期权简介

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Associate Professor of Economics, Ohio University

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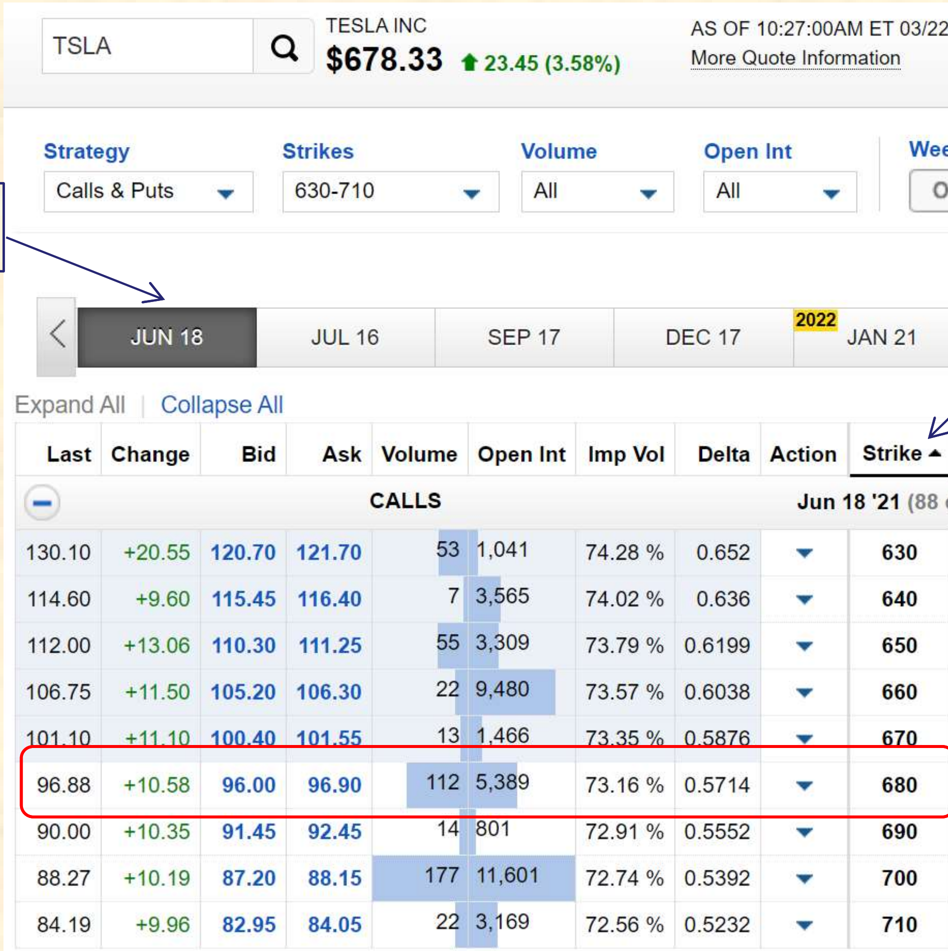
何谓期权

- 期：将来某日；权：权力，可用，也可不用。
  - 期权：给持有者在将来的某时按预先设定的价格行使买或卖权力的一种金融合同。
    - 例子：你要是嫁人，不要嫁给别人，一定要嫁给我，带着百万钱财，领着你的妹妹，赶着那马车来。
    - 如果姑娘答应了，这个小伙子就有了一个期权
    - 这个期权值多少钱？
  - 美式期权与欧式期权
    - 美式：个股和ETF，到期之前都可以行权。
    - 欧式：指数，到期才能行权。
  - 大小：一张合约=100股

Call Option: 看涨期权

到期日



TSLA | TESLA INC $678.33 23.45 (3.58%) | AS OF 10:27:00AM ET 03/22/ More Quote Information

Strategy: Calls & Puts | Strikes: 630-710 | Volume: All | Open Int: All | Wee On

JUN 18 | JUL 16 | SEP 17 | DEC 17 | 2022 JAN 21

Expand All | Collapse All

CALLS — Jun 18 '21 (88 d

Last	Change	Bid	Ask	Volume	Open Int	Imp Vol	Delta	Action	Strike
130.10	+20.55	120.70	121.70	53	1,041	74.28 %	0.652		630
114.60	+9.60	115.45	116.40	7	3,565	74.02 %	0.636		640
112.00	+13.06	110.30	111.25	55	3,309	73.79 %	0.6199		650
106.75	+11.50	105.20	106.30	22	9,480	73.57 %	0.6038		660
101.10	+11.10	100.40	101.55	13	1,466	73.35 %	0.5876		670
96.88	+10.58	96.00	96.90	112	5,389	73.16 %	0.5714		680
90.00	+10.35	91.45	92.45	14	801	72.91 %	0.5552		690
88.27	+10.19	87.20	88.15	177	11,601	72.74 %	0.5392		700
84.19	+9.96	82.95	84.05	22	3,169	72.56 %	0.5232		710

行权价

价外 out of the money

价内 in the money

股票代码年月日种行权价

TSLA210618C680

一张合约$9690+手续费

Put Option: 看跌期权

到期日

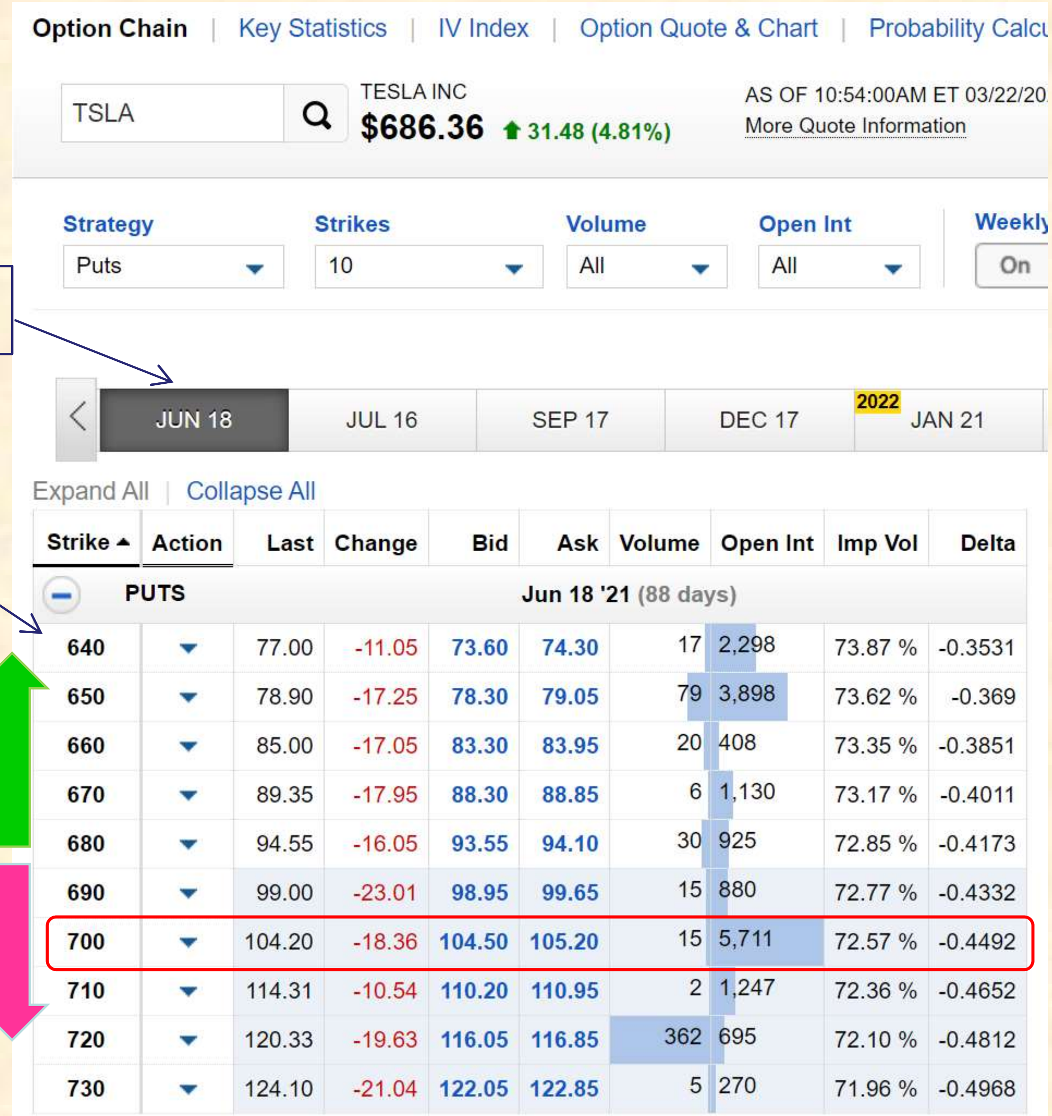
股票代码年月日种行权价

TSLA210618P700

行权价

价内 in the money

价外 out of the money



Option Chain | Key Statistics | IV Index | Option Quote & Chart | Probability Calcu

TSLA

TESLA INC

$686.36 31.48 (4.81%)

AS OF 10:54:00AM ET 03/22/20

More Quote Information

Strategy: Puts | Strikes: 10 | Volume: All | Open Int: All | Weekly: On

JUN 18 | JUL 16 | SEP 17 | DEC 17 | 2022 JAN 21

Expand All | Collapse All

PUTS — Jun 18 '21 (88 days)

Strike	Action	Last	Change	Bid	Ask	Volume	Open Int	Imp Vol	Delta
640		77.00	-11.05	73.60	74.30	17	2,298	73.87 %	-0.3531
650		78.90	-17.25	78.30	79.05	79	3,898	73.62 %	-0.369
660		85.00	-17.05	83.30	83.95	20	408	73.35 %	-0.3851
670		89.35	-17.95	88.30	88.85	6	1,130	73.17 %	-0.4011
680		94.55	-16.05	93.55	94.10	30	925	72.85 %	-0.4173
690		99.00	-23.01	98.95	99.65	15	880	72.77 %	-0.4332
700		104.20	-18.36	104.50	105.20	15	5,711	72.57 %	-0.4492
710		114.31	-10.54	110.20	110.95	2	1,247	72.36 %	-0.4652
720		120.33	-19.63	116.05	116.85	362	695	72.10 %	-0.4812
730		124.10	-21.04	122.05	122.85	5	270	71.96 %	-0.4968

