

This presentation is for NextGen use only

Listed Options Platform and Product Overview

Listed options

A global, multi-asset class listed options platform
traded on all major US exchanges via electronic connectivity

Experience, advanced technology and exceptional service

- Dedicated experienced team knowledgeable in all option trading strategies
- Leading-edge electronic option trading technology
- Best-price filtering for client order flow
- Value-added trade execution, trade comparison and processing

Market access

- Multiple asset class coverage
- Provides a transparent marketplace for price and liquidity discovery on centrally cleared option products
- Open architecture platform: Routes orders to multiple exchanges or flow providers to obtain best pricing

Market analysis

- Technical specialists provide ongoing analysis of industries and market conditions for DB Client Facing Professionals
- Actively assess analytics, Point and Figure charts, moving averages, stochastic models and the Relative Strength Index

Wealth Management (“WM”) listed options: Facilitating and executing trades

Products and services spectrum			
Listed options	Listed index options	Foreign currency options	Strategies
Traded on all major US exchanges via rapid electronic connectivity ¹ — Complex multi-sided order execution — Technical and fundamental trade support — Trade reconciliation and billing functions — Customized FLEX Options	— Broad and narrow-based, plus ETFs, iShares, and HLDRS ²	— Dollar vs. exchange-traded foreign currencies	— Covered calls — Protective puts — Buy/Writes — Synthetics — Spreads — Straddles — Collars — Cash-Secured Puts — Reversals/Conversions

- Deutsche Bank facilitates trades for clients and money managers in equity, index and foreign currency options along with listed and OTC stock executions.
- Deutsche Bank’s Listed Options team is made up of 3 Traders and 1 Operations Specialist (as of December 2013)
- DB Client Facing Professionals have access to technical trading support: analytics, point and figure charts, moving averages and stochastic models
- Superior customer service:
 - Value added trade execution
 - Trade comparison and processing.

(1) Market volatility and volume may delay system access and trade execution.

(2) Holding Company Depository Receipts

An introduction to listed options

Supporting documentation for any claims, comparisons, recommendations, statistics, or other technical data, will be supplied upon request.

An introduction to options

An option is a contract that gives the buyer the right, but not the obligation, to buy or sell an underlying asset at a specified price on or before a certain date

- Options can be traded on equities, indices, currencies, commodities, interest rates, structured products, etc.
- Various style or family of options such as American and European. US option exchanges typically trade American style options.
- The two types of options are calls and puts

	Call	Put
Buyer (Holder)	The right , but not the obligation, to buy	The right , but not the obligation, to sell
Seller (Writer)	The potential obligation to sell	The potential obligation to buy

Trading options

- Provides insurance against a fall in the price of the underlying asset (hedging)
- Positions investors for a market move, even if the investor is unsure about the direction of prices
- Generates income from an existing asset
- Diversifies holdings
- Speculation
- Provides leverage, however it comes with greater risk. Should the investment move against the investor, any losses would be magnified
- Losses, if any, range from invested amounts (option buyers) to potential unlimited (sellers of uncovered calls)

Options terminology

What are the terms of an options contract?

- **Strike (exercise) price:** The price at which the buyer has the right to buy or sell the underlying asset
- **Premium:** The price at which an option is bought/sold
- **Expiration date:** The date after which the option contract ceases to exist
- **Quantity of underlying deliverables:** An option contract in US markets usually represents 100 shares of the underlying security

Example of an options quote:

The diagram illustrates the components of an option contract. The text "XYZ Jan 45 Call 1.20" is shown with arrows pointing to labels above and below it. Above the text, "Underlying" points to "XYZ", "Strike Price" points to "45", and "Premium" points to "1.20". Below the text, "Expiration Month" points to "Jan" and "Option Type" points to "Call".

Factors that affect option pricing and changes in the value of the option if all other factors remain constant

	Call value	Put value
Stock price increases	Increases	Decreases
Volatility increases	Increases	Increases
Time to expiry decreases	Decreases	Decreases
Interest rates increases	Increases	Decreases
Dividend increases	Decreases	Increases

Options terminology

Options Premium = Intrinsic Value + Time Value

- **Intrinsic Value:** The amount by which the option is in-the-money (Note: The intrinsic value = 0 if the option is out-of-the-money)
- **Time Value:** An extra premium due to the possibility of additional price movements in the underlying
 - At expiration, the time value will always be 0, and the price of the option will be equal to its intrinsic value

At expiration, options can have the following intrinsic values:

	Call value	Put value
In-the-money	Strike price < Underlying	Strike price > Underlying
Out-of-the-money	Strike price > Underlying	Strike price < Underlying
At-the-money	Strike price = Underlying	Strike price = Underlying

Understanding the options market

- Options are traded on more than 1,332 stocks and 41 indices, with more than 50,000 series listed¹
- Over \$25 billion in contract value traded, with over 1 million options contracts changing hands daily¹
- Regulated by the Securities and Exchange Commission, options exchanges, and other self-regulatory organizations
- Contracts are cleared by the Options Clearing Corporation (OCC)
- Listed options are interchangeable no matter what U.S. options exchange they trade on

Options market participants

- | | |
|--------------------------|------------------------|
| — Financial institutions | — Endowments |
| — Public investors | — Corporate treasurers |
| — Hedge funds | — Pension plans |
| — Mutual funds | |

(1) Source: The Options Institute: Online Learning Center (CBOE) http://www.cboe.com/LearnCenter/cboeeducation/Course_01_05/mod_05_02.aspx



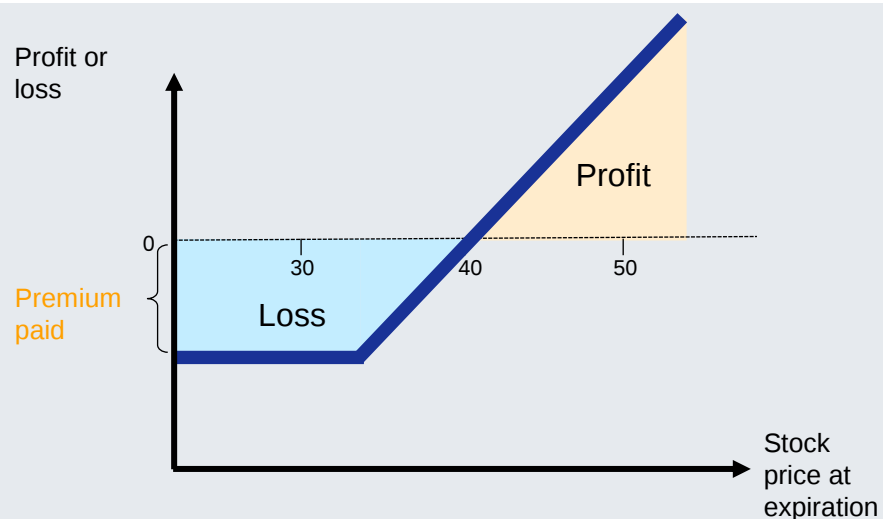
An introduction to listed options strategies

The following examples do not include relevant costs, including commissions, fees and interest charges (if applicable) which will affect the potential return. Investors should consider such costs, which may be significant, specifically, when transacting in multi-leg option strategies, as they involve multiple commission charges. Interest rates, dividends, volatility, and special situations such as early exercise are not factored into any calculations.

