

Size of Equity Options Market

☐First Trust

OCC Annual Equity Options traded in 2024: **6,519,467,354**

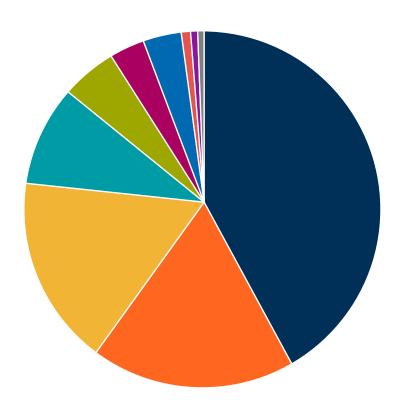
6.5 billion contracts for 100 shares = 650 billion notional shares

Source: The Options Clearing Corporation (OCC) as of 12/31/24.

U.S. Corporate Equity Ownership

Holders of U.S. Corporate Equities Q1 2025





| Households | 41.9% | Non-Financial Corps | 3.3% |
|------------------------------|-------|-----------------------------|------|
| Foreign | 17.7% | S/L Government Pensions | 3.6% |
| Mutual Funds | 16.7% | ■ Life Insurance | 0.9% |
| Exchange-Traded Funds (ETFs) | 9.1% | Federal Government Pensions | 0.7% |
| Private Pensions | 5.1% | ■ Other | 0.6% |

- The Federal Reserve's "Financial Accounts of the U.S." reports that households have the highest corporate equity ownership at **41.9%**.
- Households directly held \$37.9T out of \$90.5T in U.S. Corporate Equities

Source: The Federal Reserve 2025 — Financial Accounts of the United States, first quarter 2025. Percent of total issues at market value.

Note: As of Q1 2025. Households include non-profit organizations. Other contains foreign banking offices in the U.S. and funding corporations. State and Local (S/L). Non-Financial Corporations (Non-Financial Corpos).

What Are Options? Exploring Calls and Puts



- Options are agreements between two people (or companies) that give one person the right, but not the obligation, to buy or sell something, like a stock, at a set price in the future.
- Options are called "derivatives" because their value depends on the price of something else, like a stock. If that stock's price goes up or down, the option's value usually changes too.

Call Option

- A call option provides the buyer the right to buy the underlying stock at a specified strike price
 within a certain time frame (i.e. expiration date). Investors purchase call options when they
 believe the price of the underlying stock will increase above the strike price.
- The writer (seller) of a call option has the obligation to sell the security at the specified strike price if the owner of the call option exercises the option. Investors sell call options for income when they believe the price of the underlying stock will stay below the strike price.

Put Option

- A put option provides the buyer with the right to sell the underlying stock at a specified strike price within a certain time frame (i.e. expiration date). Investors purchase put options when they believe the price of the underlying stock will decrease.
- The writer (seller) of a put option has the obligation to buy the security at the specified strike price if the owner of the put option exercises the option. Investors sell put options for income when they believe the price of the underlying stock will stay above the strike price.





Basic Terminology



Understanding the basic terminology associated with options is crucial for any investor or advisor working with these financial instruments. Below are some key terms that will help you navigate the world of equity options.

Strike Price

The strike price, also known as the exercise price, is the predetermined price at which the holder of an option can buy (in the case of a call option) or sell (in the case of a put option) the underlying asset. The strike price is one of the most critical elements of an option contract, as it determines the level at which the option becomes profitable.

Expiration Date

The expiration date is the last day on which the option holder can exercise the option. After this date, the option contract expires. In-the-money options are automatically assigned and out-of-the-money options expire worthless. Options typically have various expiration dates ranging from daily, weekly, monthly, or longer, depending on the contract and the underlying asset.

Premium

The premium is the price that the buyer of an option pays to the seller for the rights granted by the option. The premium is determined by various factors, including the current price of the underlying asset, the strike price, the time until expiration, and the volatility of the underlying asset. Since one option contract equals 100 shares of the underlying security, if the option price is \$2, the option premium is \$200 which the writer (seller) of the option will receive and the buyer of the option will pay.

