

Put Call Parity

$$C_0 + PV(K) = P_0 + S_0$$

$$P_0 = C_0 + PV(K) - S_0$$

$$C_0 = P_0 + S_0 - PV(K)$$

Payoff Port A = Payoff B, so can Price Port A > Price of Port B ??????

Or must Price Port A = Price Port B?

Price Port A = 5

=> Arbitrage, sell A buy B, and earn \$1

Price Port B = 4

Payoff offset at time T

| Port A | | $S_T < K$ | $S_T > K$ |
|--------|------|-----------|-----------|
| C | | 0 | $S_T - K$ |
| | Bond | K | K |
| Payoff | | K | S_T |

| Port B | | $S_T < K$ | $S_T > K$ |
|--------|---|-----------|-----------|
| P | | $K - S_T$ | 0 |
| | S | S_T | S_T |
| Payoff | | K | S_T |