$$P = \begin{array}{c} \text{from} \\ (i) \end{array} \begin{array}{ccc} & \overset{to\ (j)}{} & \\ 1 & 2 & 3 \end{array}$$

$$P = \begin{array}{c} 1 \\ 2 \\ 3 \end{array} \begin{bmatrix} 0.8 & 0.15 & 0.05 \\ 0.7 & 0.2 & 0.1 \\ 0.5 & 0.3 & 0.2 \end{bmatrix}$$

$$\sum_{j=1}^{3} P_{i,j} = 1$$