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The Language of Options

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The Language of Options

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Options involve risks and are not suitable for everyone. Individuals should not enter into options transactions until they have read and understood the options disclosure document, Characteristics and Risks of Standardized Options, also known as the ODD, available by visiting OptionsEducation.org or by contacting your broker, any exchange on which options are traded, or The Options Clearing Corporation at 125 S. Franklin St., #1200, Chicago, IL 60606.

In order to simplify the calculations used in the examples in these materials, commissions, fees, margin, interest and taxes have not been included. These costs will impact the outcome of any stock and options transactions and must be considered prior to entering into any transactions. Investors should consult their tax advisor about any potential tax consequences.

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The Options Clearing Corporation (OCC)

OCC is the world's largest equity derivatives clearing organization. OCC provides financial stability and risk management to the U.S. listed-options marketplace.

Core Functions

- Issuance + Guarantee of U.S. Listed Contracts
- Clearing + Settlement
- Risk Management

2021 Performance Highlights

9.93B CONTRACTS CLEARED	$225B MARGIN HELD AT YEAR END
39.4M AVERAGE DAILY VOLUME	$16.2B CLEARING FUND HELD AT YEAR END

Products We Clear

- Options
- Futures
- Securities Lending

Participant Exchanges

16 OPTIONS EXCHANGES	2 FUTURES EXCHANGES	1 STOCK LOAN ALT. TRADING SYSTEM

As December 31, 2021

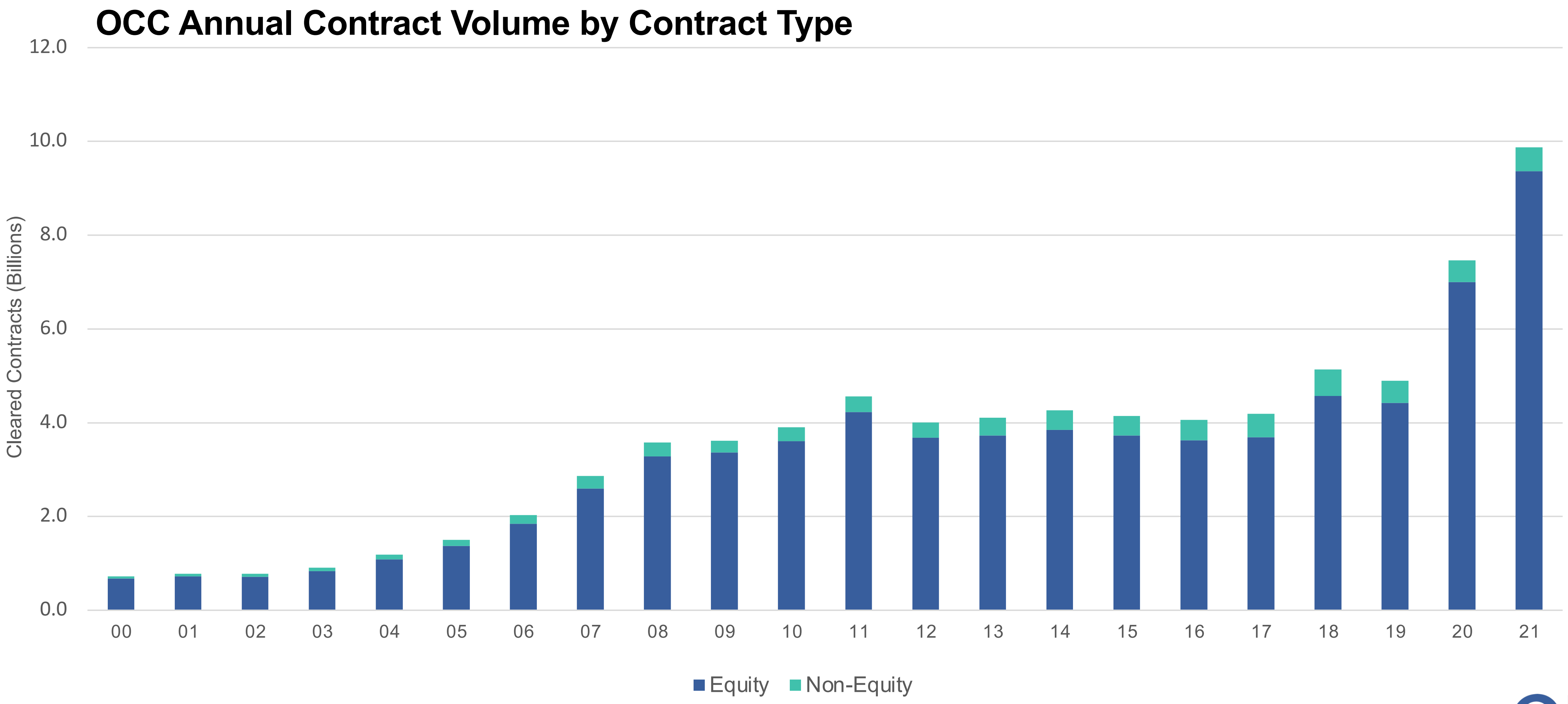
OIC℠

Public

About OIC

- **FREE** unbiased and professional options education
- OptionsEducation.org
- Online courses, podcasts, videos, & webinars
- Contact Investor Education at *options@theocc.com*

Annual Options Volume 2000-2021



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Presentation Outline

- Calls & Puts Review
- Skew
- Opening & Closing Transactions
- Open Interest
- Exercise and Assignment
- Moneyness of Options
- Q & A

Calls & Puts Review

Calls and Puts

	Call	Put
LONG (Buyer or Holder)	**Right** to Buy	**Right** to Sell
SHORT (Seller or Writer)	**Obligation** to Sell	**Obligation** to Buy

- **100 shares of the underlying**
- **At the strike price**
- **Any time up to and including expiration**

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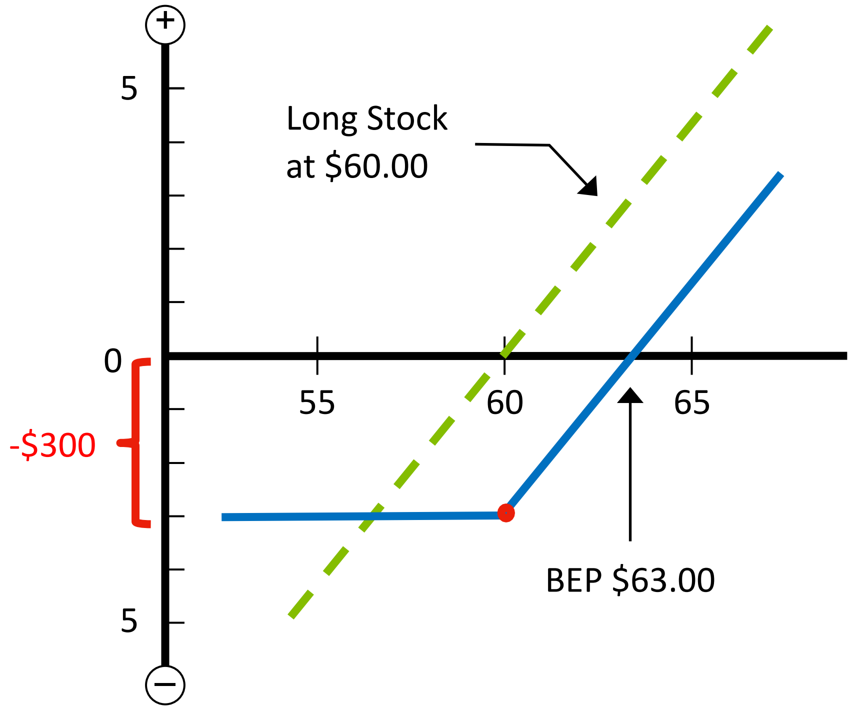
Call Buying Example

