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Index sets

$$HHD = \{1, 10, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$ROW = \{\text{eu}, \text{neu}\}$$

$$SEC = \{\text{A}, \text{B}, \text{C}, \text{D}, \text{E}, \text{F}, \text{G}, \text{H}, \text{I}, \text{J}, \text{K}\}$$

$h \in HHD$

Problem

$$\max_{S^{\langle h\rangle}, L^{\langle h\rangle}, K^{\langle h\rangle}, BTINC^{\langle h\rangle}, INC^{\langle h\rangle}, PIT^{\text{base}\,\langle h\rangle}, SAV^{\langle h\rangle}, THBANK^{\langle h\rangle}, \left(THROW^{\langle h,r\rangle}\right)_{r\in ROW}, TRAN^{\langle h\rangle}} U^{\langle h\rangle} = \left(\alpha^{\text{u}\,\langle h\rangle} DEM^{\langle h\rangle\,\omega^{\text{u}\,\langle h\rangle -1}\left(-1+\omega^{\text{u}\,\langle h\rangle}\right)} + \left(1 - \alpha^{\text{u}\,\langle h\rangle}\right) LEIS^{\langle h\rangle\,\omega^{\text{u}\,\langle h\rangle -1}\left(-1+\omega^{\text{u}\,\langle h\rangle}\right)}\right)^{\omega^{\text{u}\,\langle h\rangle}\left(-1+\omega^{\text{u}\,\langle h\rangle}\right)^{-1}}$$
(1.1)

$$e^{\langle h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^1\,\langle h\rangle}\right)$$
(1.2)

$$\left(\lambda^{\text{CONSUMER}^2\,\langle h\rangle}\right)$$
(1.3)

$$\left.{}_{s,h)}D^{\langle s,h\rangle\,\omega^{-1}(-1+\omega)}\right)^{\omega(-1+\omega)^{-1}} \qquad \left(\lambda^{\text{CONSUMER}^3\,\langle h\rangle}\right)$$
(1.4)

$$+ \sum_{s\in SEC} p^{\text{cons}\,\langle s\rangle} D^{\langle s,h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^4\,\langle h\rangle}\right)$$
(1.5)

$$^{h)}PIT^{\text{base}\,\langle h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^5\,\langle h\rangle}\right)$$
(1.6)

$$C^{\langle h\rangle} - \textit{œip}^{\text{l}}L^{\langle h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^6\,\langle h\rangle}\right)$$
(1.7)

$$K^{\langle h\rangle} + p^{\text{l}}L^{\langle h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^7\,\langle h\rangle}\right)$$
(1.8)

$$\left(\lambda^{\text{CONSUMER}^8\,\langle h\rangle}\right)$$
(1.9)

$$^{\text{CONSUMER}^9\,\langle h\rangle}\right)$$
(1.10)

$$^{\rangle} \qquad \left(\lambda^{\text{CONSUMER}^{10}\,\langle h\rangle}\right)$$
(1.11)

$$^{\langle h,r\rangle} = \textit{ouh}^{\text{r}\,\langle h,r\rangle} INC^{\langle h\rangle} \qquad \left(\lambda^{\text{CONSUMER}^{11}\,\langle h,r\rangle}\right)$$
(1.12)

$$\sum_{ROW} ex^{\text{rate}\,\langle r\rangle} THROW^{\langle h,r\rangle} \qquad \left(\lambda^{\text{CONSUMER}^{12}\,\langle h\rangle}\right)$$
(1.13)

1.2 Identities

$$TINSTH^{\langle h\rangle} = TBANKH^{\langle h\rangle} + TFIRMH^{\langle h\rangle} + TGOVH^{\langle h\rangle} + \sum_{r\in ROW} TROWH^{\langle r,h\rangle} \tag{1.14}$$

1.3 First order conditions

$$s\in SEC:\quad \lambda^{\mathrm{CONSUMER}^4\,\langle h\rangle} p^{\mathrm{cons}\,\langle s\rangle} + \alpha^{\langle s,h\rangle}\theta^{\mathrm{dem}\,\langle h\rangle}\lambda^{\mathrm{CONSUMER}^3\,\langle h\rangle} D^{\langle s,h\rangle^{-1+\omega^{-1}(-1+\omega)}}\left(\sum_{s\in SEC}\alpha^{\langle s,h\rangle}D^{\langle s,h\rangle^{\omega^{-1}(-1+\omega)}}\right)^{-1+\omega(-1+\omega)^{-1}} = 0 \quad \left(D^{\langle s,h\rangle}\right) \tag{1.15}$$

$$-\lambda^{\mathrm{CONSUMER}^3\,\langle h\rangle} + \alpha^{\mathrm{u}\,\langle h\rangle} DEM^{\langle h\rangle^{-1+\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle h\rangle} DEM^{\langle h\rangle^{\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\,\langle h\rangle}\right) LEIS^{\langle h\rangle^{\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle h\rangle}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)^{-1}} = 0 \quad \left(DEM^{\langle h\rangle}\right) \tag{1.16}$$

$$-\lambda^{\mathrm{CONSUMER}^2\,\langle h\rangle} - scale^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle h\rangle} = 0 \quad \left(LL^{\langle h\rangle}\right) \tag{1.17}$$

$$-scale^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle h\rangle} + \left(1-\alpha^{\mathrm{u}\,\langle h\rangle}\right) LEIS^{\langle h\rangle^{-1+\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle h\rangle} DEM^{\langle h\rangle^{\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\,\langle h\rangle}\right) LEIS^{\langle h\rangle^{\omega^{\mathrm{u}\,\langle h\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle h\rangle}\left(-1+\omega^{\mathrm{u}\,\langle h\rangle}\right)^{-1}} = 0 \quad \left(LEIS^{\langle h\rangle}\right) \tag{1.18}$$

$$\lambda^{\mathrm{CONSUMER}^2\,\langle h\rangle} + p^{\mathrm{l}}\lambda^{\mathrm{CONSUMER}^7\,\langle h\rangle} - eip^{\mathrm{l}}\lambda^{\mathrm{CONSUMER}^6\,\langle h\rangle} = 0 \quad \left(L^{\langle h\rangle}\right) \tag{1.19}$$

$$p^{\mathrm{k}}\lambda^{\mathrm{CONSUMER}^7\,\langle h\rangle} - scale^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^8\,\langle h\rangle} = 0 \quad \left(K^{\langle h\rangle}\right) \tag{1.20}$$

$$\lambda^{\mathrm{CONSUMER}^5\,\langle h\rangle} + \lambda^{\mathrm{CONSUMER}^6\,\langle h\rangle} - \lambda^{\mathrm{CONSUMER}^7\,\langle h\rangle} = 0 \quad \left(BTINC^{\langle h\rangle}\right) \tag{1.21}$$

$$-\lambda^{\mathrm{CONSUMER}^4\,\langle h\rangle} - \lambda^{\mathrm{CONSUMER}^5\,\langle h\rangle} + auh^{\mathrm{b}\,\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{10}\,\langle h\rangle} + sav^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^9\,\langle h\rangle} + \sum_{r\in ROW} auh^{\mathrm{r}\,\langle h,r\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle h,r\rangle} = 0 \quad \left(INC^{\langle h\rangle}\right) \tag{1.22}$$

$$-\lambda^{\mathrm{CONSUMER}^6\,\langle h\rangle} - pit^{\mathrm{tax}\,\langle h\rangle}\lambda^{\mathrm{CONSUMER}^5\,\langle h\rangle} = 0 \quad \left(PIT^{\mathrm{base}\,\langle h\rangle}\right) \tag{1.23}$$

$$\lambda^{\mathrm{CONSUMER}^4\,\langle h\rangle} - \lambda^{\mathrm{CONSUMER}^9\,\langle h\rangle} = 0 \quad \left(SAV^{\langle h\rangle}\right) \tag{1.24}$$

$$-\lambda^{\mathrm{CONSUMER}^{10}\,\langle h\rangle} + \lambda^{\mathrm{CONSUMER}^{12}\,\langle h\rangle} = 0 \quad \left(THBANK^{\langle h\rangle}\right) \tag{1.25}$$

$$r \in ROW: \quad ex^{\mathrm{rate}\langle r\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - ex^{\mathrm{rate}\langle r\rangle} \lambda^{\mathrm{CONSUMER}^{11}\langle h,r\rangle} = 0 \quad \left(THROW^{\langle h,r\rangle}\right) \tag{1.26}$$

$$\lambda^{\mathrm{CONSUMER}^{4}\langle h\rangle} - \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} = 0 \quad \left(TRAN^{\langle h\rangle}\right) \tag{1.27}$$

1.4 First order conditions after reduction

$$s \in SEC: \quad \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} p^{\mathrm{cons}\langle s\rangle} + \alpha^{\langle s,h\rangle} \alpha^{\mathrm{u}\langle h\rangle} \theta^{\mathrm{dem}\langle h\rangle} D^{\langle s,h\rangle-1+\omega^{-1}(-1+\omega)} DEM^{\langle h\rangle-1+\omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)} \left(\alpha^{\mathrm{u}\langle h\rangle} DEM^{\langle h\rangle \omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle h\rangle}\right) LEIS^{\langle h\rangle \omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)}\right)$$
$$\tag{1.28}$$

$$-scale^{\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{1}\langle h\rangle} + \left(1-\alpha^{\mathrm{u}\langle h\rangle}\right) LEIS^{\langle h\rangle-1+\omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)} \left(\alpha^{\mathrm{u}\langle h\rangle} DEM^{\langle h\rangle \omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle h\rangle}\right) LEIS^{\langle h\rangle \omega^{\mathrm{u}\langle h\rangle-1}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)}\right)^{-1+\omega^{\mathrm{u}\langle h\rangle}\left(-1+\omega^{\mathrm{u}\langle h\rangle}\right)^{-1}} = 0 \quad \left(LEIS^{\langle h\rangle}\right)$$
$$\tag{1.29}$$

$$-scale^{\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{1}\langle h\rangle} + p^{\mathrm{l}} \left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - pit^{\mathrm{tax}\langle h\rangle} \left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + sav^{\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + \sum_{r \in ROW} ouh^{\mathrm{r}\langle h,r\rangle} \lambda^{\mathrm{CO}}\right.\right.$$
$$\tag{1.30}$$

$$p^{\mathrm{k}} \left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - pit^{\mathrm{tax}\langle h\rangle} \left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + sav^{\langle h\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + \sum_{r \in ROW} ouh^{\mathrm{r}\langle h,r\rangle} \lambda^{\mathrm{CONSUMER}^{11}\langle h,r\rangle}\right) + sav^{\langle h\rangle} \lambda$$
$$\tag{1.31}$$

$$r \in ROW: \quad ex^{\mathrm{rate}\langle r\rangle} \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - ex^{\mathrm{rate}\langle r\rangle} \lambda^{\mathrm{CONSUMER}^{11}\langle h,r\rangle} = 0 \quad \left(\left(THROW^{\langle h,r\rangle}\right)_{r \in ROW}\right) \tag{1.32}$$

2 PRODUCTION OF GOODS $s \in SEC$

2.1 Optimisation problem

$$\max_{Y^{\langle s \rangle}, K^{\langle s \rangle}, L^{\langle s \rangle}, Y^{\text{VA} \langle s \rangle}, Y^{\text{INT} \langle s \rangle}, \left(X^{\langle si,s \rangle} \right)_{si \in SEC}} \pi^{\langle s \rangle} = p^{\langle s \rangle} Y^{\langle s \rangle} - \left(1 - sub^{\text{rate} \langle s \rangle} + tax^{\text{rate} \langle s \rangle} \right) \left(p^{\text{k}} K^{\langle s \rangle} \left(1 + k^{\text{tax}} \right) + p^{\text{l}} L^{\langle s \rangle} \left(1 + l^{\text{tax}} \right) + \sum_{si \in SEC} p^{\text{int} \langle si \rangle} X^{\langle si,s \rangle} \right) \tag{2.1}$$

s.t. :

$$Y^{\langle s \rangle} = Y^{\text{VA} \langle s \rangle} \qquad \left(\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^1} \langle s \rangle} \right) \tag{2.2}$$

$$Y^{\text{VA} \langle s \rangle} = Y^{\text{INT} \langle s \rangle} \qquad \left(\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^2} \langle s \rangle} \right) \tag{2.3}$$

$$Y^{\text{VA} \langle s \rangle} = \gamma^{\text{yva} \langle s \rangle} K^{\langle s \rangle^{\beta^{\text{k}} \langle s \rangle}} L^{\langle s \rangle^{\beta^{\text{l}} \langle s \rangle}} \qquad \left(\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^3} \langle s \rangle} \right) \tag{2.4}$$

$$si \in SEC: \quad X^{\langle si,s \rangle} = \beta^{\text{x} \langle si,s \rangle} Y^{\text{INT} \langle s \rangle} \qquad \left(\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^4} \langle s,si \rangle} \right) \tag{2.5}$$

2.2 First order conditions

$$-\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^1} \langle s \rangle} + p^{\langle s \rangle} = 0 \qquad \left(Y^{\langle s \rangle} \right) \tag{2.6}$$

$$-p^{\text{k}} \left(1 + k^{\text{tax}} \right) \left(1 - sub^{\text{rate} \langle s \rangle} + tax^{\text{rate} \langle s \rangle} \right) + \beta^{\text{k} \langle s \rangle} \gamma^{\text{yva} \langle s \rangle} \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^3} \langle s \rangle} K^{\langle s \rangle^{-1+\beta^{\text{k}} \langle s \rangle}} L^{\langle s \rangle^{\beta^{\text{l}} \langle s \rangle}} = 0 \qquad \left(K^{\langle s \rangle} \right) \tag{2.7}$$

$$-p^{\text{l}} \left(1 + l^{\text{tax}} \right) \left(1 - sub^{\text{rate} \langle s \rangle} + tax^{\text{rate} \langle s \rangle} \right) + \beta^{\text{l} \langle s \rangle} \gamma^{\text{yva} \langle s \rangle} \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^3} \langle s \rangle} K^{\langle s \rangle^{\beta^{\text{k}} \langle s \rangle}} L^{\langle s \rangle^{-1+\beta^{\text{l}} \langle s \rangle}} = 0 \qquad \left(L^{\langle s \rangle} \right) \tag{2.8}$$

$$\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^1} \langle s \rangle} - \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^2} \langle s \rangle} - \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^3} \langle s \rangle} = 0 \qquad \left(Y^{\text{VA} \langle s \rangle} \right) \tag{2.9}$$

$$\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^2} \langle s \rangle} + \sum_{si \in SEC} \beta^{\text{x} \langle si,s \rangle} \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^4} \langle s,si \rangle} = 0 \qquad \left(Y^{\text{INT} \langle s \rangle} \right) \tag{2.10}$$

$$si \in SEC: \quad -\lambda^{\text{PRODUCTION}^{\text{OF GOODS}^4} \langle s,si \rangle} - p^{\text{int} \langle si \rangle} \left(1 - sub^{\text{rate} \langle s \rangle} + tax^{\text{rate} \langle s \rangle} \right) = 0 \qquad \left(X^{\langle si,s \rangle} \right) \tag{2.11}$$

2.3 First order conditions after reduction

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)+\beta^{\mathrm{k}\langle s\rangle}\gamma^{\mathrm{yva}\langle s\rangle}\left(p^{\langle s\rangle}+\sum_{si\in SEC}\beta^{\mathrm{x}\langle si,s\rangle}\lambda^{\mathrm{PRODUCTION^{OF}GOODS4}\,\langle s,si\rangle}\right)K^{\langle s\rangle^{-1+\beta^{\mathrm{k}\langle s\rangle}}}L^{\langle s\rangle^{\beta^{\mathrm{l}\langle s\rangle}}}=0\quad\left(K^{\langle s\rangle}\right)\tag{2.12}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)+\beta^{\mathrm{l}\langle s\rangle}\gamma^{\mathrm{yva}\langle s\rangle}\left(p^{\langle s\rangle}+\sum_{si\in SEC}\beta^{\mathrm{x}\langle si,s\rangle}\lambda^{\mathrm{PRODUCTION^{OF}GOODS4}\,\langle s,si\rangle}\right)K^{\langle s\rangle^{\beta^{\mathrm{k}\langle s\rangle}}}L^{\langle s\rangle^{-1+\beta^{\mathrm{l}\langle s\rangle}}}=0\quad\left(L^{\langle s\rangle}\right)\tag{2.13}$$

$$si\in SEC:\quad-\lambda^{\mathrm{PRODUCTION^{OF}GOODS4}\,\langle s,si\rangle}-p^{\mathrm{int}\langle si\rangle}\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)=0\quad\left(\left(X^{\langle si,s\rangle}\right)_{si\in SEC}\right)\tag{2.14}$$

3 TAXES PRODUCER

3.1 Identities

$$s\in SEC:\quad SUB^{\mathrm{s}\langle s\rangle}=sub^{\mathrm{rate}\langle s\rangle}\left(p^{\mathrm{k}}K^{\langle s\rangle}\left(1+k^{\mathrm{tax}}\right)+p^{\mathrm{l}}L^{\langle s\rangle}\left(1+l^{\mathrm{tax}}\right)+\sum_{si\in SEC}p^{\mathrm{int}\langle si\rangle}X^{\langle si,s\rangle}\right)\tag{3.1}$$

$$s\in SEC:\quad TAX^{\mathrm{s}\langle s\rangle}=tax^{\mathrm{rate}\langle s\rangle}\left(p^{\mathrm{k}}K^{\langle s\rangle}\left(1+k^{\mathrm{tax}}\right)+p^{\mathrm{l}}L^{\langle s\rangle}\left(1+l^{\mathrm{tax}}\right)+\sum_{si\in SEC}p^{\mathrm{int}\langle si\rangle}X^{\langle si,s\rangle}\right)\tag{3.2}$$

$$L^{\mathrm{TAX}}=l^{\mathrm{tax}}p^{\mathrm{l}}\left(\sum_{s\in SEC}L^{\langle s\rangle}\right)\tag{3.3}$$

$$K^{\mathrm{TAX}}=k^{\mathrm{tax}}p^{\mathrm{k}}\left(\sum_{s\in SEC}K^{\langle s\rangle}\right)\tag{3.4}$$