Long call and put option strategies

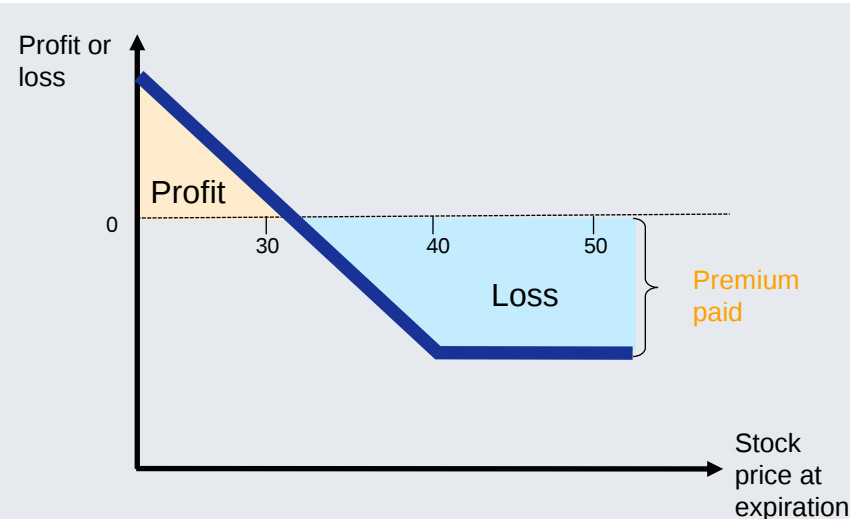
Long call

- **Strategy:** Purchase a call option
- **Market Outlook:** Bullish
- **Return:** Unlimited profit potential, Maximum Profit = Stock Price – Breakeven Point
- **Breakeven Point:** Strike Price + Premium Paid
- **Risks:** Limited, Maximum Loss = Premium Paid



Long put

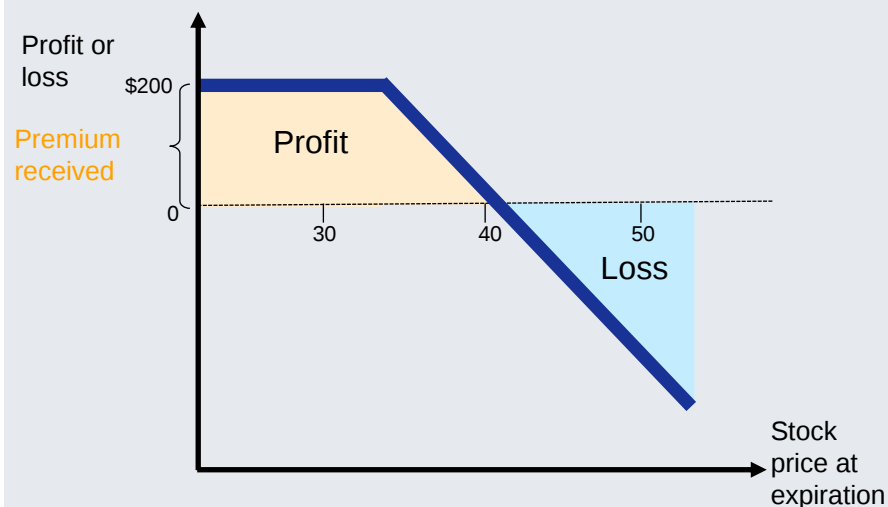
- **Strategy:** Purchase a put option
- **Market Outlook:** Bearish
- **Return:** Substantial but limited profit potential, Maximum Profit = Breakeven Point – 0
- **Breakeven Point:** Strike Price – Premium Paid
- **Risks:** Limited, Maximum Loss = Premium Paid



Short call and put option strategies

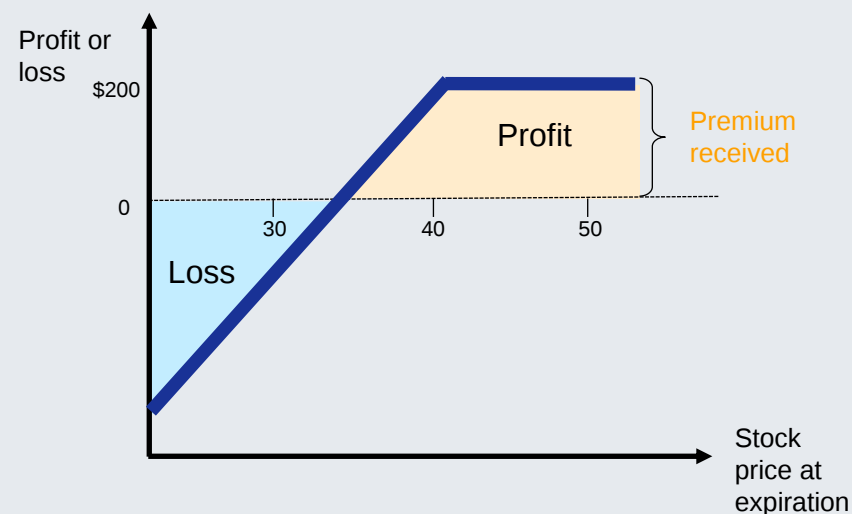
Naked short call

- **Strategy:** Sell a call option
- **Market Outlook:** Neutral to mildly Bearish
- **Return:** Limited, Maximum Profit = Premium Received
- **Breakeven Point:** Strike Price + Premium Received
- **Risks:** Potentially unlimited as the stock continues to increase, Maximum Loss = Stock Price – Breakeven Point



Naked short put

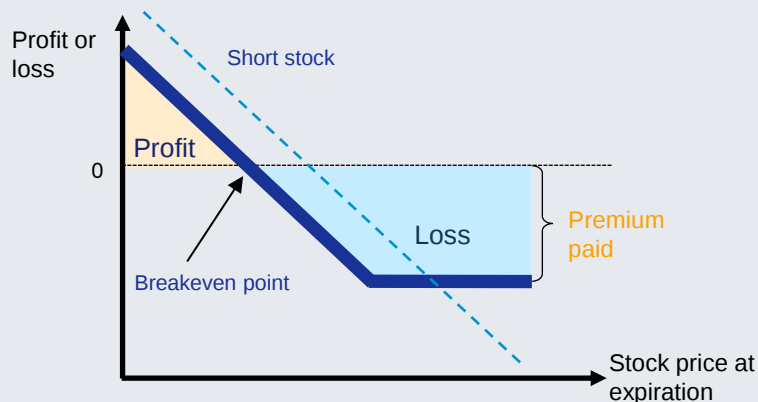
- **Strategy:** Sale of a put option
- **Market Outlook:** Neutral to mildly Bullish
- **Return:** Limited, Maximum Profit = Premium Received
- **Breakeven Point:** Strike Price – Premium Received
- **Risks:** Substantial but limited, Maximum Loss = Breakeven Point – 0



