

Representation of Dual-Dual Model with CES Production Functions (complete description of the notation is given in appendix II)

Production and Labor Market

$$X_{fc} = A_{fc} \left[\beta_K^{fc} \bar{K}_{fc}^{\frac{\mu_{fc}-1}{\mu_{fc}}} + \beta_{LS}^{fc} LS_{fc}^{\frac{\mu_{fc}-1}{\mu_{fc}}} \beta_{LU}^{fc} LU_{fc}^{\frac{\mu_{fc}-1}{\mu_{fc}}} \right]^{\frac{\mu_{fc}}{\mu_{fc}-1}} \dots\dots\dots(1) - (2)$$

$$X_{ic} = A_{ic} \left[\beta_K^{ic} \bar{K}_{ic}^{\frac{\mu_{ic}-1}{\mu_{ic}}} + \beta_{LU}^{ic} LU_{ic}^{\frac{\mu_{ic}-1}{\mu_{ic}}} \right]^{\frac{\mu_{ic}}{\mu_{ic}-1}} \dots\dots\dots(3) - (4)$$

$$i_{ic} = \frac{P_{ic} X_{ic}}{LU_{ic}} \dots\dots\dots(5) - (6)$$

$$wu_{ex} = \frac{P_{ex} \beta_{LU}^{ex} X_{ex}}{LU_{ex}} \dots\dots\dots(7)$$

$$wu_{ex} = i_{food} (1 + \delta) \dots\dots\dots(8)$$

$$i_{srvc} = \frac{P_{im} \beta_{LU}^{im} X_{im}}{LU_{im}} \dots\dots\dots(9)$$

$$w_{im} = i_{srvc} + \gamma \frac{\Pi}{LU_{im}} \dots\dots\dots(10)$$

$$\Pi = P_{im} X_{im} - i_{srvc} LU_{im} - ws_{im} LS_{im} \dots\dots\dots(11)$$

$$wu_{ex} = \left(1 - \frac{hLU_{im}}{LU_{srvc} + LU_{im}}\right)wu_{srvc} + \left(\frac{hLU_{im}}{LU_{srvc} + LU_{im}}\right)wu_{im} \dots\dots\dots(12)$$

$$ws_{fc} = \frac{P_{fc} \beta_{LS}^{fc} X_{fc}}{LS_{fc}} \dots\dots\dots(13) - (14)$$

$$ws_{im} = \left[\frac{1 - \beta_{LU}^{im}}{(1 - \theta)\beta_{LU}^{im} + \theta(1 - \beta_{LU}^{im})} \right]^{\frac{1}{1-\theta}} ws_{ex} \dots\dots\dots(15)$$

Disposable income and savings

$$I_{rih} = i_{food} LU_{food} \dots\dots\dots(16)$$

$$I_{ruh} = wu_{ex} LU_{ex} \dots\dots\dots(17)$$

$$I_{rsh} = wS_{ex}LS_{ex} \dots\dots\dots(18)$$

$$I_{rlh} = P_{ex}X_{ex} - wS_{ex}LS_{ex} - wu_{ex}LU_{ex} - S_{ex} \dots\dots\dots(19)$$

$$I_{uih} = i_{srvc}LU_{srvc} \dots\dots\dots(20)$$

$$I_{uuh} = wS_{im}LU_{im} \dots\dots\dots(21)$$

$$I_{ush} = wS_{im}LS_{im} \dots\dots\dots(22)$$

$$I_{ukh} = P_{im}X_{im} - wS_{im}LS_{im} - wu_{im}LU_{im} - S_{im} \dots\dots\dots(23)$$

$$I_{bch} = tM \dots\dots\dots(24)$$

$$S_{fc} = \lambda_{fc}[P_{fc}X_{fc} - wS_{fc}LS_{fc} - wu_{fc}LU_{fc}] \dots\dots\dots(25) - (26)$$

Demand

$$C_c^h = \frac{\alpha_c^h I_h}{P_c} \dots\dots\dots(27) - (49)$$

Foreign Trade

$$M = \sum_h C_{im}^h + \frac{S_{im}}{P_{im}} - X_{im} \dots\dots\dots(50)$$

$$EX = X_{ex} - \frac{S_{ex}}{P_{ex}} \dots\dots\dots(51)$$

Equilibrium Conditions

$$\sum_c LU_c = LU \dots\dots\dots(52)$$

$$\sum_{fc} LS_{fc} = LS \dots\dots\dots(53)$$

$$X_{ic} = \sum_h C_{ic}^h \dots\dots\dots(54) - (55)$$

$$P_{im} \equiv 1 + t \dots\dots\dots(56)$$

$$P_{ex} \equiv 1 \dots\dots\dots(57)$$