Buy 60.00 strike call at $3.00

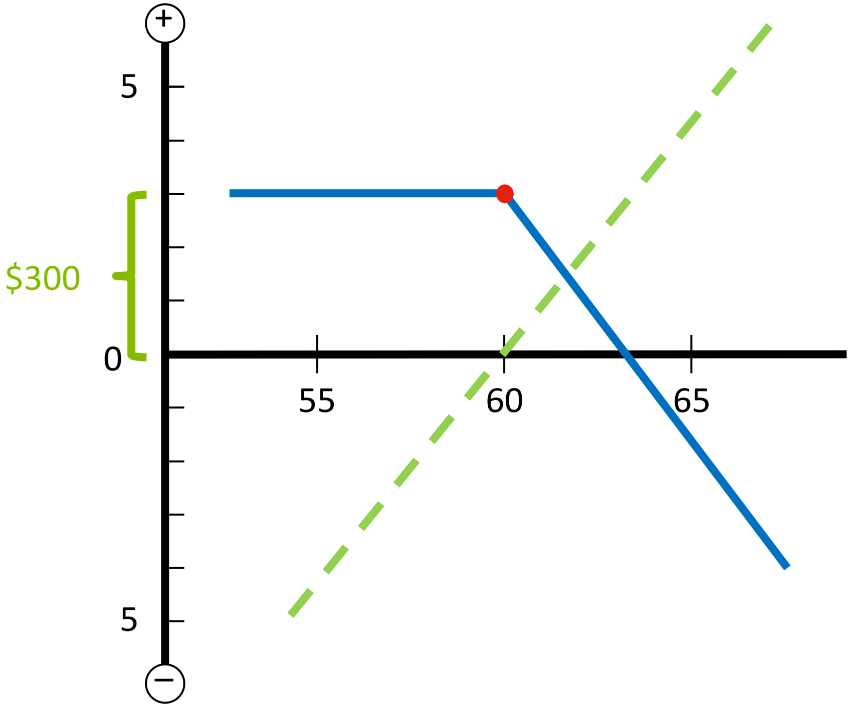


Break-even at Expiration:
Strike Price + Call Premium Paid
$60.00 + $3.00 = $63.00

Maximum Loss:
$3.00 Call Premium Paid
$300.00 Total

Call Selling Example

Sell 60.00 strike call at $3.00



Break-even at Expiration:
Strike Price + Call Premium Rec'd
$60.00 + $3.00 = $63.00

Maximum Profit:
$3.00 Call Premium Rec'd
$300.00 Total

Maximum Loss: **UNLIMITED**

Risks/Rewards with Covered Call substantially different!

