

Finding the Equilibrium State

		W	~W		W	~W		W	~W		W	~W		W	~W		W	~W
		W	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2
		W'	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7
W	~W																	
230	770	415	585	508	493	554	446	577	423	588	412	594	406	597	403			



$$\begin{bmatrix} W & \bar{W} \end{bmatrix} \begin{bmatrix} 0.8 & 0.2 \\ 0.3 & 0.7 \end{bmatrix} = \begin{bmatrix} W & \bar{W} \end{bmatrix}$$

$$0.8W + 0.3\bar{W} = W \leftarrow$$

$$0.2W + 0.7\bar{W} = \bar{W} \leftarrow$$

$$-0.2W + 0.3\bar{W} = 0 \longrightarrow -0.2W = -0.3\bar{W}$$

$$0.2W = 0.3\bar{W}$$

$$W = \frac{0.3}{0.2}\bar{W}$$

$$W = 1.5\bar{W}$$

$$W + \bar{W} = 1000$$

$$W = 1000 - \bar{W}$$

$$1000 - \bar{W} = 1.5\bar{W}$$

$$1000 = 2.5\bar{W}$$

$$\text{Equilibrium State} \left\{ \begin{array}{l} \bar{W} = \frac{1000}{2.5} = 400 \\ W = 600 \end{array} \right.$$