DERIVATIVES

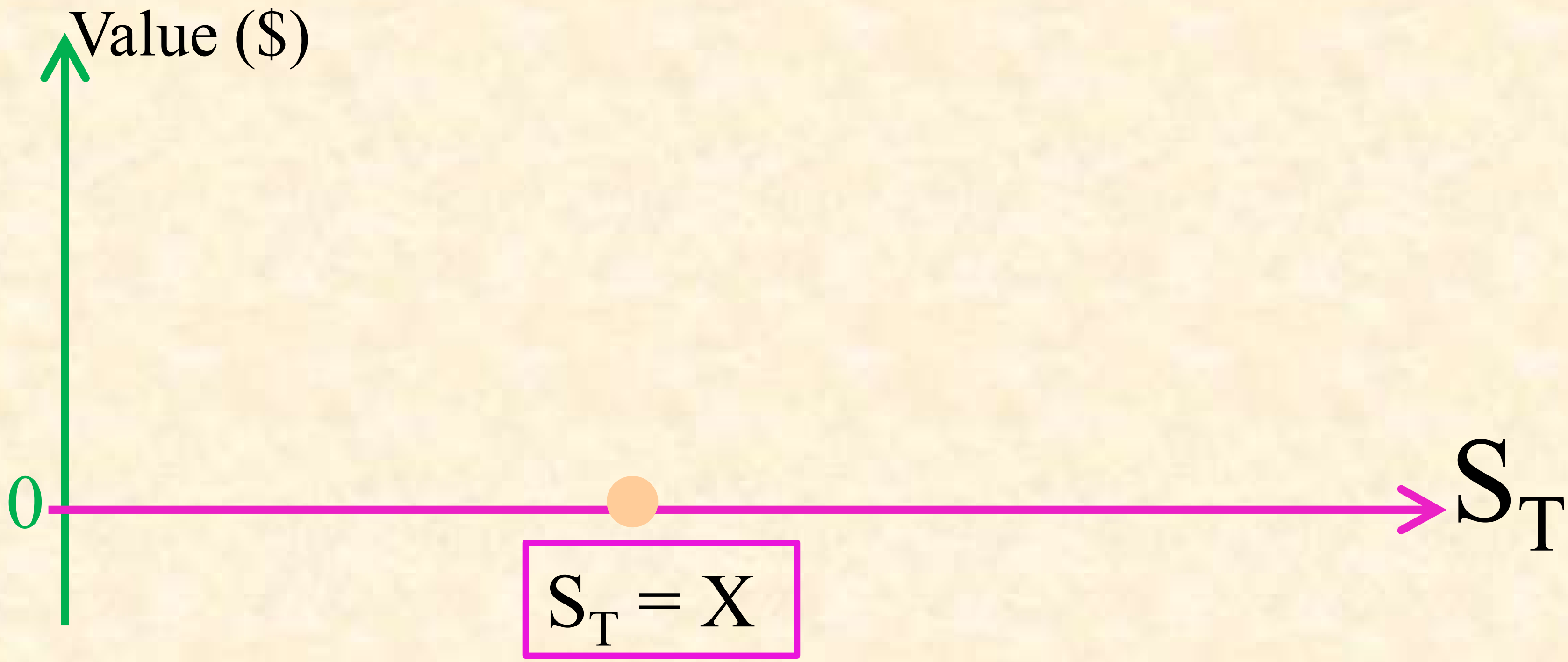
Bolong Cao Ph.D. CFA

期权的图示

Long Call Payoff Diagram

❑Long Call Payoff

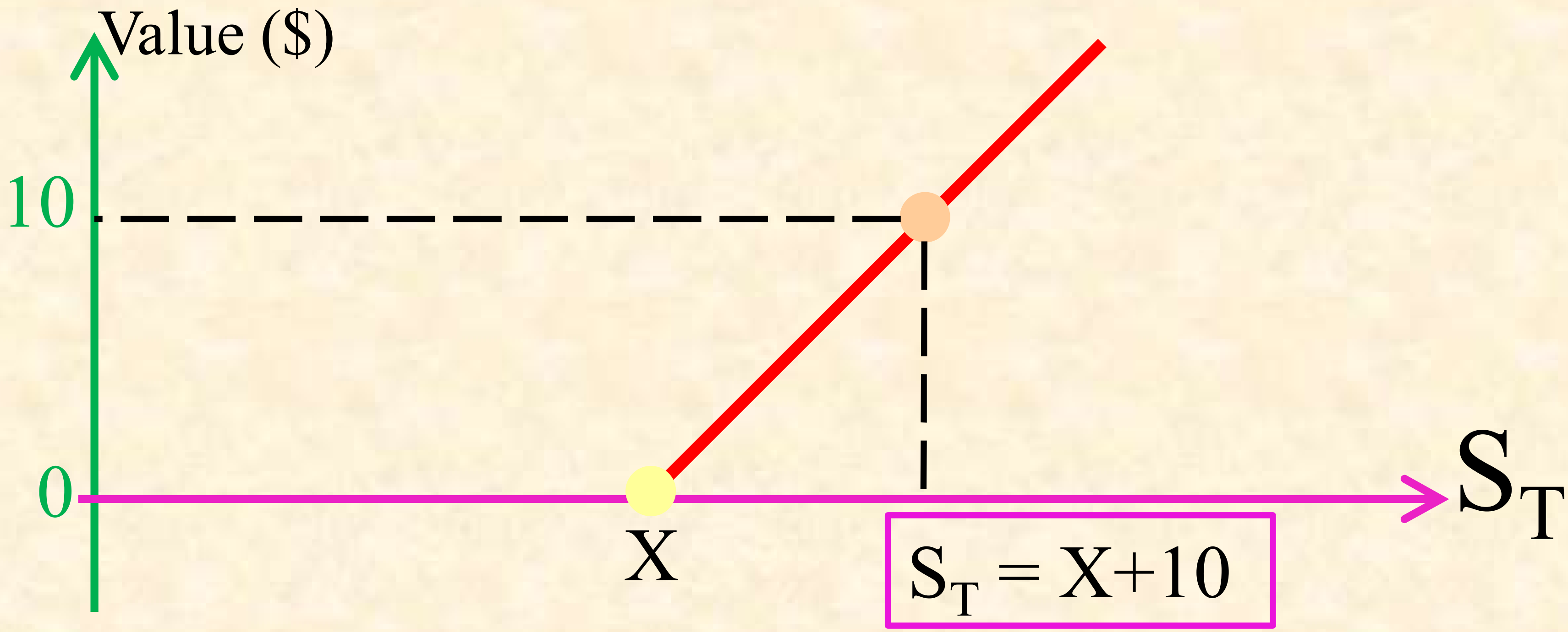
- At $S_T = X$, Long Call Payoff = $S_T - X = 0$;



Long Call Payoff Diagram

❑Long Call Payoff

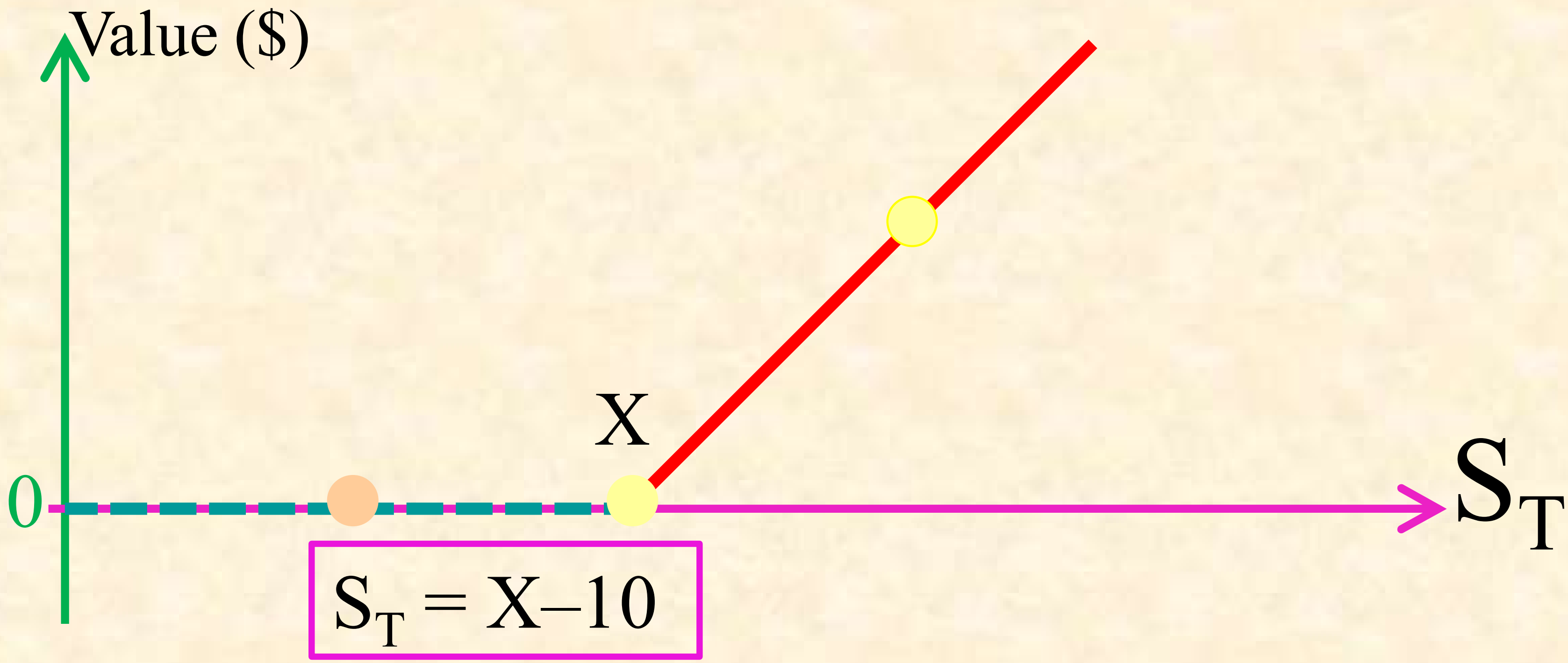
- At S_T = X + 10, Long Call Payoff = S_T – X = 10;



Long Call Payoff Diagram

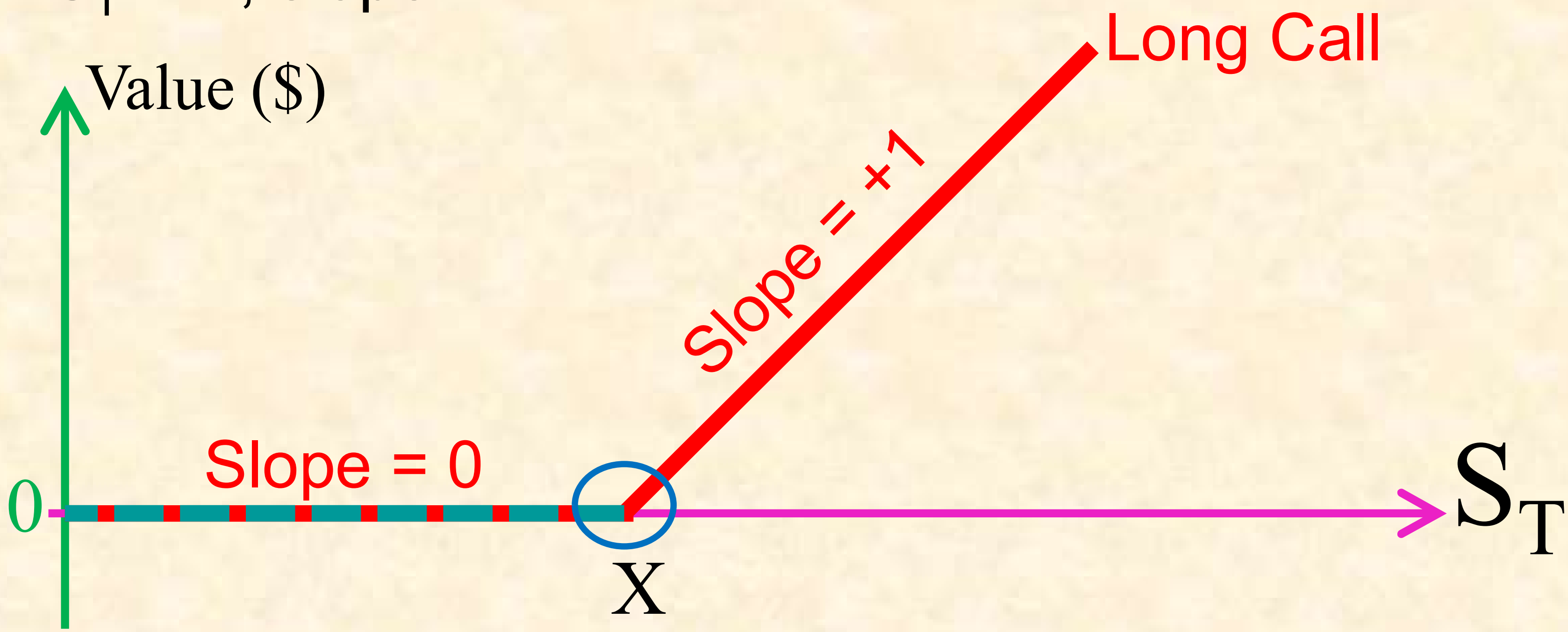
❑Long Call Payoff

- At S_T = X –10, Long Call Payoff = 0;