Synthetic long put and synthetic short call

Synthetic long put strategy overview

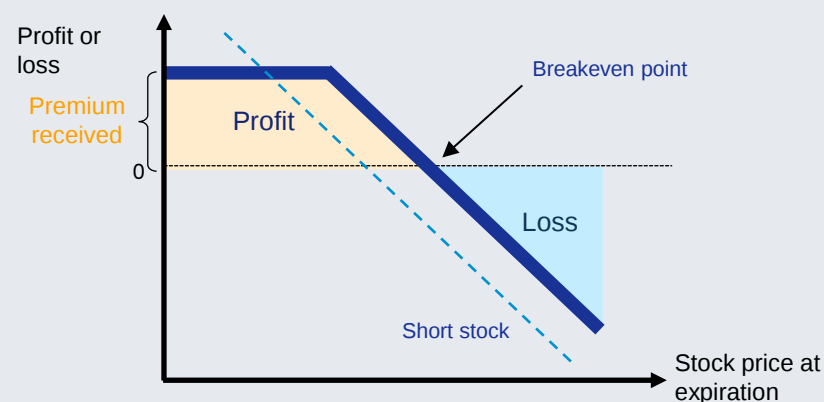
- **Strategy:** The investor can execute the strategy by combining a short stock position with the purchase of a call option
- **Market Outlook:** Bearish
- **Return:** Substantial but limited profit potential, Maximum Profit = Breakeven Point – 0
- **Breakeven Point:** Stock Price – Premium Paid
- **Risks:** Limited, Maximum Loss = Strike Price of Call + Premium Paid – Stock Price
- **Benefits:** 1) Maintain short market exposure with limited risk
2) The investor is able to maintain the short position if the call option is not exercised



Important Note on the Synthetic Long Put Strategy: The Synthetic Long Put and Long Put (page 9) Strategies have the same risk/return profiles.

Synthetic short call strategy overview

- **Strategy:** The investor can execute the strategy by combining a short stock position with the sale of a put option
- **Market Outlook:** Neutral to mildly bearish
- **Return:** Limited profit potential, Maximum Profit = Stock Price + Premium Received – Strike Price of Put
- **Breakeven Point:** Stock Price + Premium Received
- **Risks:** Unlimited, Maximum Loss = Stock Price at Expiration – Breakeven Point
- **Benefits:** 1) A higher Breakeven Point than a short stock position
2) The investor is able to maintain the short position if the put option is not exercised



Important Note on the Synthetic Long call Strategy: The Synthetic Short Call and Short Call (page 10) Strategies have the same risk/return profiles.

Covered call/buy-write

For an investor who is moderately bullish toward the underlying stock

Strategy overview

- **Strategy** The strategy is executed by purchasing shares of the underlying stock while simultaneously selling a call option on an equivalent number of shares
 - The premium collected from the call option reduces the effective cost of the stock purchase
 - In exchange for this premium, the investor forgoes the opportunity to benefit from an increase in the value of the underlying stock above the strike price by agreeing to sell the underlying stock at the predetermined level (the strike price). Additionally, the option writer is at risk of assignment at any time during the life of the option.
 - The investor will continue to collect dividends (if any) for as long as the stock is held and the company continues to pay
- **Market Outlook:** Neutral to slightly bullish toward the underlying stock
- **Return:** Limited profit potential when the stock rises, $\text{Maximum Profit} = \text{Premium Received} + (\text{Strike Price of the Call Option} - \text{Stock Purchase Price})$
- **Breakeven Point:** $\text{Stock Purchase Price} - \text{Premium Received}$
- **Risks:** Limited but can be substantial as a result of a decrease in the stock price to below the Breakeven Point. $\text{Maximum loss} = \text{Breakeven Point} - \0 .

Strategic client opportunity

- An investor who possesses a neutral to slightly bullish outlook on a stock and is willing to limit the upside potential in exchange for limited downside protection

Covered call

Why implement a Covered Call Strategy?

Who Should Consider Using Covered Calls

- An investor who is neutral to moderately bullish on an individual equity
- An investor who is willing to limit upside potential in exchange for some downside protection
- An investor who would like to generate income for assuming the obligation of selling a particular stock at a specified price
- An investor who wants to reduce the cost basis of an underlying stock purchase

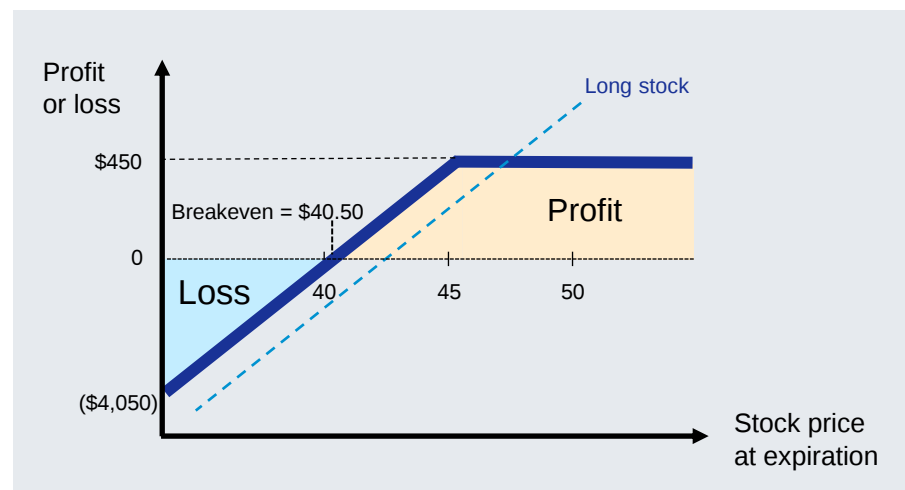
Factors To Consider When Overwriting

- Price: Overwrite with out-of-the-money calls
- Earnings: Avoid overwriting in months with earnings events
- Market Cap: Large-cap stocks make better overwrites than small-cap
- Implied volatility: Overwrite stocks with high implied volatility
- Recent performance: Avoid overwriting stocks that have strong momentum
- Dividends: Overwrite stocks with moderate dividend yields

Covered call/buy-write example

An investor buys 100 shares of XYZ stock at \$41.75. The investor has a near term neutral view on the stock and is willing to sell the position at a moderate gain in exchange for premium. The investor can sell 1 Jan 45 call for \$1.25, thereby agreeing to sell XYZ if the purchaser of the option exercises his right to buy the stock at \$45.00.

