For Asma (Long Position).

1. If Asma expectations are "correct" (higher Stock Prices) → realize higher profits. However, when stock prices are moving down. (Losses).

2. Profits depend on expectations

Correct Expect → Profits

3. When $S_T = F_{t,t+30d}$

⇒ Result for Asma = 0 $

⇒ Result for Lama = 0 $.

4. Future Price ($S_T > F_{t,30}$)

⇒ Profits are higher (Asma) increase.

⇒ Losses are higher (Lama)

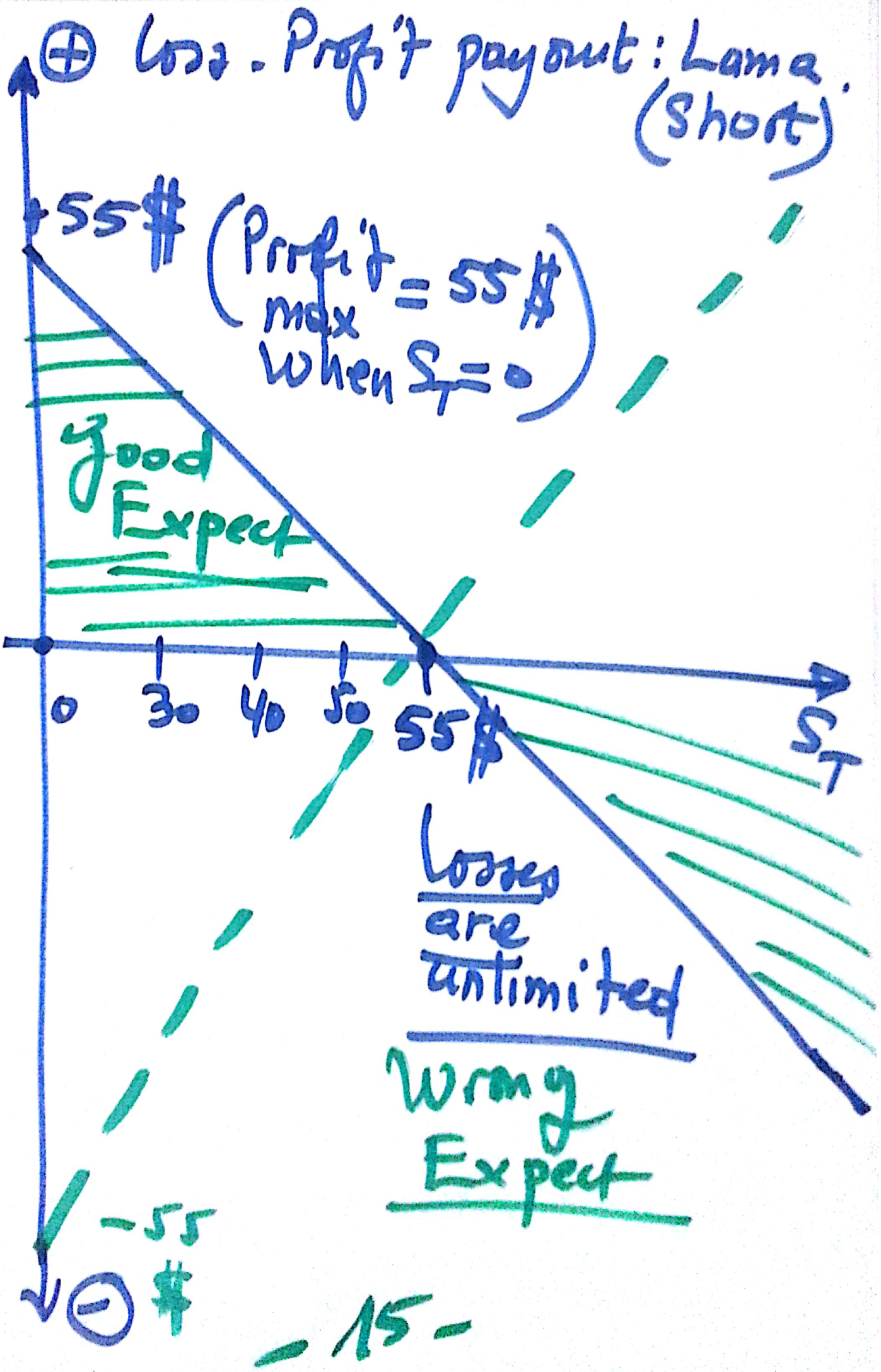
5. No initial payments when signing to ~~future~~ (forward) contract.