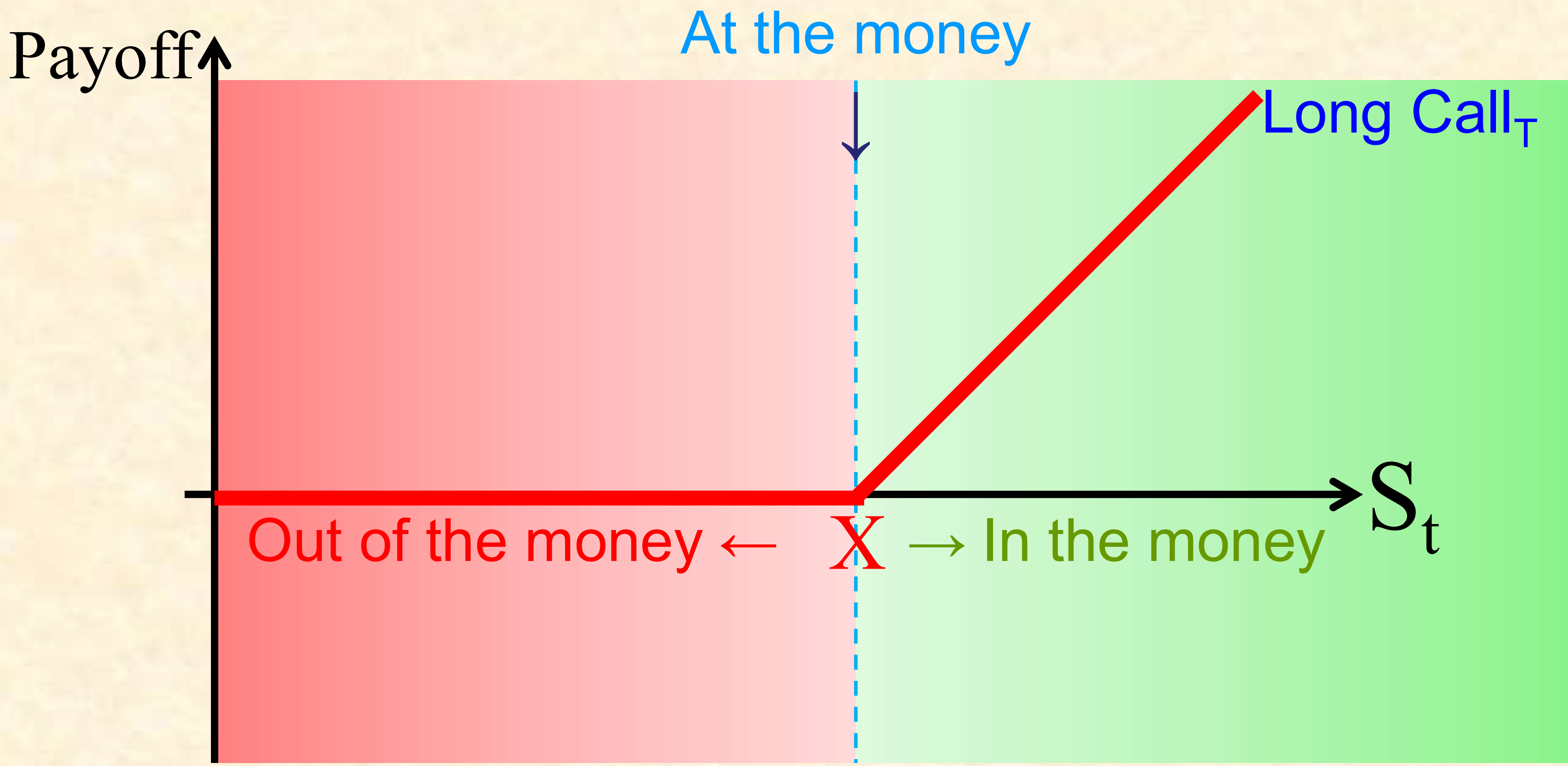


Long Call Payoff Diagram

- ❑ **The slope of long call payoff line**
  - ➢ If $S_T \leq X$, slope = 0;
  - ➢ If $S_T > X$, slope = +1.

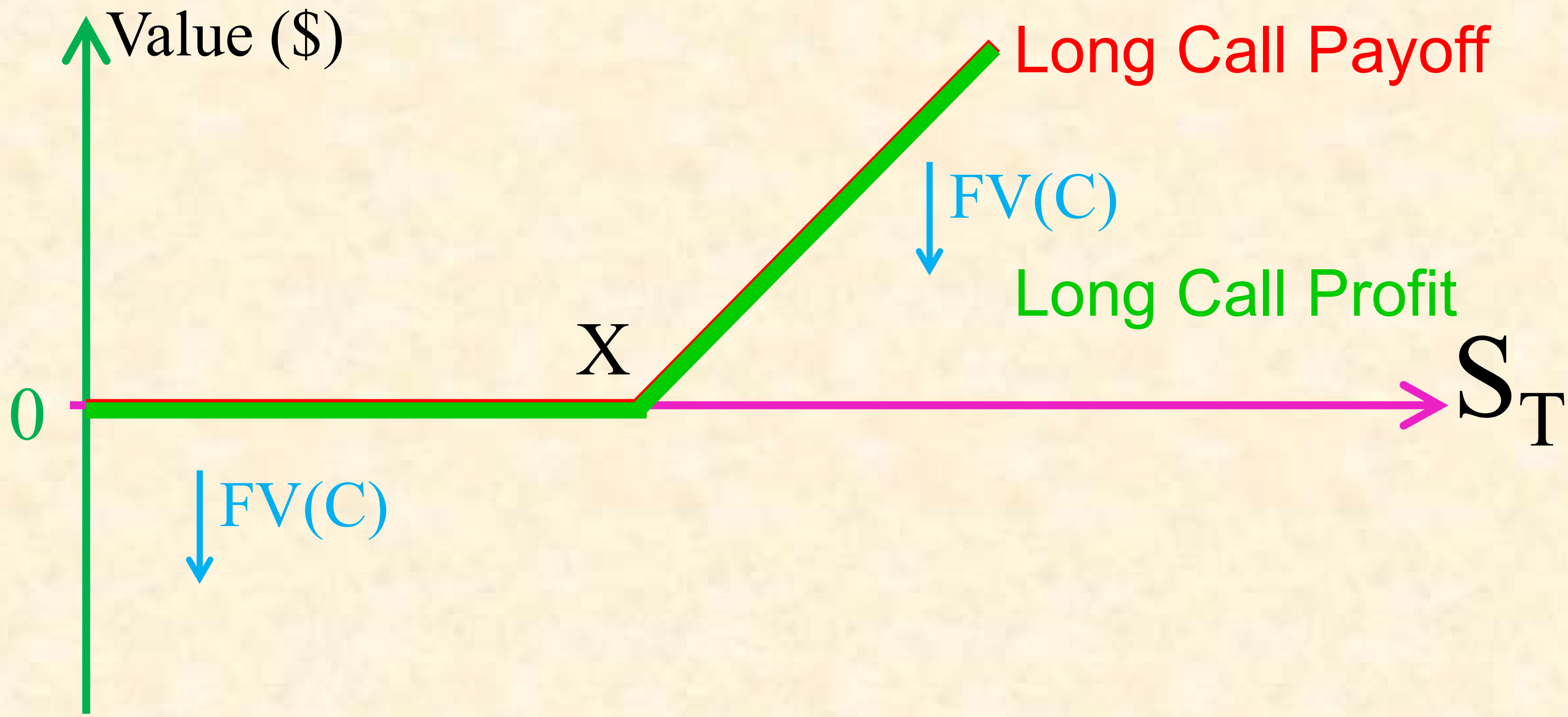


The Moneyness of Calls



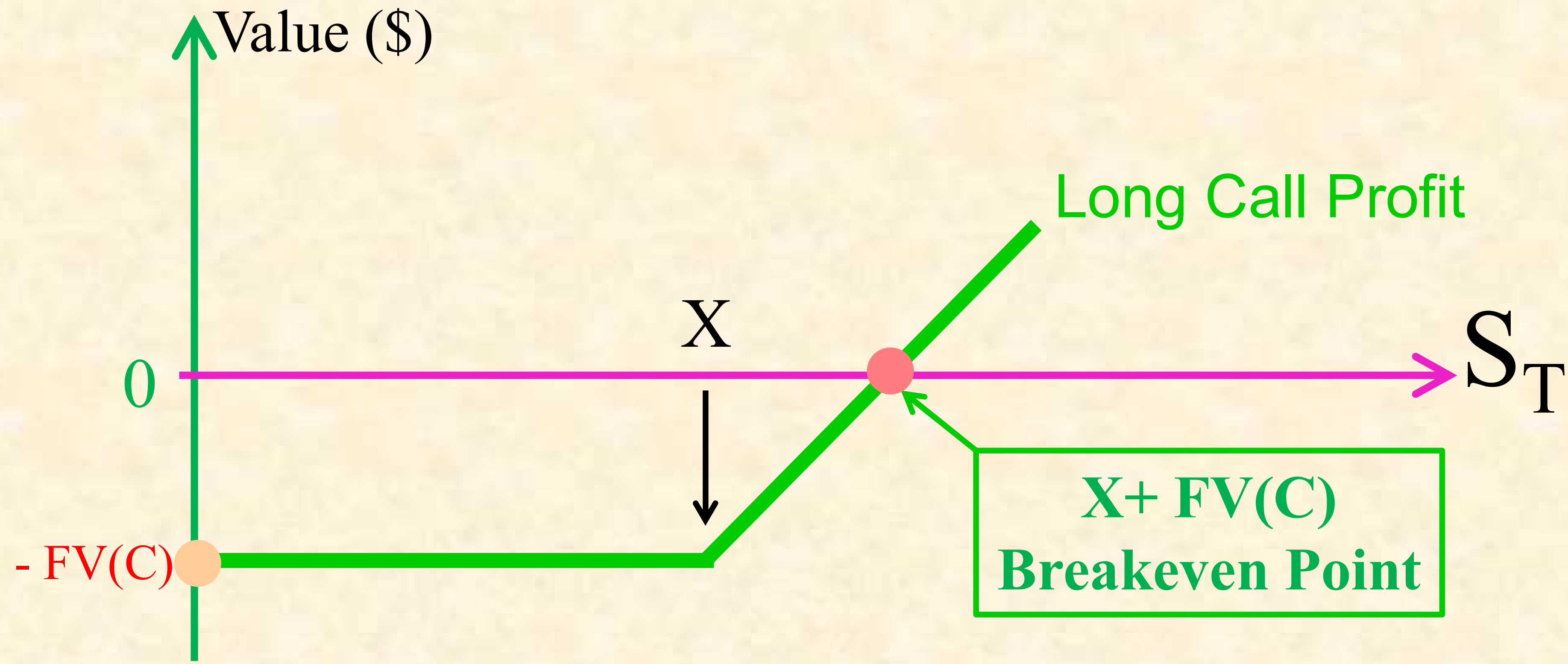
Long Call Profit Diagram

- Long Call Profit = Long Call Payoff – FV(C)