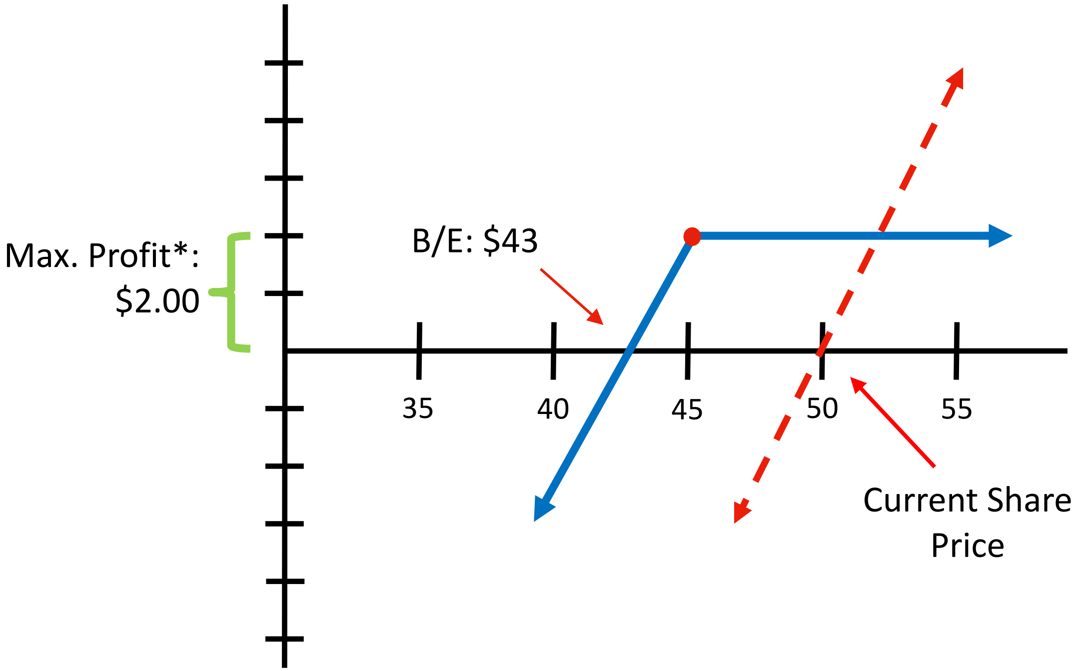
Cash Secured Put Example

Stock trading $50
Sell 1 XYZ 60-day 45 put at $2.00

Max profit = Premium received

Max loss = **Substantial**

B/E: Strike minus premium

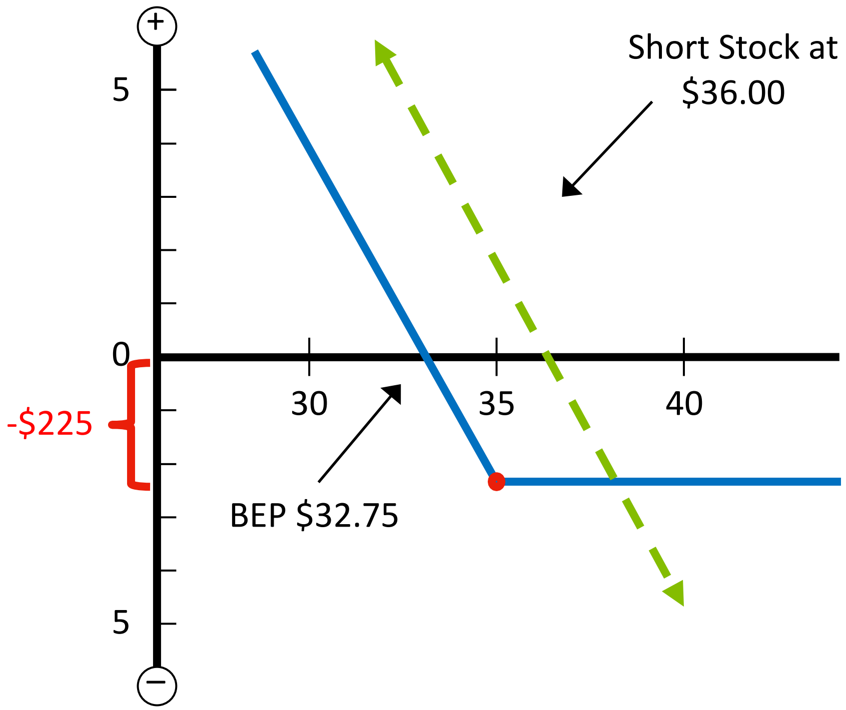


*Max. profit does not take into account long stock position, if assigned

Excludes transaction costs

Put Buying Example

Buy 35.00 strike put at $2.25



Break-even at Expiration:
Strike Price – Put Premium Paid
$35.00 – $2.25 = $32.75

