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Model name: pure_exchange

1 AGENT A

1.1 Optimization problem

$$\max_{C^{\mathrm{A1}},C^{\mathrm{A2}}} U^A = \log C^{\mathrm{A1}} + \psi^A \log C^{\mathrm{A2}} \tag{1.1}$$

s.t. :

$$p^1 C^{\mathrm{A1}} + p^2 C^{\mathrm{A2}} = e^{\mathrm{A1}} p^1 + e^{\mathrm{A2}} p^2 \quad (\lambda^{\mathrm{AGENT}^{A^1}}) \tag{1.2}$$

1.2 Identities

$$e^{\mathrm{A1}} = 2 \tag{1.3}$$

$$e^{\mathrm{A2}} = 0 \tag{1.4}$$

1.3 First order conditions

$$C^{\mathrm{A1}^{-1}} - \lambda^{\mathrm{AGENT}^{A^1}} p^1 = 0 \quad (C^{\mathrm{A1}}) \tag{1.5}$$

$$\psi^A C^{\mathrm{A2}^{-1}} - \lambda^{\mathrm{AGENT}^{A^1}} p^2 = 0 \quad (C^{\mathrm{A2}}) \tag{1.6}$$

2 AGENT B

2.1 Optimization problem

$$\max_{C^{\mathrm{B1}},C^{\mathrm{B2}}} U^B = \log C^{\mathrm{B1}} + \psi^B \log C^{\mathrm{B2}} \tag{2.1}$$

s.t. :

$$p^1 C^{\mathrm{B1}} + p^2 C^{\mathrm{B2}} = e^{\mathrm{B1}} p^1 + e^{\mathrm{B2}} p^2 \quad (\lambda^{\mathrm{AGENT}^{B^1}}) \tag{2.2}$$

2.2 Identities

$$e^{\mathrm{B1}} = 0 \tag{2.3}$$

$$e^{\mathrm{B2}} = 2 \tag{2.4}$$

2.3 First order conditions

$$C^{\mathrm{B1}^{-1}} - \lambda^{\mathrm{AGENT}^{B^1}} p^1 = 0 \quad (C^{\mathrm{B1}}) \tag{2.5}$$

$$\psi^B C^{\mathrm{B2}^{-1}} - \lambda^{\mathrm{AGENT}^{B^1}} p^2 = 0 \quad (C^{\mathrm{B2}}) \tag{2.6}$$

3 EQUILIBRIUM

3.1 Identities

$$p^1 = 1 \tag{3.1}$$

$$C^{\mathrm{A1}} + C^{\mathrm{B1}} = e^{\mathrm{B1}} + e^{\mathrm{A1}} \tag{3.2}$$

4 Equilibrium relationships

$$C^{\mathrm{B1}} - p^2 C^{\mathrm{A2}} = 0 \tag{4.1}$$

$$\psi^A {C^{\mathrm{A2}}}^{-1} - p^2 \left(2 - C^{\mathrm{B1}}\right)^{-1} = 0 \tag{4.2}$$

$$\psi^B {C^{\mathrm{B2}}}^{-1} - p^2 {C^{\mathrm{B1}}}^{-1} = 0 \tag{4.3}$$

$$2p^2 - C^{\mathrm{B1}} - p^2 C^{\mathrm{B2}} = 0 \tag{4.4}$$

$$U^A - \log\left(2 - C^{\mathrm{B1}}\right) - \psi^A \log C^{\mathrm{A2}} = 0 \tag{4.5}$$

$$U^B - \log C^{\mathrm{B1}} - \psi^B \log C^{\mathrm{B2}} = 0 \tag{4.6}$$

5 Parameter settings

$$\psi^A = 1.72 \tag{5.1}$$

$$\psi^B = 2.22 \tag{5.2}$$

6 Equilibrium values

	Equilibrium values
p^2	2.0362
C^{A2}	0.6211
C^{B1}	1.2647
C^{B2}	1.3789
U^A	-1.1266
U^B	0.9481