Buy XYZ Spot:	\$41.75 debit
Sell Jan 45 Call:	\$1.25 credit
Breakeven Point/Net Debit:	\$40.50 debit



Payout scenarios at expiration

XYZ = or > \$45 Strike

The option expires at-the-money or in-the-money

Payout:

- **Stock is called away:** Max profit
 - The call writer will have to sell XYZ at the strike price of \$45
 - Profit = Premium + (Strike Price of Call – Underlying Purchase Price) = \$1.25 + (\$45.00 – \$41.75) = \$4.50
- **Stock is not called away:** The call writer collects the premium of \$1.25 and the stock position will be retained

XYZ < \$45 Strike

The option expires at-the-money or in-the-money

Payout:

- The call writer collects the premium of \$1.25 and the stock position will be retained
- Losses start to occur when the stock trades below \$40.50. Max loss occurs when the stock closes at 0

Married put

For an investor who is moderately bullish toward the underlying stock

Strategy overview

- **Strategy** The investor can execute the strategy by purchasing shares of a stock while simultaneously purchasing put options on an equivalent number of shares
 - The investor pays a premium for the option, which gives the owner the right, but not the obligation, to sell the shares at the strike price at any time until expiration
 - In exchange for this premium, the investor is protected from additional losses when the stock price trades below the strike price of the put option
- **Market Outlook**: Moderately bullish toward the underlying stock
- **Return**: Unlimited as long as the price of the stock continues to rise, Maximum Profit = Stock Price – Breakeven Point.
- **Breakeven Point**: Stock Purchase Price + Premium Paid. This strategy raises the breakeven point on the underlying security by the amount paid for the put.

- **Risks**: Limited, Maximum Loss = (Stock Purchase Price + Premium Paid) – Strike Price

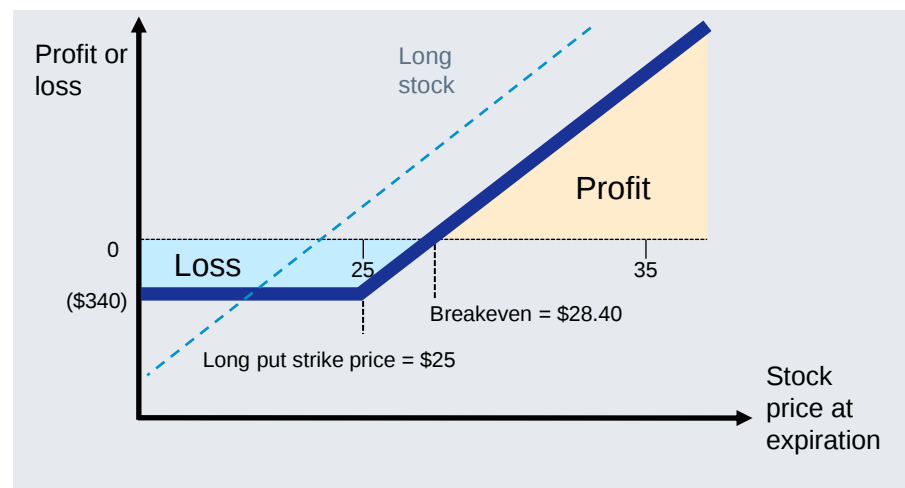
Strategic client opportunity

- An investor who possesses a moderately bullish outlook on a stock but also wants to protect the position from either bearish sentiment or the possibility of a sudden market correction
- The strategy offers the investor a way to participate in the stock price appreciation while limiting downside risk if the stock price declines

Married put example

An investor purchases 100 shares of XYZ stock trading at \$26.80. The investor has a near term moderately bullish view on the stock, and he buys 1 Jan 25 put for \$1.60. By buying a Jan 25 put, the investor has the option to exercise his right to sell the stock at \$25.00.

Buy XYZ Spot: \$26.80 debit
 Buy Jan 25 Put: \$1.60 debit
 Breakeven point/net debit: \$28.40 debit



Payout scenarios at expiration

XYZ Closes Below Strike($XYZ < \$25$) – Put exercised	XYZ Closes Above Strike($XYZ > \$25$) – Put not exercised	XYZ Closes At Strike($XYZ = \$25$)
The option expires in-the-money Payout: - The investor exercises the put option and sells his stock position at the strike price - Maximum Loss = $(\text{Stock Purchase Price} + \text{Premium Paid}) - \text{Strike Price} = (\\$26.80 + \\$1.60) - \\$25.00 = \\$3.40$	The option expires out-the-money. Put holder loses the premium paid for the option. Payout: - Partial loss occurs when the Stock Price at Expiration closes above the put strike but below the Breakeven Point($\text{Stock Purchase Price} + \text{Premium Paid}$). - Profit = $\text{Stock Price at Expiration} - \text{Breakeven Point}$. If Stock = \$35, then Profit = $\\$35.00 - (\\$26.80 + \\$1.60) = \\6.60	The option expires at-the-money. Payout: - The investor must make a decision to exercise the option or not. - No Exercise - the stock position will be retained, if the holder decides not to exercise the option. - Exercise - the stock is sold at the strike price. - Maximum loss is reached = $(\\$26.80 + \\$1.60) - (\\$25.00) = \\3.40

Collar

For an investor who is neutral to slightly bullish toward the underlying stock

Strategy overview

- **Strategy:** The investor can execute this strategy by selling an out-of-the-money call option while simultaneously purchasing an out-of-the-money put option with the same expiration date
 - The investor currently owns the underlying stock in which options are traded on
 - The cost of the put option is partially, and may be fully, offset by the premium received from selling the call option. The latter is known as a zero cost collar
 - A zero-cost collar is a situation where the cost of purchasing the put option is exactly offset by the cost of selling the call option.
- **Market outlook:** Neutral to slightly bullish toward the underlying stock
- **Return:** Limited, $\text{Profit} = \text{Short Call Strike Price} - \text{Stock Price When Position Initiated} - \text{Net Premium Paid}$ (if the cost of option transactions is a debit)
- **Risks:** Limited, $\text{Loss} = \text{Stock Price When Position Initiated} - \text{Long Put Strike Price} + \text{Net Premium Paid}$ (if the cost of the option transactions is a debit)
- **Breakeven point:** $\text{Stock Purchase Price} + \text{Net Premium Paid}$ (or - if the investor receives a Net Premium)

Strategic client opportunity

- An investor who is willing to forgo upside potential in return for limiting the downside risk of a stock position
 - An example is an investor who has a concentrated equity position that accounts for a large portion of his net worth

Collar example

An investor owns 100 shares of XYZ stock trading at \$44.75. In order to lower the net cost of protection, the investor simultaneously buys a Jan 40 put for \$4.75 and sells a Jan 55 call for \$4.50.

