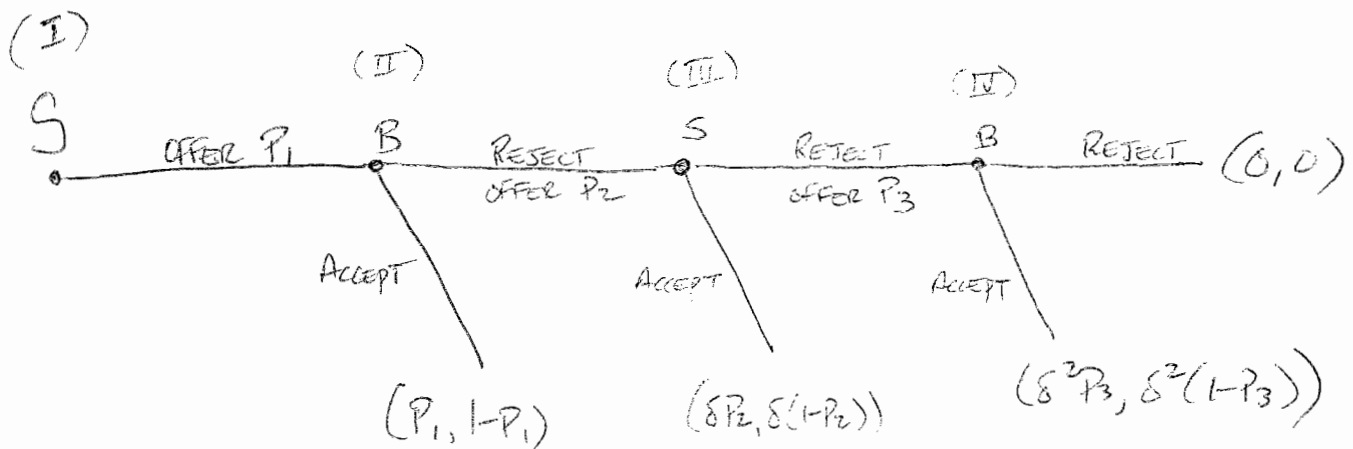


# FINITE PERIOD BARGAINING



@ IV : Accept if  $\delta^2(1-P_3) \geq 0$   
 $\Rightarrow P_3 = 1$

@ III : Accept if  $\delta P_2 \geq \delta^2 P_3$   
 $\Rightarrow P_2 = \delta$

@ II : Accept if  $1-P_1 \geq \delta(1-P_2)$   
 $1-P_1 \geq \delta(1-\delta)$   
 $P_1 \leq 1-\delta+\delta^2$   
 $\Rightarrow P_1 = 1-\delta+\delta^2$

@ I : offer  $P_1 = 1-\delta+\delta^2$

OUTCOME : IMMEDIATE ACCEPTANCE.

# INFINITELY REPEATED BARGAINING

- GIVEN PARTEN FROM FINITE GAME,

$$P_1 = 1 - \delta + \delta^2 - \delta^3 + \delta^4 - \dots$$

$$= (1 + \delta^2 + \delta^4 + \delta^6 + \dots) - (\delta + \delta^3 + \delta^5 + \dots)$$

$$= \sum_{t=0}^{\infty} \delta^{2t} - \delta \sum_{t=0}^{\infty} \delta^{2t}$$

$$= \frac{1}{1-\delta^2} - \frac{\delta}{1-\delta^2}$$

$$= \frac{1-\delta}{1-\delta^2} = \frac{1-\delta}{(1-\delta)(1+\delta)} = \frac{1}{1+\delta}$$

$S_0$  : AS  $\delta \rightarrow 1$  (PLAYERS BECOME MORE PATIENT),  $P_1 \rightarrow \frac{1}{2}$ . (EVEN SPLIT)