Factors that affects the value of an	Increase in:	Effect on call option value	Effect on put option value
option			
	1. Price of underlying asset	Increase	Decrease
	2. Exercise price	Decrease	Increase
	3. Risk-free rate of interest	Increase	Decrease
	4. Volatility of underlying	Increase	Increase
	5. Time to expiration	Increase	Increase,
			except European puts
	6. Costs of holding the asset	Increase	Decrease
	7. Benefits of holding the asset	Decrease	Increase
	_		
Put-call parity	Put-call parity : $c + \frac{X}{(1 + R_f)^T} = S + p$		
	Since : $S = \frac{F_0(T)}{(1 + R_f)^T}$		
	$\rightarrow c + \frac{X}{(1+R_f)^T} = \frac{F_0(T)}{(1+R_f)^T} + p$		
Determine option value using one- period binomial model	$S_{1}^{+} = S_{0} \times U$ $c_{1}^{+} = max(0, S_{1}^{+} - X)$ $p_{1}^{+} = max(0, X - S_{1}^{+})$ S_{0} π_{D} $S_{1}^{-} = S_{0} \times D$ $c_{1}^{-} = max(0, S_{1}^{-} - X)$ $p_{1}^{-} = max(0, X - S_{1}^{-})$	In which : U = size of up move $D = size \text{ of } down \text{ move} = \frac{1}{U}$ $\pi_U = risk - neutral \text{ probability of } an up n$ $\pi_D = risk - neutral \text{ probability of } a down$	$nove = \frac{1 + R_f - D}{U - D}$ $move = 1 - \pi_U$
	Method for calculatng option value: 1. Calculate option payoff @ maturity in both the up move and down move states 2. Calculate expected value of the option in 1 year as the probability-weighted average of the payoffs in each state 3. Discount this expected value back to PV at risk-free rate		
Difference between European and American options	Price of European options = price of American options, unless the right to exercise prior to expiration A® ops in unde *For call option : - No CF during the life of the option → no advantage to early exercise → P ice option its enditions = price of European options - Asset pays CF during the life of the call option → advantage to exercise → P ice option pior to the ex-dividend date (the dividend could be sold @ pre-dividend price, or held to receive the dividend) → Price of American call options > Price of Find early call of tions *For put option : when put option is deep by the material because the gain immediately instead the piration date → Price of American call options > Price of European call options		
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