Maximum Loss:
$2.25 Put Premium Paid
$225.00 Total

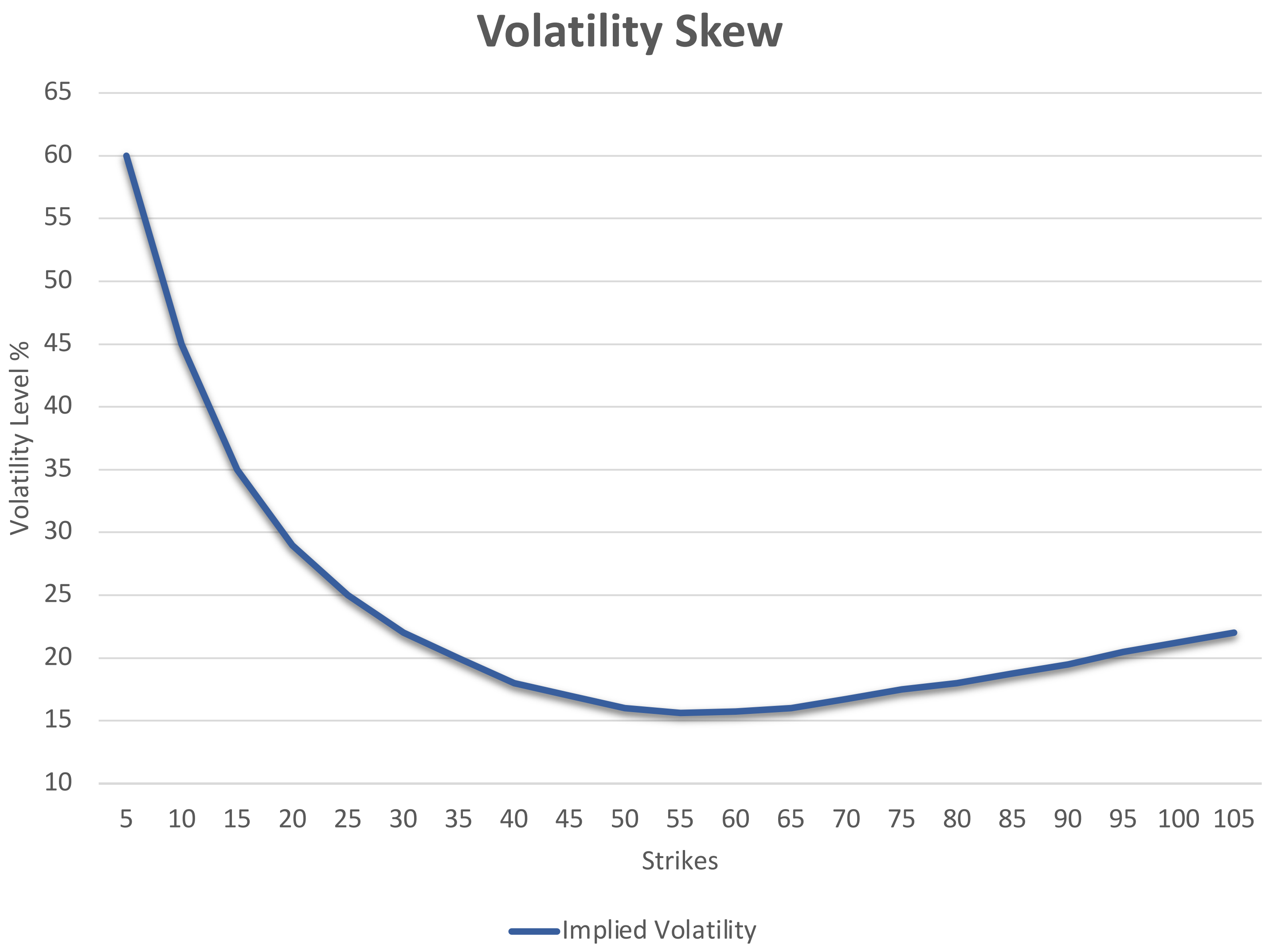
Skew – Definition and History

Skew: A Definition and Why it exists

- Skew is the difference between the Volatility level of the At-the-Money option and the Volatility levels of the Out-of-the-Money Calls and Puts.
  - Can be measured, quantified, and discussed in many different ways
- Skew is ultimately a function of Supply and Demand, meaning:
  - It can be quite dynamic
  - It can be unpredictable
- Equities and Indexes tend to have a Skew with higher OTM puts than OTM calls – generally dictated by long term price history
- Commodities tend to have a Demand Skew – with higher volatility levels for OTM calls than OTM puts – also generally dictated by long term price history

Skew - How it might look in practice

Strike Price	Implied Volatility %
5	60.00
10	45.00
15	35.00
20	29.00
25	25.00
30	22.00
35	20.00
40	18.00
45	17.00
50	16.00
55	15.63
60	15.75
65	16.00
70	16.75
75	17.50
80	18.00
85	18.75
90	19.50
95	20.50
100	21.25
105	22.00



Opening and Closing Transactions

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Buy/Sell to Open/Close

Open - An opening transaction is one that adds to or creates a new trading position. It can be either a purchase or a sale. With respect to an option transaction, consider both:

- An **opening purchase** is a transaction in which the purchaser's intention is to create or increase a long position in a given series of options.
- An **opening sale** is a transaction in which the seller's intention is to create or increase a short position in a given series of options.

Close

- A **closing purchase** is a transaction in which the purchaser's intention is to reduce or eliminate a short position in a given series of options. This transaction is frequently referred to as "covering" a short position.
- A **closing sale** is a transaction in which the seller's intention is to reduce or eliminate a long position in a given series of options

Buy/Sell to Open/Close

When establishing new positions/increasing existing ones:

- Buy to open—long position
- Sell to open—short position

When exiting or decreasing existing positions:

- Sell to close—exit or reduce existing long position
- Buy to close—exit or reduce existing short position

Open Interest

Open Interest

- Total number of open contracts carried over from the close of one business day to the open of the next
- Some people use it to spot trends in Dealer Positioning
- Can also be misleading

