# 6.4 6.5 Establishing a Strategy is Never a Best Response

Saturday, September 5, 2020 12:12 PM

## Establishing no set of beliefs make $s_i$ a best response

| | $C_1$ | $C_2$ | $C_3$ |
|---|---|---|---|
| $R_1$ | 4,1 | 1,1 | 2,5 |
| $R_2$ | 2,2 | 2,0 | 3,3 |
| $R_3$ | 2,5 | 1,1 | 1,4 |

$\Theta_c(p_1, p_2, 1-p_1-p_2)$

$V_R(R_3, \Theta_c) = 2 - p_1 + (1 \cdot p_2) + [1 \cdot (1 - p_1 - p_2)]$
$= 1 + p_1$

$V_R(R_2, \Theta_c) = 3p_1 - p_2 + 3(1 - p_1 - p_2)$

$V_R(R_3, \Theta_c) = 4p_1 + 1p_2 + 2(1 - p_1 - p_2)$
$= 2 + 2p_1 - p_2$

$V_R(R_3) > V_R(R_2) > 0$

$\hookrightarrow 1 + p_1 - 3 + p_1 + p_2 \geq 0$

$-2 + 2p_1 + p_2 > 0$

$p_2 \geq 2 - 2p_1$

$V_R(R_3) > V_R(R_1) \geq 0$

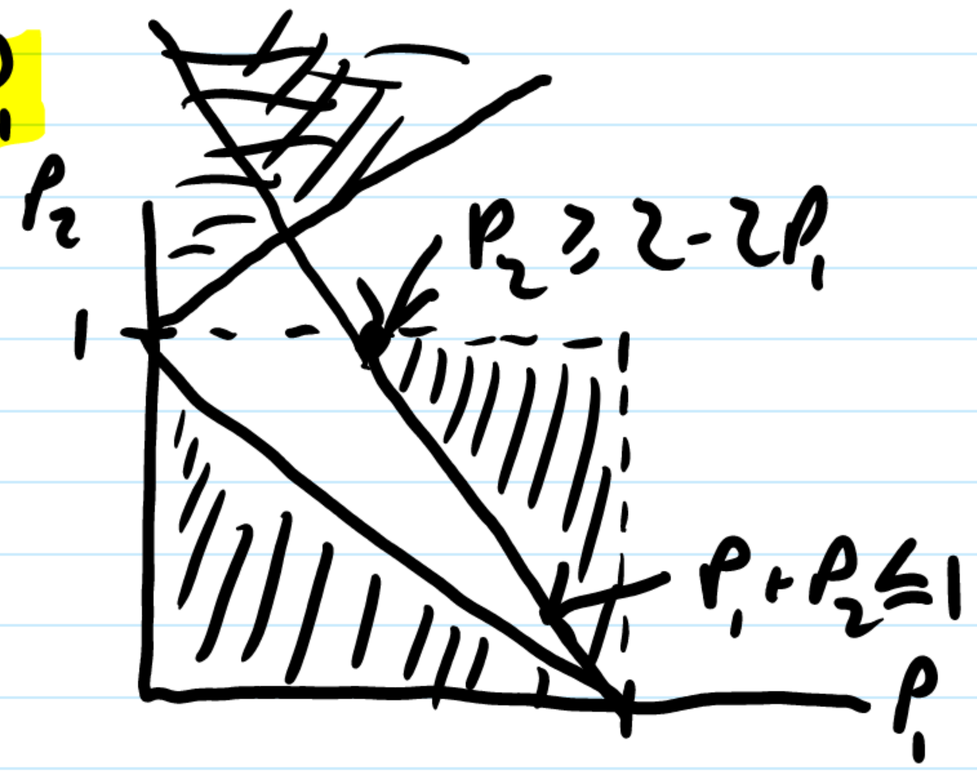
$\hookrightarrow 1 + p_1 - 2 - 2p_1 + p_2 \geq 0$

$-1 - p_1 + p_2 \geq 0$

$p_2 \geq 1 + p_1$

$p_1 + p_2 \leq 1$

Can't satisfy all 3!




$R_3$ is never best!