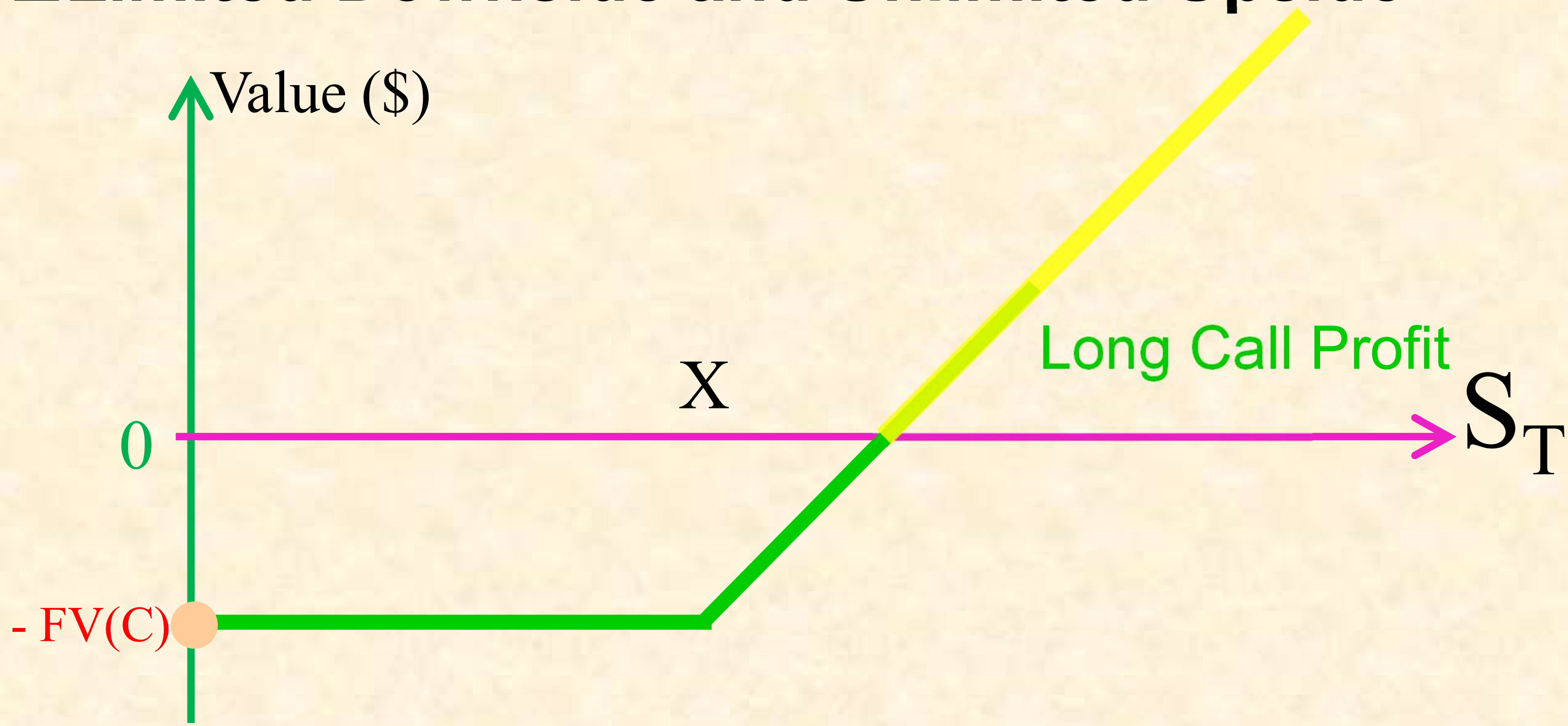
Long Call Profit Diagram

❑Kink, Max Loss, and Breakeven Point



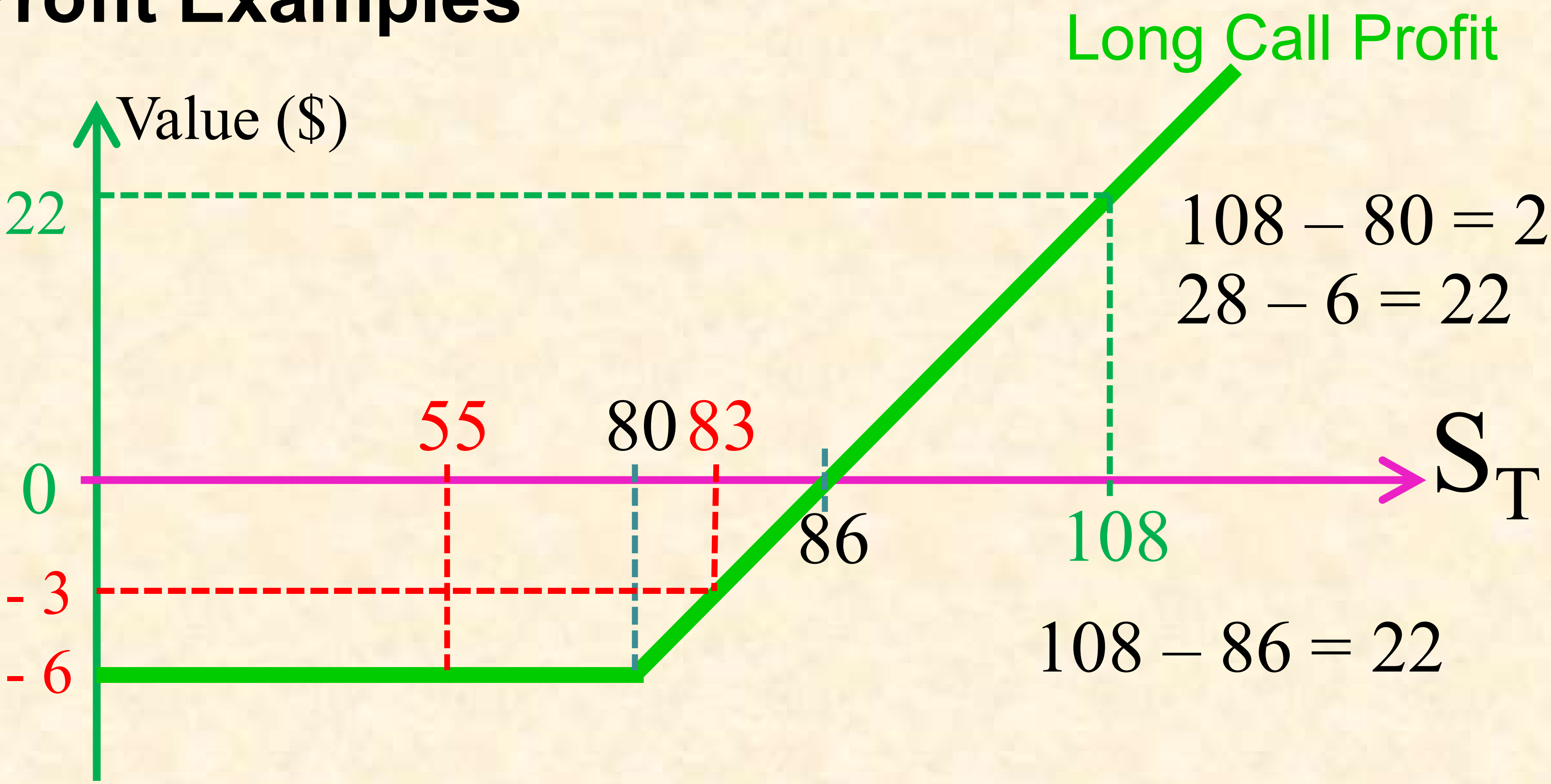
Long Call Profit Diagram

❑Limited Downside and Unlimited Upside

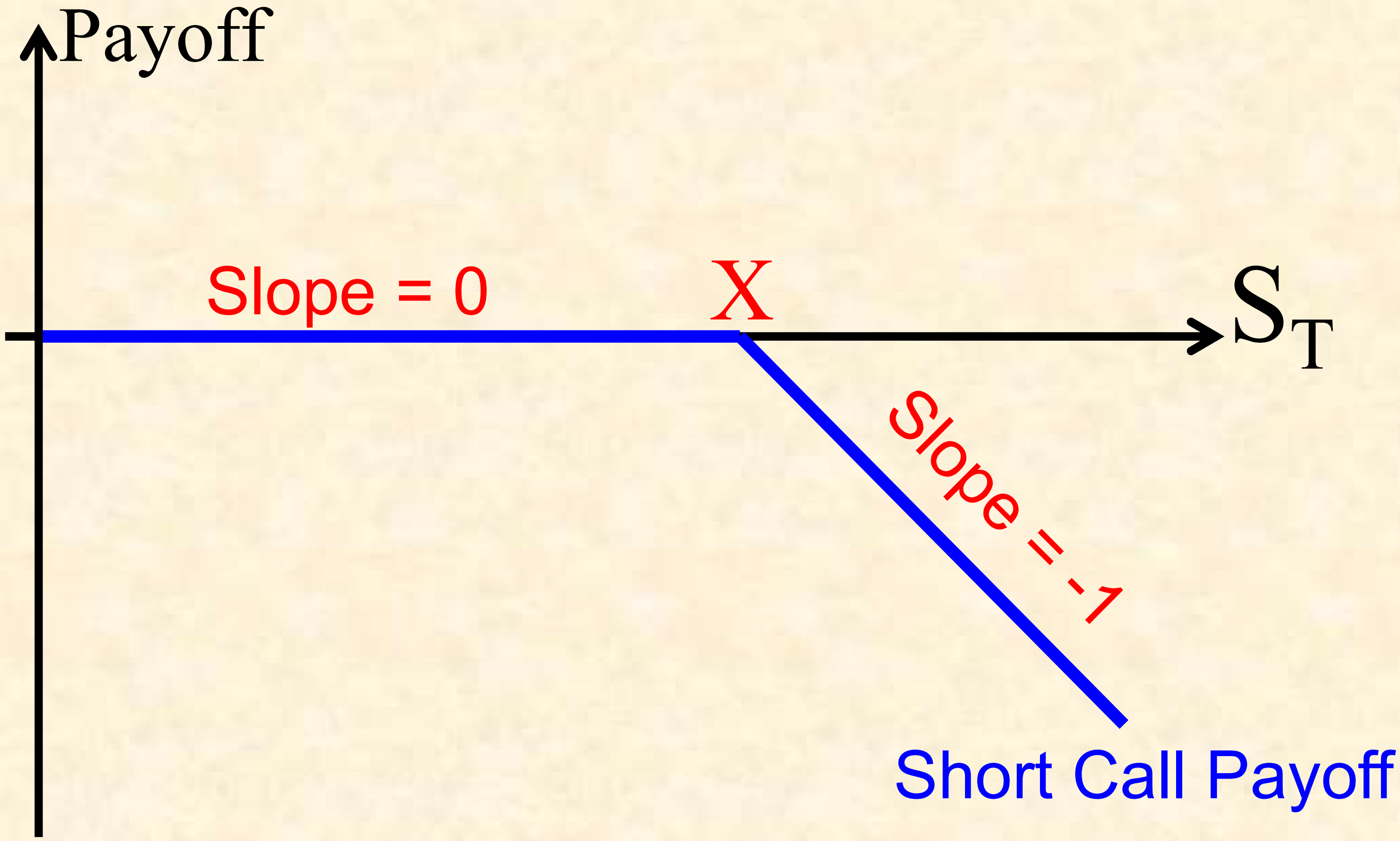


Long Call Profit Diagram

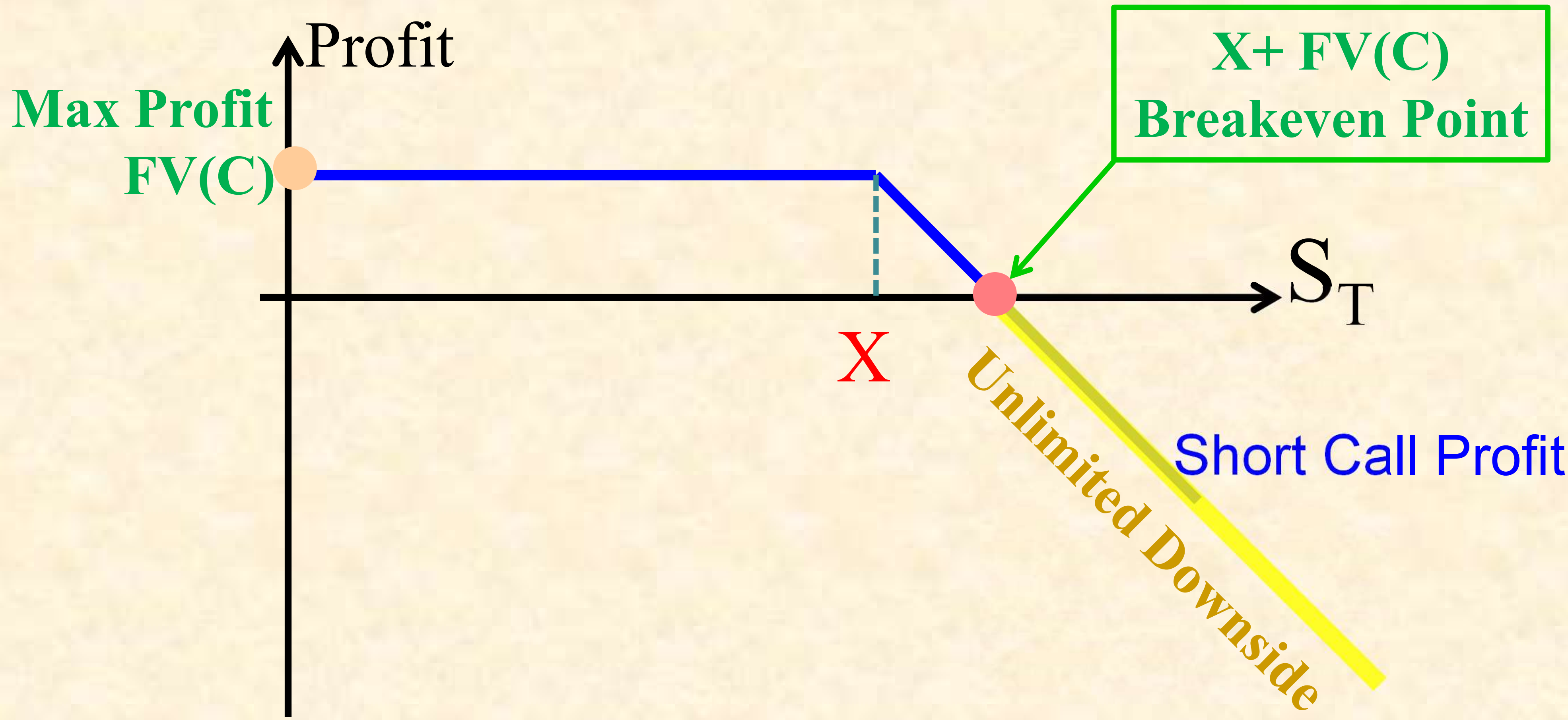
