

Bearish Strategies and Hedging

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Presentation Outline

- Long Put
 - Speculating
 - Protect Stock Position
 - Protect Portfolio
 - Collar
- Appendix: Review of the Basics



Long Put: Speculating

Equity Put Options

- An equity put **buyer**:
 - Owns the **right to sell** underlying stock/ETF
 - If speculating, is bearish on underlying
 - If shares are already owned, is buying protection

- An equity put **seller**:
 - Has the **obligation to buy** underlying stock/ ETF
 - Generate income while waiting for share price drop



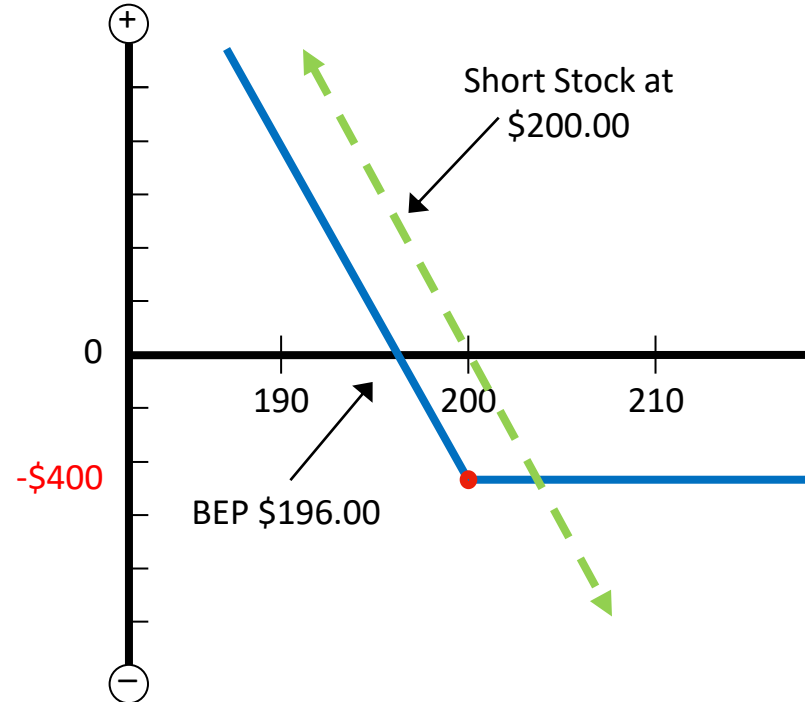
Long Put – Speculating to Downside

- An investor has a bearish outlook on the share price. Can they capitalize on the move lower without shorting the shares?
- Strategies they might consider:
 - 1. Buy a Put**
 - Owning the right to sell shares at a fixed (strike) price might gain value if the share price declines. Other pricing considerations include timing and magnitude of the move
 - 2. Buy a Put Spread**
 - Purchase a put and simultaneously sell a lower priced put to reduce cost and manage risk in exchange for limited profit potential

Long Put Example

Buy 200.00 strike put at \$4.00

(11 days to expiration, 30% implied volatility)



Break-even at Expiration:
Strike Price – Put Premium Paid
 $\$200.00 - \$4.00 = \$196.00$