If Buy is:		And Sell is:	Open Interest then:
To Open	+	To Open	Increases by 1
To Open	+	To Close	No change
To Close	+	To Open	No change
To Close	+	To Close	Decreases by 1

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New Options Listings

By the standards established by the options exchanges, securities meeting the following criteria can list options:

- Listed on a National Stock Exchange
- Must have a minimum share price of $3 for 5 consecutive trading days
- There are at least 7 million **publicly** held shares outstanding (float)
- There are at least 2,000 shareholders.
- Generally, there would be a minimum of five trading days from the IPO date before listing options on any stock

Exercise and Assignment

Option buyers **exercise** their rights by exercising the option contract

Option sellers fulfill the terms of the contract via **assignment**

The Rights of the Option Buyer

- The option **buyer** has the **right**:
  - to buy (for a call) or sell (for a put)
  - 100 shares of underlying stock/ETF
  - at the strike price per share
  - **if he/she exercises a long contract**
- To exercise, the buyer issues an exercise notice to his/her brokerage firm (or Auto-ex)
- Only option buyers may exercise an option contract

A Potential Exercise Example

Example: XYZ trading $79.00

Investor buys 1 XYZ Nov 19, 2022 80 call paying $1.50

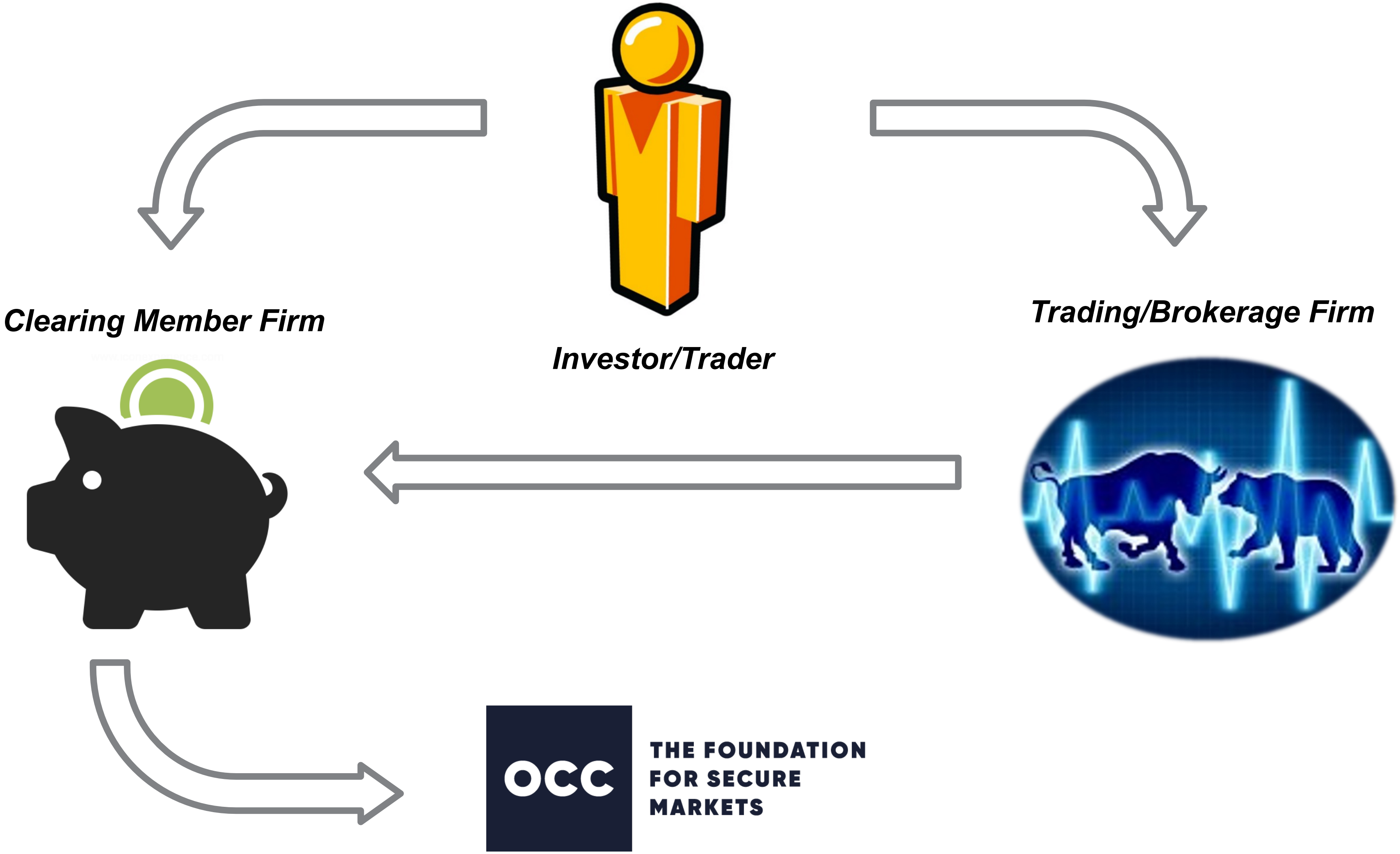
On Nov 19th, XYZ now trading $84.00 & buyer exercises

