



SNS College of Technology

Coimbatore - 35



23BAE703 – Derivatives and Risk Management

Unit III – Options Contract



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Design Thinker.





Can you Guess the Topic!!



Options Payoff



Recap

- ✓ Option Premium
- ✓ Intrinsic Value
- ✓ Call and Put Options
- ✓ Time Value of Money
- ✓ Relation between Intrinsic Value and Time Value of Money



Agenda for Discussion



- ✓ Why to study Options Payoff?
- ✓ Payoff Diagram
- ✓ Call and Put options Payoff



Why Options Payoff?



Scenario

Santa granted you 1 BTC (worth \$7,000) to trade right now. Based on a strike price of \$8,000 and assuming settlement on Christmas week (27 Dec). Which option position will you take on to generate the highest returns?

- a Buy call - Pay \$180 (Fixed loss, unlimited returns)
- b Buy put - Pay \$1100 (Fixed loss, unlimited returns)
- c Sell call - Earn \$130 premiums upfront (Fixed return, unlimited loss)
- d Sell put - Earn \$1200 premiums upfront (Fixed return, unlimited loss)
- e Do nothing and HODL





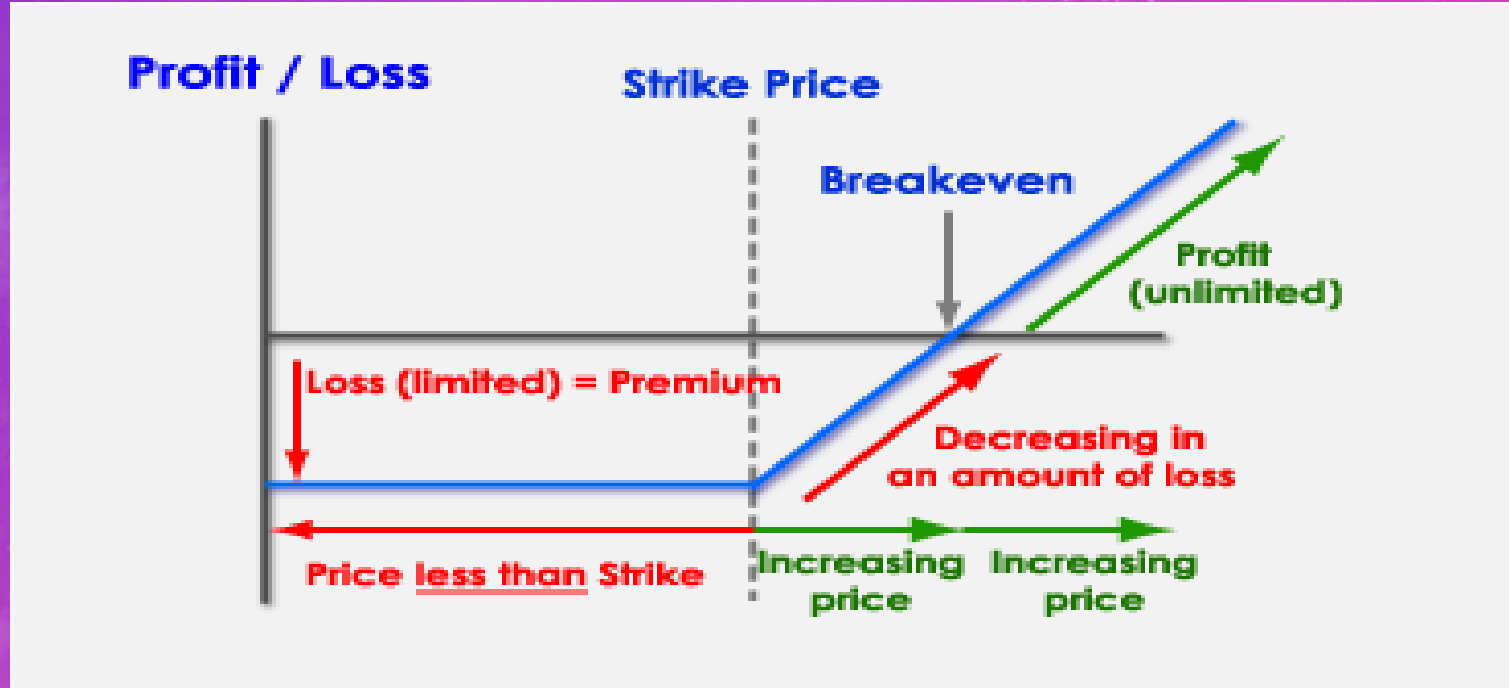
Call and Put Options

CALL OPTIONS	
Moneyness	Relationship to Stock
In-the-money	Stock price $>$ Strike price
At-the-money	Stock price = Strike price
Out-of-the-money	Stock price $<$ Strike price