❑Profit Examples



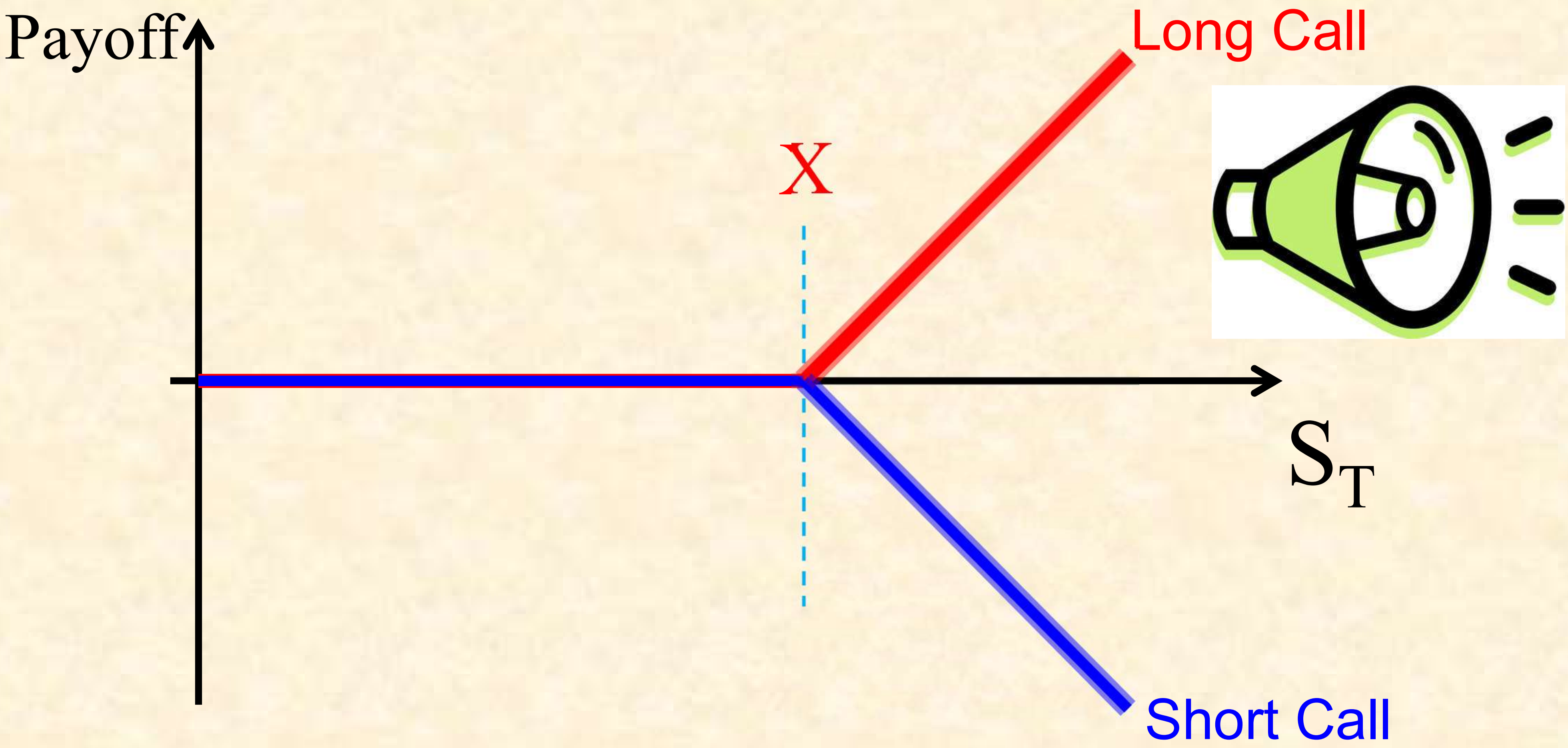
Written Call Payoff



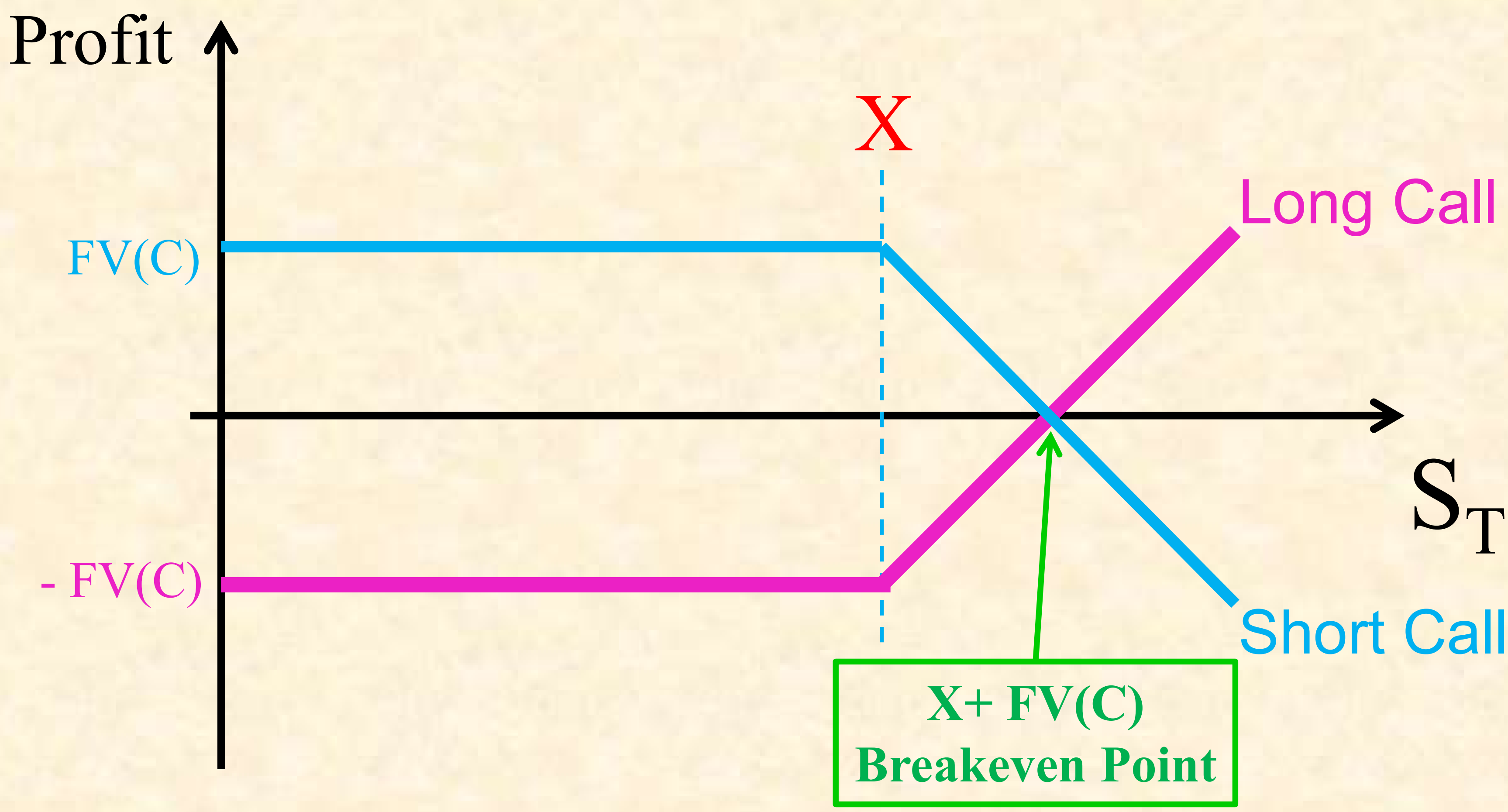
Written Call Profit



Payoffs: Long vs. Short Calls



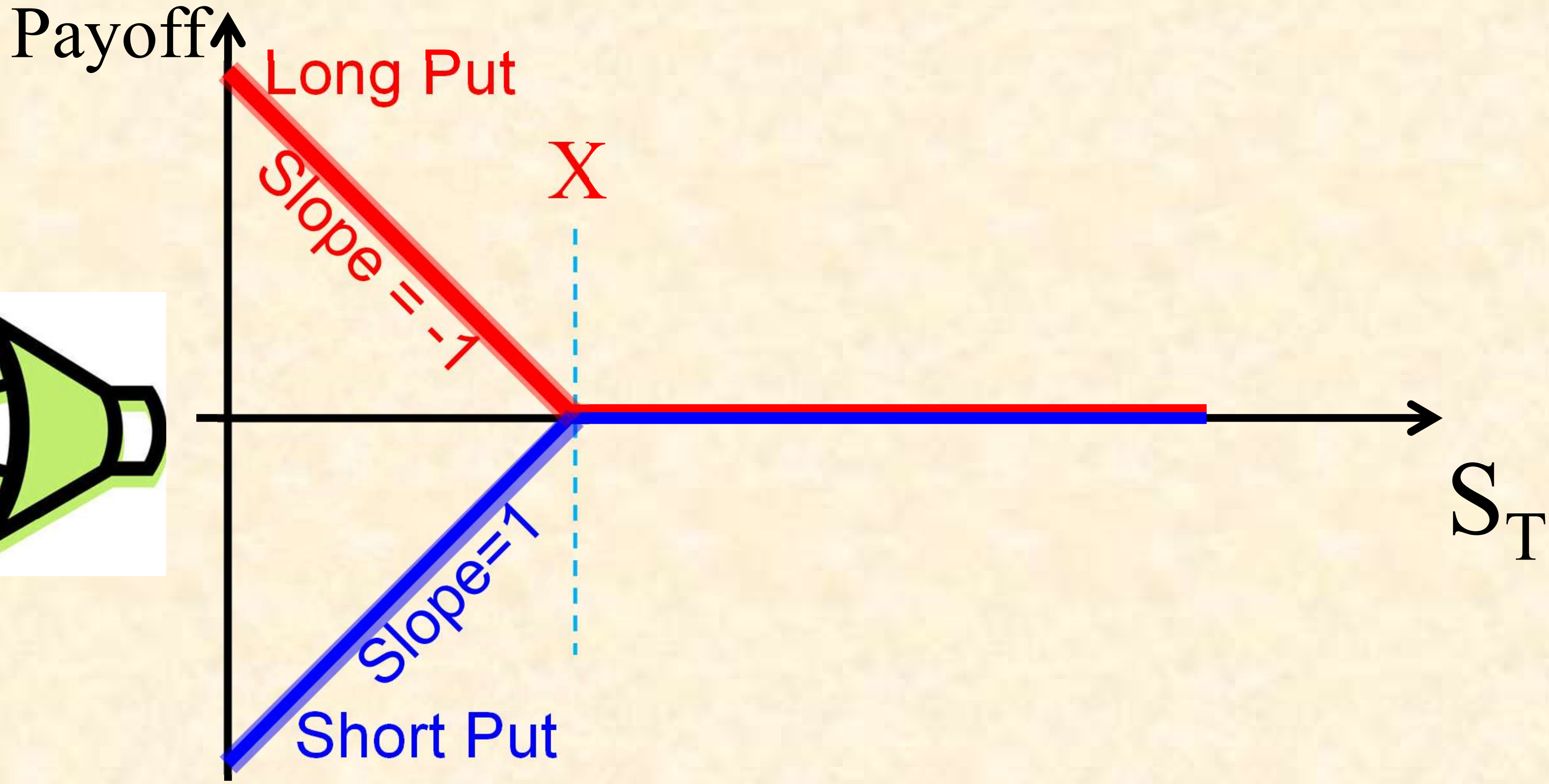
Profits: Long vs. Short Calls



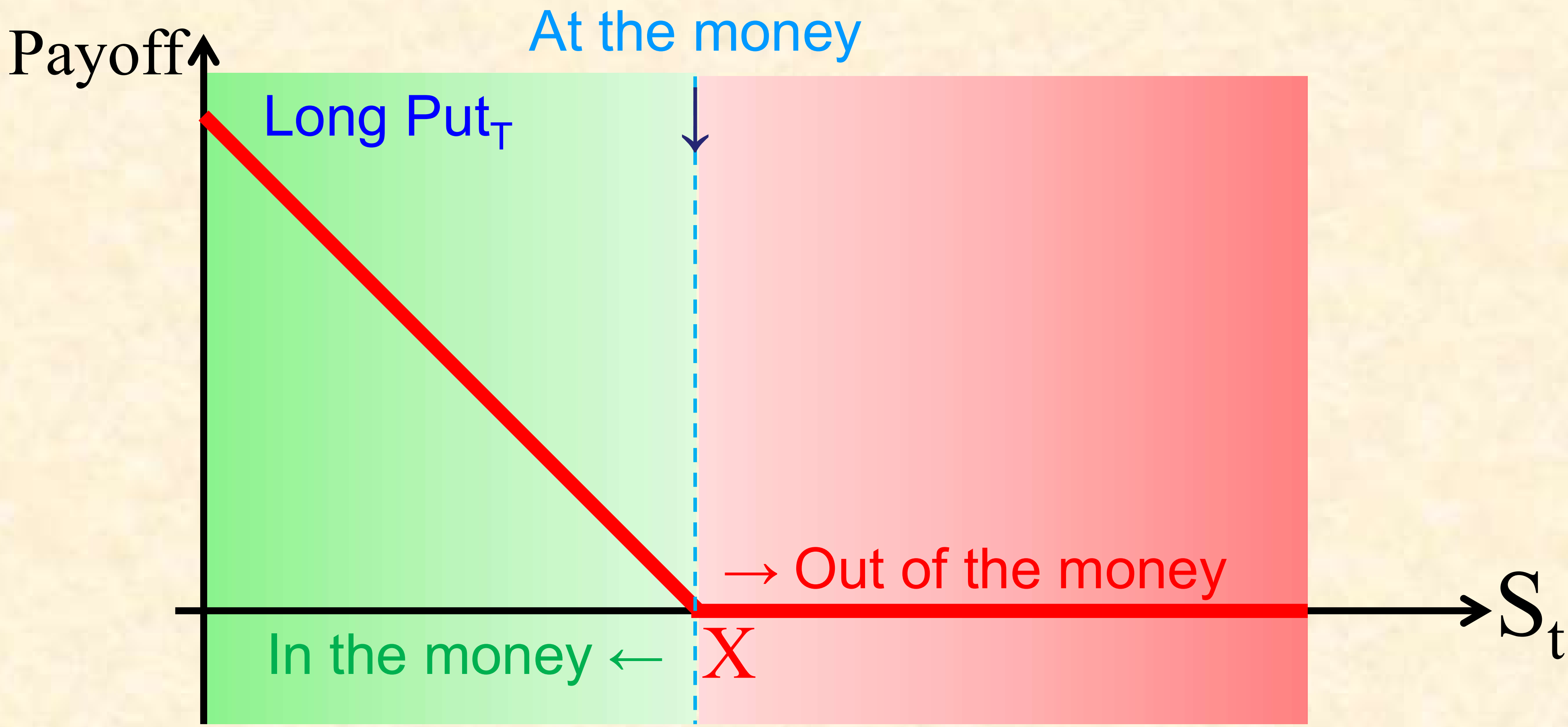
Call vs Put