4 EXPORT COMPOSITE $s\in SEC$

4.1 Optimisation problem

$$\max_{EXPORT^{\langle s\rangle},\left(EXP^{\langle r,s\rangle}\right)_{r\in ROW}}\Pi^{\mathrm{EXP}\langle s\rangle}=p^{\mathrm{exp}\langle s\rangle}EXPORT^{\langle s\rangle}-\sum_{r\in ROW}p^{\mathrm{for}\langle r\rangle}EXP^{\langle r,s\rangle}\tag{4.1}$$

s.t. :

$$EXPORT^{\langle s\rangle}=\theta^{\mathrm{exp}\langle s\rangle}\left(\sum_{r\in ROW}\alpha^{\mathrm{exp}\langle r,s\rangle}\left(am^{\mathrm{exp}\langle r\rangle}EXP^{\langle r,s\rangle}\right)^{\sigma^{\mathrm{exp}\langle s\rangle-1}\left(1+\sigma^{\mathrm{exp}\langle s\rangle}\right)}\right)^{\sigma^{\mathrm{exp}\langle s\rangle}\left(1+\sigma^{\mathrm{exp}\langle s\rangle}\right)^{-1}}\quad\left(\lambda^{\mathrm{EXPORT^{COMPOSITE1}}\,\langle s\rangle}\right)\tag{4.2}$$

4.2 First order conditions

$$-\lambda^{\text{EXPORT}^{\text{COMPOSITE}^1\,\langle s\rangle}} + p^{\exp\langle s\rangle} = 0 \quad \left(EXPORT^{\langle s\rangle}\right) \tag{4.3}$$

$$r \in ROW: \quad -p^{\text{for}\,\langle r\rangle} + \alpha^{\exp\langle r,s\rangle} am^{\exp\langle r\rangle} \theta^{\exp\langle s\rangle} \lambda^{\text{EXPORT}^{\text{COMPOSITE}^1\,\langle s\rangle}} \left(am^{\exp\langle r\rangle} EXP^{\langle r,s\rangle}\right)^{-1+\sigma^{\exp\langle s\rangle -1}\left(1+\sigma^{\exp\langle s\rangle}\right)} \left(\sum_{r \in ROW} \alpha^{\exp\langle r,s\rangle}\left(am^{\exp\langle r\rangle} EXP^{\langle r,s\rangle}\right)^{\sigma^{\exp\langle s\rangle -1}\left(1+\sigma^{\exp\langle s\rangle}\right)}\right)^{-1+\sigma^{\exp\langle s\rangle}\left(1-\right.} \tag{4.4}$$

4.3 First order conditions after reduction

$$r \in ROW: \quad -p^{\text{for}\,\langle r\rangle} + \alpha^{\exp\langle r,s\rangle} am^{\exp\langle r\rangle} \theta^{\exp\langle s\rangle} p^{\exp\langle s\rangle} \left(am^{\exp\langle r\rangle} EXP^{\langle r,s\rangle}\right)^{-1+\sigma^{\exp\langle s\rangle -1}\left(1+\sigma^{\exp\langle s\rangle}\right)} \left(\sum_{r \in ROW} \alpha^{\exp\langle r,s\rangle}\left(am^{\exp\langle r\rangle} EXP^{\langle r,s\rangle}\right)^{\sigma^{\exp\langle s\rangle -1}\left(1+\sigma^{\exp\langle s\rangle}\right)}\right)^{-1+\sigma^{\exp\langle s\rangle}\left(1+\sigma^{\exp\langle s\rangle}\right)^{-1}} = 0 \tag{4.5}$$

5 FINAL PRODUCT COMPOSITE $s \in SEC$

5.1 Optimisation problem

$$\max_{Y^{\text{f}\,\langle s\rangle}, Y^{\text{HOME}\,\langle s\rangle}, EXPORT^{\text{f}\,\langle s\rangle}} \Pi^{\text{Y}\,\langle s\rangle} = p^{\langle s\rangle} Y^{\text{f}\,\langle s\rangle} - p^{\text{home}\,\langle s\rangle} Y^{\text{HOME}\,\langle s\rangle} - p^{\exp\langle s\rangle} EXPORT^{\text{f}\,\langle s\rangle} \tag{5.1}$$

s.t. :

$$Y^{\text{f}\,\langle s\rangle} = \theta^{\text{y}\,\langle s\rangle} \left(\alpha^{\text{prod}^{\text{h}}\,\langle s\rangle} Y^{\text{HOME}\,\langle s\rangle^{\sigma^{\text{fprod}\,\langle s\rangle -1}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)}} + \alpha^{\text{prod}^{\text{e}}\,\langle s\rangle} EXPORT^{\text{f}\,\langle s\rangle^{\sigma^{\text{fprod}\,\langle s\rangle -1}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)}}\right)^{\sigma^{\text{fprod}\,\langle s\rangle}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)^{-1}} \left(\lambda^{\text{FINAL}^{\text{PRODUCT}^{\text{COMPOSITE}^1\,\langle s\rangle}}}\right) \tag{5.2}$$

5.2 First order conditions

$$-\lambda^{\text{FINAL}^{\text{PRODUCT}^{\text{COMPOSITE}^1\,\langle s\rangle}}} + p^{\langle s\rangle} = 0 \quad \left(Y^{\text{f}\,\langle s\rangle}\right) \tag{5.3}$$

$$-p^{\text{home}\,\langle s\rangle} + \alpha^{\text{prod}^{\text{h}}\,\langle s\rangle} \theta^{\text{y}\,\langle s\rangle} \lambda^{\text{FINAL}^{\text{PRODUCT}^{\text{COMPOSITE}^1\,\langle s\rangle}}} Y^{\text{HOME}\,\langle s\rangle^{-1+\sigma^{\text{fprod}\,\langle s\rangle -1}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)}} \left(\alpha^{\text{prod}^{\text{h}}\,\langle s\rangle} Y^{\text{HOME}\,\langle s\rangle^{\sigma^{\text{fprod}\,\langle s\rangle -1}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)}} + \alpha^{\text{prod}^{\text{e}}\,\langle s\rangle} EXPORT^{\text{f}\,\langle s\rangle^{\sigma^{\text{fprod}\,\langle s\rangle -1}\left(1+\sigma^{\text{fprod}\,\langle s\rangle}\right)}} \right. \tag{5.4}$$

$$-p^{\exp\langle s\rangle}+\alpha^{\text{prod}^{\text{e}}\langle s\rangle}\theta^{\text{y}\langle s\rangle}\lambda^{\text{FINAL}^{\text{PRODUCT}^{\text{COMPOSITE1}\langle s\rangle}}}EXPORT^{\text{f}\langle s\rangle^{-1+\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle s\rangle}Y^{\text{HOME}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle s\rangle}EXPORT^{\text{f}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\right.$$

(5.5)

5.3 First order conditions after reduction

$$-p^{\text{home}\langle s\rangle}+\alpha^{\text{prod}^{\text{h}}\langle s\rangle}\theta^{\text{y}\langle s\rangle}p^{\langle s\rangle}Y^{\text{HOME}\langle s\rangle^{-1+\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle s\rangle}Y^{\text{HOME}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle s\rangle}EXPORT^{\text{f}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle s\rangle}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}$$

(5.6)

$$-p^{\exp\langle s\rangle}+\alpha^{\text{prod}^{\text{e}}\langle s\rangle}\theta^{\text{y}\langle s\rangle}p^{\langle s\rangle}EXPORT^{\text{f}\langle s\rangle^{-1+\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle s\rangle}Y^{\text{HOME}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle s\rangle}EXPORT^{\text{f}\langle s\rangle^{\sigma^{\text{fprod}\langle s\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle s\rangle}\left(1+\sigma^{\text{fprod}\langle s\rangle}\right)}$$

(5.7)

∞

6 IMPORT COMPOSITE $s\in SEC$

6.1 Optimisation problem

$$\max_{IMPORT^{\langle s\rangle},\left(IMP^{\langle r,s\rangle}\right)_{r\in ROW}}\Pi^{\text{IMP}\langle s\rangle}=p^{\text{imp}\langle s\rangle}IMPORT^{\langle s\rangle}-\sum_{r\in ROW}p^{\text{for}\langle r\rangle}ex^{\text{rate}\langle r\rangle}IMP^{\langle r,s\rangle}\left(1+\dot{im}^{\text{tax}\langle r,s\rangle}\right)$$

(6.1)

s.t. :

$$IMPORT^{\langle s\rangle}=\theta^{\text{imp}\langle s\rangle}\left(\sum_{r\in ROW}\alpha^{\text{imp}\langle r,s\rangle}\left(am^{\text{imp}\langle r\rangle}IMP^{\langle r,s\rangle}\right)^{\sigma^{\text{imp}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{imp}\langle s\rangle}\right)}\right)^{\sigma^{\text{imp}\langle s\rangle}\left(-1+\sigma^{\text{imp}\langle s\rangle}\right)^{-1}}\left(\lambda^{\text{IMPORT}^{\text{COMPOSITE1}\langle s\rangle}}\right)$$

(6.2)

6.2 First order conditions

$$-\lambda^{\text{IMPORT}^{\text{COMPOSITE1}\langle s\rangle}}+p^{\text{imp}\langle s\rangle}=0\quad\left(IMPORT^{\langle s\rangle}\right)$$

(6.3)

$$r \in ROW: \quad -p^{\text{for}\langle r \rangle} ex^{\text{rate}\langle r \rangle} \left(1 + im^{\text{tax}\langle r,s \rangle} \right) + \alpha^{\text{imp}\langle r,s \rangle} am^{\text{imp}\langle r \rangle} \theta^{\text{imp}\langle s \rangle} \lambda^{\text{IMPORT}^{\text{COMPOSITE}^1}\langle s \rangle} \left(am^{\text{imp}\langle r \rangle} IMP^{\langle r,s \rangle} \right)^{-1+\sigma^{\text{imp}\langle s \rangle -1}\left(-1+\sigma^{\text{imp}\langle s \rangle}\right)} \left(\sum_{r \in ROW} \alpha^{\text{imp}\langle r,s \rangle} \left(am^{\text{imp}\langle r \rangle} IMP^{\langle r,s \rangle} \right)^{\sigma^{\text{imp}\langle s}}\right.$$

(6.4)

6.3 First order conditions after reduction

$$r \in ROW: \quad -p^{\text{for}\langle r \rangle} ex^{\text{rate}\langle r \rangle} \left(1 + im^{\text{tax}\langle r,s \rangle} \right) + \alpha^{\text{imp}\langle r,s \rangle} am^{\text{imp}\langle r \rangle} \theta^{\text{imp}\langle s \rangle} p^{\text{imp}\langle s \rangle} \left(am^{\text{imp}\langle r \rangle} IMP^{\langle r,s \rangle} \right)^{-1+\sigma^{\text{imp}\langle s \rangle -1}\left(-1+\sigma^{\text{imp}\langle s \rangle}\right)} \left(\sum_{r \in ROW} \alpha^{\text{imp}\langle r,s \rangle} \left(am^{\text{imp}\langle r \rangle} IMP^{\langle r,s \rangle} \right)^{\sigma^{\text{imp}\langle s \rangle -1}\left(-1+\sigma^{\text{imp}\langle s \rangle}\right)} \right.$$

(6.5)

7 ARMINGTON COMPOSITE $s \in SEC$

7.1 Optimisation problem

$$\max_{ARM^{\langle s \rangle}, Y^{\text{HOME}^a \langle s \rangle}, IMPORT^{a \langle s \rangle}} \Pi^{\text{ARM}\langle s \rangle} = -p^{\text{home}\langle s \rangle} Y^{\text{HOME}^a \langle s \rangle} + p^{\text{arm}\langle s \rangle} ARM^{\langle s \rangle} - p^{\text{imp}\langle s \rangle} IMPORT^{a \langle s \rangle}$$

(7.1)

s.t. :

$$ARM^{\langle s \rangle} = \theta^{\text{arm}\langle s \rangle} \left(\alpha^{\text{arm}^h \langle s \rangle} Y^{\text{HOME}^a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} + \alpha^{\text{arm}^i \langle s \rangle} IMPORT^{a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} \right)^{\sigma^{\text{arm}\langle s \rangle}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)^{-1}} \quad \left(\lambda^{\text{ARMINGTON}^{\text{COMPOSITE}^1}\langle s \rangle} \right)$$

(7.2)

7.2 First order conditions

$$-\lambda^{\text{ARMINGTON}^{\text{COMPOSITE}^1}\langle s \rangle} + p^{\text{arm}\langle s \rangle} = 0 \quad \left(ARM^{\langle s \rangle} \right)$$

(7.3)

$$-p^{\text{home}\langle s \rangle} + \alpha^{\text{arm}^h \langle s \rangle} \theta^{\text{arm}\langle s \rangle} \lambda^{\text{ARMINGTON}^{\text{COMPOSITE}^1}\langle s \rangle} Y^{\text{HOME}^a \langle s \rangle -1+\sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} \left(\alpha^{\text{arm}^h \langle s \rangle} Y^{\text{HOME}^a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} + \alpha^{\text{arm}^i \langle s \rangle} IMPORT^{a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} \right)^{-1+\sigma}$$

(7.4)

$$-p^{\text{imp}\langle s \rangle} + \alpha^{\text{arm}^i \langle s \rangle} \theta^{\text{arm}\langle s \rangle} \lambda^{\text{ARMINGTON}^{\text{COMPOSITE}^1}\langle s \rangle} IMPORT^{a \langle s \rangle -1+\sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} \left(\alpha^{\text{arm}^h \langle s \rangle} Y^{\text{HOME}^a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} + \alpha^{\text{arm}^i \langle s \rangle} IMPORT^{a \langle s \rangle \sigma^{\text{arm}\langle s \rangle -1}\left(-1+\sigma^{\text{arm}\langle s \rangle}\right)} \right)^{-1+\sigma}$$

(7.5)

7.3 First order conditions after reduction

$$-p^{\text{home}\langle s\rangle}+\alpha^{\text{arm}^{\text{h}}\langle s\rangle}\theta^{\text{arm}\langle s\rangle}p^{\text{arm}\langle s\rangle}Y^{\text{HOME}^{\text{a}}\langle s\rangle^{-1+\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}\left(\alpha^{\text{arm}^{\text{h}}\langle s\rangle}Y^{\text{HOME}^{\text{a}}\langle s\rangle^{\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}+\alpha^{\text{arm}^{\text{i}}\langle s\rangle}IMPORT^{\text{a}\langle s\rangle^{\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\text{arm}\langle s\rangle}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)^{-1}}$$

$$\tag{7.6}$$

$$-p^{\text{imp}\langle s\rangle}+\alpha^{\text{arm}^{\text{i}}\langle s\rangle}\theta^{\text{arm}\langle s\rangle}p^{\text{arm}\langle s\rangle}IMPORT^{\text{a}\langle s\rangle^{-1+\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}\left(\alpha^{\text{arm}^{\text{h}}\langle s\rangle}Y^{\text{HOME}^{\text{a}}\langle s\rangle^{\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}+\alpha^{\text{arm}^{\text{i}}\langle s\rangle}IMPORT^{\text{a}\langle s\rangle^{\sigma^{\text{arm}\langle s\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\text{arm}\langle s\rangle}\left(-1+\sigma^{\text{arm}\langle s\rangle}\right)^{-1}}$$

$$\tag{7.7}$$

8 SALES $s \in SEC$

8.1 Identities

$$TAX^{\text{p}\langle s\rangle} = EXCISE^{\langle s\rangle} + VAT^{\langle s\rangle} \tag{8.1}$$

$$VAT^{\langle s\rangle} = vat^{\langle s\rangle}p^{\text{market}\langle s\rangle}\left(1+excise^{\langle s\rangle}\right)\left(D^{\text{GOV}\langle s\rangle}+INV^{\langle s\rangle}+\sum_{h\in HHD}scale^{\langle h\rangle}D^{\langle s,h\rangle}\right) \tag{8.2}$$

$$EXCISE^{\langle s\rangle} = excise^{\langle s\rangle}p^{\text{market}\langle s\rangle}\left(D^{\text{GOV}\langle s\rangle}+INV^{\langle s\rangle}+\sum_{h\in HHD}scale^{\langle h\rangle}D^{\langle s,h\rangle}+\sum_{si\in SEC}X^{\langle s,si\rangle}\right) \tag{8.3}$$