PUT OPTIONS	
Moneyness	Relationship to Stock
In-the-money	Stock price $<$ Strike price
At-the-money	Stock price = Strike price
Out-of-the-money	Stock price $>$ Strike price

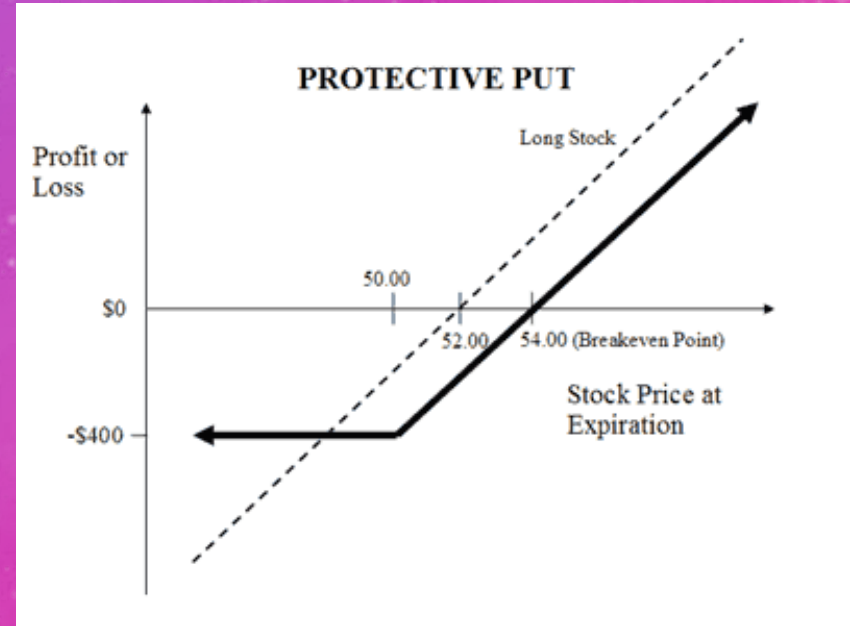
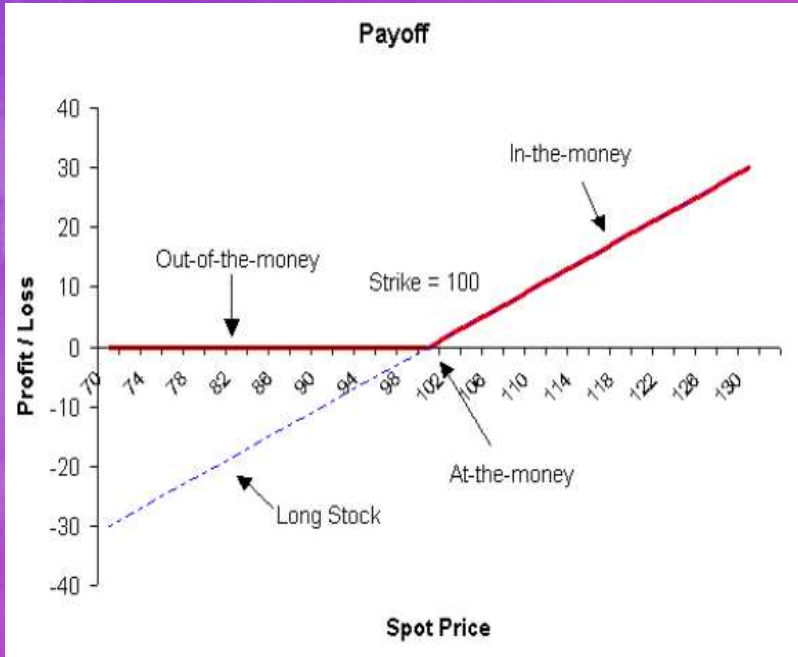