Maximum Loss:
\$4.00 Put Premium Paid
\$400.00 Total

Long Put: Protecting Downside

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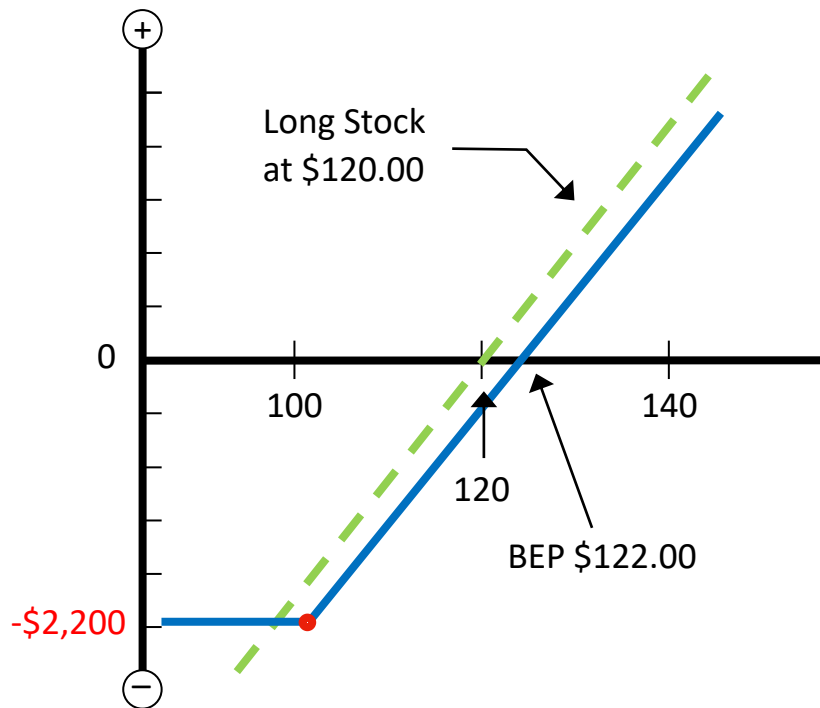
- An investor has enjoyed gains in a stock position (or portfolio). How can they protect gains while still participating in upside potential?
- Strategies they might consider:
 - 1. Protective Put = Long stock + Long Put (stock position)**
 - Purchase the right to sell shares at the strike price of the put option which protects from a share price decline below that level
 - 2. Protective Put = Long basket of stocks + Long ETF Put (portfolio)**
 - Purchase the right to sell shares of an ETF whose performance is expected to closely resemble the performance of the portfolio

Protective Put Example – Stock Position

Long Stock at \$120

Buy 100.00 strike put at \$2.00

(180 Days until expiration, 25% Volatility)



Break-even at Expiration:

Initial Share Price + Put Premium Paid
 $\$120.00 + \$2.00 = \$122.00$

Maximum Loss:

Difference between stock purchase price and option strike price + Put Premium Paid

$\$120.00 - \$100.00 + \$2.00 = \$2,200.00$

Protective Put Example - Portfolio

Calculations/Inputs:

Portfolio value:	\$100,000
Desired Protection:	10% downside (\$90,000)
Underlying Index/ETF:	\$250
10% Out-of-money put:	225 ($250 - 10\% = 225$)
Price of 90-day 225 put:	\$3.00 (\$300 per contract)

Protective Put Example - Portfolio

Calculations/Inputs:

$$\frac{\text{Portfolio $$$ to hedge}}{\text{Notional Value of Strike Price}} \quad \text{or} \quad \frac{\$90,000}{225 \times 100} = 4 \text{ puts}$$

- Investor purchases 4 90-day 225 puts to hedge \$90,000 worth of risk
- \$1,200 premium (\$3.00/contract x 4 puts x \$100) is cost of protection
- Can also buy fewer puts to hedge less of the position
- Assumes 1-to-1 correlation between portfolio and hedge