9 FIRM

9.1 Identities

$$INC^{\text{FIRM}} = BTINC^{\text{FIRM}}\left(1-firm^{\text{tax}}\right) \tag{9.1}$$

$$BTINC^{\text{FIRM}} = PROFIT + TBANKFIRM + TGOVFIRM + p^{\text{k}}K^{\text{FIRM}} + \sum_{r\in ROW}TROWFIRM^{\langle r\rangle} \tag{9.2}$$

$$PROFIT = \sum_{s\in SEC}\pi^{\langle s\rangle} \tag{9.3}$$

$$K^{\text{FIRM}} = owc^{\text{f}}KS \tag{9.4}$$

$$SAV^{\text{FIRM}} + TRAN^{\text{FIRM}} = INC^{\text{FIRM}} \tag{9.5}$$

$$TRAN^{\text{FIRM}} = TFIRMBANK + \sum_{h \in HHD} scale^{\langle h \rangle} TFIRMH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\text{rate}\langle r \rangle} TFIRMROW^{\langle r \rangle} \tag{9.6}$$

$$h \in HHD: \quad scale^{\langle h \rangle} TFIRMH^{\langle h \rangle} = \omega f^{\langle h \rangle} INC^{\text{FIRM}} \tag{9.7}$$

$$r \in ROW: \quad ex^{\text{rate}\langle r \rangle} TFIRMROW^{\langle r \rangle} = \omega f^{\langle r \rangle} INC^{\text{FIRM}} \tag{9.8}$$

$$TFIRMBANK = \omega f^{\text{b}} INC^{\text{FIRM}} \tag{9.9}$$

10   BANK

10.1   Identities

$$INC^{\text{BANK}} = BTINC^{\text{BANK}} \left(1 - bank^{\text{tax}} \right) \tag{10.1}$$

$$BTINC^{\text{BANK}} = TFIRMBANK + TGOVBANK + p^{\text{k}} K^{\text{BANK}} + \sum_{h \in HHD} scale^{\langle h \rangle} THBANK^{\langle h \rangle} + \sum_{r \in ROW} TROWBANK^{\langle r \rangle} \tag{10.2}$$

$$K^{\text{BANK}} = \omega c^{\text{b}} KS \tag{10.3}$$

$$SAV^{\text{BANK}} + TRAN^{\text{BANK}} = INC^{\text{BANK}} \tag{10.4}$$

$$TRAN^{\text{BANK}} = TBANKFIRM + \sum_{h \in HHD} scale^{\langle h \rangle} TBANKH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\text{rate}\langle r \rangle} TBANKROW^{\langle r \rangle} \tag{10.5}$$

$$h \in HHD: \quad scale^{\langle h \rangle} TBANKH^{\langle h \rangle} = \omega b^{\text{h}\langle h \rangle} INC^{\text{BANK}} \tag{10.6}$$

$$r \in ROW: \quad ex^{\text{rate}\langle r \rangle} TBANKROW^{\langle r \rangle} = \omega b^{\text{r}\langle r \rangle} INC^{\text{BANK}} \tag{10.7}$$

$$TBANKFIRM = \omega b^{\text{f}} INC^{\text{BANK}} \tag{10.8}$$

11 GOVERNMENT

11.1 Identities

$$INC^{\text{GOV}} = CIT + EXCISE + IMTAX + PIT + SOCTAX + STAX + TROWGOV + VAT \tag{11.1}$$

$$VAT = \sum_{s \in SEC} VAT^{\langle s \rangle} \tag{11.2}$$

$$EXCISE = \sum_{s \in SEC} EXCISE^{\langle s \rangle} \tag{11.3}$$

$$STAX = \sum_{s \in SEC} TAX^{\text{s}\langle s \rangle} \tag{11.4}$$

$$SOCTAX = K^{\text{TAX}} + L^{\text{TAX}} \tag{11.5}$$

$$IMTAX = \sum_{s \in SEC} \sum_{r \in ROW} im^{\text{tax}\langle r,s \rangle} p^{\text{for}\langle r \rangle} ex^{\text{rate}\langle r \rangle} IMP^{\langle r,s \rangle} \tag{11.6}$$

$$PIT = \sum_{h \in HHD} pit^{\text{tax}\langle h \rangle} scale^{\langle h \rangle} PIT^{\text{base}\langle h \rangle} \tag{11.7}$$

$$CIT = BANKTAX + FIRMTAX \tag{11.8}$$

$$FIRMTAX = firm^{\text{tax}} BTINC^{\text{FIRM}} \tag{11.9}$$

$$BANKTAX = bank^{\text{tax}} BTINC^{\text{BANK}} \tag{11.10}$$

$$TROWGOV = \sum_{r \in ROW} TROWGOV^{\langle r \rangle} \tag{11.11}$$

$$EXP^{\text{GOV}} = DEM^{\text{GOV}} + SUB + TRAN^{\text{GOV}} \tag{11.12}$$

$$DEM^{\text{GOV}} = \sum_{s \in SEC} p^{\text{cons}\langle s \rangle} D^{\text{GOV}\langle s \rangle} \tag{11.13}$$

$$s \in SEC: \quad p^{\text{cons}\langle s \rangle} D^{\text{GOV}\langle s \rangle} = dgov^{\text{data}\langle s \rangle} \tag{11.14}$$

$$SUB = \sum_{s \in SEC} SUB^{\text{s}\langle s \rangle} + \sum_{s \in SEC} SUB^{\text{p}\langle s \rangle} \tag{11.15}$$

$$s \in SEC: \quad SUB^{\text{p}\langle s \rangle} = sub^{\text{p}\langle s \rangle} ARM^{\langle s \rangle} \tag{11.16}$$

$$TRAN^{\text{GOV}} = TGOVFIRM + TGOVBANK + \sum_{h \in HHD} scale^{\langle h \rangle} TGOVH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\text{rate}\langle r \rangle} TGOVROW^{\langle r \rangle} \tag{11.17}$$

$$h \in HHD: \quad scale^{\langle h \rangle} TGOVH^{\langle h \rangle} = tgovh^{\text{data}\langle h \rangle} + tgovh^{\text{data}^{\text{extra}}\langle h \rangle} \tag{11.18}$$

$$r \in ROW: \quad ex^{\text{rate}\langle r \rangle} TGOVROW^{\langle r \rangle} = tgovrow^{\text{data}\langle r \rangle} \tag{11.19}$$

$$TGOVFIRM = tgovfirm^{\text{data}} \tag{11.20}$$

$$TGOVBANK = tgovbank^{\text{data}} \tag{11.21}$$

$$INC^{\text{GOV}} = EXP^{\text{GOV}} + SAV^{\text{GOV}} \tag{11.22}$$

12 REST OF THE WORLD $r \in ROW$

12.1 Identities

$$INC^{\text{ROW}\langle r \rangle} = IMPORT^{\text{ROW}\langle r \rangle} + ex^{\text{rate}\langle r \rangle} \left(TBANKROW^{\langle r \rangle} + TFIRMROW^{\langle r \rangle} + TGOVROW^{\langle r \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} THROW^{\langle h,r \rangle} \right) \tag{12.1}$$

$$IMPORT^{\text{ROW}\langle r \rangle} = p^{\text{for}\langle r \rangle} ex^{\text{rate}\langle r \rangle} \left(\sum_{s \in SEC} IMP^{\langle r,s \rangle} \right) \tag{12.2}$$

$$EXP^{\text{ROW}\langle r \rangle} = EXPORT^{\text{ROW}\langle r \rangle} + TRAN^{\langle r \rangle} \tag{12.3}$$

$$EXPORT^{\text{ROW}\langle r \rangle} = p^{\text{for}\langle r \rangle} \left(\sum_{s \in SEC} EXP^{\langle r,s \rangle} \right) \tag{12.4}$$

$$TRAN^{\langle r \rangle} = TROWFIRM^{\langle r \rangle} + TROWBANK^{\langle r \rangle} + TROWGOV^{\langle r \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} TROWH^{\langle r,h \rangle} \tag{12.5}$$

$$TROWFIRM^{\langle r \rangle} = t^{\mathrm{rf}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} \tag{12.6}$$

$$TROWGOV^{\langle r \rangle} = t^{\mathrm{rg}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} \tag{12.7}$$

$$h \in HHD\colon \quad scale^{\langle h \rangle} TROWH^{\langle r,h \rangle} = t^{\mathrm{rh}\langle r,h \rangle} EXP^{\mathrm{ROW}\langle r \rangle} \tag{12.8}$$

$$TROWBANK^{\langle r \rangle} = t^{\mathrm{rb}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} \tag{12.9}$$

$$INC^{\mathrm{ROW}\langle r \rangle} = EXP^{\mathrm{ROW}\langle r \rangle} + SAV^{\langle r \rangle} \tag{12.10}$$

13 CAPITAL

13.1 Identities

$$SAV = SAV^{\mathrm{FIRM}} + SAV^{\mathrm{BANK}} + SAV^{\mathrm{GOV}} + \sum_{h \in HHD} scale^{\langle h \rangle} SAV^{\langle h \rangle} + \sum_{r \in ROW} SAV^{\langle r \rangle} \tag{13.1}$$

$$s \in SEC\colon \quad p^{\mathrm{cons}\langle s \rangle} INV^{\langle s \rangle} = inv^{\langle s \rangle} INV \tag{13.2}$$

14 MARKET CLEARING

14.1 Identities

$$s \in SEC\colon \quad ARM^{\langle s \rangle} = D^{\mathrm{GOV}\langle s \rangle} + INV^{\langle s \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} D^{\langle s,h \rangle} + \sum_{si \in SEC} X^{\langle s,si \rangle} \tag{14.1}$$

$$s \in SEC\colon \quad EXPORT^{\mathrm{f}\langle s \rangle} = EXPORT^{\langle s \rangle} \tag{14.2}$$

$$s \in SEC\colon \quad IMPORT^{\mathrm{a}\langle s \rangle} = IMPORT^{\langle s \rangle} \tag{14.3}$$

$$s \in SEC\colon \quad Y^{\mathrm{HOME}^{\mathrm{a}}\langle s \rangle} = Y^{\mathrm{HOME}\langle s \rangle} \tag{14.4}$$

$$s \in SEC\colon \quad Y^{\mathrm{f}\langle s \rangle} = Y^{\langle s \rangle} \tag{14.5}$$

$$\left(\sum_{s \in SEC} p^{\langle s \rangle} ARM^{\langle s \rangle} \right) \left(\sum_{si \in SEC} ARM^{\langle si \rangle} \right)^{-1} = 1 \tag{14.6}$$

$$KS = \sum_{s \in SEC} K^{\langle s \rangle} \tag{14.7}$$

$$KS = k^{\mathrm{total}^{\mathrm{data}}} \tag{14.8}$$

$$\sum_{s \in SEC} L^{\langle s \rangle} = \sum_{h \in HHD} scale^{\langle h \rangle} L^{\langle h \rangle} \tag{14.9}$$

$$LS = \sum_{h \in HHD} scale^{\langle h \rangle} L^{\langle h \rangle} \tag{14.10}$$

$$h \in HHD: \quad UNEMP^{\langle h \rangle} = 0 \tag{14.11}$$

$$r \in ROW: \quad ex^{\mathrm{rate}^{\langle r \rangle}} = 1 \tag{14.12}$$

$$s \in SEC: \quad p^{\mathrm{int}^{\langle s \rangle}} = p^{\mathrm{market}^{\langle s \rangle}} \left(1 + excise^{\langle s \rangle} \right) \tag{14.13}$$

$$s \in SEC: \quad p^{\mathrm{cons}^{\langle s \rangle}} = p^{\mathrm{market}^{\langle s \rangle}} \left(1 + excise^{\langle s \rangle} \right) \left(1 + vat^{\langle s \rangle} \right) \tag{14.14}$$

$$s \in SEC: \quad p^{\mathrm{market}^{\langle s \rangle}} = -sub^{\mathrm{p}^{\langle s \rangle}} + p^{\mathrm{arm}^{\langle s \rangle}} \tag{14.15}$$

15 Equilibrium relationships (before expansion and reduction)

$$1 - \left(\sum_{s \in SEC} p^{\langle s \rangle} ARM^{\langle s \rangle} \right) \left(\sum_{si \in SEC} ARM^{\langle si \rangle} \right)^{-1} = 0 \tag{15.1}$$

$$k^{\mathrm{total}^{\mathrm{data}}} - KS = 0 \tag{15.2}$$

$$tgovfirm^{\mathrm{data}} - TGOVFIRM = 0 \tag{15.3}$$

$$tgovbank^{\mathrm{data}} - TGOVBANK = 0 \tag{15.4}$$

$$-BANKTAX + bank^{\mathrm{tax}} BTINC^{\mathrm{BANK}} = 0 \tag{15.5}$$

$$-DEM^{\text{GOV}} + \sum_{s \in SEC} p^{\text{cons}\langle s \rangle} D^{\text{GOV}\langle s \rangle} = 0 \tag{15.6}$$

$$-EXCISE + \sum_{s \in SEC} EXCISE^{\langle s \rangle} = 0 \tag{15.7}$$

$$-FIRMTAX + firm^{\text{tax}} BTINC^{\text{FIRM}} = 0 \tag{15.8}$$

$$-IMTAX + \sum_{s \in SEC} \sum_{r \in ROW} im^{\text{tax}\langle r,s \rangle} p^{\text{for}\langle r \rangle} ex^{\text{rate}\langle r \rangle} IMP^{\langle r,s \rangle} = 0 \tag{15.9}$$

$$-INC^{\text{FIRM}} + BTINC^{\text{FIRM}} \left(1 - firm^{\text{tax}}\right) = 0 \tag{15.10}$$

$$-INC^{\text{BANK}} + BTINC^{\text{BANK}} \left(1 - bank^{\text{tax}}\right) = 0 \tag{15.11}$$

$$-K^{\text{TAX}} + k^{\text{tax}} p^{\text{k}} \left(\sum_{s \in SEC} K^{\langle s \rangle} \right) = 0 \tag{15.12}$$

$$-K^{\text{FIRM}} + aux^{\text{f}} KS = 0 \tag{15.13}$$

$$-K^{\text{BANK}} + aux^{\text{b}} KS = 0 \tag{15.14}$$

$$-KS + \sum_{s \in SEC} K^{\langle s \rangle} = 0 \tag{15.15}$$

$$-L^{\text{TAX}} + l^{\text{tax}} p^{\text{l}} \left(\sum_{s \in SEC} L^{\langle s \rangle} \right) = 0 \tag{15.16}$$

$$-LS + \sum_{h \in HHD} scale^{\langle h \rangle} L^{\langle h \rangle} = 0 \tag{15.17}$$

$$-PIT + \sum_{h \in HHD} pit^{\text{tax}\langle h \rangle} scale^{\langle h \rangle} PIT^{\text{base}\langle h \rangle} = 0 \tag{15.18}$$

$$-PROFIT + \sum_{s \in SEC} \pi^{\langle s \rangle} = 0 \tag{15.19}$$

$$-STAX + \sum_{s \in SEC} TAX^{\text{s}\langle s \rangle} = 0 \tag{15.20}$$

$$-TBANKFIRM + owb^{\mathrm{f}} INC^{\mathrm{BANK}} = 0 \tag{15.21}$$

$$-TFIRMBANK + owf^{\mathrm{b}} INC^{\mathrm{FIRM}} = 0 \tag{15.22}$$

$$-TROWGOV + \sum_{r \in ROW} TROWGOV^{\langle r \rangle} = 0 \tag{15.23}$$

$$-VAT + \sum_{s \in SEC} VAT^{\langle s \rangle} = 0 \tag{15.24}$$

$$\sum_{h \in HHD} scale^{\langle h \rangle} L^{\langle h \rangle} - \sum_{s \in SEC} L^{\langle s \rangle} = 0 \tag{15.25}$$

$$BANKTAX - CIT + FIRMTAX = 0 \tag{15.26}$$

$$EXP^{\mathrm{GOV}} - INC^{\mathrm{GOV}} + SAV^{\mathrm{GOV}} = 0 \tag{15.27}$$

$$INC^{\mathrm{FIRM}} - SAV^{\mathrm{FIRM}} - TRAN^{\mathrm{FIRM}} = 0 \tag{15.28}$$

$$INC^{\mathrm{BANK}} - SAV^{\mathrm{BANK}} - TRAN^{\mathrm{BANK}} = 0 \tag{15.29}$$

$$K^{\mathrm{TAX}} + L^{\mathrm{TAX}} - SOCTAX = 0 \tag{15.30}$$

$$-SUB + \sum_{s \in SEC} SUB^{\mathrm{s}\langle s \rangle} + \sum_{s \in SEC} SUB^{\mathrm{p}\langle s \rangle} = 0 \tag{15.31}$$

$$DEM^{\mathrm{GOV}} - EXP^{\mathrm{GOV}} + SUB + TRAN^{\mathrm{GOV}} = 0 \tag{15.32}$$

$$TBANKFIRM - TRAN^{\mathrm{BANK}} + \sum_{h \in HHD} scale^{\langle h \rangle} TBANKH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\mathrm{rate}\langle r \rangle} TBANKROW^{\langle r \rangle} = 0 \tag{15.33}$$

$$TFIRMBANK - TRAN^{\mathrm{FIRM}} + \sum_{h \in HHD} scale^{\langle h \rangle} TFIRMH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\mathrm{rate}\langle r \rangle} TFIRMROW^{\langle r \rangle} = 0 \tag{15.34}$$

$$TGOVFIRM + TGOVBANK - TRAN^{\mathrm{GOV}} + \sum_{h \in HHD} scale^{\langle h \rangle} TGOVH^{\langle h \rangle} + \sum_{r \in ROW} ex^{\mathrm{rate}\langle r \rangle} TGOVROW^{\langle r \rangle} = 0 \tag{15.35}$$

$$-BTINC^{\mathrm{FIRM}} + PROFIT + TBANKFIRM + TGOVFIRM + p^{\mathrm{k}}K^{\mathrm{FIRM}} + \sum_{r \in ROW} TROWFIRM^{\langle r \rangle} = 0 \tag{15.36}$$

$$-BTINC^{\mathrm{BANK}} + TFIRMBANK + TGOVBANK + p^{\mathrm{k}}K^{\mathrm{BANK}} + \sum_{h \in HHD} scale^{\langle h \rangle}THBANK^{\langle h \rangle} + \sum_{r \in ROW} TROWBANK^{\langle r \rangle} = 0 \tag{15.37}$$

$$-SAV + SAV^{\mathrm{FIRM}} + SAV^{\mathrm{BANK}} + SAV^{\mathrm{GOV}} + \sum_{h \in HHD} scale^{\langle h \rangle}SAV^{\langle h \rangle} + \sum_{r \in ROW} SAV^{\langle r \rangle} = 0 \tag{15.38}$$