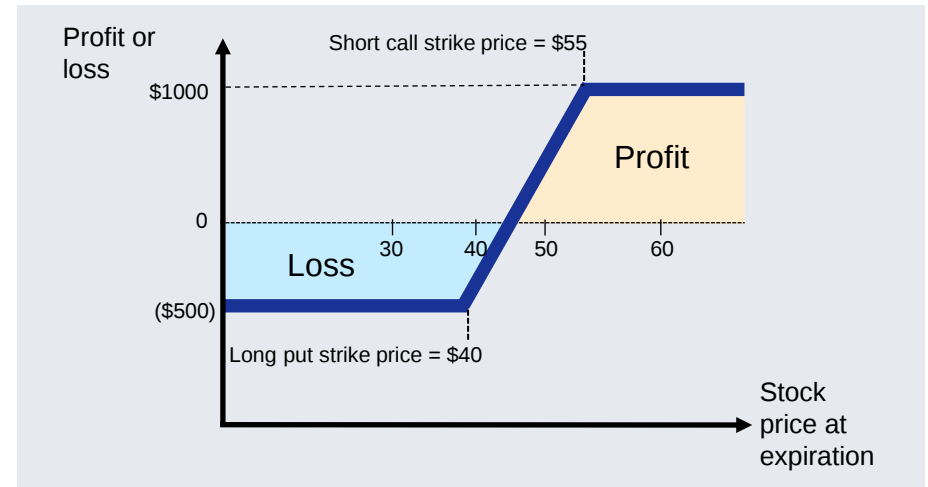
The investor owns 100 shares of XYZ (Spot Price = \$44.75)

Buy a Jan XYZ 40 Put at \$4.75: \$4.75 debit

Sell a Jan XYZ 55 Call at \$4.50: \$4.50 credit

Cost of Collar/Net Premium Paid: \$0.25 debit

Breakeven Point: \$45.00



Payout scenarios at expiration

XYZ Closes At/Above Short Call Strike (Close Price $\geq$ \$55)	XYZ Closes At/Below Long Put Strike (Close Price $\leq$ \$40)	XYZ Closes Between Long Put & Short Call Strikes ($40 < \text{XYZ} < 55$)
Maximum gain Payout - It's likely the call option will be exercised, and the investor is obligated to sell the shares at the strike price of \$55.00 Max Profit = Short Call Strike Price – Stock Price When Position Initiated – Net Premium Paid = \$55.00 - \$44.75 - \$0.25 = \$10.00	Maximum loss Payout - The investor has the right to exercise the put option and sell the shares at the strike price of \$40.00 Max Loss = Stock Price When Position Initiated – Long Put Strike Price + Net Premium Paid = \$44.75 - \$40.00 + \$0.25 = \$5.00	The put and call options expire worthless, and the investor retains ownership of the shares. Profit & loss will depend on where the stock closes relative to the Breakeven Point. Payout - If the cost of the collar is a debit, the investor will lose the net premium paid - If the cost of the collar is a net credit, the investor will keep the net premium received Loss = Net Premium Paid = \$0.25

Bull call spread and bull put spread

For an investor who is bullish and neutral/bullish toward the underlying stock

Bull call spread strategy overview

- **Strategy:** The investor can execute this strategy by purchasing a call option and simultaneously selling a call option with a higher strike price on the same stock with the same expiration date
 - The investor pays a premium to execute this strategy
 - The investor offsets part of the cost of buying the call option by selling a call option with a higher strike price
- **Market Outlook:** Bullish toward the underlying stock
- **Return:** Limited, $\text{Profit} = \text{Short Call Strike Price} - \text{Long Call Strike Price} - \text{Net Premium Paid}$
- **Breakeven Point:** $\text{Long Call Strike Price (or the lower strike price)} + \text{Net Premium Paid}$
- **Risks:** Limited, $\text{Maximum Loss} = \text{Net Premium Paid}$

Bull put spread strategy overview

- **Strategy:** The investor can execute this strategy by selling a put option and simultaneously purchasing a put option with a lower strike price on the same underlying with the same expiration date
 - The investor receives a premium to execute this strategy
 - The investor caps his downside risk by purchasing the put option with the lower strike price
- **Market Outlook:** Neutral to bullish toward the underlying stock
- **Return:** Limited profit potential, $\text{Profit} = \text{Net Premium Received}$
- **Breakeven Point:** $\text{Short Put Strike Price (or the higher strike price)} - \text{Net Premium Received}$
- **Risks:** Limited, $\text{Maximum Loss} = \text{Short Put Strike Price} - \text{Long Put Strike Price} - \text{Net Premium Received}$

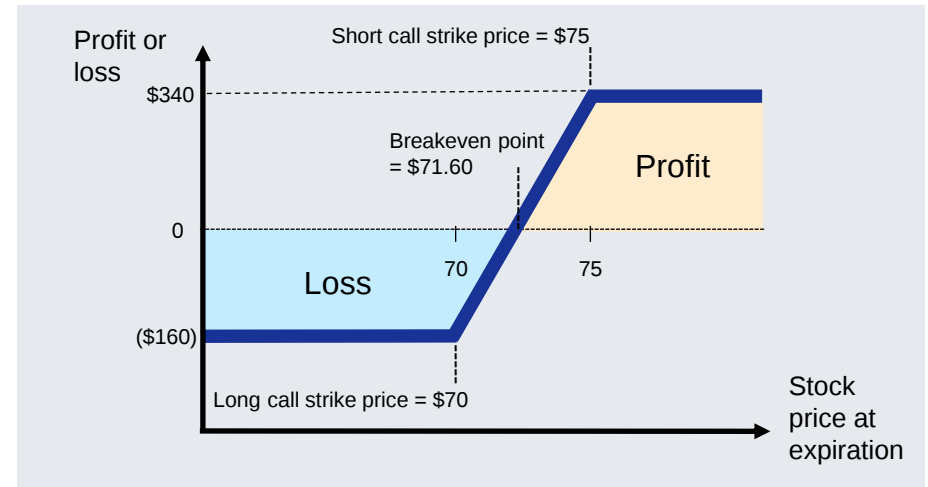
Strategic client opportunity

- An investor who expects a moderate rise in the price of the underlying
- An investor who is willing to forgo upside potential in return for obtaining downside protection
- Note: The risk/reward profiles of Bull Call and Put Spreads are similar

Bull call spread example

An investor believes that XYZ stock, trading at a spot price of \$68.00, is going to rally soon. The investor enters into a bull call spread by buying a Feb 70 Call for \$3.60 and selling a Feb 75 Call for \$2.00.

Buy Feb 70 Call:	\$3.60 debit
Sell Feb 75 Call:	\$2.00 credit
Net Debit/Net Premium Paid:	\$1.60 debit
Breakeven Point:	\$71.60



Bull call spread payout scenarios at expiration

XYZ Closes At/Above Short Call Strike Price (XYZ ≥ \$75)	XYZ Closes At/Below Long Call Strike Price (XYZ ≤ \$70)	XYZ Closes Between Long Call and Short Call Strike Prices
Limited profit potential: The investor's gain is capped when the underlying closes at or above the short call strike price at expiration Payout: — Max Profit = Short Call Strike Price – Long Call Strike Price – Net Premium Paid = \$75.00 - \$70.00 - \$1.60 = \$3.40	Limited loss: The investor's loss is capped when the underlying closes at or below the long call strike price at expiration Payout: — Max Loss = Net Premium Paid = \$1.60	Partial profit or partial loss: The magnitude of the profit/loss depends on the stock price relative to the breakeven point at expiration Payout: — The investor will collect a profit if the stock price closes above the Breakeven Point — The investor will incur a loss if the stock price closes below the Breakeven Point

Bear call spread and bear put spread

For an investor who is bearish to neutral/bearish toward the underlying stock

Bear call spread strategy overview

- **Strategy:** The investor can execute this strategy by selling a call option and simultaneously purchasing a call option with a higher strike price on the same stock with the same expiration
 - The investor receives a premium to execute this strategy
- **Market Outlook:** Bearish toward the underlying stock
- **Return:** Limited profit potential, Profit = Net Premium Received
- **Breakeven Point:** Short Call Strike Price(or the lower strike price) + Net Premium Received
- **Risks:** Limited, Loss = Long Call Strike Price – Short Call Strike Price – Net Premium Received