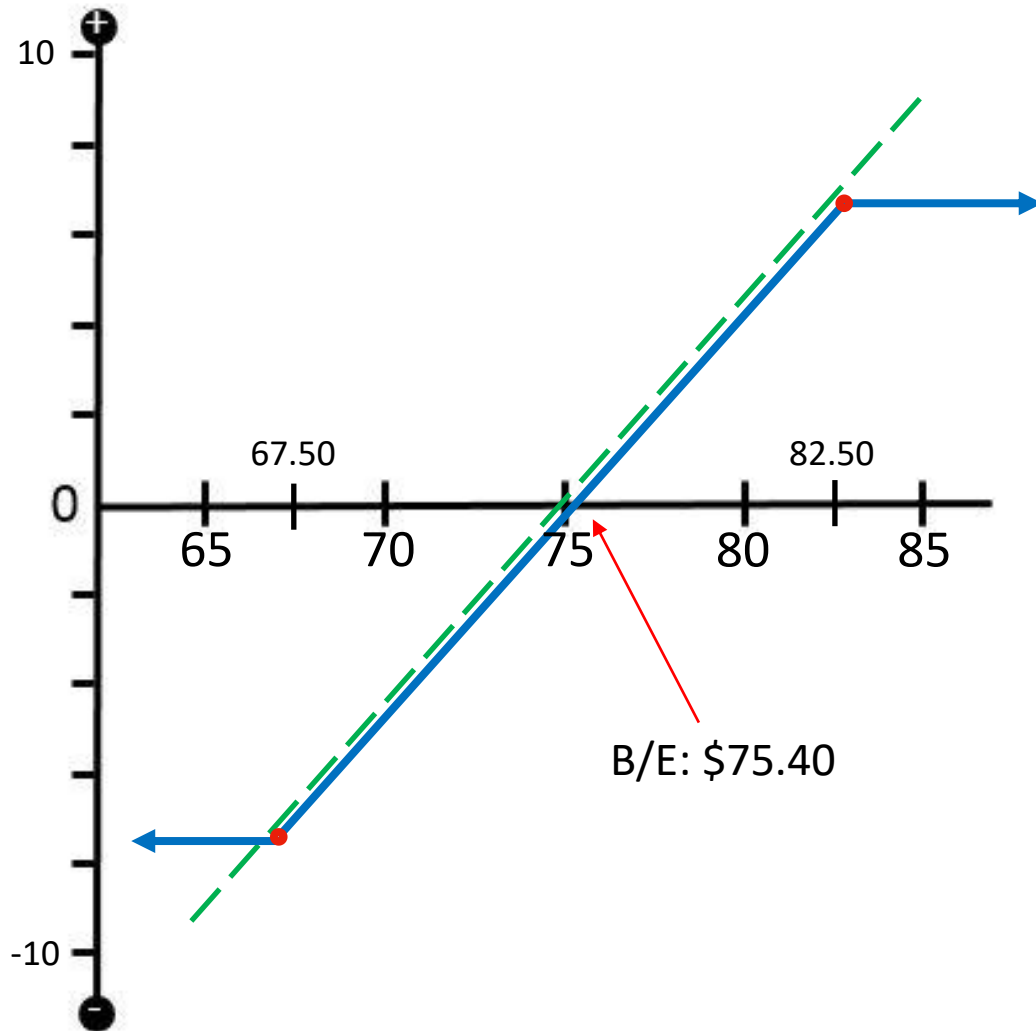
Collar



Collar – Moderately Bullish with Downside Protection

- An investor own shares that have recently rallied and are now sitting in a profitable position. How can they protect these gains at little extra cost while still maintaining limited upside potential?
- Strategy they might consider:
 - Collar = Long stock + Long Put + Short Call**
 - Purchase a put option and simultaneously sell a call option to offset the cost while acknowledging that shares might get called away at the strike price of the call

Collar Example



Long 100 shares of stock at \$75.00

- **Buy 67.50 put for \$1.30**
- **Sell 82.50 call at \$0.90**
 - **Net Debit: \$.40**

Max Profit: \$7.10 (Short call strike – share price +/- net debit or credit)

Max Loss: \$7.90 (Share price – long put strike +/- net debit or credit)

Breakeven: \$75.40 (Share price +/- net debit or credit)

Questions?