$$CIT + EXCISE + IMTAX - INC^{\mathrm{GOV}} + PIT + SOCTAX + STAX + TROWGOV + VAT = 0 \tag{15.39}$$

$$h \in HHD: \quad -UNEMP^{\langle h \rangle} = 0 \tag{15.40}$$

$$h \in HHD: \quad le^{\langle h \rangle} - scale^{\langle h \rangle}\left(LEIS^{\langle h \rangle} + LL^{\langle h \rangle}\right) = 0 \tag{15.41}$$

$$h \in HHD: \quad -DEM^{\langle h \rangle} + \theta^{\mathrm{dem}\langle h \rangle}\left(\sum_{s \in SEC} \alpha^{\langle s,h \rangle}D^{\langle s,h \rangle^{\omega^{-1}(-1+\omega)}}\right)^{\omega(-1+\omega)^{-1}} = 0 \tag{15.42}$$

$$h \in HHD: \quad -SAV^{\langle h \rangle} + sav^{\langle h \rangle}INC^{\langle h \rangle} = 0 \tag{15.43}$$

$$h \in HHD: \quad -THBANK^{\langle h \rangle} + auh^{\mathrm{b}\langle h \rangle}INC^{\langle h \rangle} = 0 \tag{15.44}$$

$$h \in HHD: \quad U^{\langle h \rangle} - \left(\alpha^{\mathrm{u}\langle h \rangle}DEM^{\langle h \rangle^{\omega^{\mathrm{u}\langle h \rangle -1}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle h \rangle}\right)LEIS^{\langle h \rangle^{\omega^{\mathrm{u}\langle h \rangle -1}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)}}\right)^{\omega^{\mathrm{u}\langle h \rangle}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)^{-1}} = 0 \tag{15.45}$$

$$h \in HHD: \quad k^{\mathrm{total^{data}}}auc^{\langle h \rangle} - scale^{\langle h \rangle}K^{\langle h \rangle} = 0 \tag{15.46}$$

$$h \in HHD: \quad awf^{\langle h \rangle}INC^{\mathrm{FIRM}} - scale^{\langle h \rangle}TFIRMH^{\langle h \rangle} = 0 \tag{15.47}$$

$$h \in HHD: \quad aub^{\mathrm{h}\langle h \rangle}INC^{\mathrm{BANK}} - scale^{\langle h \rangle}TBANKH^{\langle h \rangle} = 0 \tag{15.48}$$

$$h \in HHD: \quad -scale^{\langle h \rangle}\lambda^{\mathrm{CONSUMER}^1\langle h \rangle} + \left(1 - \alpha^{\mathrm{u}\langle h \rangle}\right)LEIS^{\langle h \rangle^{-1+\omega^{\mathrm{u}\langle h \rangle -1}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)}}\left(\alpha^{\mathrm{u}\langle h \rangle}DEM^{\langle h \rangle^{\omega^{\mathrm{u}\langle h \rangle -1}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle h \rangle}\right)LEIS^{\langle h \rangle^{\omega^{\mathrm{u}\langle h \rangle -1}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle h \rangle}\left(-1+\omega^{\mathrm{u}\langle h \rangle}\right)^{-1}} = 0 \tag{15.49}$$

$$h \in HHD: \quad p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - pit^{\mathrm{tax}\langle h\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + saw^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + \sum_{r\in ROW} ouh^{\mathrm{r}\langle h,r\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle h} \right. \right. \tag{15.50}$$

$$h \in HHD: \quad tgouh^{\mathrm{data}\langle h\rangle} + tgouh^{\mathrm{data}^{\mathrm{extra}}\langle h\rangle} - scale^{\langle h\rangle}TGOVH^{\langle h\rangle} = 0 \tag{15.51}$$

$$h \in HHD: \quad BTINC^{\langle h\rangle} - INC^{\langle h\rangle} - pit^{\mathrm{tax}\langle h\rangle}PIT^{\mathrm{base}\langle h\rangle} = 0 \tag{15.52}$$

$$h \in HHD: \quad L^{\langle h\rangle} - LL^{\langle h\rangle} + UNEMP^{\langle h\rangle} = 0 \tag{15.53}$$

$$h \in HHD: \quad THBANK^{\langle h\rangle} - TRAN^{\langle h\rangle} + \sum_{r\in ROW} ex^{\mathrm{rate}\langle r\rangle}THROW^{\langle h,r\rangle} = 0 \tag{15.54}$$

$$h \in HHD: \quad -scale^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{1}\langle h\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - pit^{\mathrm{tax}\langle h\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + ouh^{\mathrm{b}\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + saw^{\langle h\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} + \sum_{r\in ROW}\right.\right. \tag{15.55}$$

$$h \in HHD: \quad -pit^{\mathrm{free}} + BTINC^{\langle h\rangle} - PIT^{\mathrm{base}\langle h\rangle} - eip^{\mathrm{l}}L^{\langle h\rangle} = 0 \tag{15.56}$$

$$h \in HHD: \quad -BTINC^{\langle h\rangle} + TINSTH^{\langle h\rangle} + p^{\mathrm{k}}K^{\langle h\rangle} + p^{\mathrm{l}}L^{\langle h\rangle} = 0 \tag{15.57}$$

$$h \in HHD: \quad -INC^{\langle h\rangle} + SAV^{\langle h\rangle} + TRAN^{\langle h\rangle} + \sum_{s\in SEC} p^{\mathrm{cons}\langle s\rangle}D^{\langle s,h\rangle} = 0 \tag{15.58}$$

$$h \in HHD: \quad TBANKH^{\langle h\rangle} + TFIRMH^{\langle h\rangle} + TGOVH^{\langle h\rangle} - TINSTH^{\langle h\rangle} + \sum_{r\in ROW} TROWH^{\langle r,h\rangle} = 0 \tag{15.59}$$

$$h \in HHD: \quad r \in ROW: \quad ouh^{\mathrm{r}\langle h,r\rangle}INC^{\langle h\rangle} - ex^{\mathrm{rate}\langle r\rangle}THROW^{\langle h,r\rangle} = 0 \tag{15.60}$$

$$h \in HHD: \quad r \in ROW: \quad ex^{\mathrm{rate}\langle r\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle} - ex^{\mathrm{rate}\langle r\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle h,r\rangle} = 0 \tag{15.61}$$

$$h \in HHD: \quad s \in SEC: \quad \lambda^{\mathrm{CONSUMER}^{12}\langle h\rangle}p^{\mathrm{cons}\langle s\rangle} + \alpha^{\langle s,h\rangle}\alpha^{\mathrm{u}\langle h\rangle}\theta^{\mathrm{dem}\langle h\rangle}D^{\langle s,h\rangle-1+\omega^{-1}(-1+\omega)}DEM^{\langle h\rangle-1+\omega^{\mathrm{u}\langle h\rangle-1}(-1+\omega^{\mathrm{u}\langle h\rangle})}\left(\alpha^{\mathrm{u}\langle h\rangle}DEM^{\langle h\rangle\omega^{\mathrm{u}\langle h\rangle-1}(-1+\omega^{\mathrm{u}\langle h\rangle})} + \left(1-\alpha^{\mathrm{u}\langle h\rangle}\right)LEIS^{\langle h\rangle\omega^{\mathrm{u}\langle h\rangle}} \tag{15.62}$$

$$r \in ROW: \quad 1 - ex^{\mathrm{rate}\langle r \rangle} = 0 \tag{15.63}$$

$$r \in ROW: \quad tgovrow^{\mathrm{data}\langle r \rangle} - ex^{\mathrm{rate}\langle r \rangle} TGOVROW^{\langle r \rangle} = 0 \tag{15.64}$$

$$r \in ROW: \quad - EXPORT^{\mathrm{ROW}\langle r \rangle} + p^{\mathrm{for}\langle r \rangle} \left(\sum_{s \in SEC} EXP^{\langle r,s \rangle} \right) = 0 \tag{15.65}$$

$$r \in ROW: \quad - IMPORT^{\mathrm{ROW}\langle r \rangle} + p^{\mathrm{for}\langle r \rangle} ex^{\mathrm{rate}\langle r \rangle} \left(\sum_{s \in SEC} IMP^{\langle r,s \rangle} \right) = 0 \tag{15.66}$$

$$r \in ROW: \quad - TROWFIRM^{\langle r \rangle} + t^{\mathrm{rf}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} = 0 \tag{15.67}$$

$$r \in ROW: \quad - TROWBANK^{\langle r \rangle} + t^{\mathrm{rb}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} = 0 \tag{15.68}$$

$$r \in ROW: \quad - TROWGOV^{\langle r \rangle} + t^{\mathrm{rg}\langle r \rangle} EXP^{\mathrm{ROW}\langle r \rangle} = 0 \tag{15.69}$$

$$r \in ROW: \quad owf^{\langle r \rangle} INC^{\mathrm{FIRM}} - ex^{\mathrm{rate}\langle r \rangle} TFIRMROW^{\langle r \rangle} = 0 \tag{15.70}$$

$$r \in ROW: \quad owb^{\mathrm{r}\langle r \rangle} INC^{\mathrm{BANK}} - ex^{\mathrm{rate}\langle r \rangle} TBANKROW^{\langle r \rangle} = 0 \tag{15.71}$$

$$r \in ROW: \quad - EXP^{\mathrm{ROW}\langle r \rangle} + EXPORT^{\mathrm{ROW}\langle r \rangle} + TRAN^{\langle r \rangle} = 0 \tag{15.72}$$

$$r \in ROW: \quad EXP^{\mathrm{ROW}\langle r \rangle} - INC^{\mathrm{ROW}\langle r \rangle} + SAV^{\langle r \rangle} = 0 \tag{15.73}$$

$$r \in ROW: \quad IMPORT^{\mathrm{ROW}\langle r \rangle} - INC^{\mathrm{ROW}\langle r \rangle} + ex^{\mathrm{rate}\langle r \rangle} \left(TBANKROW^{\langle r \rangle} + TFIRMROW^{\langle r \rangle} + TGOVROW^{\langle r \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} THROW^{\langle h,r \rangle} \right) = 0 \tag{15.74}$$

$$r \in ROW: \quad - TRAN^{\langle r \rangle} + TROWFIRM^{\langle r \rangle} + TROWBANK^{\langle r \rangle} + TROWGOV^{\langle r \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} TROWH^{\langle r,h \rangle} = 0 \tag{15.75}$$

$$r \in ROW: \quad h \in HHD: \quad t^{\mathrm{rh}\langle r,h \rangle} EXP^{\mathrm{ROW}\langle r \rangle} - scale^{\langle h \rangle} TROWH^{\langle r,h \rangle} = 0 \tag{15.76}$$

$$s \in SEC: \quad dgov^{\mathrm{data}\langle s \rangle} - p^{\mathrm{cons}\langle s \rangle} D^{\mathrm{GOV}\langle s \rangle} = 0 \tag{15.77}$$

$$s \in SEC: \quad -p^{\mathrm{cons}\langle s\rangle} + p^{\mathrm{market}\langle s\rangle}\left(1 + \mathit{excise}^{\langle s\rangle}\right)\left(1 + \mathit{vat}^{\langle s\rangle}\right) = 0 \tag{15.78}$$

$$s \in SEC: \quad -p^{\mathrm{int}\langle s\rangle} + p^{\mathrm{market}\langle s\rangle}\left(1 + \mathit{excise}^{\langle s\rangle}\right) = 0 \tag{15.79}$$

$$s \in SEC: \quad -p^{\exp\langle s\rangle} + \alpha^{\mathrm{prod^e}\langle s\rangle}\theta^{\mathrm{y}\langle s\rangle}p^{\langle s\rangle}EXPORT^{\mathrm{f}\langle s\rangle-1+\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}\left(\alpha^{\mathrm{prod^h}\langle s\rangle}Y^{\mathrm{HOME}\langle s\rangle^{\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}} + \alpha^{\mathrm{prod^e}\langle s\rangle}EXPORT^{\mathrm{f}\langle s\rangle^{\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle}} \tag{15.80}$$

$$s \in SEC: \quad -p^{\mathrm{home}\langle s\rangle} + \alpha^{\mathrm{prod^h}\langle s\rangle}\theta^{\mathrm{y}\langle s\rangle}p^{\langle s\rangle}Y^{\mathrm{HOME}\langle s\rangle-1+\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}\left(\alpha^{\mathrm{prod^h}\langle s\rangle}Y^{\mathrm{HOME}\langle s\rangle^{\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}} + \alpha^{\mathrm{prod^e}\langle s\rangle}EXPORT^{\mathrm{f}\langle s\rangle^{\sigma^{\mathrm{fprod}\langle s\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle s}} \tag{15.81}$$

$$s \in SEC: \quad -p^{\mathrm{home}\langle s\rangle} + \alpha^{\mathrm{arm^h}\langle s\rangle}\theta^{\mathrm{arm}\langle s\rangle}p^{\mathrm{arm}\langle s\rangle}Y^{\mathrm{HOME^a}\langle s\rangle-1+\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}\left(\alpha^{\mathrm{arm^h}\langle s\rangle}Y^{\mathrm{HOME^a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}} + \alpha^{\mathrm{arm^i}\langle s\rangle}IMPORT^{\mathrm{a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle s\rangle}\left(-\right.} \tag{15.82}$$

$$s \in SEC: \quad -p^{\mathrm{imp}\langle s\rangle} + \alpha^{\mathrm{arm^i}\langle s\rangle}\theta^{\mathrm{arm}\langle s\rangle}p^{\mathrm{arm}\langle s\rangle}IMPORT^{\mathrm{a}\langle s\rangle-1+\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}\left(\alpha^{\mathrm{arm^h}\langle s\rangle}Y^{\mathrm{HOME^a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}} + \alpha^{\mathrm{arm^i}\langle s\rangle}IMPORT^{\mathrm{a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle s\rangle}\left(-\right.} \tag{15.83}$$

$$s \in SEC: \quad -ARM^{\langle s\rangle} + \theta^{\mathrm{arm}\langle s\rangle}\left(\alpha^{\mathrm{arm^h}\langle s\rangle}Y^{\mathrm{HOME^a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}} + \alpha^{\mathrm{arm^i}\langle s\rangle}IMPORT^{\mathrm{a}\langle s\rangle^{\sigma^{\mathrm{arm}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle s\rangle}\left(-1+\sigma^{\mathrm{arm}\langle s\rangle}\right)^{-1}} = 0 \tag{15.84}$$

$$s \in SEC: \quad -EXPORT^{\mathrm{f}\langle s\rangle} + EXPORT^{\langle s\rangle} = 0 \tag{15.85}$$

$$s \in SEC: \quad -EXPORT^{\langle s\rangle} + \theta^{\exp\langle s\rangle}\left(\sum_{r\in ROW}\alpha^{\exp\langle r,s\rangle}\left(\mathit{am}^{\exp\langle r\rangle}EXP^{\langle r,s\rangle}\right)^{\sigma^{\exp\langle s\rangle-1}\left(1+\sigma^{\exp\langle s\rangle}\right)}\right)^{\sigma^{\exp\langle s\rangle}\left(1+\sigma^{\exp\langle s\rangle}\right)^{-1}} = 0 \tag{15.86}$$

$$s \in SEC: \quad -EXCISE^{\langle s\rangle} + \mathit{excise}^{\langle s\rangle}p^{\mathrm{market}\langle s\rangle}\left(D^{\mathrm{GOV}\langle s\rangle} + INV^{\langle s\rangle} + \sum_{h\in HHD}\mathit{scale}^{\langle h\rangle}D^{\langle s,h\rangle} + \sum_{si\in SEC}X^{\langle s,si\rangle}\right) = 0 \tag{15.87}$$

$$s \in SEC\colon \quad -IMPORT^{\mathrm{a}\langle s \rangle} + IMPORT^{\langle s \rangle} = 0 \tag{15.88}$$

$$s \in SEC\colon \quad -IMPORT^{\langle s \rangle} + \theta^{\mathrm{imp}\langle s \rangle} \left(\sum_{r \in ROW} \alpha^{\mathrm{imp}\langle r,s \rangle} \left(an^{\mathrm{imp}\langle r \rangle} IMP^{\langle r,s \rangle} \right)^{\sigma^{\mathrm{imp}\langle s \rangle -1} \left(-1+\sigma^{\mathrm{imp}\langle s \rangle} \right)} \right)^{\sigma^{\mathrm{imp}\langle s \rangle} \left(-1+\sigma^{\mathrm{imp}\langle s \rangle} \right)^{-1}} = 0 \tag{15.89}$$

$$s \in SEC\colon \quad -SUB^{\mathrm{s}\langle s \rangle} + sub^{\mathrm{rate}\langle s \rangle} \left(p^{\mathrm{k}} K^{\langle s \rangle} \left(1+k^{\mathrm{tax}} \right) + p^{\mathrm{l}} L^{\langle s \rangle} \left(1+l^{\mathrm{tax}} \right) + \sum_{si \in SEC} p^{\mathrm{int}\langle si \rangle} X^{\langle si,s \rangle} \right) = 0 \tag{15.90}$$

$$s \in SEC\colon \quad -SUB^{\mathrm{p}\langle s \rangle} + sub^{\mathrm{p}\langle s \rangle} ARM^{\langle s \rangle} = 0 \tag{15.91}$$

$$s \in SEC\colon \quad -TAX^{\mathrm{s}\langle s \rangle} + tax^{\mathrm{rate}\langle s \rangle} \left(p^{\mathrm{k}} K^{\langle s \rangle} \left(1+k^{\mathrm{tax}} \right) + p^{\mathrm{l}} L^{\langle s \rangle} \left(1+l^{\mathrm{tax}} \right) + \sum_{si \in SEC} p^{\mathrm{int}\langle si \rangle} X^{\langle si,s \rangle} \right) = 0 \tag{15.92}$$