Intrinsic Value & Time Value

- Intrinsic Value: This is the value of the option if it were exercised immediately. For a call option, it is the amount by which the underlying asset's price exceeds the strike price. For a put option, it is the amount by which the strike price exceeds the underlying asset's price. An option that is out-of-themoney has zero intrinsic value.
- Time Value: This is the difference between the option's market price (the premium) and its intrinsic value. Time value reflects the potential for the option to increase in value before expiration due to factors like time remaining and volatility.

In-the-Money (ITM), Out-of-the-Money (OTM), At-the-Money (ATM)

- In-the-Money (ITM): A call option is considered in-the-money if the underlying asset's price is above the strike price. A put option is in-the-money if the underlying asset's price is below the strike price. ITM options have intrinsic value, as they can be exercised profitably.
- Out-of-the-Money (OTM): A call option is out-of-the-money if the underlying asset's price is below the strike price. A put option is out-of-the-money if the underlying asset's price is above the strike price. OTM options have no intrinsic value and only possess time value.
- At-the-Money (ATM): An option is at-the-money if the underlying asset's price is exactly equal to the strike price. At-the-money options typically have the highest time value because they are closest to becoming profitable.

The Role of Options in Portfolio Management



Express Market View:

Options allow investors to express a directional view on a stock's future price—whether they expect it to rise or fall—by paying an upfront premium.

Example: If an investor anticipates the stock will rise, they can buy a call option. If the stock appreciates, they can either exercise the option to buy at the lower strike price or sell the option at a profit. If the stock declines instead, the investor can simply let the option expire, with the only cost being the premium paid.



Risk Management

Options are commonly used to hedge against potential losses in a portfolio. By strategically buying or selling options, investors can have defined protection against downside risk or lock in profits.

Example: An investor holds a large position in a technology stock and is concerned about a potential downturn. They buy put options to hedge against a decline in the stock's value, providing a safety net in volatile markets.



Income Generation

Selling options, such as covered calls or cash-secured puts, can generate additional income for a portfolio. This income can provide a cushion against market volatility or enhance overall returns.

Example: An investor with a diversified portfolio sells covered calls on their holdings to generate regular income. If the options expire worthless, the investor keeps the premium, adding to their total return.

Options vs. Stocks: Key Differences



Ownership - When you buy a stock, you own a share of the company. When you buy an option, you own a contract that gives you the right to buy or sell a stock, but you do not own the stock itself unless you exercise the option.

Expiration - Stocks can be held indefinitely, while options have an expiration date. After this date, the option contract expires. In-the-money options are automatically assigned and out-of-the-money options expire worthless.

Price Movements - The price of an option is influenced by various factors, including the underlying stock price, time to expiration, and volatility, while the price of a stock is primarily driven by supply and demand.

Risk and Leverage - Options allow investors to control a larger amount of stock with a smaller investment compared to buying the stock outright. This leverage can magnify both gains and losses.



Option Strategies

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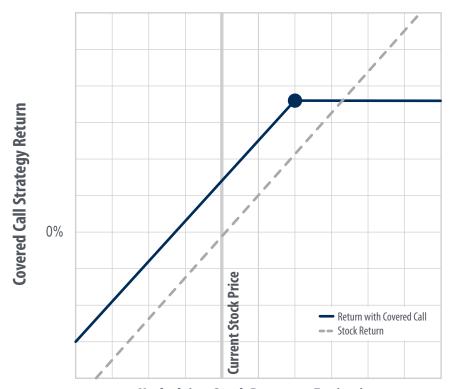
Covered Call

A covered call is a fundamental option strategy that is commonly used by investors. This strategy is relatively straightforward and serves as a building block for more complex options trading.

A covered call strategy involves owning the underlying stock and selling a call option at a strike price that is the same or higher than the current market price of the underlying stock. The investor receives the option premium as income, which can provide downside protection to some extent. This strategy is often used when the investor expects the stock to remain relatively flat or to experience modest gains.