Appendix: Options Basics



Calls and Puts

Options contracts **give...**

	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 before expiration

Exercise: Buy or Sell Underlying Stock

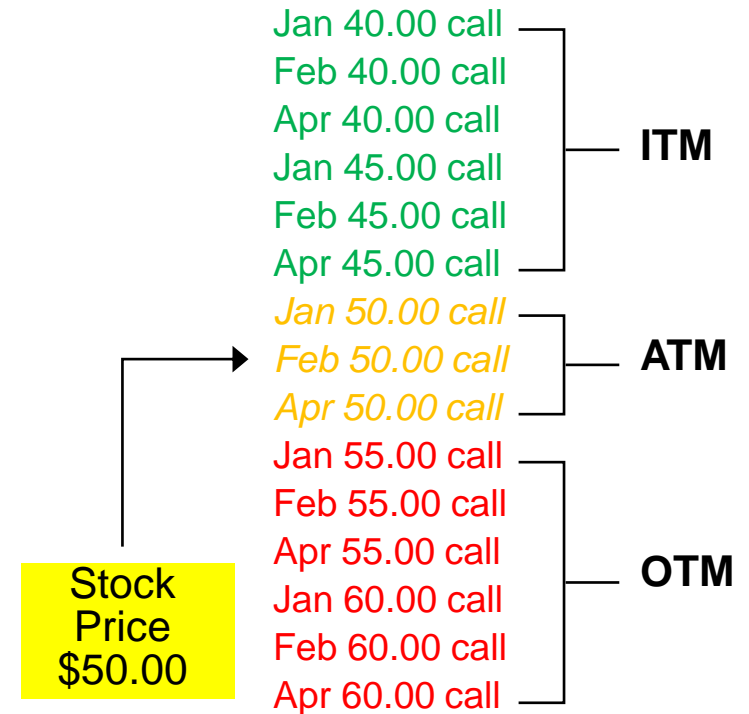
- The option **buyer** has the **right**:
 - to buy (for a call) or sell (for a put)
 - 100 shares of underlying stock/ETF
 - at the strike price per share
 - **if he/she exercises a long contract**
- To exercise, the buyer issues an exercise notice to his/her brokerage firm (or Auto-ex)
- Only option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

Assignment: Buy or Sell Underlying Stock

- The option seller has the obligation:
 - 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 assigned an exercise notice**
- Assignment notice is received from seller's brokerage firm
- Only option sellers may be assigned on an option contract

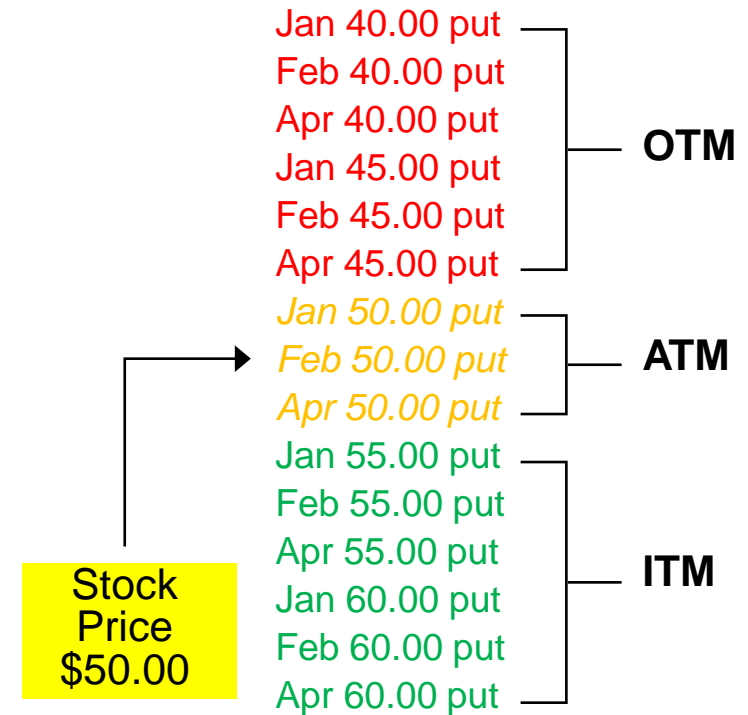
Calls: In-the-Money, At-the-Money, Out-of-the-Money

- 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



Puts: In-the-Money, At-the-Money, Out-of-the-Money

- 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



Intrinsic Value vs. Time Value

Option Premium: Intrinsic Value (if any) + Extrinsic (Time) Value

- Intrinsic value
 - in-the-money amount
- Extrinsic value
 - any premium in excess of intrinsic value
 - decays with time as expiration approaches (“time decay”)
- At expiration option worth only **intrinsic value**
 - no time remaining
 - when exercised, only the intrinsic value of an option is received/delivered—extrinsic value (if any) is **lost**