$$s \in SEC\colon \quad -VAT^{\langle s \rangle} + vat^{\langle s \rangle} p^{\mathrm{market}\langle s \rangle} \left(1+excise^{\langle s \rangle} \right) \left(D^{\mathrm{GOV}\langle s \rangle} + INV^{\langle s \rangle} + \sum_{h \in HHD} scale^{\langle h \rangle} D^{\langle s,h \rangle} \right) = 0 \tag{15.93}$$

$$s \in SEC\colon \quad -Y^{\langle s \rangle} + Y^{\mathrm{VA}\langle s \rangle} = 0 \tag{15.94}$$

$$s \in SEC\colon \quad Y^{\langle s \rangle} - Y^{\mathrm{f}\langle s \rangle} = 0 \tag{15.95}$$

$$s \in SEC\colon \quad -Y^{\mathrm{VA}\langle s \rangle} + Y^{\mathrm{INT}\langle s \rangle} = 0 \tag{15.96}$$

$$s \in SEC\colon \quad -Y^{\mathrm{VA}\langle s \rangle} + \gamma^{\mathrm{yva}\langle s \rangle} K^{\langle s \rangle^{\beta^{\mathrm{k}\langle s \rangle}}} L^{\langle s \rangle^{\beta^{\mathrm{l}\langle s \rangle}}} = 0 \tag{15.97}$$

$$s \in SEC\colon \quad -Y^{\mathrm{HOME}^{\mathrm{a}}\langle s \rangle} + Y^{\mathrm{HOME}\langle s \rangle} = 0 \tag{15.98}$$

$$s \in SEC\colon \quad -Y^{\mathrm{f}\langle s \rangle} + \theta^{\mathrm{y}\langle s \rangle} \left(\alpha^{\mathrm{prod}^{\mathrm{h}}\langle s \rangle} Y^{\mathrm{HOME}\langle s \rangle^{\sigma^{\mathrm{fprod}\langle s \rangle -1} \left(1+\sigma^{\mathrm{fprod}\langle s \rangle} \right)}} + \alpha^{\mathrm{prod}^{\mathrm{e}}\langle s \rangle} EXPORT^{\mathrm{f}\langle s \rangle^{\sigma^{\mathrm{fprod}\langle s \rangle -1} \left(1+\sigma^{\mathrm{fprod}\langle s \rangle} \right)}} \right)^{\sigma^{\mathrm{fprod}\langle s \rangle} \left(1+\sigma^{\mathrm{fprod}\langle s \rangle} \right)^{-1}} = 0 \tag{15.99}$$

$$s \in SEC\colon \quad inv^{\langle s \rangle} INV - p^{\mathrm{cons}\langle s \rangle} INV^{\langle s \rangle} = 0 \tag{15.100}$$

$$s \in SEC: \quad -p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)+\beta^{\mathrm{k}\langle s\rangle}\gamma^{\mathrm{yva}\langle s\rangle}\left(p^{\langle s\rangle}+\sum_{si\in SEC}\beta^{\mathrm{x}\langle si,s\rangle}\lambda^{\mathrm{PRODUCTION^{OF}GOODS4}\,\langle s,si\rangle}\right)K^{\langle s\rangle-1+\beta^{\mathrm{k}\langle s\rangle}}L^{\langle s\rangle\beta^{\mathrm{l}\langle s\rangle}}=0 \quad (15.101)$$

$$s \in SEC: \quad -p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)+\beta^{\mathrm{l}\langle s\rangle}\gamma^{\mathrm{yva}\langle s\rangle}\left(p^{\langle s\rangle}+\sum_{si\in SEC}\beta^{\mathrm{x}\langle si,s\rangle}\lambda^{\mathrm{PRODUCTION^{OF}GOODS4}\,\langle s,si\rangle}\right)K^{\langle s\rangle\beta^{\mathrm{k}\langle s\rangle}}L^{\langle s\rangle-1+\beta^{\mathrm{l}\langle s\rangle}}=0 \quad (15.102)$$

$$s \in SEC: \quad -sub^{\mathrm{p}\langle s\rangle}+p^{\mathrm{arm}\langle s\rangle}-p^{\mathrm{market}\langle s\rangle}=0 \quad (15.103)$$

$$s \in SEC: \quad \pi^{\langle s\rangle}-p^{\langle s\rangle}Y^{\langle s\rangle}+\left(1-sub^{\mathrm{rate}\langle s\rangle}+tax^{\mathrm{rate}\langle s\rangle}\right)\left(p^{\mathrm{k}}K^{\langle s\rangle}\left(1+k^{\mathrm{tax}}\right)+p^{\mathrm{l}}L^{\langle s\rangle}\left(1+l^{\mathrm{tax}}\right)+\sum_{si\in SEC}p^{\mathrm{int}\langle si\rangle}X^{\langle si,s\rangle}\right)=0 \quad (15.104)$$

$$s \in SEC: \quad EXCISE^{\langle s\rangle}-TAX^{\mathrm{p}\langle s\rangle}+VAT^{\langle s\rangle}=0 \quad (15.105)$$

$$s \in SEC: \quad \Pi^{\mathrm{EXP}\langle s\rangle}-p^{\mathrm{exp}\langle s\rangle}EXPORT^{\langle s\rangle}+\sum_{r\in ROW}p^{\mathrm{for}\langle r\rangle}EXP^{\langle r,s\rangle}=0 \quad (15.106)$$

$$s \in SEC: \quad \Pi^{\mathrm{IMP}\langle s\rangle}-p^{\mathrm{imp}\langle s\rangle}IMPORT^{\langle s\rangle}+\sum_{r\in ROW}p^{\mathrm{for}\langle r\rangle}ex^{\mathrm{rate}\langle r\rangle}IMP^{\langle r,s\rangle}\left(1+im^{\mathrm{tax}\langle r,s\rangle}\right)=0 \quad (15.107)$$

$$s \in SEC: \quad \Pi^{\mathrm{Y}\langle s\rangle}-p^{\langle s\rangle}Y^{\mathrm{f}\langle s\rangle}+p^{\mathrm{exp}\langle s\rangle}EXPORT^{\mathrm{f}\langle s\rangle}+p^{\mathrm{home}\langle s\rangle}Y^{\mathrm{HOME}\langle s\rangle}=0 \quad (15.108)$$

$$s \in SEC: \quad \Pi^{\mathrm{ARM}\langle s\rangle}+p^{\mathrm{home}\langle s\rangle}Y^{\mathrm{HOME^a}\langle s\rangle}+p^{\mathrm{imp}\langle s\rangle}IMPORT^{\mathrm{a}\langle s\rangle}-p^{\mathrm{arm}\langle s\rangle}ARM^{\langle s\rangle}=0 \quad (15.109)$$

$$s \in SEC: \quad -ARM^{\langle s\rangle}+D^{\mathrm{GOV}\langle s\rangle}+INV^{\langle s\rangle}+\sum_{h\in HHD}scale^{\langle h\rangle}D^{\langle s,h\rangle}+\sum_{si\in SEC}X^{\langle s,si\rangle}=0 \quad (15.110)$$

$$s \in SEC: \quad r \in ROW: \quad -p^{\mathrm{for}\langle r\rangle}+\alpha^{\mathrm{exp}\langle r,s\rangle}am^{\mathrm{exp}\langle r\rangle}\theta^{\mathrm{exp}\langle s\rangle}p^{\mathrm{exp}\langle s\rangle}\left(am^{\mathrm{exp}\langle r\rangle}EXP^{\langle r,s\rangle}\right)^{-1+\sigma^{\mathrm{exp}\langle s\rangle-1}\left(1+\sigma^{\mathrm{exp}\langle s\rangle}\right)}\left(\sum_{r\in ROW}\alpha^{\mathrm{exp}\langle r,s\rangle}\left(am^{\mathrm{exp}\langle r\rangle}EXP^{\langle r,s\rangle}\right)^{\sigma^{\mathrm{exp}\langle s\rangle-1}\left(1+\sigma^{\mathrm{exp}\langle s\rangle}\right)}\right)^{-1+\sigma^{\mathrm{exp}\langle s\rangle}\left(1+\sigma^{\mathrm{ex}}\right.}$$

$$(15.111)$$

$$s \in SEC: \quad r \in ROW: \quad -p^{\mathrm{for}\langle r\rangle}ex^{\mathrm{rate}\langle r\rangle}\left(1+im^{\mathrm{tax}\langle r,s\rangle}\right)+\alpha^{\mathrm{imp}\langle r,s\rangle}am^{\mathrm{imp}\langle r\rangle}\theta^{\mathrm{imp}\langle s\rangle}p^{\mathrm{imp}\langle s\rangle}\left(am^{\mathrm{imp}\langle r\rangle}IMP^{\langle r,s\rangle}\right)^{-1+\sigma^{\mathrm{imp}\langle s\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle s\rangle}\right)}\left(\sum_{r\in ROW}\alpha^{\mathrm{imp}\langle r,s\rangle}\left(am^{\mathrm{imp}\langle r\rangle}IMP^{\langle r,s\rangle}\right)^{\sigma^{\mathrm{imp}\langle s\rangle-1}}\right.$$

$$(15.112)$$

$$s \in SEC\colon \quad si \in SEC\colon \quad - \lambda^{\text{PRODUCTION}^{\text{OF GOODS}^4} \langle s, si \rangle} - p^{\text{int} \langle si \rangle} \left(1 - sub^{\text{rate} \langle s \rangle} + tax^{\text{rate} \langle s \rangle} \right) = 0 \tag{15.113}$$

$$s \in SEC\colon \quad si \in SEC\colon \quad - X^{\langle si, s \rangle} + \beta^{\text{x} \langle si, s \rangle} Y^{\text{INT} \langle s \rangle} = 0 \tag{15.114}$$

16 Equilibrium relationships (after expansion and reduction)

$$-UNEMP^{\langle 1 \rangle} = 0 \tag{16.1}$$

$$-UNEMP^{\langle 10 \rangle} = 0 \tag{16.2}$$

$$-UNEMP^{\langle 2 \rangle} = 0 \tag{16.3}$$

$$-UNEMP^{\langle 3 \rangle} = 0 \tag{16.4}$$

$$-UNEMP^{\langle 4 \rangle} = 0 \tag{16.5}$$

$$-UNEMP^{\langle 5 \rangle} = 0 \tag{16.6}$$

$$-UNEMP^{\langle 6 \rangle} = 0 \tag{16.7}$$

$$-UNEMP^{\langle 7 \rangle} = 0 \tag{16.8}$$

$$-UNEMP^{\langle 8 \rangle} = 0 \tag{16.9}$$

$$-UNEMP^{\langle 9 \rangle} = 0 \tag{16.10}$$

$$1 - ex^{\text{rate} \langle \text{eu} \rangle} = 0 \tag{16.11}$$

$$1 - ex^{\text{rate} \langle \text{neu} \rangle} = 0 \tag{16.12}$$

$$1 - \left(ARM^{\langle A \rangle} + ARM^{\langle B \rangle} + ARM^{\langle C \rangle} + ARM^{\langle D \rangle} + ARM^{\langle E \rangle} + ARM^{\langle F \rangle} + ARM^{\langle G \rangle} + ARM^{\langle H \rangle} + ARM^{\langle I \rangle} + ARM^{\langle J \rangle} + ARM^{\langle K \rangle} \right)^{-1} \left(p^{\langle A \rangle} ARM^{\langle A \rangle} + p^{\langle B \rangle} ARM^{\langle B \rangle} + p^{\langle C \rangle} ARM^{\langle C \rangle} + p^{\langle D \rangle} AR \tag{16.13}$$

$$k^{\text{total}^{\text{data}}} - KS = 0 \tag{16.14}$$

$$tgovfirm^{\text{data}} - TGOVFIRM = 0 \tag{16.15}$$

$$tgovbank^{\text{data}} - TGOVBANK = 0 \tag{16.16}$$

$$dgov^{\text{data}\langle\text{A}\rangle} - p^{\text{cons}\langle\text{A}\rangle} D^{\text{GOV}\langle\text{A}\rangle} = 0 \tag{16.17}$$

$$dgov^{\text{data}\langle\text{B}\rangle} - p^{\text{cons}\langle\text{B}\rangle} D^{\text{GOV}\langle\text{B}\rangle} = 0 \tag{16.18}$$

$$dgov^{\text{data}\langle\text{C}\rangle} - p^{\text{cons}\langle\text{C}\rangle} D^{\text{GOV}\langle\text{C}\rangle} = 0 \tag{16.19}$$

$$dgov^{\text{data}\langle\text{D}\rangle} - p^{\text{cons}\langle\text{D}\rangle} D^{\text{GOV}\langle\text{D}\rangle} = 0 \tag{16.20}$$

$$dgov^{\text{data}\langle\text{E}\rangle} - p^{\text{cons}\langle\text{E}\rangle} D^{\text{GOV}\langle\text{E}\rangle} = 0 \tag{16.21}$$

$$dgov^{\text{data}\langle\text{F}\rangle} - p^{\text{cons}\langle\text{F}\rangle} D^{\text{GOV}\langle\text{F}\rangle} = 0 \tag{16.22}$$

$$dgov^{\text{data}\langle\text{G}\rangle} - p^{\text{cons}\langle\text{G}\rangle} D^{\text{GOV}\langle\text{G}\rangle} = 0 \tag{16.23}$$

$$dgov^{\text{data}\langle\text{H}\rangle} - p^{\text{cons}\langle\text{H}\rangle} D^{\text{GOV}\langle\text{H}\rangle} = 0 \tag{16.24}$$

$$dgov^{\text{data}\langle\text{I}\rangle} - p^{\text{cons}\langle\text{I}\rangle} D^{\text{GOV}\langle\text{I}\rangle} = 0 \tag{16.25}$$

$$dgov^{\text{data}\langle\text{J}\rangle} - p^{\text{cons}\langle\text{J}\rangle} D^{\text{GOV}\langle\text{J}\rangle} = 0 \tag{16.26}$$

$$dgov^{\text{data}\langle\text{K}\rangle} - p^{\text{cons}\langle\text{K}\rangle} D^{\text{GOV}\langle\text{K}\rangle} = 0 \tag{16.27}$$

$$le^{\langle 1\rangle} - scale^{\langle 1\rangle} \left(LEIS^{\langle 1\rangle} + LL^{\langle 1\rangle} \right) = 0 \tag{16.28}$$

$$le^{\langle 10\rangle} - scale^{\langle 10\rangle} \left(LEIS^{\langle 10\rangle} + LL^{\langle 10\rangle} \right) = 0 \tag{16.29}$$

$$le^{\langle 2\rangle} - scale^{\langle 2\rangle}\left(LEIS^{\langle 2\rangle} + LL^{\langle 2\rangle}\right) = 0 \tag{16.30}$$

$$le^{\langle 3\rangle} - scale^{\langle 3\rangle}\left(LEIS^{\langle 3\rangle} + LL^{\langle 3\rangle}\right) = 0 \tag{16.31}$$

$$le^{\langle 4\rangle} - scale^{\langle 4\rangle}\left(LEIS^{\langle 4\rangle} + LL^{\langle 4\rangle}\right) = 0 \tag{16.32}$$

$$le^{\langle 5\rangle} - scale^{\langle 5\rangle}\left(LEIS^{\langle 5\rangle} + LL^{\langle 5\rangle}\right) = 0 \tag{16.33}$$

$$le^{\langle 6\rangle} - scale^{\langle 6\rangle}\left(LEIS^{\langle 6\rangle} + LL^{\langle 6\rangle}\right) = 0 \tag{16.34}$$

$$le^{\langle 7\rangle} - scale^{\langle 7\rangle}\left(LEIS^{\langle 7\rangle} + LL^{\langle 7\rangle}\right) = 0 \tag{16.35}$$

$$le^{\langle 8\rangle} - scale^{\langle 8\rangle}\left(LEIS^{\langle 8\rangle} + LL^{\langle 8\rangle}\right) = 0 \tag{16.36}$$

$$le^{\langle 9\rangle} - scale^{\langle 9\rangle}\left(LEIS^{\langle 9\rangle} + LL^{\langle 9\rangle}\right) = 0 \tag{16.37}$$

$$-p^{\text{for}\langle\text{eu}\rangle} + \alpha^{\exp\langle\text{eu,A}\rangle} am^{\exp\langle\text{eu}\rangle} \theta^{\exp\langle\text{A}\rangle} p^{\exp\langle\text{A}\rangle} \left(\alpha^{\exp\langle\text{eu,A}\rangle}\left(am^{\exp\langle\text{eu}\rangle} EXP^{\langle\text{eu,A}\rangle}\right)^{\sigma^{\exp\langle\text{A}\rangle-1}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)} + \alpha^{\exp\langle\text{neu,A}\rangle}\left(am^{\exp\langle\text{neu}\rangle} EXP^{\langle\text{neu,A}\rangle}\right)^{\sigma^{\exp\langle\text{A}\rangle-1}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{A}\rangle}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)^{-1}} \tag{16.38}$$

$$-p^{\text{for}\langle\text{eu}\rangle} + \alpha^{\exp\langle\text{eu,B}\rangle} am^{\exp\langle\text{eu}\rangle} \theta^{\exp\langle\text{B}\rangle} p^{\exp\langle\text{B}\rangle} \left(\alpha^{\exp\langle\text{eu,B}\rangle}\left(am^{\exp\langle\text{eu}\rangle} EXP^{\langle\text{eu,B}\rangle}\right)^{\sigma^{\exp\langle\text{B}\rangle-1}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)} + \alpha^{\exp\langle\text{neu,B}\rangle}\left(am^{\exp\langle\text{neu}\rangle} EXP^{\langle\text{neu,B}\rangle}\right)^{\sigma^{\exp\langle\text{B}\rangle-1}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{B}\rangle}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)^{-1}} \tag{16.39}$$