Bear put spread strategy overview

- **Strategy:** The investor can execute this strategy by purchasing a put option and simultaneously selling a put option with a lower strike price on the same stock with the same expiration
 - The investor pays a premium to execute this strategy
- **Market Outlook:** Neutral to bearish toward the underlying stock
- **Return:** Limited profit potential, Profit = Long Put Strike Price – Short Put Strike Price – Net Premium Paid
- **Breakeven Point:** Long Put Strike Price(or the higher strike price) – Net Premium Paid
- **Risks:** Limited, Loss = Net Premium Paid

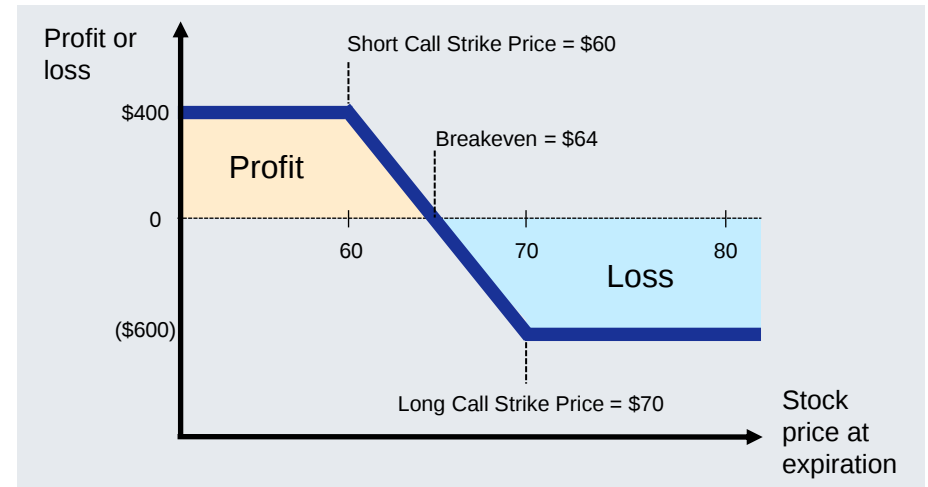
Strategic client opportunity

- An investor who expects a moderate decline in the price of the underlying
- An investor who is willing to balance limited risk with limited profit potential
- Note: The risk/reward profiles of Bear Call and Put spreads are similar. Therefore, the visual payoff chart is similar

Bear call spread example

An investor has a near term bearish view on the stock, trading at a spot price of \$63.00. The investor enters into a bear call spread by selling a Jan 60 call for \$5.60 and buying a Jan 70 call for \$1.60.

Sell Jan 60 Call: \$5.60 credit
 Buy Jan 70 Call: \$1.60 debit
 Net Credit/Net Premium Received: \$4.00 credit
 Breakeven Point: \$64.00



Vincenzo		
XYZ Closes At/Below Short Call Strike Price (XYZ ≤ \$60)	XYZ Closes At/Above Long Call Strike Price (XYZ ≥ \$70)	XYZ Closes Between Short Call and Long Call Strike Prices
Limited profit potential: The investor's gain is capped when the stock price closes at or below the short call strike price at expiration Payout: — Max Profit = Net Premium Received = \$4.00	Limited loss: The investor's loss is capped when the stock price closes at or above the long call strike price at expiration Payout: — Max Loss = Long Call Strike Price – Short Call Strike Price – Net Premium Received = \$70.00 - \$60.00 - \$4.00 = \$6.00	Partial profit or partial loss: The magnitude of the profit/loss depends on the stock price relative to the breakeven point at expiration Payout: — The investor will collect a profit if the stock price closes below the Breakeven Point — The investor will incur a loss if the stock price closes above the Breakeven Point

Long strangle and short strangle

Long strangle strategy overview

- **Strategy:** The investor can execute this volatility strategy by simultaneously purchasing a call option with a higher strike price and purchasing a put option with a lower strike price on the same stock with the same expiration date
- **Market Outlook:** Expectation of a significant move, either up or down, in the stock price and increased volatility
- **Return:** Significant to unlimited as the stock price declines below the Downside Breakeven Point or rises above the Upside Breakeven Point
- **Upside Breakeven Point:** Long Call Strike Price(or the higher strike price) + Net Premium Paid
- **Downside Breakeven Point:** Long Put Strike Price(or the lower strike price) – Net Premium Paid
- **Risks:** Limited, Maximum Loss = Net Premium Paid
 - Maximum loss occurs when the stock price closes at/between the long put and long call strike prices at expiration

Short strangle strategy overview

- **Strategy:** The investor can execute this neutral strategy by selling a put option and simultaneously selling a call option with a higher strike price on the same stock with the same expiration date
- **Market Outlook:** Expectation of limited moved in the stock price and possibly decreased in volatility
- **Return:** Limited profit, Max Profit = Net Premium Received
 - Maximum profit occurs when the stock price closes at/between the short put and short call strike prices at expiration
- **Upside Breakeven Point:** Short Call Strike Price(or the higher strike price) + Net Premium Received
- **Downside Breakeven Point:** Short Put Strike Price(or the lower strike price) – Net Premium Received
- **Risks:** Significant to unlimited losses as the stock price declines below the Downside Breakeven Point and rises above the Upside Breakeven Point

Strategic client opportunity

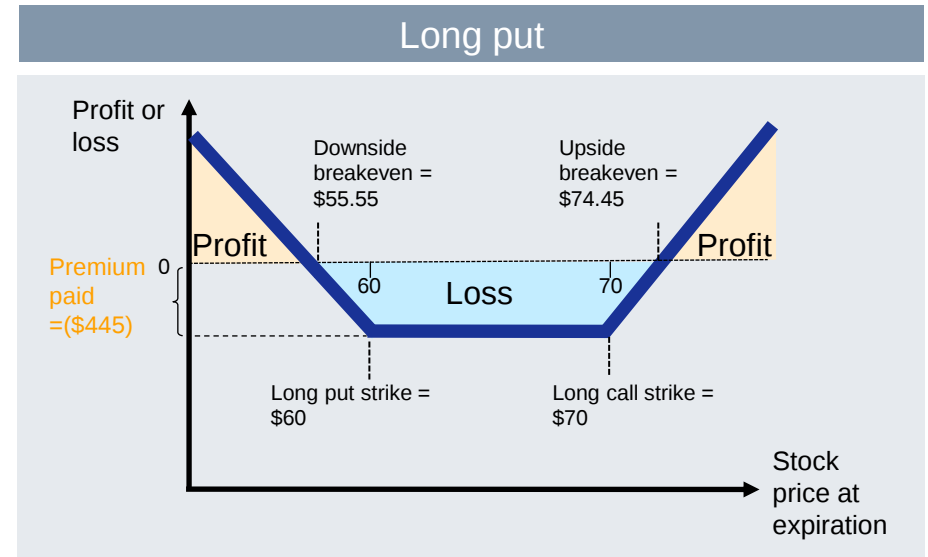
- The Long Strangle strategy appeals to an investor who anticipates increased volatility. The Long Strangle has limited risk with unlimited profit potential to the upside and significant profit potential to the downside
- The Short Strangle strategy appeals to an investor who anticipates stock price stability and decreased volatility. The Short Strangle strategy yields limited profit and potentially unlimited risk.