limits (-)

- Losses for short position are unlimited.
- Main Probl

Obligation

- The two parts must respect their Agreement



Forward

- An agreement between 2 parties.
- Over the counter Contract (OTC)

↓

Flexible

→ The 2 parties can change:

- Maturity date (T)
- Exercise Price ($F_{0,n}$ days)
- Quantité de l'actif underlying Asset — 16 — (100 Stocks ou 500 Stocks ...)

Future Contract

- An Agreement between 2 parties.
- Standardized Contract

- Organized by a Future Market: London Inter. Future Exchange (LIFFE) (UK)
- Chicago Board of Exchang Trade (US) → Future on Commodities (oil, gas, Agriculture products, gold, metals..)

Future:

~~Maturity~~ $S_0 = 50\$$ (April)

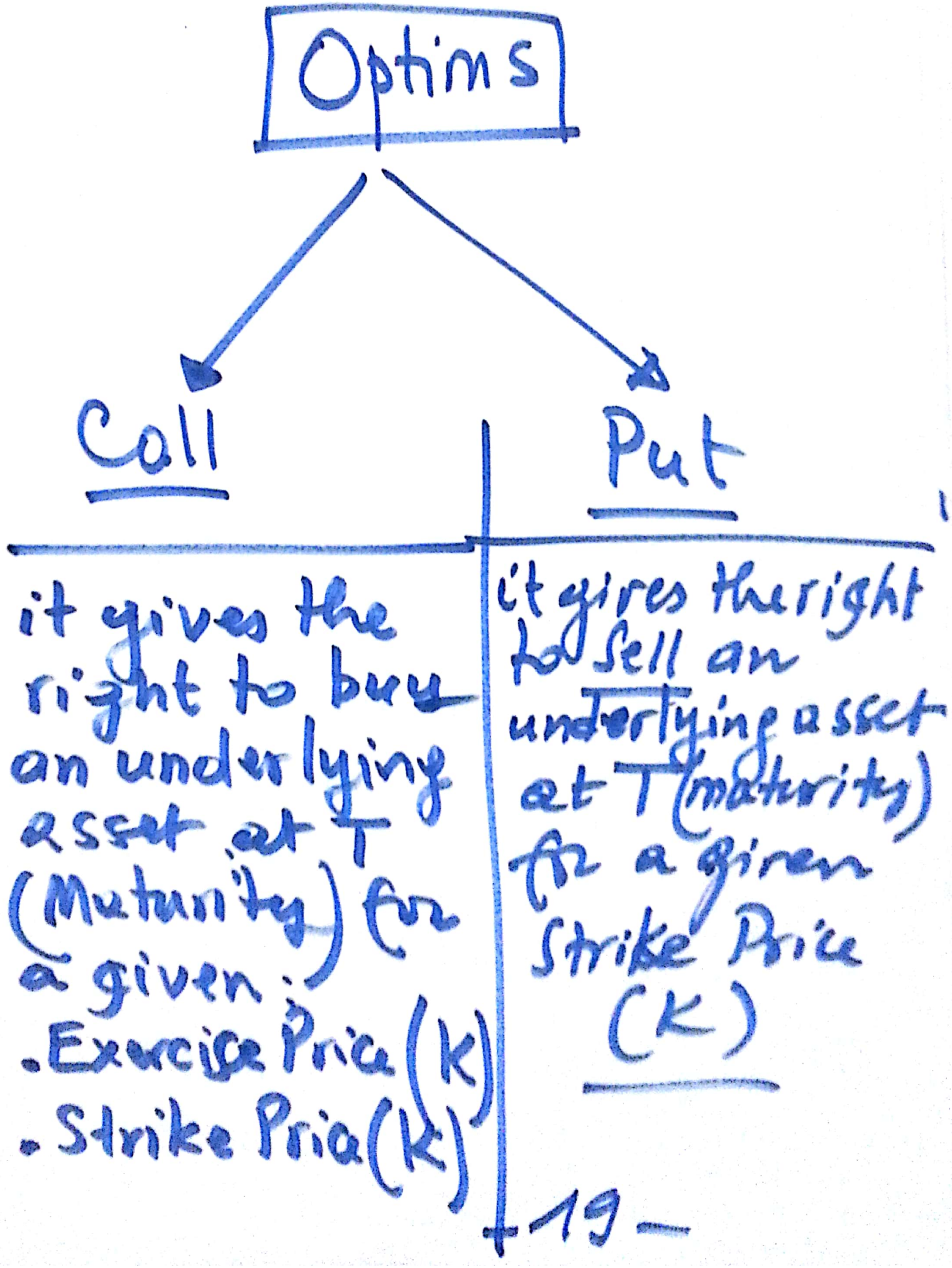
$F_{0,t+....}$

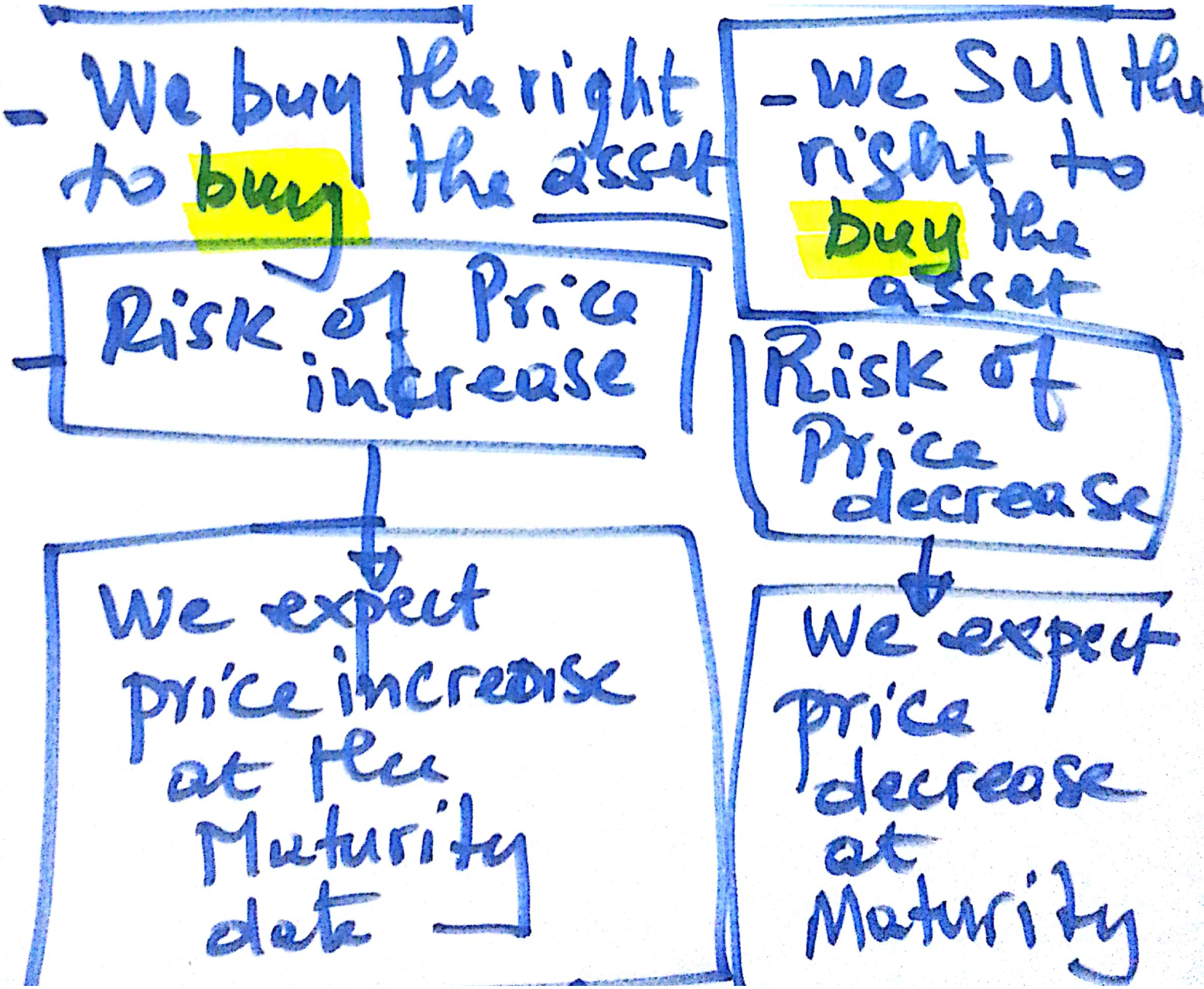
Maturity

Exercise Prices:

$F_1 = 40\$$	- 1 month
$F_2, 45\$$	- 3 months
$F_3 = 50\$$	- 6 months.
$F_4 = 55\$$	- 9 months.
$F_6 = 60\$$	- 1 year.