$$-p^{\text{for}\langle\text{eu}\rangle} + \alpha^{\exp\langle\text{eu,C}\rangle} am^{\exp\langle\text{eu}\rangle} \theta^{\exp\langle\text{C}\rangle} p^{\exp\langle\text{C}\rangle} \left(\alpha^{\exp\langle\text{eu,C}\rangle}\left(am^{\exp\langle\text{eu}\rangle} EXP^{\langle\text{eu,C}\rangle}\right)^{\sigma^{\exp\langle\text{C}\rangle-1}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)} + \alpha^{\exp\langle\text{neu,C}\rangle}\left(am^{\exp\langle\text{neu}\rangle} EXP^{\langle\text{neu,C}\rangle}\right)^{\sigma^{\exp\langle\text{C}\rangle-1}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{C}\rangle}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)^{-1}} \tag{16.40}$$

$$-p^{\text{for}\langle\text{eu}\rangle} + \alpha^{\exp\langle\text{eu,D}\rangle} am^{\exp\langle\text{eu}\rangle} \theta^{\exp\langle\text{D}\rangle} p^{\exp\langle\text{D}\rangle} \left(\alpha^{\exp\langle\text{eu,D}\rangle}\left(am^{\exp\langle\text{eu}\rangle} EXP^{\langle\text{eu,D}\rangle}\right)^{\sigma^{\exp\langle\text{D}\rangle-1}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)} + \alpha^{\exp\langle\text{neu,D}\rangle}\left(am^{\exp\langle\text{neu}\rangle} EXP^{\langle\text{neu,D}\rangle}\right)^{\sigma^{\exp\langle\text{D}\rangle-1}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{D}\rangle}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)^{-1}} \tag{16.41}$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{E}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{E}\rangle}p^{\exp\langle\text{E}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{E}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{E}\rangle}\right)^{\sigma^{\exp\langle\text{E}\rangle-1}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{E}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{E}\rangle}\right)^{\sigma^{\exp\langle\text{E}\rangle-1}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{E}\rangle}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)^{-1}}$$

$$(16.42)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{F}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{F}\rangle}p^{\exp\langle\text{F}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{F}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{F}\rangle}\right)^{\sigma^{\exp\langle\text{F}\rangle-1}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{F}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{F}\rangle}\right)^{\sigma^{\exp\langle\text{F}\rangle-1}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{F}\rangle}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)^{-1}}$$

$$(16.43)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{G}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{G}\rangle}p^{\exp\langle\text{G}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{G}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{G}\rangle}\right)^{\sigma^{\exp\langle\text{G}\rangle-1}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{G}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{G}\rangle}\right)^{\sigma^{\exp\langle\text{G}\rangle-1}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{G}\rangle}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)^{-1}}$$

$$(16.44)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{H}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{H}\rangle}p^{\exp\langle\text{H}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{H}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{H}\rangle}\right)^{\sigma^{\exp\langle\text{H}\rangle-1}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{H}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{H}\rangle}\right)^{\sigma^{\exp\langle\text{H}\rangle-1}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{H}\rangle}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)^{-1}}$$

$$(16.45)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{I}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{I}\rangle}p^{\exp\langle\text{I}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{I}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{I}\rangle}\right)^{\sigma^{\exp\langle\text{I}\rangle-1}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{I}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{I}\rangle}\right)^{\sigma^{\exp\langle\text{I}\rangle-1}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{I}\rangle}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)^{-1}}$$

$$(16.46)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{J}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{J}\rangle}p^{\exp\langle\text{J}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{J}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{J}\rangle}\right)^{\sigma^{\exp\langle\text{J}\rangle-1}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{J}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{J}\rangle}\right)^{\sigma^{\exp\langle\text{J}\rangle-1}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{J}\rangle}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)^{-1}}$$

$$(16.47)$$

$$-p^{\text{for}\langle\text{eu}\rangle}+\alpha^{\exp\langle\text{eu},\text{K}\rangle}am^{\exp\langle\text{eu}\rangle}\theta^{\exp\langle\text{K}\rangle}p^{\exp\langle\text{K}\rangle}\left(\alpha^{\exp\langle\text{eu},\text{K}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu},\text{K}\rangle}\right)^{\sigma^{\exp\langle\text{K}\rangle-1}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)}+\alpha^{\exp\langle\text{neu},\text{K}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu},\text{K}\rangle}\right)^{\sigma^{\exp\langle\text{K}\rangle-1}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{K}\rangle}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)^{-1}}$$

$$(16.48)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,A}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{A}\rangle}p^{\exp\langle\text{A}\rangle}\left(\alpha^{\exp\langle\text{eu,A}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,A}\rangle}\right)^{\sigma^{\exp\langle\text{A}\rangle-1}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)}+\alpha^{\exp\langle\text{neu,A}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,A}\rangle}\right)^{\sigma^{\exp\langle\text{A}\rangle-1}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{A}\rangle}\left(1+\sigma^{\exp\langle\text{A}\rangle}\right)}$$

$$(16.49)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,B}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{B}\rangle}p^{\exp\langle\text{B}\rangle}\left(\alpha^{\exp\langle\text{eu,B}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,B}\rangle}\right)^{\sigma^{\exp\langle\text{B}\rangle-1}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)}+\alpha^{\exp\langle\text{neu,B}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,B}\rangle}\right)^{\sigma^{\exp\langle\text{B}\rangle-1}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{B}\rangle}\left(1+\sigma^{\exp\langle\text{B}\rangle}\right)^{-}}$$

$$(16.50)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,C}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{C}\rangle}p^{\exp\langle\text{C}\rangle}\left(\alpha^{\exp\langle\text{eu,C}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,C}\rangle}\right)^{\sigma^{\exp\langle\text{C}\rangle-1}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)}+\alpha^{\exp\langle\text{neu,C}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,C}\rangle}\right)^{\sigma^{\exp\langle\text{C}\rangle-1}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{C}\rangle}\left(1+\sigma^{\exp\langle\text{C}\rangle}\right)}$$

$$(16.51)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,D}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{D}\rangle}p^{\exp\langle\text{D}\rangle}\left(\alpha^{\exp\langle\text{eu,D}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,D}\rangle}\right)^{\sigma^{\exp\langle\text{D}\rangle-1}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)}+\alpha^{\exp\langle\text{neu,D}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,D}\rangle}\right)^{\sigma^{\exp\langle\text{D}\rangle-1}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{D}\rangle}\left(1+\sigma^{\exp\langle\text{D}\rangle}\right)}$$

$$(16.52)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,E}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{E}\rangle}p^{\exp\langle\text{E}\rangle}\left(\alpha^{\exp\langle\text{eu,E}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,E}\rangle}\right)^{\sigma^{\exp\langle\text{E}\rangle-1}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)}+\alpha^{\exp\langle\text{neu,E}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,E}\rangle}\right)^{\sigma^{\exp\langle\text{E}\rangle-1}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{E}\rangle}\left(1+\sigma^{\exp\langle\text{E}\rangle}\right)^{-}}$$

$$(16.53)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,F}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{F}\rangle}p^{\exp\langle\text{F}\rangle}\left(\alpha^{\exp\langle\text{eu,F}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,F}\rangle}\right)^{\sigma^{\exp\langle\text{F}\rangle-1}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)}+\alpha^{\exp\langle\text{neu,F}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,F}\rangle}\right)^{\sigma^{\exp\langle\text{F}\rangle-1}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{F}\rangle}\left(1+\sigma^{\exp\langle\text{F}\rangle}\right)^{-1}}$$

$$(16.54)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,G}\rangle}\mathit{am}^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{G}\rangle}p^{\exp\langle\text{G}\rangle}\left(\alpha^{\exp\langle\text{eu,G}\rangle}\left(\mathit{am}^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,G}\rangle}\right)^{\sigma^{\exp\langle\text{G}\rangle-1}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)}+\alpha^{\exp\langle\text{neu,G}\rangle}\left(\mathit{am}^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,G}\rangle}\right)^{\sigma^{\exp\langle\text{G}\rangle-1}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{G}\rangle}\left(1+\sigma^{\exp\langle\text{G}\rangle}\right)}$$

$$(16.55)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,H}\rangle}am^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{H}\rangle}p^{\exp\langle\text{H}\rangle}\left(\alpha^{\exp\langle\text{eu,H}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,H}\rangle}\right)^{\sigma^{\exp\langle\text{H}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)}+\alpha^{\exp\langle\text{neu,H}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,H}\rangle}\right)^{\sigma^{\exp\langle\text{H}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{H}\rangle}\left(1+\sigma^{\exp\langle\text{H}\rangle}\right)}$$

$$(16.56)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,I}\rangle}am^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{I}\rangle}p^{\exp\langle\text{I}\rangle}\left(\alpha^{\exp\langle\text{eu,I}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,I}\rangle}\right)^{\sigma^{\exp\langle\text{I}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)}+\alpha^{\exp\langle\text{neu,I}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,I}\rangle}\right)^{\sigma^{\exp\langle\text{I}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{I}\rangle}\left(1+\sigma^{\exp\langle\text{I}\rangle}\right)^{-1}}\left(am^{\text{ex}}\right.$$

$$(16.57)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,J}\rangle}am^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{J}\rangle}p^{\exp\langle\text{J}\rangle}\left(\alpha^{\exp\langle\text{eu,J}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,J}\rangle}\right)^{\sigma^{\exp\langle\text{J}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)}+\alpha^{\exp\langle\text{neu,J}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,J}\rangle}\right)^{\sigma^{\exp\langle\text{J}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{J}\rangle}\left(1+\sigma^{\exp\langle\text{J}\rangle}\right)^{-1}}\left(a\right.$$

$$(16.58)$$

$$-p^{\text{for}\langle\text{neu}\rangle}+\alpha^{\exp\langle\text{neu,K}\rangle}am^{\exp\langle\text{neu}\rangle}\theta^{\exp\langle\text{K}\rangle}p^{\exp\langle\text{K}\rangle}\left(\alpha^{\exp\langle\text{eu,K}\rangle}\left(am^{\exp\langle\text{eu}\rangle}EXP^{\langle\text{eu,K}\rangle}\right)^{\sigma^{\exp\langle\text{K}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)}+\alpha^{\exp\langle\text{neu,K}\rangle}\left(am^{\exp\langle\text{neu}\rangle}EXP^{\langle\text{neu,K}\rangle}\right)^{\sigma^{\exp\langle\text{K}\rangle^{-1}}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)}\right)^{-1+\sigma^{\exp\langle\text{K}\rangle}\left(1+\sigma^{\exp\langle\text{K}\rangle}\right)}$$

$$(16.59)$$

$$tgovrow^{\text{data}\langle\text{eu}\rangle}-ex^{\text{rate}\langle\text{eu}\rangle}TGOVROW^{\langle\text{eu}\rangle}=0 \tag{16.60}$$

$$tgovrow^{\text{data}\langle\text{neu}\rangle}-ex^{\text{rate}\langle\text{neu}\rangle}TGOVROW^{\langle\text{neu}\rangle}=0 \tag{16.61}$$

$$-BANKTAX+bank^{\text{tax}}BTINC^{\text{BANK}}=0 \tag{16.62}$$

$$-FIRMTAX+firm^{\text{tax}}BTINC^{\text{FIRM}}=0 \tag{16.63}$$

$$-INC^{\text{FIRM}}+BTINC^{\text{FIRM}}\left(1-firm^{\text{tax}}\right)=0 \tag{16.64}$$

$$-INC^{\text{BANK}}+BTINC^{\text{BANK}}\left(1-bank^{\text{tax}}\right)=0 \tag{16.65}$$

$$-K^{\text{TAX}}+k^{\text{tax}}p^{\text{k}}\left(K^{\langle\text{A}\rangle}+K^{\langle\text{B}\rangle}+K^{\langle\text{C}\rangle}+K^{\langle\text{D}\rangle}+K^{\langle\text{E}\rangle}+K^{\langle\text{F}\rangle}+K^{\langle\text{G}\rangle}+K^{\langle\text{H}\rangle}+K^{\langle\text{I}\rangle}+K^{\langle\text{J}\rangle}+K^{\langle\text{K}\rangle}\right)=0 \tag{16.66}$$

$$-K^{\text{FIRM}} + \text{ouc}^{\text{f}} KS = 0 \tag{16.67}$$

$$-K^{\text{BANK}} + \text{ouc}^{\text{b}} KS = 0 \tag{16.68}$$

$$-L^{\text{TAX}} + l^{\text{tax}} p^{\text{l}} \left(L^{\langle \text{A} \rangle} + L^{\langle \text{B} \rangle} + L^{\langle \text{C} \rangle} + L^{\langle \text{D} \rangle} + L^{\langle \text{E} \rangle} + L^{\langle \text{F} \rangle} + L^{\langle \text{G} \rangle} + L^{\langle \text{H} \rangle} + L^{\langle \text{I} \rangle} + L^{\langle \text{J} \rangle} + L^{\langle \text{K} \rangle} \right) = 0 \tag{16.69}$$

$$-TBANKFIRM + \text{oub}^{\text{f}} INC^{\text{BANK}} = 0 \tag{16.70}$$

$$-TFIRMBANK + \text{ouf}^{\text{b}} INC^{\text{FIRM}} = 0 \tag{16.71}$$

$$-p^{\text{cons}\langle \text{A} \rangle} + p^{\text{market}\langle \text{A} \rangle} \left(1 + \text{excise}^{\langle \text{A} \rangle} \right) \left(1 + \text{vat}^{\langle \text{A} \rangle} \right) = 0 \tag{16.72}$$

$$-p^{\text{cons}\langle \text{B} \rangle} + p^{\text{market}\langle \text{B} \rangle} \left(1 + \text{excise}^{\langle \text{B} \rangle} \right) \left(1 + \text{vat}^{\langle \text{B} \rangle} \right) = 0 \tag{16.73}$$

$$-p^{\text{cons}\langle \text{C} \rangle} + p^{\text{market}\langle \text{C} \rangle} \left(1 + \text{excise}^{\langle \text{C} \rangle} \right) \left(1 + \text{vat}^{\langle \text{C} \rangle} \right) = 0 \tag{16.74}$$

$$-p^{\text{cons}\langle \text{D} \rangle} + p^{\text{market}\langle \text{D} \rangle} \left(1 + \text{excise}^{\langle \text{D} \rangle} \right) \left(1 + \text{vat}^{\langle \text{D} \rangle} \right) = 0 \tag{16.75}$$

$$-p^{\text{cons}\langle \text{E} \rangle} + p^{\text{market}\langle \text{E} \rangle} \left(1 + \text{excise}^{\langle \text{E} \rangle} \right) \left(1 + \text{vat}^{\langle \text{E} \rangle} \right) = 0 \tag{16.76}$$

$$-p^{\text{cons}\langle \text{F} \rangle} + p^{\text{market}\langle \text{F} \rangle} \left(1 + \text{excise}^{\langle \text{F} \rangle} \right) \left(1 + \text{vat}^{\langle \text{F} \rangle} \right) = 0 \tag{16.77}$$

$$-p^{\text{cons}\langle \text{G} \rangle} + p^{\text{market}\langle \text{G} \rangle} \left(1 + \text{excise}^{\langle \text{G} \rangle} \right) \left(1 + \text{vat}^{\langle \text{G} \rangle} \right) = 0 \tag{16.78}$$

$$-p^{\text{cons}\langle \text{H} \rangle} + p^{\text{market}\langle \text{H} \rangle} \left(1 + \text{excise}^{\langle \text{H} \rangle} \right) \left(1 + \text{vat}^{\langle \text{H} \rangle} \right) = 0 \tag{16.79}$$

$$-p^{\text{cons}\langle \text{I} \rangle} + p^{\text{market}\langle \text{I} \rangle} \left(1 + \text{excise}^{\langle \text{I} \rangle} \right) \left(1 + \text{vat}^{\langle \text{I} \rangle} \right) = 0 \tag{16.80}$$

$$-p^{\text{cons}\langle \text{J} \rangle} + p^{\text{market}\langle \text{J} \rangle} \left(1 + \text{excise}^{\langle \text{J} \rangle} \right) \left(1 + \text{vat}^{\langle \text{J} \rangle} \right) = 0 \tag{16.81}$$

$$-p^{\text{cons}\langle \text{K} \rangle} + p^{\text{market}\langle \text{K} \rangle} \left(1 + \text{excise}^{\langle \text{K} \rangle} \right) \left(1 + \text{vat}^{\langle \text{K} \rangle} \right) = 0 \tag{16.82}$$

$$-p^{\text{int}\,\langle\text{A}\rangle} + p^{\text{market}\,\langle\text{A}\rangle}\left(1 + \text{excise}^{\langle\text{A}\rangle}\right) = 0 \tag{16.83}$$

$$-p^{\text{int}\,\langle\text{B}\rangle} + p^{\text{market}\,\langle\text{B}\rangle}\left(1 + \text{excise}^{\langle\text{B}\rangle}\right) = 0 \tag{16.84}$$

$$-p^{\text{int}\,\langle\text{C}\rangle} + p^{\text{market}\,\langle\text{C}\rangle}\left(1 + \text{excise}^{\langle\text{C}\rangle}\right) = 0 \tag{16.85}$$

$$-p^{\text{int}\,\langle\text{D}\rangle} + p^{\text{market}\,\langle\text{D}\rangle}\left(1 + \text{excise}^{\langle\text{D}\rangle}\right) = 0 \tag{16.86}$$

$$-p^{\text{int}\,\langle\text{E}\rangle} + p^{\text{market}\,\langle\text{E}\rangle}\left(1 + \text{excise}^{\langle\text{E}\rangle}\right) = 0 \tag{16.87}$$

$$-p^{\text{int}\,\langle\text{F}\rangle} + p^{\text{market}\,\langle\text{F}\rangle}\left(1 + \text{excise}^{\langle\text{F}\rangle}\right) = 0 \tag{16.88}$$