- Investor pays strike price x $100 (80 x $100) or $8,000 and takes delivery of 100 shares XYZ (valued at $8,400)
- Profit is $250 ($8,400 - $8,000 - $150 premium)
- Investor now has risk/reward of being long 100 shares from $81.50

—OR—

- Option now worth $4.00 and investor sells back to market to close position (est. profit $250)

Exercise Process



The Obligations of the Option Seller

- The option **<u>seller</u>** has the **<u>obligation</u>**:
  - to sell (for a call) or buy (for a put)
  - 100 shares of underlying stock/ETF
  - at the strike price per share
  - **if he/she is <u>assigned</u> an exercise notice**
- Assignment notice is received from seller's brokerage firm
- Only option <u>sellers</u> may be <u>assigned</u> on an option contract

A Potential Assignment Example

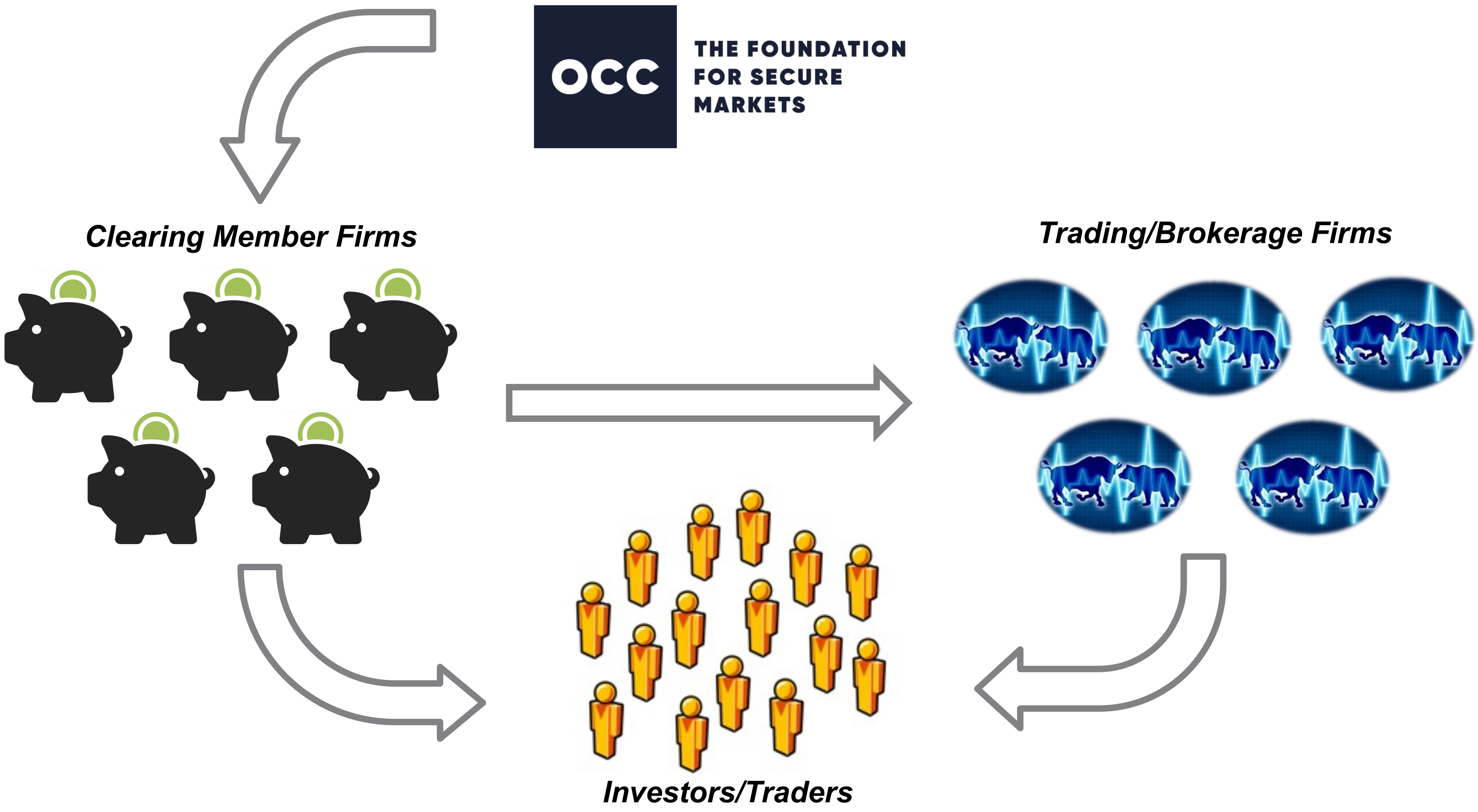
Example: XYZ trading $79.00

Investor sells 1 XYZ Nov 19, 2022 80 call at $1.50

On Nov 19th, XYZ now trading $84.00 & seller is assigned

- Investor collects strike price x $100 (80 x $100) or $8,000 and delivers of 100 shares XYZ (valued at $8,400)
- Loss is $250 ($8,000 + $150 premium - $8,400)
- Investor now has risk/reward of being short 100 shares from $81.50

Assignment Process



Exercise Style

American

- Long side can exercise **at any time** during the life of the option.
- Short side can be assigned **at any time** during the life of the option.

European

- Exercise and assignment can take place **only at expiration** —typically 3rd Friday of the month for monthly contracts.
- *Weekly's[SM] expire more often

Settlement Styles

Settlement Styles

Physical

- Securities credited to and cash debited from investor’s account (purchase transaction).
- Securities debited from and cash credited to investor’s account (sale transaction).

