$P = \begin{pmatrix} p_1 & 1-p_1 \\ 1-p_2 & p_2 \end{pmatrix}$ $\quad Q = \begin{pmatrix} q_1 & 1-q_1 \\ 1-q_2 & q_2 \end{pmatrix}$

$\pi = (s_1 s_2,\ s_1(1-s_2),\ (1-s_1)s_2,\ (1-s_1)(1-s_2))$

CC CD DC DD

$s_1 = \dfrac{q_2(1-r_1)+r_2}{1-r_1 r_2}$ $\quad s_2 = \dfrac{r_1(1-r_2)+q_2}{1-r_1 r_2}$

$r_1 = p_1 - p_2$ $\quad r_2 = q_1 - q_2$

$\pi M = \pi$

$M = \begin{pmatrix} R & S \\ T & P \end{pmatrix}$ $\quad B = \begin{pmatrix} R & T \\ S & P \end{pmatrix}$

$s_1 s_2 R + s_1(1-s_2)S + (1-s_1)s_2 T + (1-s_1)(1-s_2)P$