$$-p^{\text{int}\,\langle\text{G}\rangle} + p^{\text{market}\,\langle\text{G}\rangle}\left(1 + \text{excise}^{\langle\text{G}\rangle}\right) = 0 \tag{16.89}$$

$$-p^{\text{int}\,\langle\text{H}\rangle} + p^{\text{market}\,\langle\text{H}\rangle}\left(1 + \text{excise}^{\langle\text{H}\rangle}\right) = 0 \tag{16.90}$$

$$-p^{\text{int}\,\langle\text{I}\rangle} + p^{\text{market}\,\langle\text{I}\rangle}\left(1 + \text{excise}^{\langle\text{I}\rangle}\right) = 0 \tag{16.91}$$

$$-p^{\text{int}\,\langle\text{J}\rangle} + p^{\text{market}\,\langle\text{J}\rangle}\left(1 + \text{excise}^{\langle\text{J}\rangle}\right) = 0 \tag{16.92}$$

$$-p^{\text{int}\,\langle\text{K}\rangle} + p^{\text{market}\,\langle\text{K}\rangle}\left(1 + \text{excise}^{\langle\text{K}\rangle}\right) = 0 \tag{16.93}$$

$$-p^{\exp\langle\text{A}\rangle} + \alpha^{\text{prod}^{\text{e}}\,\langle\text{A}\rangle}\theta^{\text{y}\,\langle\text{A}\rangle}p^{\langle\text{A}\rangle}EXPORT^{\langle\text{A}\rangle^{-1+\sigma^{\text{fprod}\,\langle\text{A}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{A}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\,\langle\text{A}\rangle}Y^{\text{HOME}\,\langle\text{A}\rangle^{\sigma^{\text{fprod}\,\langle\text{A}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{A}\rangle}\right)}} + \alpha^{\text{prod}^{\text{e}}\,\langle\text{A}\rangle}EXPORT^{\langle\text{A}\rangle^{\sigma^{\text{fprod}\,\langle\text{A}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{A}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\,\langle\text{A}\rangle}\left(1+\sigma^{\text{f}}\right.} \tag{16.94}$$

$$-p^{\exp\langle\text{B}\rangle} + \alpha^{\text{prod}^{\text{e}}\,\langle\text{B}\rangle}\theta^{\text{y}\,\langle\text{B}\rangle}p^{\langle\text{B}\rangle}EXPORT^{\langle\text{B}\rangle^{-1+\sigma^{\text{fprod}\,\langle\text{B}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{B}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\,\langle\text{B}\rangle}Y^{\text{HOME}\,\langle\text{B}\rangle^{\sigma^{\text{fprod}\,\langle\text{B}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{B}\rangle}\right)}} + \alpha^{\text{prod}^{\text{e}}\,\langle\text{B}\rangle}EXPORT^{\langle\text{B}\rangle^{\sigma^{\text{fprod}\,\langle\text{B}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\,\langle\text{B}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\,\langle\text{B}\rangle}\left(1+\sigma^{\text{fp}}\right.} \tag{16.95}$$

$$-p^{\exp\langle\mathrm{C}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{C}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{C}\rangle}p^{\langle\mathrm{C}\rangle}\mathit{EXPORT}^{\langle\mathrm{C}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{C}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{C}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{C}\rangle}\mathit{EXPORT}^{\langle\mathrm{C}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{C}\rangle}\left(1+\sigma^{\mathrm{f}\cdots}\right)}$$

(16.96)

$$-p^{\exp\langle\mathrm{D}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{D}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{D}\rangle}p^{\langle\mathrm{D}\rangle}\mathit{EXPORT}^{\langle\mathrm{D}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{D}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{D}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{D}\rangle}\mathit{EXPORT}^{\langle\mathrm{D}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{D}\rangle}\left(1+\sigma^{\mathrm{f}\cdots}\right)}$$

(16.97)

$$-p^{\exp\langle\mathrm{E}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{E}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{E}\rangle}p^{\langle\mathrm{E}\rangle}\mathit{EXPORT}^{\langle\mathrm{E}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{E}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{E}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{E}\rangle}\mathit{EXPORT}^{\langle\mathrm{E}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{E}\rangle}\left(1+\sigma^{\mathrm{fpr}\cdots}\right)}$$

(16.98)

$$-p^{\exp\langle\mathrm{F}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{F}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{F}\rangle}p^{\langle\mathrm{F}\rangle}\mathit{EXPORT}^{\langle\mathrm{F}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{F}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{F}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{F}\rangle}\mathit{EXPORT}^{\langle\mathrm{F}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{F}\rangle}\left(1+\sigma^{\mathrm{fpro}\cdots}\right)}$$

(16.99)

$$-p^{\exp\langle\mathrm{G}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{G}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{G}\rangle}p^{\langle\mathrm{G}\rangle}\mathit{EXPORT}^{\langle\mathrm{G}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{G}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{G}\rangle}\mathit{EXPORT}^{\langle\mathrm{G}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{G}\rangle}\left(1+\sigma\cdots\right)}$$

(16.100)

$$-p^{\exp\langle\mathrm{H}\rangle}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{H}\rangle}\theta^{\mathrm{y}\,\langle\mathrm{H}\rangle}p^{\langle\mathrm{H}\rangle}\mathit{EXPORT}^{\langle\mathrm{H}\rangle^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\,\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{H}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\,\langle\mathrm{H}\rangle}\mathit{EXPORT}^{\langle\mathrm{H}\rangle^{\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\,\langle\mathrm{H}\rangle}\left(1+\sigma^{\mathrm{f}\cdots}\right)}$$

(16.101)

$$-p^{\exp\langle\mathrm{I}\rangle}+\alpha^{\mathrm{prod^e}\langle\mathrm{I}\rangle}\theta^{\mathrm{y}\langle\mathrm{I}\rangle}p^{\langle\mathrm{I}\rangle}EXPORT^{\langle\mathrm{I}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{I}\rangle}EXPORT^{\langle\mathrm{I}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)^{-1}}$$

(16.102)

$$-p^{\exp\langle\mathrm{J}\rangle}+\alpha^{\mathrm{prod^e}\langle\mathrm{J}\rangle}\theta^{\mathrm{y}\langle\mathrm{J}\rangle}p^{\langle\mathrm{J}\rangle}EXPORT^{\langle\mathrm{J}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{J}\rangle}Y^{\mathrm{HOME}\langle\mathrm{J}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{J}\rangle}EXPORT^{\langle\mathrm{J}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{J}\rangle}\right)}$$

(16.103)

$$-p^{\exp\langle\mathrm{K}\rangle}+\alpha^{\mathrm{prod^e}\langle\mathrm{K}\rangle}\theta^{\mathrm{y}\langle\mathrm{K}\rangle}p^{\langle\mathrm{K}\rangle}EXPORT^{\langle\mathrm{K}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{K}\rangle}Y^{\mathrm{HOME}\langle\mathrm{K}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{K}\rangle}EXPORT^{\langle\mathrm{K}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{K}\rangle}\left(1+\sigma\right.}$$

(16.104)

$$-p^{\mathrm{home}\langle\mathrm{A}\rangle}+\alpha^{\mathrm{prod^h}\langle\mathrm{A}\rangle}\theta^{\mathrm{y}\langle\mathrm{A}\rangle}p^{\langle\mathrm{A}\rangle}Y^{\mathrm{HOME}\langle\mathrm{A}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{A}\rangle}Y^{\mathrm{HOME}\langle\mathrm{A}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{A}\rangle}EXPORT^{\langle\mathrm{A}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{A}\rangle}\left(1+\sigma^{\mathrm{f}}\right.}$$

(16.105)

$$-p^{\mathrm{home}\langle\mathrm{A}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{A}\rangle}\theta^{\mathrm{arm}\langle\mathrm{A}\rangle}p^{\mathrm{arm}\langle\mathrm{A}\rangle}Y^{\mathrm{HOME}\langle\mathrm{A}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{A}\rangle}Y^{\mathrm{HOME}\langle\mathrm{A}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{A}\rangle}IMPORT^{\langle\mathrm{A}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{A}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{A}}\right.}$$

(16.106)

$$-p^{\mathrm{home}\langle\mathrm{B}\rangle}+\alpha^{\mathrm{prod^h}\langle\mathrm{B}\rangle}\theta^{\mathrm{y}\langle\mathrm{B}\rangle}p^{\langle\mathrm{B}\rangle}Y^{\mathrm{HOME}\langle\mathrm{B}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{B}\rangle}Y^{\mathrm{HOME}\langle\mathrm{B}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{B}\rangle}EXPORT^{\langle\mathrm{B}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle-1}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{B}\rangle}\left(1+\sigma^{\mathrm{fP}}\right.}$$

(16.107)

$$-p^{\mathrm{home}\langle\mathrm{B}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{B}\rangle}\theta^{\mathrm{arm}\langle\mathrm{B}\rangle}p^{\mathrm{arm}\langle\mathrm{B}\rangle}Y^{\mathrm{HOME}\langle\mathrm{B}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{B}\rangle}Y^{\mathrm{HOME}\langle\mathrm{B}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{B}\rangle}IMPORT^{\langle\mathrm{B}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle-1}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{B}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{B}}\right.}$$

(16.108)

$$-p^{\text{home}\langle\text{C}\rangle}+\alpha^{\text{prod}^{\text{h}}\langle\text{C}\rangle}\theta^{\text{y}\langle\text{C}\rangle}p^{\langle\text{C}\rangle}Y^{\text{HOME}\langle\text{C}\rangle^{-1+\sigma^{\text{fprod}\langle\text{C}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{C}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle\text{C}\rangle}Y^{\text{HOME}\langle\text{C}\rangle^{\sigma^{\text{fprod}\langle\text{C}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{C}\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle\text{C}\rangle}EXPORT^{\langle\text{C}\rangle^{\sigma^{\text{fprod}\langle\text{C}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{C}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle\text{C}\rangle}\left(1+\sigma^{\text{fP}}\right.}$$

(16.109)

$$-p^{\text{home}\langle\text{C}\rangle}+\alpha^{\text{arm}^{\text{h}}\langle\text{C}\rangle}\theta^{\text{arm}\langle\text{C}\rangle}p^{\text{arm}\langle\text{C}\rangle}Y^{\text{HOME}\langle\text{C}\rangle^{-1+\sigma^{\text{arm}\langle\text{C}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{C}\rangle}\right)}}\left(\alpha^{\text{arm}^{\text{h}}\langle\text{C}\rangle}Y^{\text{HOME}\langle\text{C}\rangle^{\sigma^{\text{arm}\langle\text{C}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{C}\rangle}\right)}}+\alpha^{\text{arm}^{\text{i}}\langle\text{C}\rangle}IMPORT^{\langle\text{C}\rangle^{\sigma^{\text{arm}\langle\text{C}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{C}\rangle}\right)}}\right)^{-1+\sigma^{\text{arm}\langle\text{C}\rangle}\left(-1+\sigma^{\text{arm}\langle\text{C}}\right.}$$

(16.110)

$$-p^{\text{home}\langle\text{D}\rangle}+\alpha^{\text{prod}^{\text{h}}\langle\text{D}\rangle}\theta^{\text{y}\langle\text{D}\rangle}p^{\langle\text{D}\rangle}Y^{\text{HOME}\langle\text{D}\rangle^{-1+\sigma^{\text{fprod}\langle\text{D}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{D}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle\text{D}\rangle}Y^{\text{HOME}\langle\text{D}\rangle^{\sigma^{\text{fprod}\langle\text{D}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{D}\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle\text{D}\rangle}EXPORT^{\langle\text{D}\rangle^{\sigma^{\text{fprod}\langle\text{D}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{D}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle\text{D}\rangle}\left(1+\sigma\right.}$$

(16.111)

$$-p^{\text{home}\langle\text{D}\rangle}+\alpha^{\text{arm}^{\text{h}}\langle\text{D}\rangle}\theta^{\text{arm}\langle\text{D}\rangle}p^{\text{arm}\langle\text{D}\rangle}Y^{\text{HOME}\langle\text{D}\rangle^{-1+\sigma^{\text{arm}\langle\text{D}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{D}\rangle}\right)}}\left(\alpha^{\text{arm}^{\text{h}}\langle\text{D}\rangle}Y^{\text{HOME}\langle\text{D}\rangle^{\sigma^{\text{arm}\langle\text{D}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{D}\rangle}\right)}}+\alpha^{\text{arm}^{\text{i}}\langle\text{D}\rangle}IMPORT^{\langle\text{D}\rangle^{\sigma^{\text{arm}\langle\text{D}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{D}\rangle}\right)}}\right)^{-1+\sigma^{\text{arm}\langle\text{D}\rangle}\left(-1+\sigma^{\text{arm}}\right.}$$

(16.112)

$$-p^{\text{home}\langle\text{E}\rangle}+\alpha^{\text{prod}^{\text{h}}\langle\text{E}\rangle}\theta^{\text{y}\langle\text{E}\rangle}p^{\langle\text{E}\rangle}Y^{\text{HOME}\langle\text{E}\rangle^{-1+\sigma^{\text{fprod}\langle\text{E}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{E}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle\text{E}\rangle}Y^{\text{HOME}\langle\text{E}\rangle^{\sigma^{\text{fprod}\langle\text{E}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{E}\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle\text{E}\rangle}EXPORT^{\langle\text{E}\rangle^{\sigma^{\text{fprod}\langle\text{E}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{E}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle\text{E}\rangle}\left(1+\sigma^{\text{fpro}}\right.}$$

(16.113)

$$-p^{\text{home}\langle\text{E}\rangle}+\alpha^{\text{arm}^{\text{h}}\langle\text{E}\rangle}\theta^{\text{arm}\langle\text{E}\rangle}p^{\text{arm}\langle\text{E}\rangle}Y^{\text{HOME}\langle\text{E}\rangle^{-1+\sigma^{\text{arm}\langle\text{E}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{E}\rangle}\right)}}\left(\alpha^{\text{arm}^{\text{h}}\langle\text{E}\rangle}Y^{\text{HOME}\langle\text{E}\rangle^{\sigma^{\text{arm}\langle\text{E}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{E}\rangle}\right)}}+\alpha^{\text{arm}^{\text{i}}\langle\text{E}\rangle}IMPORT^{\langle\text{E}\rangle^{\sigma^{\text{arm}\langle\text{E}\rangle^{-1}}\left(-1+\sigma^{\text{arm}\langle\text{E}\rangle}\right)}}\right)^{-1+\sigma^{\text{arm}\langle\text{E}\rangle}\left(-1+\sigma^{\text{arm}\langle\text{E}\rangle}\right.}$$

(16.114)

$$-p^{\text{home}\langle\text{F}\rangle}+\alpha^{\text{prod}^{\text{h}}\langle\text{F}\rangle}\theta^{\text{y}\langle\text{F}\rangle}p^{\langle\text{F}\rangle}Y^{\text{HOME}\langle\text{F}\rangle^{-1+\sigma^{\text{fprod}\langle\text{F}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{F}\rangle}\right)}}\left(\alpha^{\text{prod}^{\text{h}}\langle\text{F}\rangle}Y^{\text{HOME}\langle\text{F}\rangle^{\sigma^{\text{fprod}\langle\text{F}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{F}\rangle}\right)}}+\alpha^{\text{prod}^{\text{e}}\langle\text{F}\rangle}EXPORT^{\langle\text{F}\rangle^{\sigma^{\text{fprod}\langle\text{F}\rangle^{-1}}\left(1+\sigma^{\text{fprod}\langle\text{F}\rangle}\right)}}\right)^{-1+\sigma^{\text{fprod}\langle\text{F}\rangle}\left(1+\sigma^{\text{fpro}}\right.}$$