- **Call: if $S_T > X$, can buy at X.**
- **Put: if $S_T < X$, can sell at X.**

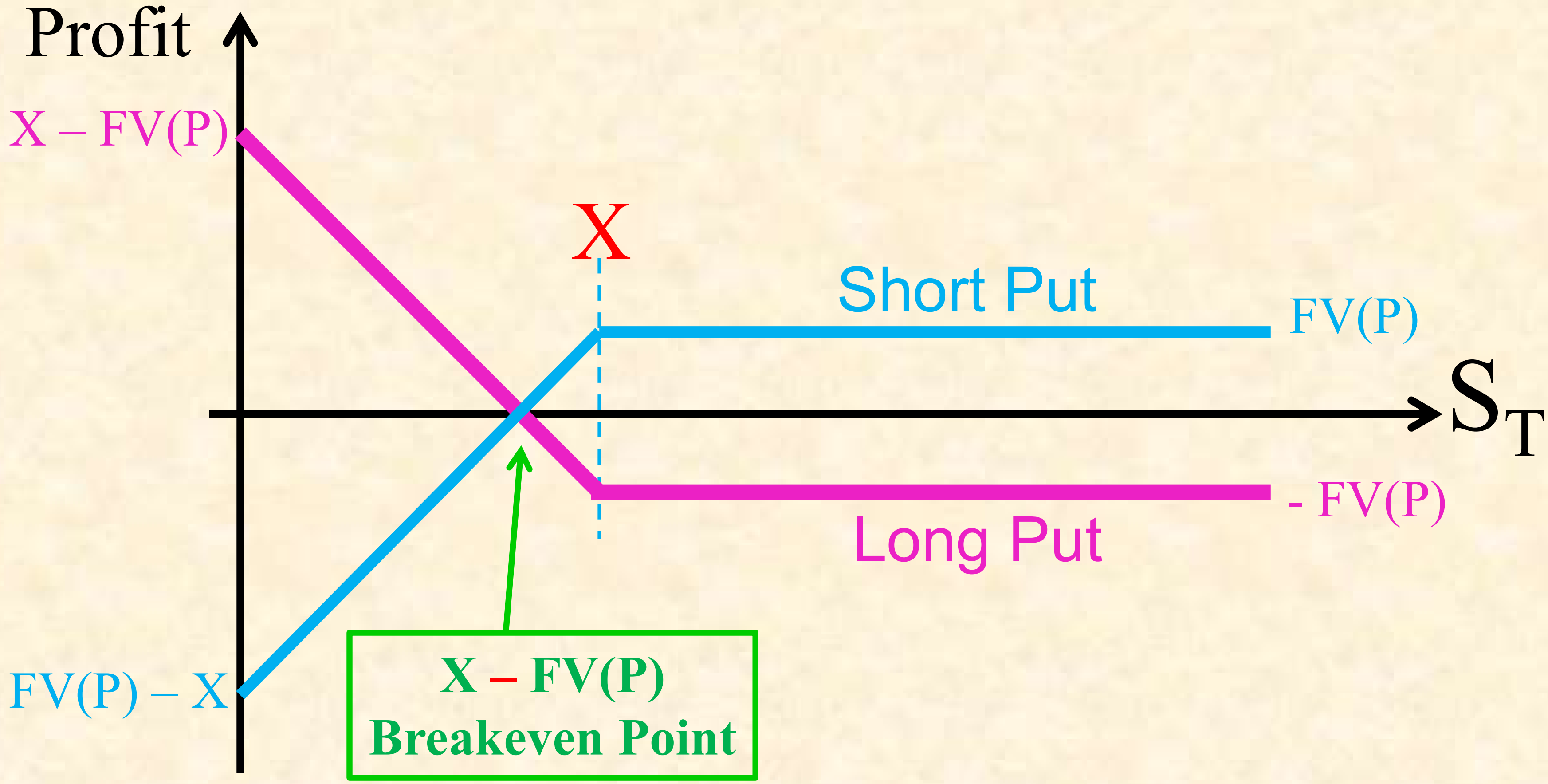
Payoffs: Long vs. Short Puts



The Moneyness of Puts



Profits: Long vs. Short Puts



DERIVATIVES

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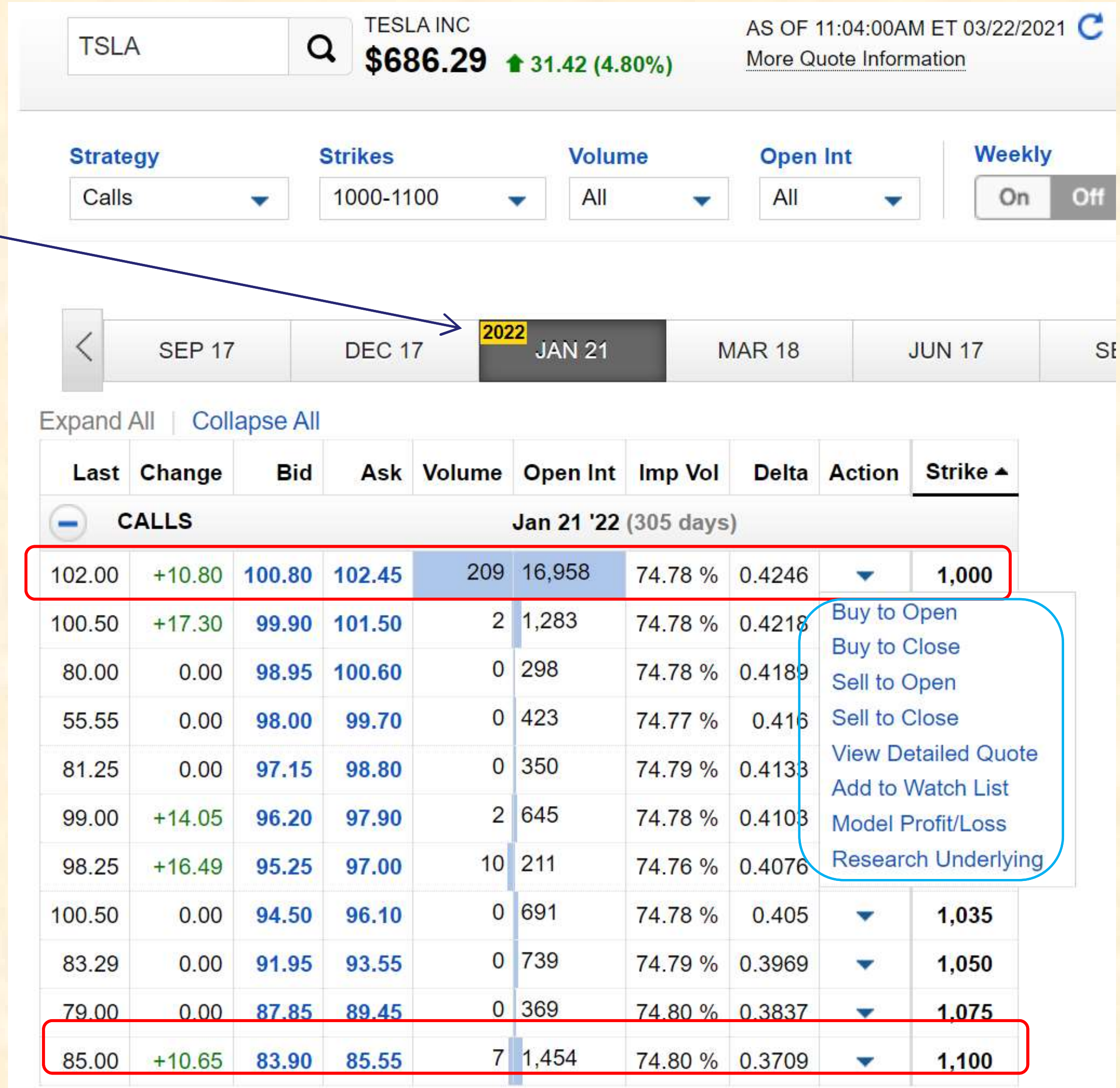
期权的应用