Cash

- Investor receives or pays out the cash difference between the in-the-money strike price and the settlement value of the index (intrinsic value).

Moneyness of Options

Calls: In-the-Money, At-the-Money, Out-of-the-Money (Moneyness)

- Call is in-the-money (ITM)
  - Strike price **below** stock price
- Call is at-the-money (ATM)
  - Strike price **same** as stock price
- Call is out-of-the-money (OTM)
  - Strike price **above** stock price

Jan 40.00 call
Feb 40.00 call
Apr 40.00 call
Jan 45.00 call
Feb 45.00 call
Apr 45.00 call

ITM

Jan 50.00 call
Feb 50.00 call
Apr 50.00 call

ATM

Jan 55.00 call
Feb 55.00 call
Apr 55.00 call
Jan 60.00 call
Feb 60.00 call
Apr 60.00 call

OTM

Stock Price $50.00

Puts: In-the-Money, At-the-Money, Out-of-the-Money (Moneyness)

- Put is in-the-money (ITM)
  - Strike price **above** stock price
- Put is at-the-money (ATM)
  - Strike price **same** as stock price
- Put is out-of-the-money (OTM)
  - Strike price **below** stock price

Jan 40.00 put
Feb 40.00 put
Apr 40.00 put
Jan 45.00 put
Feb 45.00 put
Apr 45.00 put
OTM

Jan 50.00 put
Feb 50.00 put
Apr 50.00 put
ATM

Jan 55.00 put
Feb 55.00 put
Apr 55.00 put
Jan 60.00 put
Feb 60.00 put
Apr 60.00 put
ITM

Stock Price $50.00

Knowledge Check

- When entering an order to exit an existing long position, the trader will mark the order how? **Sell to close**
- If both buyer and seller are creating a new position, how will open interest be affected? **Increase**
- To avoid assignment, sellers can often decline by contacting their broker ahead of time: T/F? **False**
- For a call to be considered ITM, the strike price must be above the stock price: T/F? **False**

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