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## 1 AGENT A

## 1.1 Optimisation problem

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

s.t. :

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

#### 1.2 Identities

$$e^{\mathbf{A}\mathbf{1}} = e^{\mathbf{A}\mathbf{1}^{\text{calibr}}} \tag{1.3}$$

$$e^{A2} = e^{A2^{\text{calibr}}} \tag{1.4}$$

#### 1.3 First order conditions

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

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

## 2 AGENT B

## 2.1 Optimisation problem

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

s.t.:

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

#### 2.2 Identities

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

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

#### 2.3 First order conditions

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

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

## 3 EQUILIBRIUM

## 3.1 Identities

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

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

# 4 Equilibrium relationships (after reduction)

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

$$\psi^{\rm B}C^{\rm B2^{-1}} - p^2C^{\rm B1^{-1}} = 0 \tag{4.2}$$

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

$$U^{\rm B} - \log C^{\rm B1} - \psi^{\rm B} \log C^{\rm B2} = 0 \tag{4.4}$$

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

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

## 5 Parameter settings

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

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

# 6 Equilibrium values

	Equilibrium value
$p^2$	2.0362
$C^{A2}$	0.6211
$C^{\mathrm{B1}}$	1.2647
$C^{\mathrm{B2}}$	1.3789
$U^{\mathbf{A}}$	-1.1266
$U^{\mathrm{B}}$	0.9481