

1 AGENT A

1.1 Optimisation problem

$$\max_{C^{A1}, C^{A2}} U^A = \log C^{A1} + \psi^A \log C^{A2} \quad (1.1)$$

s.t. :

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

1.2 Identities

$$e^{A1} = e^{A1^{\text{calibr}}} \quad (1.3)$$

$$e^{A2} = e^{A2^{\text{calibr}}} \quad (1.4)$$

1.3 First order conditions

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

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

2 AGENT B

2.1 Optimisation problem

$$\max_{C^{B1}, C^{B2}} U^B = \log C^{B1} + \psi^B \log C^{B2} \quad (2.1)$$

s.t. :

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

2.2 Identities

$$e^{B1} = e^{B1^{\text{calibr}}} \quad (2.3)$$

$$e^{B2} = e^{B2^{\text{calibr}}} \quad (2.4)$$

2.3 First order conditions

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

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

3 EQUILIBRIUM

3.1 Identities

$$p^1 = 1 \quad (3.1)$$

$$C^{A1} + C^{B1} = e^{A1} + e^{B1} \quad (3.2)$$

4 Equilibrium relationships (after reduction)

$$\psi^A C^{A2-1} - p^2 \left(e^{A1^{\text{calibr}}} + e^{B1^{\text{calibr}}} - C^{B1} \right)^{-1} = 0 \quad (4.1)$$

$$\psi^B C^{B2-1} - p^2 C^{B1-1} = 0 \quad (4.2)$$

$$U^A - \log \left(e^{A1^{\text{calibr}}} + e^{B1^{\text{calibr}}} - C^{B1} \right) - \psi^A \log C^{A2} = 0 \quad (4.3)$$

$$U^B - \log C^{B1} - \psi^B \log C^{B2} = 0 \quad (4.4)$$

$$-e^{B1^{\text{calibr}}} + C^{B1} + e^{A2^{\text{calibr}}} p^2 - p^2 C^{A2} = 0 \quad (4.5)$$

$$e^{B1^{\text{calibr}}} - C^{B1} + e^{B2^{\text{calibr}}} p^2 - p^2 C^{B2} = 0 \quad (4.6)$$

5 Parameter settings

$$\psi^A = 1.72 \quad (5.1)$$

$$\psi^B = 2.22 \quad (5.2)$$

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