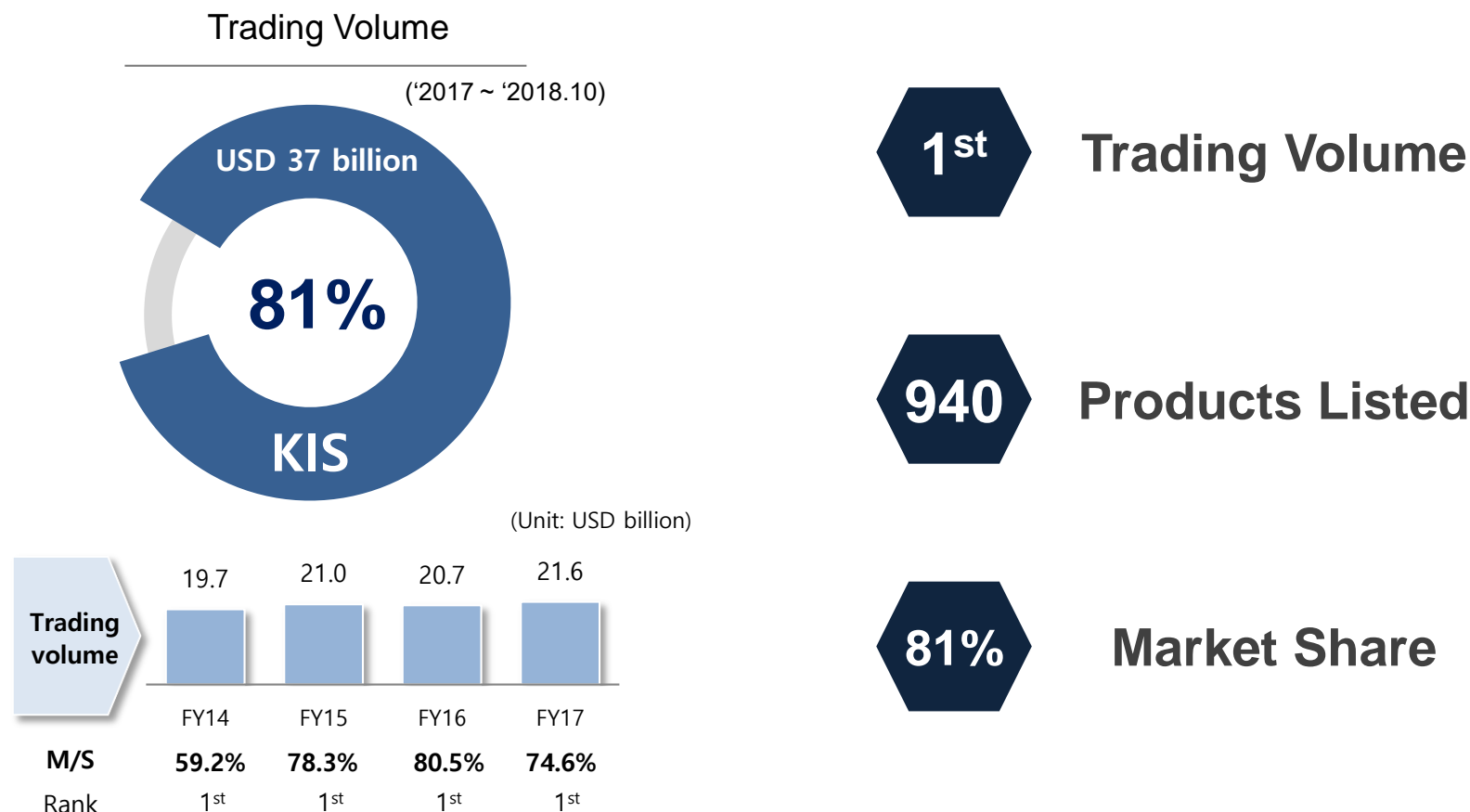
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## 1. KIS the OTC Derivatives Expert

### KIS dominates the Korean ELW market

- Since the inception of the Korean ELW market, KIS has been at the forefront serving as a robust liquidity provider and market maker
- KIS has maintained a dominant position in the ELW market since 2014



## 2. KIS VN Covered Warrants

### Why KIS VN warrants?

- Backed by the accumulated experience at KIS, Korea's ELW leader, KIS VN will provide the best liquidity provider services
- Based on robust operational capabilities, KIS VN will maintain CW market stability even during sudden market changes
- Collaborating with research centers, KIS VN will list optimal covered warrants based on current market conditions