Payoff Diagram



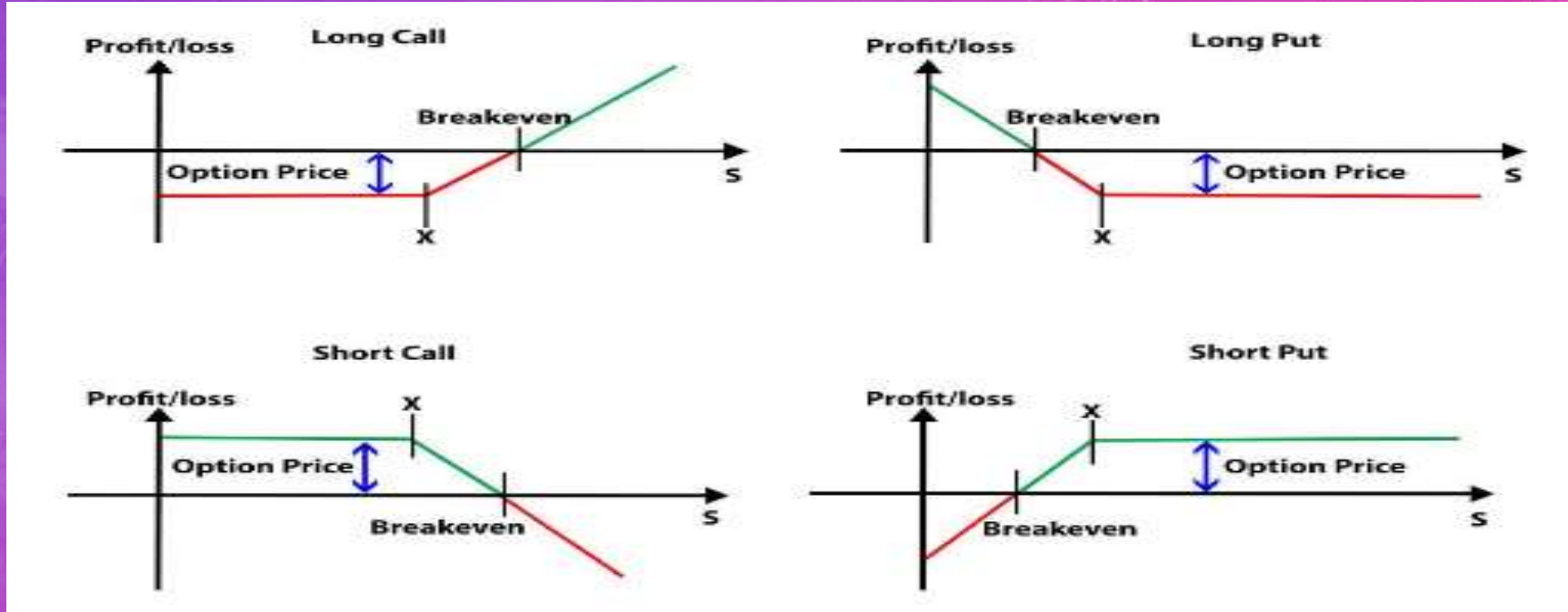


Call Payoff and Put Payoff





Call and Put Option Payoff

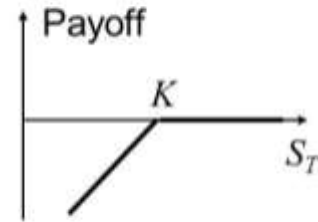
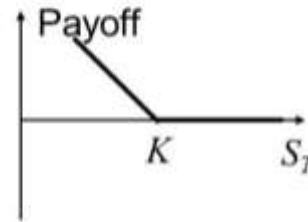
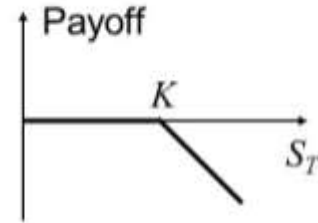
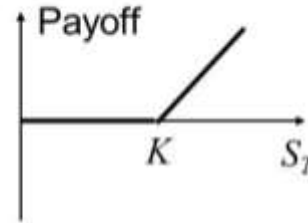




Assessment – Payoffs from Options

- ✓ What is the option Position in each case?

K = Strike price, S_T = Price of asset at maturity





Summary

- ✓ Options Payoff
- ✓ Payoff Diagram
- ✓ Call and Put option payoff





References

- ✓ <https://financetrain.com/option-payoff-diagrams/>
- ✓ <https://www.motilaloswal.com/article.aspx/1645/Understanding-the-payoff-to-the-buyer-of-an-option..#:~:text=So%2C%20what%20exactly%20is%20the,evaluating%20your%20option%20pay%2Doff.>