Option Premium and Volatility

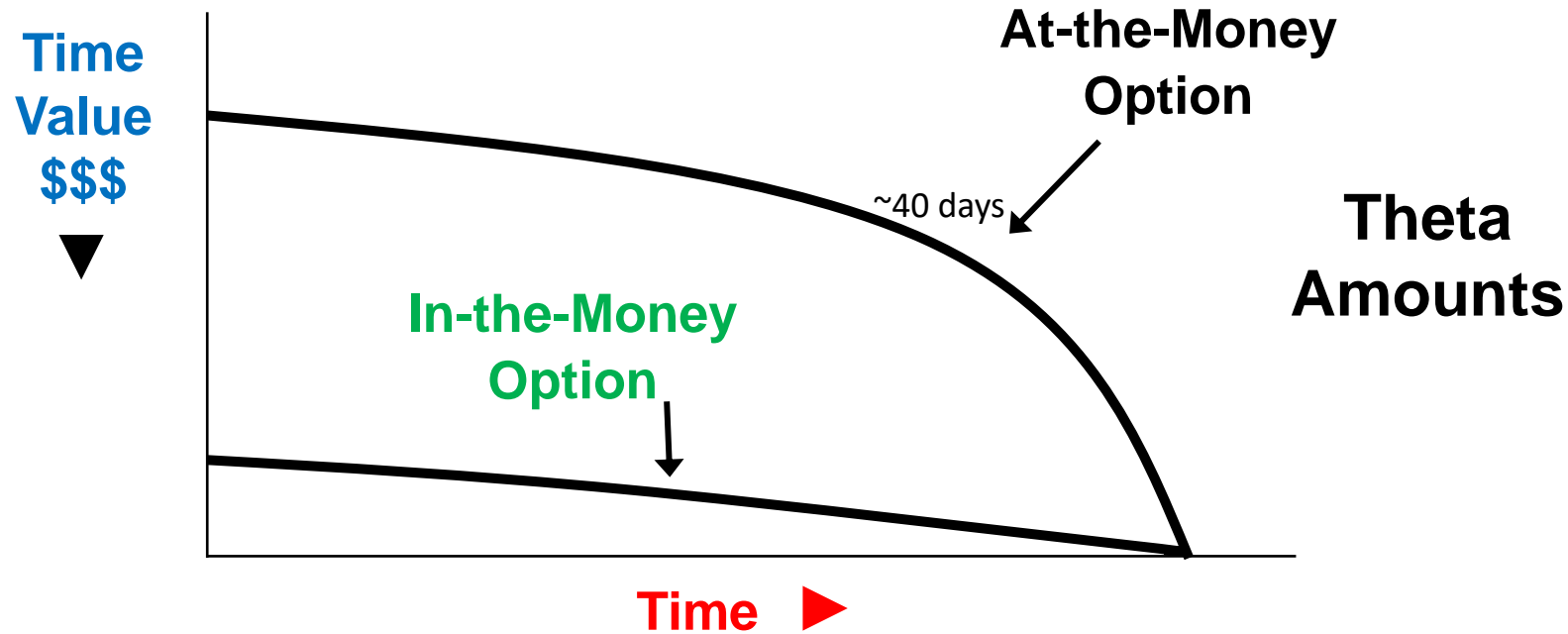
Option Premium:

- Driven by supply and demand from all market participants
- Quoted on a per share basis
- Consists of intrinsic value and extrinsic (time) value

Volatility:

- Historical Volatility (HV) reflects past movements in the stock price
- Implied Volatility (IV) is forward looking and is derived from option prices
- Changes in Implied Volatility have a positive correlation with changes in option prices

Option Theta and Expiry



Overall rate of time decay is exponential (**accelerates** towards expiry)

ATM = decay exponential = volatility is key decay factor

ITM = decay linear = cost-to-carry is key decay factor