No initial Payments





PUTS

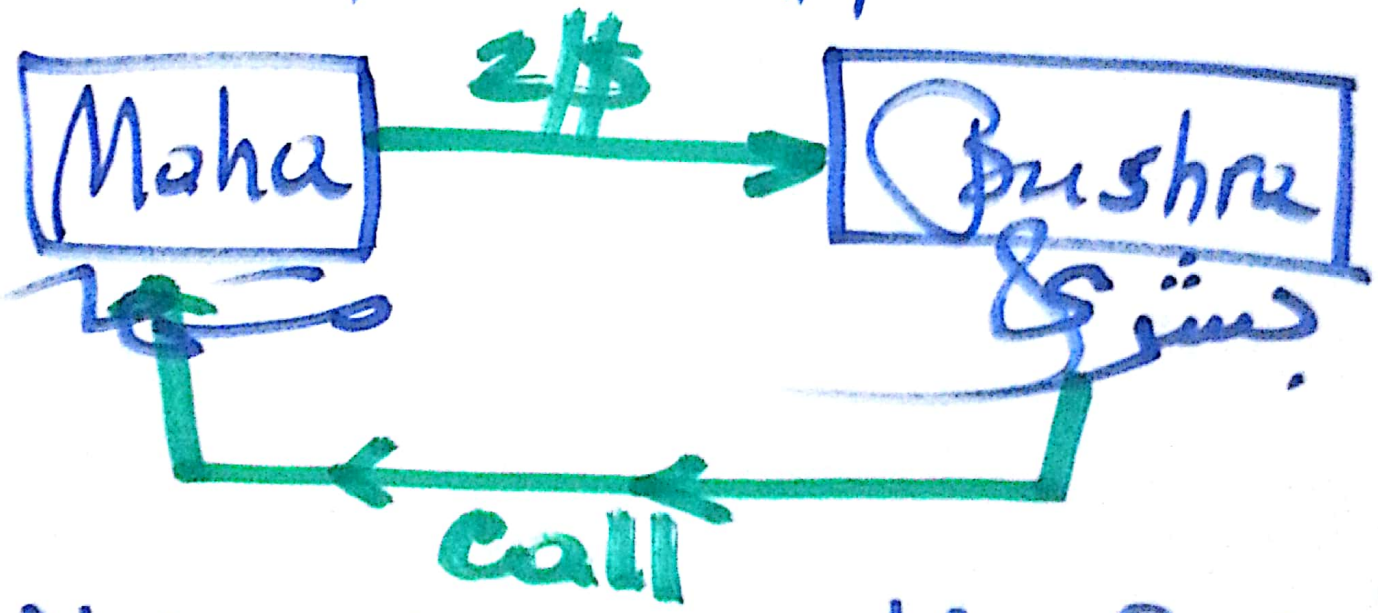
Long on PUTS

- We buy the right to sell the asset.

Example:

$S_0 = 50\$$.
$K = 55\$$
$T = 1$ month
} Call

Premium call = 2$/call



Maha is long on the Call ⇒ Maha has the right to buy Stock X at 55$ in one month.

Bushra has received the 2$ (Prium) (t=0)

Maha is long on the Call $C(X, k=55\$, T=1 \text{ month})$

Maha has the right to buy. However, Bushra will be obliged to sell the Asset X if Maha decided # to use her right at the maturity

→ Let's draw the Loss - Profit pay out for Maha

S_T	0	10	30	40	50	52	55	57	70	90
Maha $	-2	-2	-2	-2	-2	-2	-2	0	+13	+33

(S_T + 1 Prem)

	100	110	120
	+43	+53	+63

Loss - Profit

Payout for Maha (Long on the Call)

24