Example

An investor owns 100 shares of XYZ stock, which is currently trading at \$50 per share. The investor sells a call option with a strike price of \$55 for \$2 per share. If the stock remains below \$55 at expiration, the investor keeps the premium and the stock. If the stock rises above \$55, the investor may be required to sell the stock at \$55, potentially missing out on additional gains.

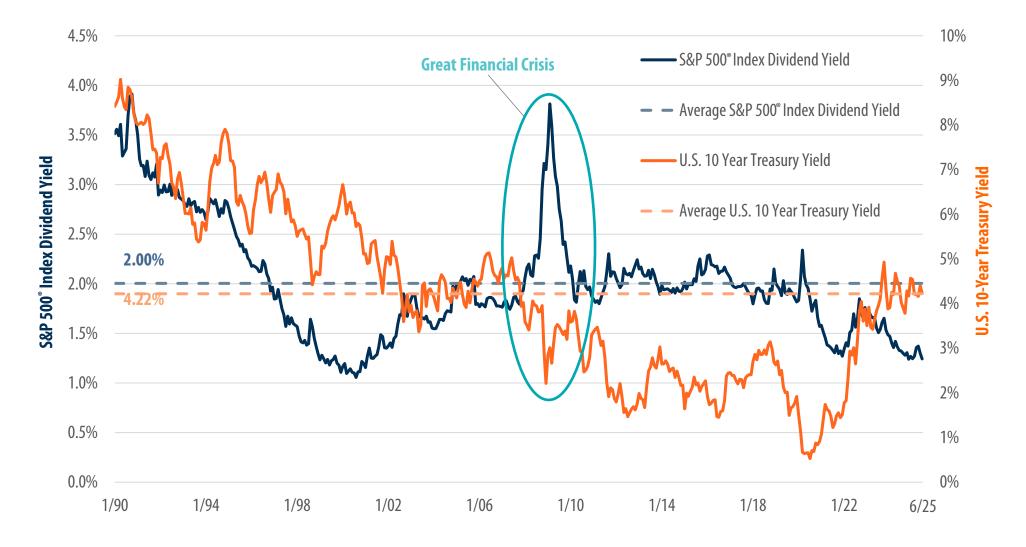


Underlying Stock Return at Expiration

S&P 500® Index Dividend Yield vs. 10-Year Treasury Yield



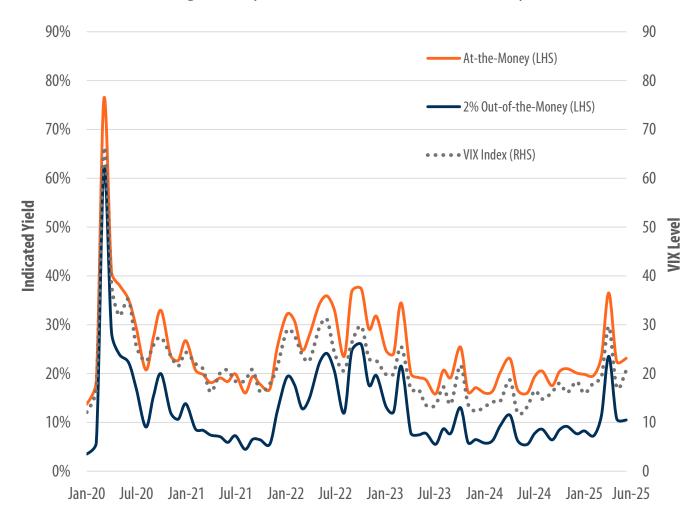
With the S&P 500® Index experiencing a steady decline in dividend yield since October 2008 and 10-Year Treasury yields trending downward for decades—despite a brief interruption from recent Federal Reserve rate hikes—investors may need to seek alternative sources of income, especially as Federal Funds Futures now predict three to four rate cuts by the end of 2025.