投机举例

到期日



Last	Change	Bid	Ask	Volume	Open Int	Imp Vol	Delta	Action	Strike
102.00	+10.80	100.80	102.45	209	16,958	74.78 %	0.4246		1,000
100.50	+17.30	99.90	101.50	2	1,283	74.78 %	0.4218		
80.00	0.00	98.95	100.60	0	298	74.78 %	0.4189		
55.55	0.00	98.00	99.70	0	423	74.77 %	0.416		
81.25	0.00	97.15	98.80	0	350	74.79 %	0.4133		
99.00	+14.05	96.20	97.90	2	645	74.78 %	0.4103		
98.25	+16.49	95.25	97.00	10	211	74.76 %	0.4076		
100.50	0.00	94.50	96.10	0	691	74.78 %	0.405		1,035
83.29	0.00	91.95	93.55	0	739	74.79 %	0.3969		1,050
79.00	0.00	87.85	89.45	0	369	74.80 %	0.3837		1,075
85.00	+10.65	83.90	85.55	7	1,454	74.80 %	0.3709		1,100

投机举例

GME

GAMESTOP CORP

$193.33 -6.94 (-3.47%)

AS OF 11:17:00AM ET 03/22/2021

More Quote Information

Strategy	Strikes	Volume	Open Int	Weekly
Puts	5-30	All	All	On

APR 16 | MAY 21 | JUN 18 | JUL 16 | SEP 17

Expand All | Collapse All

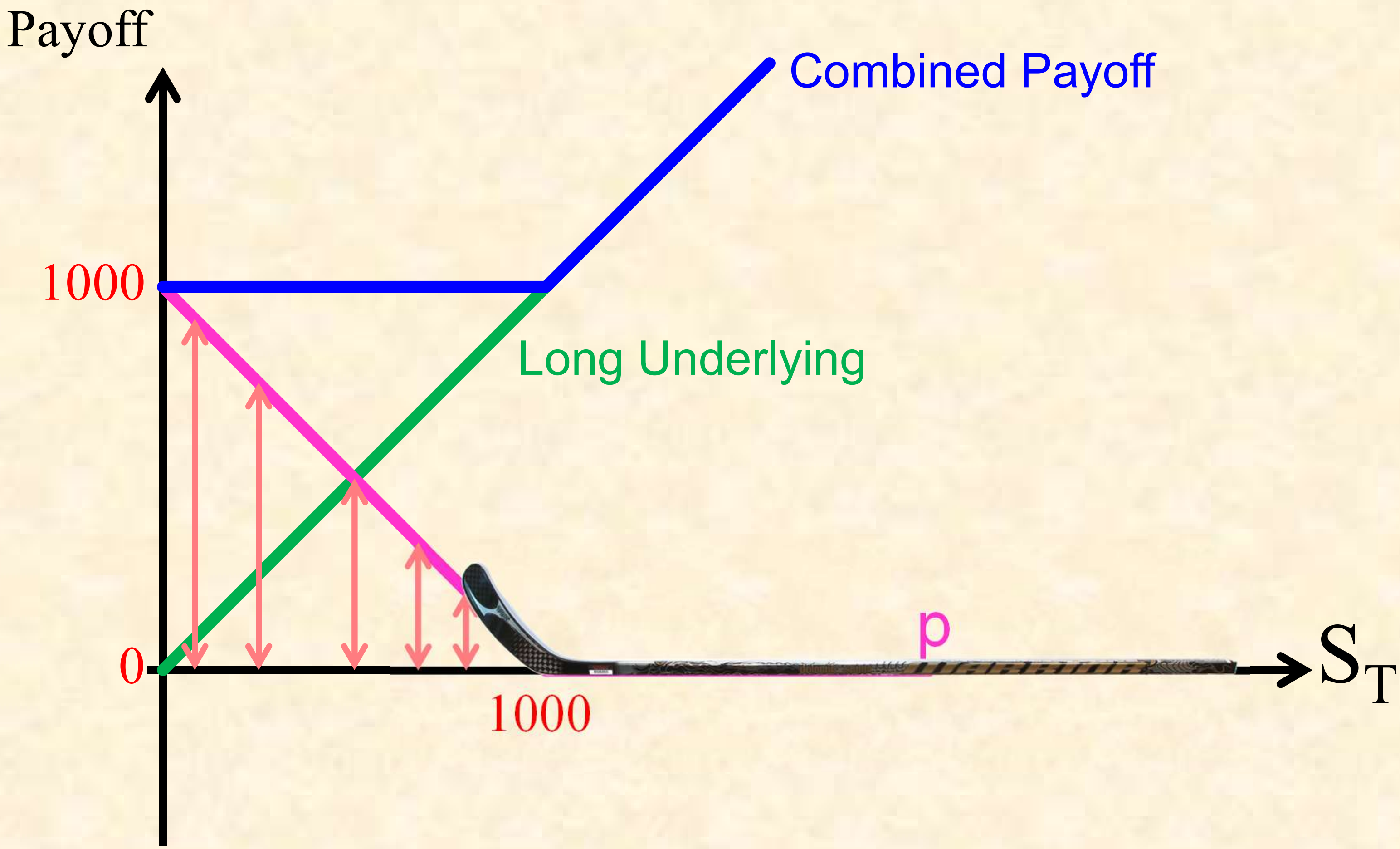
Strike	Action	Last	Change	Bid	Ask	Volume	Open Int	Imp Vol	Delta
PUTS				May 21 '21 (60 days)					
5		0.04	-0.04	0.04	0.06	80	36	345.59 %	-0.0005
10		0.15	-0.06	0.12	0.17	17	7	309.79 %	-0.0014
15		0.38	0.00	0.33	0.36	2	0	297.25 %	-0.0033
20		0.71	-0.14	0.65	0.71	46	176	291.41 %	-0.0061
25		1.13	-0.37	1.09	1.18	4	3	286.87 %	-0.0098
30		1.73	-0.19	1.65	1.86	39	84	284.33 %	-0.0144

in the money

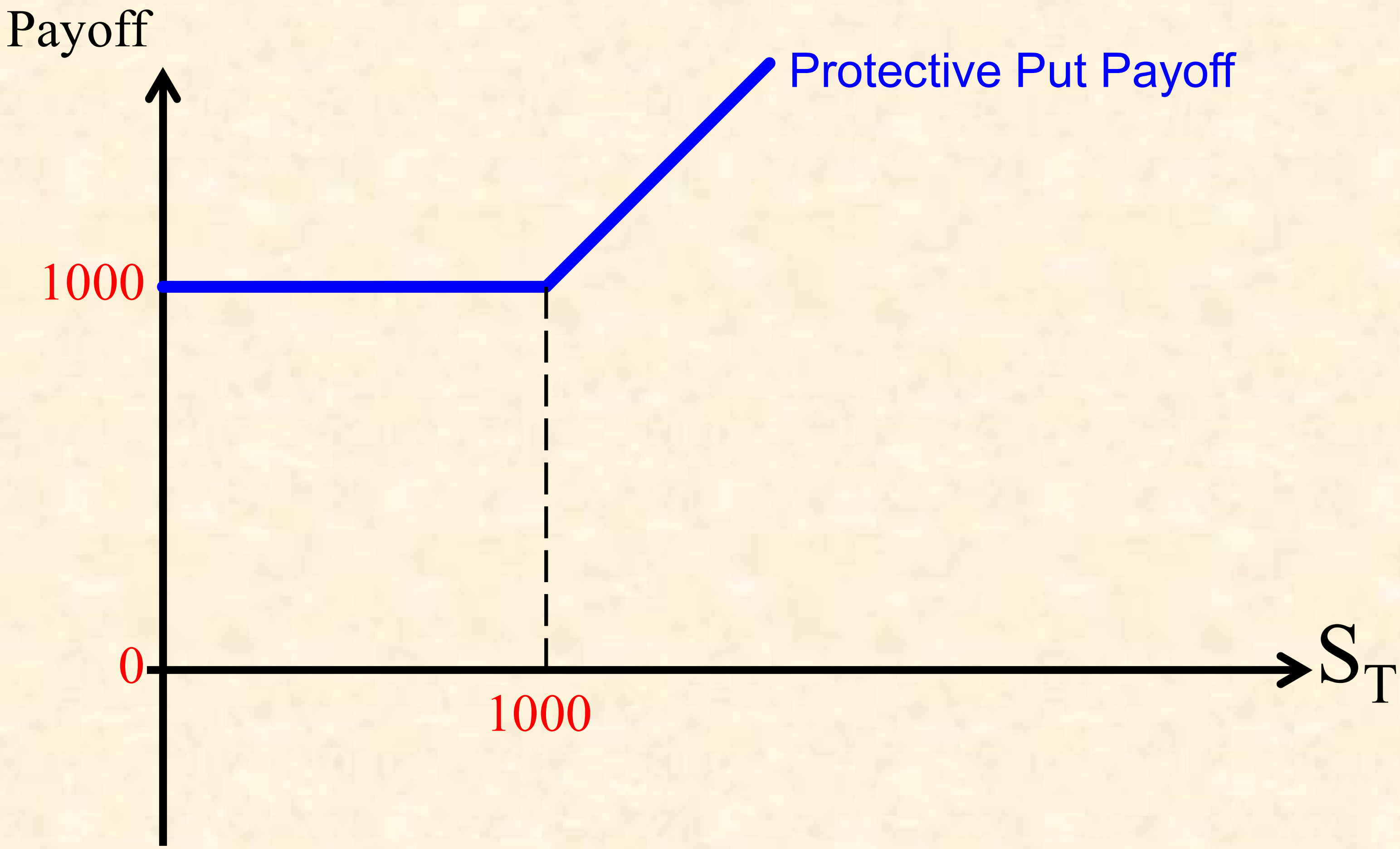
Protective Put

- **A Protective Put**
  = long in the underlying asset + a long put
- **Payoff at Expiration T**
  - $S_T + \max(0, X - S_T) = \max(S_T, X)$
  - The strike price serves as a guaranteed minimum sale price for the underlying;
  - a ***floor*** provided by the long put.