Long strangle example

For an investor who expects increased volatility

An investor anticipates a significant move, either up or down, in XYZ's stock price, which is currently trading at a spot price of \$65.00. The investor executes a strangle strategy by purchasing both Jan 70 calls for \$2.40 and Jan 60 puts for \$2.05.

Buy Jan 70 Call:	\$2.40 debit
Buy Jan 60 Put:	\$2.05 debit
Net Debit/Net Premium Paid:	\$4.45 debit



Long strangle payout scenarios at expiration

XYZ Closes At/Below Downside or At/Above Upside Breakeven Points ($XYZ \leq \$55.55$ or $XYZ \geq \$74.45$)

Unlimited profit potential

Payout:

- **Profit** = Stock Price at Expiration – Upside Breakeven Point
Upside Breakeven = Long Call Strike Price + Net Premium Paid = $\$70.00 + \$4.45 = \$74.45$
- **Profit** = Downside Breakeven Point – Stock Price at Expiration
Downside Breakeven = Long Put Strike Price – Net Premium Paid = $\$60.00 - \$4.45 = \$55.55$

XYZ Closes Between Downside and Upside Breakeven Points ($\$55.55 < XYZ < \74.45)

The investor will incur a loss.

Maximum loss: The investor's loss is capped when the stock price closes at/between the long put and long call strike prices; ($\$60.00 \leq XYZ \leq \70.00)

Payout:

- **Max Loss** = Net Premium Paid

Protective Put

Buying a Put to Hedge

Common Hedging Situations

- Protecting a diverse portfolio
- Concentrated stock positions
- Preservation of capital
- Market uncertainty
- “Sleep at night” insurance

Advantages/Disadvantages

Advantages:

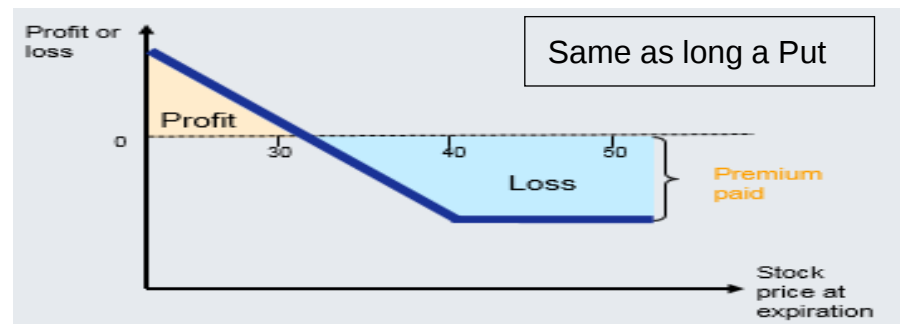
- Risk limited to premium paid
- Have unlimited upside potential in portfolio
- Will continue to receive dividends (if any), on stocks in portfolio

Disadvantages:

- Puts can be expensive and they get more expensive in uncertain times
- Put options expire
 - Should you purchase insurance again?
 - Not profitable in bull markets

Factors to Consider

- Length of Coverage
 - Longer coverage = higher cost
- Which Put Strike?
 - ATM Puts cost more expensive
 - OTM Puts are cheaper so less protection
- Ways to reduce the cost of put “insurance”?
 - Put spread or Collar - sell calls



Using Index Options to hedge a portfolio

For an investor who is looking to protect current investments

An investor owns a portfolio that closely correlates with an Index and is concerned about a significant market selloff. To limit the downside risk, but keep all of the upside, the client can buy a Protective Put on the Index.

Index Options trade with a \$100 multiplier

Determine the number of contracts to hedge a portfolio:

$$\frac{\text{Portfolio \$ Value to be Hedged}}{\text{Notional Value of Index Contract (Strike x \$100)}} = \text{number of contracts}$$

Hedging scenario

\$10,000,000.00 Portfolio closely correlated to the S&P

Put Price x number of contracts x \$100 = cost of protection

SPX @ 2250

Buy 44 SPX Jan 2250 Puts @ \$33.00

Cost = 44 x 33 x \$100 = \$145,200.00

~1.4% of portfolio value

44 SPX Puts will protect \$10m

- Purchase at-the-money SPX Jan 2250 puts
- Assume SPX at 2130 at January expiration
- Market is down ~5.3%, so portfolio is down ~5.3%
- \$10m stock portfolio down 5.3% is now worth \$9,470,000.00.
- Intrinsic value at expiration of SPX 2250 puts = \$120.00 (2250 - 2130)
- Value of puts = 120.00 x 44 contracts x 100 multiplier = \$528,000.00
- Portfolio Value = \$9,470,000.00 + \$528,000.00 = \$9,998,000.00

Market down 5.3% - You are basically flat

Index Options versus ETF Options

Single stock options and ETF options are similar

- Underlying is 100 shares
- Exercise/Assignment: Buy/Sell shares
- American style – can be exercised/assigned at any time prior to expiration

Index options are different

- Underlying is a cash value
- Exercise/Assignment: Receive/Pay cash
- European style – can only be exercised or assigned at expiration
- A potential tax benefit on index options
 - 60/40 tax treatment
 - Profits treated as 60% long-term / 40% short-term regardless of holding period

SPX Comparison to SPY

	SPY	SPX
Underlying Value	225.00	2250.00
Contract Underlying	100 shares	\$100.00 cash
American/European	American	European
AM/PM Style	PM	AM
Settlement	Buy/Sell shares	Pay/Receive cash

Important information

In the United States, options are only available to certain investors who qualify as “Accredited Investors” as defined in the Regulation D under the Securities Act of 1933 (the “Securities Act”) and “Qualified Purchasers” as defined in Section 2(a) (51) of the Investment Company Act of 1940 (the “Investment Company Act”).

Options are not suitable to all investors and eligibility requirements may apply.

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*You can lose more funds than you deposit in the margin account.

*The firm can force the sale of securities or other assets in your account(s).

*The firm can sell your securities or other assets without contacting you.

*You are not entitled to choose which securities or other assets in your account(s) are liquidated or sold to meet margin call.

*The firm can increase its "house" maintenance margin requirements at any time and is not required to provide you advance written notice.

*You are not entitled to an extension of time on a margin call.

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Glossary

Long Call

Bullish

This strategy may be considered by an investor who is bullish on a particular asset and wants to profit from an increase in its value. The option buyer has the right, but not the obligation, to purchase shares on the underlying asset at a predetermined price (strike price) at expiration. Investors can take advantage of the leverage that options provide with a limited dollar risk (premium paid for the option), which is considerably less than the capital needed to take a long position in the underlying asset. The profit potential may be unlimited as the underlying asset continues to increase, while the financial risk is limited to the total premium paid for the option.