Source: Bloomberg. Data from 1/31/1990 – 6/30/2025. The 10-Year Treasury is represented by US Treasury Yield Curve Rate T Note Constant Maturity 10 Year compiled from the Board of Governors Federal Reserve System. Index data shown is for illustrative purposes only and not indicative of any actual investment. **Past performance is no guarantee of future results.**



Indicated Yield from Selling Monthly S&P 500° Index Calls: At-the-Money (ATM) vs. 2% Out-of-the-Money (OTM)



Indicated yield pricing is based on S&P 500° Index option premiums from selling monthly calls. Comparing atthe-money (ATM) and 2% out-of-the-money (OTM) positions. The analysis highlights the sensitivity of a buy-write strategy to yield fluctuations and the VIX Index Level.

Source: First Trust, Bloomberg (1/17/2020 – 6/30/2025). Option pricing is derived from Bloomberg's OVME function, based on a rolling monthly period from the third Friday to the third Friday. The chart is for illustrative purposes only and not indicative of any actual investment. **Past performance is not a guarantee of future results.**

Option Strategies





A protective put is a fundamental option strategy that is commonly used by investors. This strategy is relatively straightforward and serves as a building block for more complex options trading.

A protective put strategy involves buying a put option at a strike price that is the same or lower than the current market price of the underlying stock the investor already owns. This strategy provides downside protection because the put option increases in value if the stock price falls. It is commonly used by investors who are bullish on a stock but want to protect against potential losses.

Example

An investor owns 100 shares of ABC stock, currently trading at \$75 per share. To protect against a potential decline, the investor buys a put option with a strike price of \$70 for \$3 per share. If the stock falls below \$70, the put option provides a floor for potential losses, as the investor can sell the stock at \$70.



Stock Return

Option Strategies



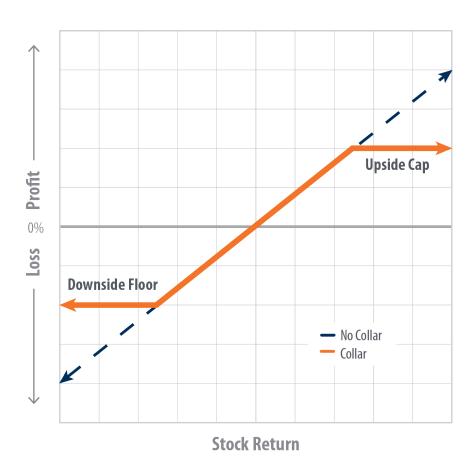
Collars

A collar is a fundamental option strategy that is commonly used by investors. This strategy is relatively straightforward and serves as a building block for more complex options trading.

A collar strategy involves holding the underlying asset, buying an out-of-the-money protective put, and selling an out-of-the-money covered call. This strategy is used to protect against downside risk while maintaining some potential upside.