The Combined Payoff of a Protective Put



The Combined Profit of a Protective Put



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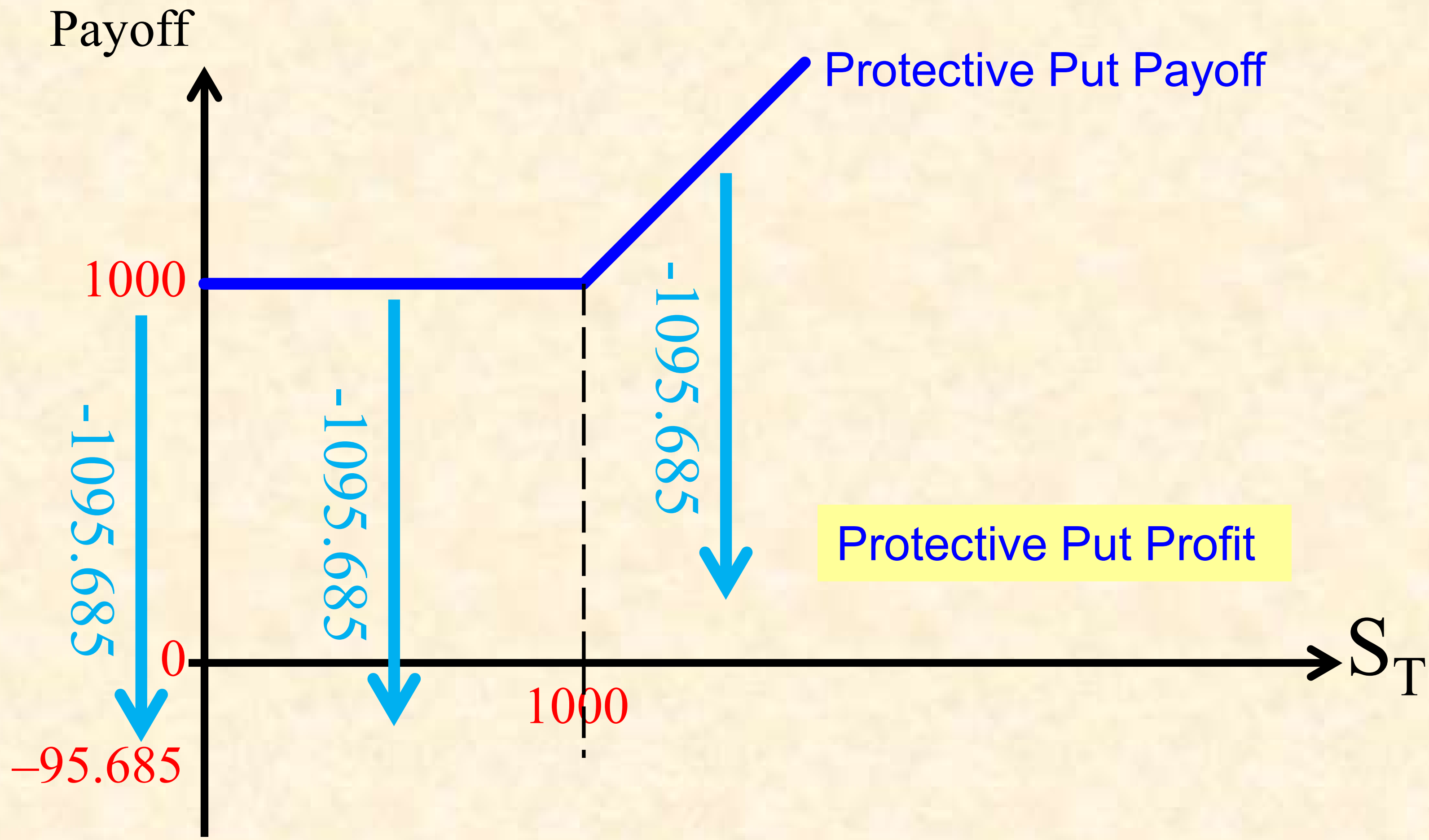
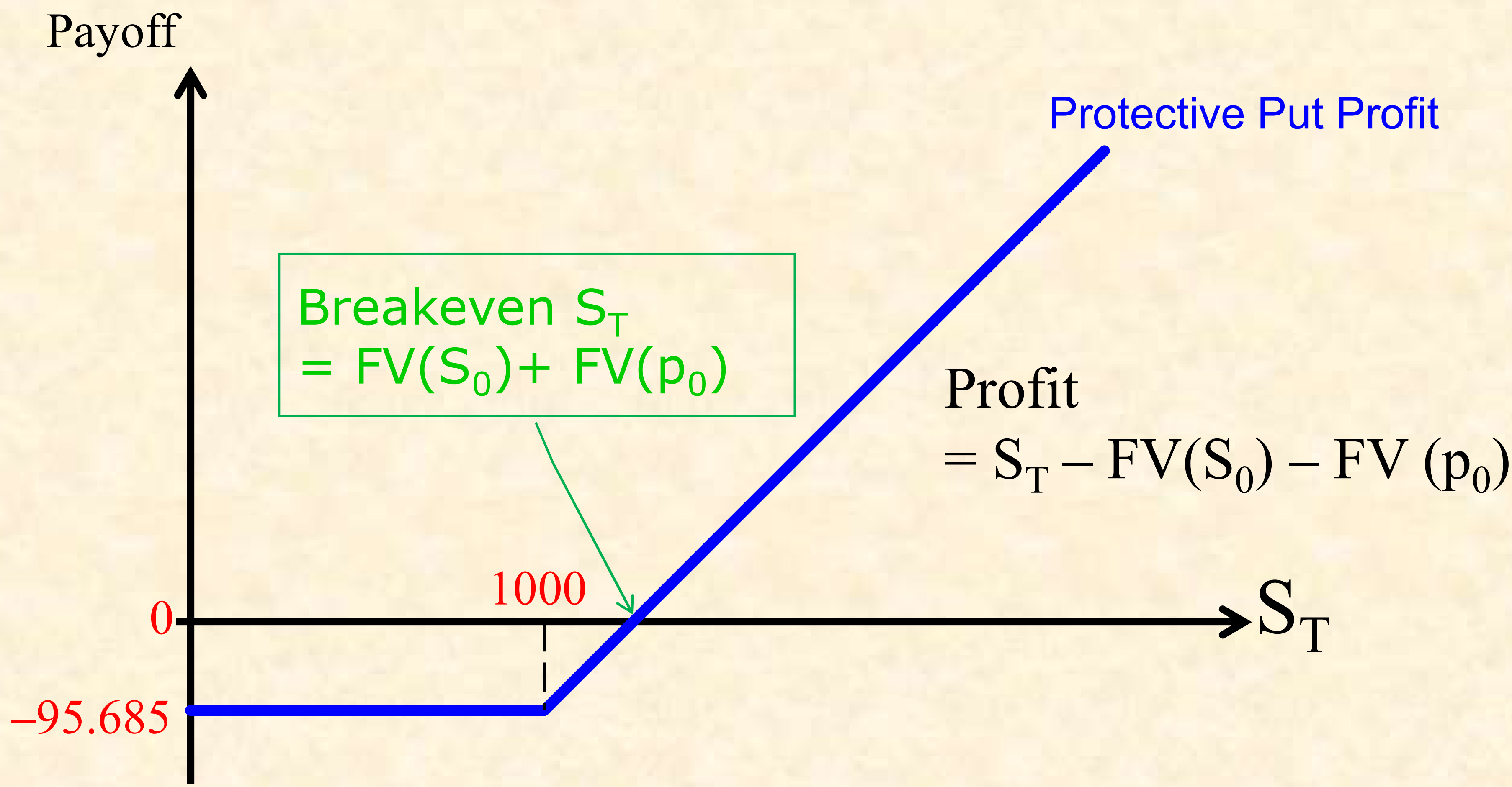
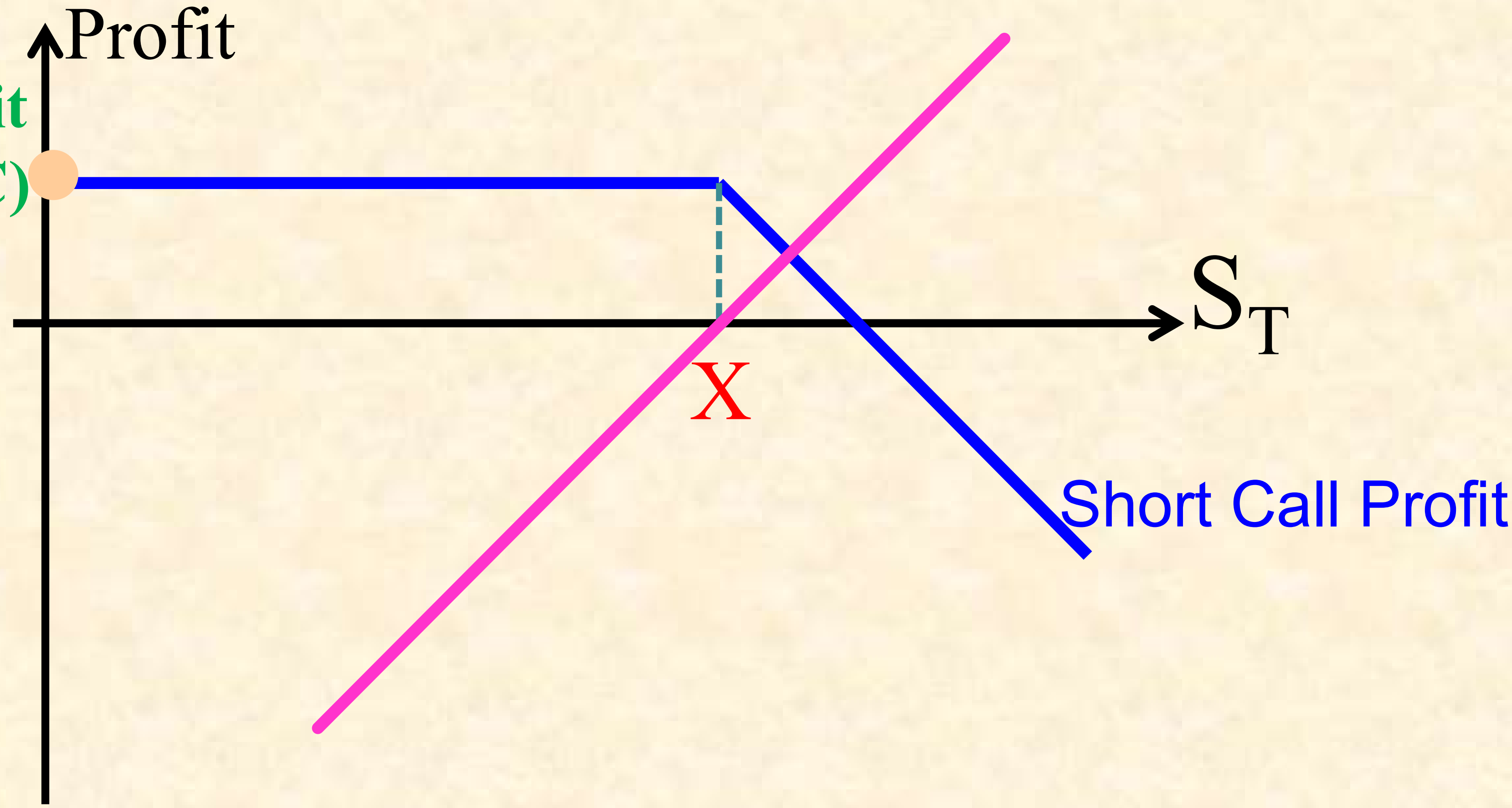


The Combined Profit of a Protective Put



Covered Call Profit



主动投资的各种姿势与工具

- **基本面分析：找出潜力股**
  - 从上到下：宏观商业周期，行业前景与周期
  - 从下到上：生命周期，报表分析，估值，横向比较
- **技术分析：低吸高抛，寻找正确的买卖点**
  - 多信号共鸣：MACD, RSI, OBV, 布林带…
  - 多周期共振：月，周，日，小时，30f，5f…
  - 跨市场共振：期货、期权、加杠杆ETF…
  - 多市场层次共振：大盘，行业，规模，价值风格…

bolongcao published on TradingView.com, April 17, 2021 08:54:31 EDT
BATS:QQQ, 240 342.01 ▲ +0.40 (+0.12%) O:341.48 H:342.23 L:341.16 C:342.00

TradingView

Thank you! ☺