Long Put

Bearish

This strategy may be considered by an investor who is bearish on a particular asset and wants to profit from a decline in its value. The option buyer has the right, but not the obligation, to sell shares on the underlying asset at a predetermined price (strike price) at expiration. Investors can take advantage of the leverage that options provide with a limited dollar risk (premium paid for the option), which is considerably less than the capital needed to take a short position in the underlying. The profit potential may be significant as the underlying currency continues to decline, while the financial risk is limited to the total premium paid for the option.

Short Call

Neutral to Bearish Outlook

An investor who sells a call option without owning the underlying asset is known as "Naked Call Writer". This strategy may be executed by an investor who has a neutral to bearish view on the underlying asset and that the asset will not experience a significant upward price movement. The maximum potential profit is the premium received if the option expires worthless. However, the prospective investor should be aware that this strategy entails unlimited upside risk with little upside protection. While premiums collected may cushion a slight increase in the price of the underlying asset, continued increases in the price of the underlying may result in unlimited losses.

This strategy requires a margin account, whose attendant risks include, but are not limited to, loss in excess of the collateral value in your margin account, and the unilateral purchase and/or sale of any securities in the account to meet a margin call. Additionally, investors must receive the "Special Statement for Uncovered Writers," and must meet the following criteria: minimum liquid net worth of \$100,000; minimum annual income of \$50,000; minimum net equity of \$25,000 in the account at the time of the transaction; minimum two years investment experience; and speculation as an investment objective.

Glossary

Short Put

Neutral to Bullish

This strategy may be executed by an investor who has a neutral to bullish view on the underlying asset and that the asset will not experience significant downward price movement. The maximum potential profit is the premium received if the option expires worthless. However, prospective investors should be aware that this strategy entails significant downside risk with little downside protection. While premiums collected may cushion a slight drop in the price of the underlying asset, continued decreases in the price of the underlying may result in a significant loss.

This strategy requires a margin account, whose attendant risks include, but are not limited to, loss in excess of the collateral value in your margin account, and the unilateral purchase and/or sale of any securities in the account to meet a margin call. Additionally, investors must receive the "Special Statement for Uncovered Writers," and must meet the following criteria: minimum liquid net worth of \$100,000; minimum annual income of \$50,000; minimum net equity of \$25,000 in the account at the time of the transaction; minimum two years investment experience; and speculation as an investment objective.

Covered Call

Neutral to slightly Bullish/income

This strategy may be considered by an investor who is neutral to moderately bullish on certain portfolio holdings. The strategy is executed by purchasing shares of the underlying stock while simultaneously selling a call option on an equivalent number of shares. The premium collected from the call option can be considered additional income which reduces the effective cost of the stock purchase. In exchange for this premium, the investor forgoes the opportunity to benefit from an increase in the value of the underlying stock above the strike price by agreeing to sell the underlying stock at the predetermined level (the strike price). The investor will continue to collect dividends (if any) for as long as the stock is held and company continues to pay. The risk/reward profile is such that the position has limited profit potential and potentially substantial losses should the stock price close at \$0 at expiration. Additionally, the option buyer has the right to exercise the option any time until maturity date.

Bull Call Spread

Moderately Bullish Outlook

This is a bullish strategy where an investor buys an at-the-money call while simultaneously writing a higher striking out-of-the-money call on the same underlying with the same expiration date, thereby initiating the trade with a debit. Profit is limited to the difference between the two strike prices minus the initial debit, while loss is limited to the initial debit taken to enter the position.

Bear Put Spread

Moderately Bearish

This bearish strategy involves the purchase of a higher striking in-the-money put option and the sale of a lower striking out-of-the-money put option on the same underlying with the same expiration date. Maximum profit is equal to the difference in strike price minus the debit taken to enter the trade, while maximum loss is the debit taken to enter the trade.

Glossary

Collar

Insurance

The investor can execute this strategy by selling an out-of-the-money call option while simultaneously purchasing an out-of-the-money put option with the same expiration date. Collars should be considered by an investor whose primary concern is the downside risk of a stock position, and who is willing to place a cap on upside potential in order to limit their downside risk. A zero-cost collar is a situation where the cost of purchasing the put option is exactly offset by the premium received from the sale of the call option. Collars may be of special interest to an investor who has an equity position that accounts for a large proportion of their net worth. Thus, for such an investor, low cost protection takes precedence over upside potential.

Long Strangle

Bullish on volatility

The investor can execute this bullish volatility strategy by buying a put option and simultaneously buying a call option with a higher strike price on the same stock with the same expiration date. The Long Strangle strategy appeals to an investor who anticipates 1) increases in market volatility and 2) strong price movement in either direction. The strategy has significant profit potential if one and/or two the criteria occur. The potential loss is limited (premium paid for strategy) should the stock price close between the two strike prices at expiration.

Short Strangle

Income/Bearish on volatility

The investor can execute this bearish volatility strategy by selling a put option and simultaneously selling a call option with a higher strike price on the same stock with the same expiration date. The Short Strangle strategy appeals to an investor who anticipates 1) stable to low market volatility and 2) little or no price movement. The strategy has limited profit potential (premium received through the sale of the put and call options). The risks of the strategy are significant should volatile spike higher and/or strong price moves in either direction.

Short Straddle

Bearish on volatility

This strategy is bearish on volatility and is used when an investor thinks that the underlying securities will experience 1) little or no volatility and 2) little or no significant price movement (up or down). This trade involves the simultaneous selling of a put and call on the same underlying stock with the same strike price and expiration date. This strategy's profit potential is limited to the premium received, while losses are significant on the downside and unlimited on the upside.

This strategy requires a margin account, whose attendant risks include, but are not limited to, loss in excess of the collateral value in your margin account, and the unilateral purchase and/or sale of any securities in the account to meet a margin call. Additionally, investors must receive the "Special Statement for Uncovered Writers," and must meet the following criteria: minimum liquid net worth of \$100,000; minimum annual income of \$50,000; minimum net equity of \$25,000 in the account at the time of the transaction; minimum two years investment experience; and speculation as an investment objective.

Glossary

Synthetic Short

Bearish

This is an unlimited risk options trading strategy that is taken when the options trader is bearish on the underlying security but seeks an alternative to short selling the stock. The synthetic short stock is an options strategy used to simulate the payoff of a short stock position. It is entered by selling call option and buying an equal number of put option(s) with the same strike price and expiration date. The investor benefits when the underlying security decreases in value. The investor is at risk, which is potentially unlimited, when the stock increases value.

This strategy requires a margin account, whose attendant risks include, but are not limited to, loss in excess of the collateral value in your margin account, and the unilateral purchase and/or sale of any securities in the account to meet a margin call. Additionally, investors must receive the "Special Statement for Uncovered Writers," and must meet the following criteria: minimum liquid net worth of \$100,000; minimum annual income of \$50,000; minimum net equity of \$25,000 in the account at the time of the transaction; minimum two years investment experience; and speculation as an investment objective.