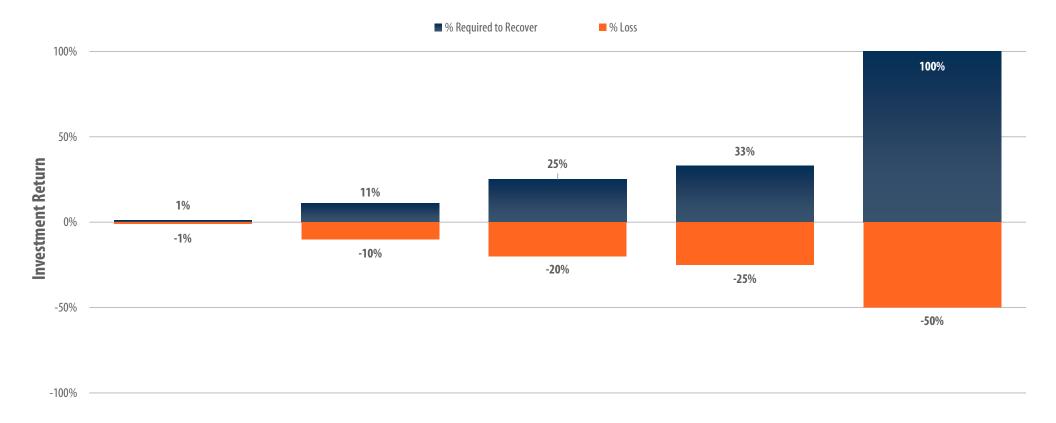
Example

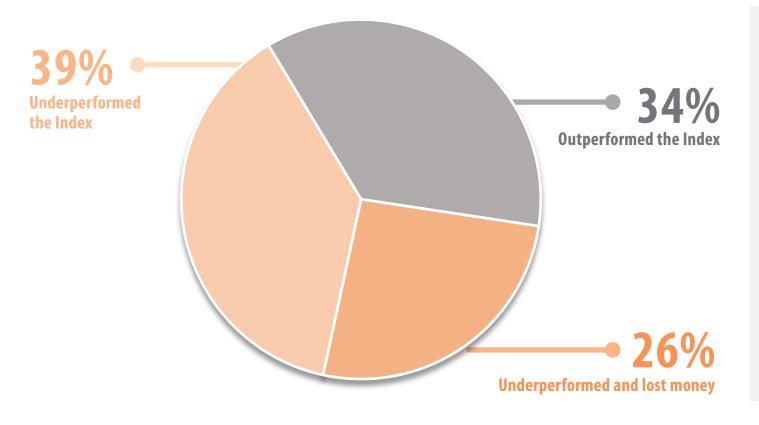
An investor owns 100 shares of BCD stock, currently trading at \$80. The investor buys a put option with a strike price of \$75 to protect against a drop in the stock's price. To offset the cost of the put, they sell a call option with a strike price of \$85. If the stock price stays between \$75 and \$90, the investor keeps the premium from the call and has downside protection from the put limited to the strike price.



Minimizing Losses Can Significantly Impact the Value of a Portfolio

Overall, the collar strategy limits the investor's downside risk by providing a floor price for the asset through the protective puts and offsetting the cost of the put purchase by selling covered calls. While this strategy may limit potential gains if the price of the asset appreciates significantly, it provides a level of protection against losses if the price declines. This is significant because losses can have a greater impact on investments than gains. The math of percentages shows that as losses get larger, the return necessary to recover to the break-even point increases at a much faster rate. A loss of 10% necessitates an 11% gain to recover. Increase that loss to 25%, and it takes a 33% gain to get back to break-even. A 50% loss requires a 100% gain to get back to where the investment value started. Collars may minimize losses and encourage investors to stay invested by providing a defined level of protection against potential losses.





From 1/31/1990-12/31/2024, 65% of the S&P 500° Index constituents underperformed the Index.

Since 1990, approximately 35% (or about a third) of the stocks in the S&P 500® Index went down by at least 50% and remain below that level.

For stocks in the S&P 500° Index since 1990, the average volatility has measured 29.81% compared to 18.08% for the index itself.

Data from 1/31/1990 to 12/31/2024. Sources: Capital IQ and Bloomberg. Returns are measured from the date added to the index (or start of the study period) to the date removed (or end of the study period) for all companies included in the index during the study period, using month-end prices. Index data shown is for illustrative purposes only and not indicative of any actual investment. Indexes do not charge management fees or brokerage expenses and no such fees or expenses were deducted from the performance shown. Indexes are unmanaged and investor cannot invest directly in an index. **Past performance is no guarantee of future results.**

Equity Options vs. Index Options



| Feature | Equity Options | Index Options |
|---------------------|---|--|
| Underlying Asset | Individual stocks (e.g., AAPL) | Broad or sector indices (e.g.,SPX) |
| Settlement | Physical - shares delivered | Cash-settled - no shares exchanged |
| Exercise Style | Mostly American-style | Mostly European-style |
| Tax Treatment | Standard capital gains rules | Often Section 1256 (60% Long Term / 40% Short Term gains) |
| Volatility Exposure | Idiosyncratic (company-specific) | Systematic (market) |
| Liquidity/Volume | Varies by stock | Often higher liquidity in major indices |
| Common Use Cases | Hedging, income generation or speculation on a single stock | Portfolio hedging, income generation or market speculation |

Options trading strategies have characteristics unlike many other traditional investments and may not be appropriate for all investors.

This summary is not intended to be tax or legal advice. This summary cannot be used by any taxpayer for the purpose of avoiding tax penalties that may be imposed on the taxpayer. This summary is being used to support the promotion or marketing of the transactions herein. The taxpayer should consult an independent tax advisor.

References to specific securities should not be construed as a recommendation to buy or sell and should not be assumed profitable.

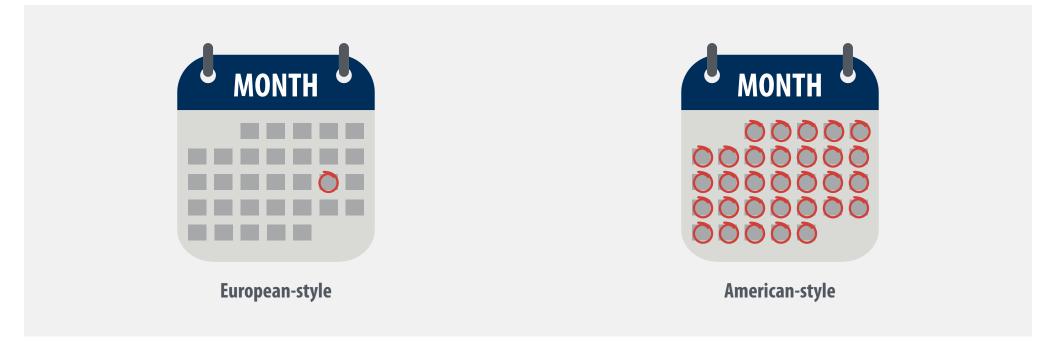
American-style and European-style Options



American-style and European-style options differ primarily in terms of when the option holder can exercise the option:

American-style Options: These can be exercised at any time before or on the expiration date.

European-style Options: These can only be exercised at the expiration date, not before.



Flexible Exchange® Options ("FLEX")



FLEX Options

FLEX Options are customized options contracts that provide investors the ability to customize terms of an option, including exercise style, strike price, underlying reference assets and expiration dates.

FLEX Options May Offer

- The ability to create customized equity options on stocks, indexes or ETFs ("reference asset") that can be designed to fit individual investment strategies and goals.
- Performance linked to the price performance of the reference asset.
- Tailored risk/return profile of a portfolio.
- Limit downside losses while providing the opportunity for upside growth to a predetermined cap.
- · No bank credit risk.

Potential Benefits of FLEX Options

- Customization of contract terms
- Reduced traditional counterparty risk
- Price discovery

Potential Risks of FLEX Options

- Limited market
- · Not universally offered at custodians
- May be subject to enhanced custodian rules, for example, minimum share requirements



Understanding Option Pricing



Option pricing can be complex, involving multiple factors that determine how much an option is worth.

The Factors Influencing Option Prices

Option prices, or premiums, are influenced by several factors:

- **Underlying Asset Price**: The current price of the stock or equity that the option is based on. As the underlying asset's price moves closer to or further from the strike price, the option's value can change significantly.
- **Strike Price**: The difference between the underlying asset's price and the strike price determines the intrinsic value of the option.
- **Time to Expiration**: The amount of time remaining until the option expires. The longer the time to expiration, the higher the time value, as there is more time for the option to move into profitability.
- **Volatility**: A measure of how much the price of the underlying asset is expected to fluctuate. Higher volatility increases the likelihood that the option will become in-the-money, which raises the premium.
- **Interest Rates**: Changes in interest rates can affect option pricing, particularly for longer-term options. Higher interest rates can increase call option prices and decrease put option prices.
- **Dividends**: If the underlying asset pays dividends, this can affect option pricing. Dividends tend to reduce call option prices and increase put option prices.

Implied Volatility and its Role in Pricing

- Implied volatility is a critical component in option pricing
 as it reflects the market's expectations of how much the
 underlying asset's price will fluctuate in the future. Unlike
 historical volatility, which looks at past price movements,
 implied volatility is forward-looking.
- When implied volatility is high, it suggests that the market expects significant price movements in the underlying asset, leading to higher option premiums. Conversely, low implied volatility indicates that the market expects relatively stable prices, resulting in lower option premiums.
- Traders often watch implied volatility closely because it can indicate potential market opportunities or risks. For instance, a sudden increase in implied volatility might suggest that investors are anticipating a major event that could affect the underlying asset's price.



How Are Equity Options Closed?



When you buy or sell an equity option, you're entering into a contract — but you don't have to wait until it expires. In fact, most options are closed early. Here are common ways to exit an option position:

1. Sell to Close (if you bought the option)

- If you purchased a call or put option, you can sell it in the open market before it expires.
- You'll either realize a profit (if the option increased in value) or a loss (if it decreased).

Example:

You bought a call option for \$2. The stock rises and the option is now worth \$5. You "sell to close" and lock in a \$3 gain.

2. Buy to Close (if you sold the option)

- If you sold a call or put option to open a position, you can buy it back before expiration to exit the trade.
- This limits your risk and locks in gains or losses.

Example:

You sold a put option for \$3. Later, it drops to \$1. You "buy to close" at \$1 and keep the \$2 difference as profit.

3. Let It Expire (if it's worthless)

- If an option has no value at expiration, you can simply let it expire no action required.
- It disappears from your account automatically.

Example:

You bought a call option with a \$50 strike price, but the stock ends at \$45.

The option is "out of the money" and expires worthless. You lose the premium paid to buy the option.

4. Exercise (less common for retail investors)

- Exercising means using the option to buy or sell the stock at the strike price.
- Most retail investors prefer to close the trade in the market instead of exercising.

5. Assignment (when the buyer exercises the option)

- If you sold an option, you can be assigned meaning the buyer chooses to exercise it.
- You're obligated to fulfill the contract, which can happen any time before expiration if the option is in the money.

Example:

You sold a call with a \$50 strike. The stock goes to \$55. The buyer exercises it, and you're assigned — you must sell the stock at \$50.

Key Takeaway:

You're not locked in — most retail investors close options by trading them, just like stocks.

Understanding your exit options gives you control and flexibility in managing risk and reward.

Important Information



Writing and buying options are speculative activities and entail investment exposures that are greater than their cost would suggest, meaning that a small investment in an option could have a substantial impact on performance. The use of call and put options can lead to losses because of adverse movements in the price or value of the underlying stock, index, or other asset, which may be magnified by certain features of the options. These risks are heightened when options are used to enhance a client's return or as a substitute for a position or security. When selling a call or put option, a client will receive a premium; however, this premium may not be enough to offset a loss incurred by the client if the price of the underlying asset is above or below, the strike price, respectively, by an amount equal to or greater than the premium. The value of an option may be adversely affected if the market for the option becomes less liquid or smaller and will be affected by changes in the value or yield of the option's underlying asset, an increase in interest rates, a change in the actual or perceived volatility of the stock market or the underlying asset and the remaining time to expiration.

Writing a call or put option can lead to an assignment upon an exercise of a call or put option. In the case of a short call, an assignment can lead to a forced sale of the underlying security being held as collateral. Being short a put can lead to a forced purchase of the underlying security for which additional capital may have to be contributed by the account holder (i.e., "margin call"). Such involuntary sale and purchase transaction may occur at inopportune market times, which could result in losses to an account.

In the case of an option purchase (long call or long put), a client's entire initial investment of premium can be lost. In the case of a covered option short sale (short call or short put), upside gains can be limited by the sale of a short call against an underlying stock position and a forced purchase of stock can occur in the case of a short cash covered put sale. In the case of a naked call or put sale (a call with no underlying stock position and a put with no cash to cover the possibility of a forced stock purchase) there is the risk of unlimited loss in the call position and substantial loss in the put position.

Options trading is not appropriate for all investors. Please refer to Characteristics and Risks of Standardized Options, also known as the options disclosure document (ODD), which discusses potential risks of options issued by the Options Clearing Corporation (OCC), which are typically listed on an exchange. **Visit https://www.theocc.com/Company-Information/Documents-and-Archives/Options-Disclosure-Document.**

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