(16.115)

$$-p^{\mathrm{home}\langle\mathrm{F}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{F}\rangle}\theta^{\mathrm{arm}\langle\mathrm{F}\rangle}p^{\mathrm{arm}\langle\mathrm{F}\rangle}Y^{\mathrm{HOME}\langle\mathrm{F}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{F}\rangle}Y^{\mathrm{HOME}\langle\mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{F}\rangle}IMPORT^{\langle\mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}$$

$$(16.116)$$

$$-p^{\mathrm{home}\langle\mathrm{G}\rangle}+\alpha^{\mathrm{prod^h}\langle\mathrm{G}\rangle}\theta^{\mathrm{y}\langle\mathrm{G}\rangle}p^{\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\langle\mathrm{G}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\langle\mathrm{G}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{G}\rangle}EXPORT^{\langle\mathrm{G}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{G}\rangle}\left(1+\sigma\right.}$$

$$(16.117)$$

$$-p^{\mathrm{home}\langle\mathrm{G}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{G}\rangle}\theta^{\mathrm{arm}\langle\mathrm{G}\rangle}p^{\mathrm{arm}\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\langle\mathrm{G}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\langle\mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{G}\rangle}IMPORT^{\langle\mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\left(-1+\sigma^{\mathrm{arm}}\right.}$$

$$(16.118)$$

$$-p^{\mathrm{home}\langle\mathrm{H}\rangle}+\alpha^{\mathrm{prod^h}\langle\mathrm{H}\rangle}\theta^{\mathrm{y}\langle\mathrm{H}\rangle}p^{\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\langle\mathrm{H}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\langle\mathrm{H}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{H}\rangle}EXPORT^{\langle\mathrm{H}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{H}\rangle}\left(1+\sigma^{\mathrm{f}\right.}$$

$$(16.119)$$

$$-p^{\mathrm{home}\langle\mathrm{H}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{H}\rangle}\theta^{\mathrm{arm}\langle\mathrm{H}\rangle}p^{\mathrm{arm}\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\langle\mathrm{H}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\langle\mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{H}\rangle}IMPORT^{\langle\mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{l}\right.}$$

$$(16.120)$$

$$-p^{\mathrm{home}\langle\mathrm{I}\rangle}+\alpha^{\mathrm{prod^h}\langle\mathrm{I}\rangle}\theta^{\mathrm{y}\langle\mathrm{I}\rangle}p^{\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}\left(\alpha^{\mathrm{prod^h}\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}+\alpha^{\mathrm{prod^e}\langle\mathrm{I}\rangle}EXPORT^{\langle\mathrm{I}\rangle^{\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle^{-1}}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\left(1+\sigma^{\mathrm{fprod}\langle\mathrm{I}\rangle}\right)^{-1}}$$

$$(16.121)$$

$$-p^{\mathrm{home}\langle\mathrm{I}\rangle}+\alpha^{\mathrm{arm^h}\langle\mathrm{I}\rangle}\theta^{\mathrm{arm}\langle\mathrm{I}\rangle}p^{\mathrm{arm}\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{I}\rangle}IMPORT^{\langle\mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)^{-1}}=0$$

$$(16.122)$$

$$-p^{\text{home}\,\langle\text{J}\rangle}+\alpha^{\text{prod}^{\text{h}}\,\langle\text{J}\rangle}\theta^{\text{y}\,\langle\text{J}\rangle}p^{\langle\text{J}\rangle}Y^{\text{HOME}\,\langle\text{J}\rangle\,-1+\sigma^{\text{fprod}\,\langle\text{J}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{J}\rangle}\right)}\left(\alpha^{\text{prod}^{\text{h}}\,\langle\text{J}\rangle}Y^{\text{HOME}\,\langle\text{J}\rangle\,\sigma^{\text{fprod}\,\langle\text{J}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{J}\rangle}\right)}+\alpha^{\text{prod}^{\text{e}}\,\langle\text{J}\rangle}EXPORT^{\langle\text{J}\rangle\,\sigma^{\text{fprod}\,\langle\text{J}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{J}\rangle}\right)}\right)^{-1+\sigma^{\text{fprod}\,\langle\text{J}\rangle}\left(1+\sigma^{\text{fprod}\,\langle\text{J}\rangle}\right)^{-1}}$$

$$(16.123)$$

$$-p^{\text{home}\,\langle\text{J}\rangle}+\alpha^{\text{arm}^{\text{h}}\,\langle\text{J}\rangle}\theta^{\text{arm}\,\langle\text{J}\rangle}p^{\text{arm}\,\langle\text{J}\rangle}Y^{\text{HOME}\,\langle\text{J}\rangle\,-1+\sigma^{\text{arm}\,\langle\text{J}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{J}\rangle}\right)}\left(\alpha^{\text{arm}^{\text{h}}\,\langle\text{J}\rangle}Y^{\text{HOME}\,\langle\text{J}\rangle\,\sigma^{\text{arm}\,\langle\text{J}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{J}\rangle}\right)}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{J}\rangle}IMPORT^{\langle\text{J}\rangle\,\sigma^{\text{arm}\,\langle\text{J}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{J}\rangle}\right)}\right)^{-1+\sigma^{\text{arm}\,\langle\text{J}\rangle}\left(-1+\sigma^{\text{arm}\,\langle\text{J}\rangle}\right)^{-1}}$$

$$(16.124)$$

$$-p^{\text{home}\,\langle\text{K}\rangle}+\alpha^{\text{prod}^{\text{h}}\,\langle\text{K}\rangle}\theta^{\text{y}\,\langle\text{K}\rangle}p^{\langle\text{K}\rangle}Y^{\text{HOME}\,\langle\text{K}\rangle\,-1+\sigma^{\text{fprod}\,\langle\text{K}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{K}\rangle}\right)}\left(\alpha^{\text{prod}^{\text{h}}\,\langle\text{K}\rangle}Y^{\text{HOME}\,\langle\text{K}\rangle\,\sigma^{\text{fprod}\,\langle\text{K}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{K}\rangle}\right)}+\alpha^{\text{prod}^{\text{e}}\,\langle\text{K}\rangle}EXPORT^{\langle\text{K}\rangle\,\sigma^{\text{fprod}\,\langle\text{K}\rangle\,-1}\left(1+\sigma^{\text{fprod}\,\langle\text{K}\rangle}\right)}\right)^{-1+\sigma^{\text{fprod}\,\langle\text{K}\rangle}\left(1+\sigma\right.}$$

$$(16.125)$$

$$-p^{\text{home}\,\langle\text{K}\rangle}+\alpha^{\text{arm}^{\text{h}}\,\langle\text{K}\rangle}\theta^{\text{arm}\,\langle\text{K}\rangle}p^{\text{arm}\,\langle\text{K}\rangle}Y^{\text{HOME}\,\langle\text{K}\rangle\,-1+\sigma^{\text{arm}\,\langle\text{K}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{K}\rangle}\right)}\left(\alpha^{\text{arm}^{\text{h}}\,\langle\text{K}\rangle}Y^{\text{HOME}\,\langle\text{K}\rangle\,\sigma^{\text{arm}\,\langle\text{K}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{K}\rangle}\right)}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{K}\rangle}IMPORT^{\langle\text{K}\rangle\,\sigma^{\text{arm}\,\langle\text{K}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{K}\rangle}\right)}\right)^{-1+\sigma^{\text{arm}\,\langle\text{K}\rangle}\left(-1+\sigma^{\text{arm}\right.}$$

$$(16.126)$$

$$-p^{\text{imp}\,\langle\text{A}\rangle}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{A}\rangle}\theta^{\text{arm}\,\langle\text{A}\rangle}p^{\text{arm}\,\langle\text{A}\rangle}IMPORT^{\langle\text{A}\rangle\,-1+\sigma^{\text{arm}\,\langle\text{A}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{A}\rangle}\right)}\left(\alpha^{\text{arm}^{\text{h}}\,\langle\text{A}\rangle}Y^{\text{HOME}\,\langle\text{A}\rangle\,\sigma^{\text{arm}\,\langle\text{A}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{A}\rangle}\right)}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{A}\rangle}IMPORT^{\langle\text{A}\rangle\,\sigma^{\text{arm}\,\langle\text{A}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{A}\rangle}\right)}\right)^{-1+\sigma^{\text{arm}\,\langle\text{A}\rangle}\left(-1+\sigma^{\text{arm}\,\langle\text{A}\right.}$$

$$(16.127)$$

$$-p^{\text{imp}\,\langle\text{B}\rangle}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{B}\rangle}\theta^{\text{arm}\,\langle\text{B}\rangle}p^{\text{arm}\,\langle\text{B}\rangle}IMPORT^{\langle\text{B}\rangle\,-1+\sigma^{\text{arm}\,\langle\text{B}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{B}\rangle}\right)}\left(\alpha^{\text{arm}^{\text{h}}\,\langle\text{B}\rangle}Y^{\text{HOME}\,\langle\text{B}\rangle\,\sigma^{\text{arm}\,\langle\text{B}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{B}\rangle}\right)}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{B}\rangle}IMPORT^{\langle\text{B}\rangle\,\sigma^{\text{arm}\,\langle\text{B}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{B}\rangle}\right)}\right)^{-1+\sigma^{\text{arm}\,\langle\text{B}\rangle}\left(-1+\sigma^{\text{arm}\,\langle\text{B}\right.}$$

$$(16.128)$$

$$-p^{\text{imp}\,\langle\text{C}\rangle}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{C}\rangle}\theta^{\text{arm}\,\langle\text{C}\rangle}p^{\text{arm}\,\langle\text{C}\rangle}IMPORT^{\langle\text{C}\rangle\,-1+\sigma^{\text{arm}\,\langle\text{C}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{C}\rangle}\right)}\left(\alpha^{\text{arm}^{\text{h}}\,\langle\text{C}\rangle}Y^{\text{HOME}\,\langle\text{C}\rangle\,\sigma^{\text{arm}\,\langle\text{C}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{C}\rangle}\right)}+\alpha^{\text{arm}^{\text{i}}\,\langle\text{C}\rangle}IMPORT^{\langle\text{C}\rangle\,\sigma^{\text{arm}\,\langle\text{C}\rangle\,-1}\left(-1+\sigma^{\text{arm}\,\langle\text{C}\rangle}\right)}\right)^{-1+\sigma^{\text{arm}\,\langle\text{C}\rangle}\left(-1+\sigma^{\text{arm}\,\langle\text{C}\right.}$$

$$(16.129)$$

$$-p^{\mathrm{imp}\langle\mathrm{D}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{D}\rangle}\theta^{\mathrm{arm}\langle\mathrm{D}\rangle}p^{\mathrm{arm}\langle\mathrm{D}\rangle}\mathit{IMPORT}^{\langle\mathrm{D}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{D}\rangle}Y^{\mathrm{HOME}\langle\mathrm{D}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{D}\rangle}\mathit{IMPORT}^{\langle\mathrm{D}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{D}\rangle}\right)}$$

$$(16.130)$$

$$-p^{\mathrm{imp}\langle\mathrm{E}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{E}\rangle}\theta^{\mathrm{arm}\langle\mathrm{E}\rangle}p^{\mathrm{arm}\langle\mathrm{E}\rangle}\mathit{IMPORT}^{\langle\mathrm{E}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{E}\rangle}Y^{\mathrm{HOME}\langle\mathrm{E}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{E}\rangle}\mathit{IMPORT}^{\langle\mathrm{E}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{E}\rangle}\right)}$$

$$(16.131)$$

$$-p^{\mathrm{imp}\langle\mathrm{F}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{F}\rangle}\theta^{\mathrm{arm}\langle\mathrm{F}\rangle}p^{\mathrm{arm}\langle\mathrm{F}\rangle}\mathit{IMPORT}^{\langle\mathrm{F}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{F}\rangle}Y^{\mathrm{HOME}\langle\mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{F}\rangle}\mathit{IMPORT}^{\langle\mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{F}\rangle}\right)^{-}}$$

$$(16.132)$$

$$-p^{\mathrm{imp}\langle\mathrm{G}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{G}\rangle}\theta^{\mathrm{arm}\langle\mathrm{G}\rangle}p^{\mathrm{arm}\langle\mathrm{G}\rangle}\mathit{IMPORT}^{\langle\mathrm{G}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{G}\rangle}Y^{\mathrm{HOME}\langle\mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{G}\rangle}\mathit{IMPORT}^{\langle\mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{G}\rangle}\right)}$$

$$(16.133)$$

$$-p^{\mathrm{imp}\langle\mathrm{H}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{H}\rangle}\theta^{\mathrm{arm}\langle\mathrm{H}\rangle}p^{\mathrm{arm}\langle\mathrm{H}\rangle}\mathit{IMPORT}^{\langle\mathrm{H}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{H}\rangle}Y^{\mathrm{HOME}\langle\mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{H}\rangle}\mathit{IMPORT}^{\langle\mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{H}\rangle}\right)}$$

$$(16.134)$$

$$-p^{\mathrm{imp}\langle\mathrm{I}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{I}\rangle}\theta^{\mathrm{arm}\langle\mathrm{I}\rangle}p^{\mathrm{arm}\langle\mathrm{I}\rangle}\mathit{IMPORT}^{\langle\mathrm{I}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\langle\mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{I}\rangle}\mathit{IMPORT}^{\langle\mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{I}\rangle}\right)^{-1}}=0$$

$$(16.135)$$

$$-p^{\mathrm{imp}\langle\mathrm{J}\rangle}+\alpha^{\mathrm{arm^i}\langle\mathrm{J}\rangle}\theta^{\mathrm{arm}\langle\mathrm{J}\rangle}p^{\mathrm{arm}\langle\mathrm{J}\rangle}\mathit{IMPORT}^{\langle\mathrm{J}\rangle^{-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle\mathrm{J}\rangle}Y^{\mathrm{HOME}\langle\mathrm{J}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle\mathrm{J}\rangle}\mathit{IMPORT}^{\langle\mathrm{J}\rangle^{\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle\mathrm{J}\rangle}\right)^{-1}}=$$

$$(16.136)$$

$$-p^{\mathrm{imp}\langle \mathrm{K}\rangle}+\alpha^{\mathrm{arm^i}\langle \mathrm{K}\rangle}\theta^{\mathrm{arm}\langle \mathrm{K}\rangle}p^{\mathrm{arm}\langle \mathrm{K}\rangle}\mathit{IMPORT}^{\langle \mathrm{K}\rangle^{-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)}}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{K}\rangle}Y^{\mathrm{HOME}\langle \mathrm{K}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{K}\rangle}\mathit{IMPORT}^{\langle \mathrm{K}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)}}\right)^{-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle}}$$

(16.137)

$$-\mathit{ARM}^{\langle \mathrm{A}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{A}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{A}\rangle}Y^{\mathrm{HOME}\langle \mathrm{A}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{A}\rangle}\mathit{IMPORT}^{\langle \mathrm{A}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{A}\rangle}\right)^{-1}}=0$$

(16.138)

$$-\mathit{ARM}^{\langle \mathrm{B}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{B}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{B}\rangle}Y^{\mathrm{HOME}\langle \mathrm{B}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{B}\rangle}\mathit{IMPORT}^{\langle \mathrm{B}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{B}\rangle}\right)^{-1}}=0$$

(16.139)

$$-\mathit{ARM}^{\langle \mathrm{C}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{C}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{C}\rangle}Y^{\mathrm{HOME}\langle \mathrm{C}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{C}\rangle}\mathit{IMPORT}^{\langle \mathrm{C}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{C}\rangle}\right)^{-1}}=0$$

(16.140)

$$-\mathit{ARM}^{\langle \mathrm{D}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{D}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{D}\rangle}Y^{\mathrm{HOME}\langle \mathrm{D}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{D}\rangle}\mathit{IMPORT}^{\langle \mathrm{D}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{D}\rangle}\right)^{-1}}=0$$

(16.141)

$$-\mathit{ARM}^{\langle \mathrm{E}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{E}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{E}\rangle}Y^{\mathrm{HOME}\langle \mathrm{E}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{E}\rangle}\mathit{IMPORT}^{\langle \mathrm{E}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{E}\rangle}\right)^{-1}}=0$$

(16.142)

$$-\mathit{ARM}^{\langle \mathrm{F}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{F}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{F}\rangle}Y^{\mathrm{HOME}\langle \mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{F}\rangle}\mathit{IMPORT}^{\langle \mathrm{F}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{F}\rangle}\right)^{-1}}=0$$

(16.143)

$$-\mathit{ARM}^{\langle \mathrm{G}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{G}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{G}\rangle}Y^{\mathrm{HOME}\langle \mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{G}\rangle}\mathit{IMPORT}^{\langle \mathrm{G}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{G}\rangle}\right)^{-1}}=0$$

(16.144)

$$-\mathit{ARM}^{\langle \mathrm{H}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{H}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{H}\rangle}Y^{\mathrm{HOME}\langle \mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{H}\rangle}\mathit{IMPORT}^{\langle \mathrm{H}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{H}\rangle}\right)^{-1}}=0$$

(16.145)

$$-\mathit{ARM}^{\langle \mathrm{I}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{I}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{I}\rangle}Y^{\mathrm{HOME}\langle \mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{I}\rangle}\mathit{IMPORT}^{\langle \mathrm{I}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{I}\rangle}\right)^{-1}}=0$$

(16.146)

$$-\mathit{ARM}^{\langle \mathrm{J}\rangle}+\theta^{\mathrm{arm}\langle \mathrm{J}\rangle}\left(\alpha^{\mathrm{arm^h}\langle \mathrm{J}\rangle}Y^{\mathrm{HOME}\langle \mathrm{J}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle}\right)}}+\alpha^{\mathrm{arm^i}\langle \mathrm{J}\rangle}\mathit{IMPORT}^{\langle \mathrm{J}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{J}\rangle}\right)^{-1}}=0$$

(16.147)

$$-ARM^{\langle \mathrm{K}\rangle} + \theta^{\mathrm{arm}\langle \mathrm{K}\rangle}\left(\alpha^{\mathrm{arm}^{\mathrm{h}}\langle \mathrm{K}\rangle}Y^{\mathrm{HOME}\langle \mathrm{K}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)}} + \alpha^{\mathrm{arm}^{\mathrm{i}}\langle \mathrm{K}\rangle}IMPORT^{\langle \mathrm{K}\rangle^{\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle^{-1}}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)}}\right)^{\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\left(-1+\sigma^{\mathrm{arm}\langle \mathrm{K}\rangle}\right)^{-1}} = 0 \qquad (16.148)$$

$$-DEM^{\langle 1\rangle} + \theta^{\mathrm{dem}\langle 1\rangle}\left(\alpha^{\langle \mathrm{A},1\rangle}D^{\langle \mathrm{A},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},1\rangle}D^{\langle \mathrm{B},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},1\rangle}D^{\langle \mathrm{C},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},1\rangle}D^{\langle \mathrm{D},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},1\rangle}D^{\langle \mathrm{E},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},1\rangle}D^{\langle \mathrm{F},1\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},1\rangle}D^{\langle}$$

$$(16.149)$$

$$-DEM^{\langle 10\rangle} + \theta^{\mathrm{dem}\langle 10\rangle}\left(\alpha^{\langle \mathrm{A},10\rangle}D^{\langle \mathrm{A},10\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},10\rangle}D^{\langle \mathrm{B},10\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},10\rangle}D^{\langle \mathrm{C},10\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},10\rangle}D^{\langle \mathrm{D},10\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},10\rangle}D^{\langle \mathrm{E},10\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},10\rangle}D^{\langle \mathrm{F},10\rangle^{\omega^{-1}(-1+\omega)}}$$

$$(16.150)$$

$$-DEM^{\langle 2\rangle} + \theta^{\mathrm{dem}\langle 2\rangle}\left(\alpha^{\langle \mathrm{A},2\rangle}D^{\langle \mathrm{A},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},2\rangle}D^{\langle \mathrm{B},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},2\rangle}D^{\langle \mathrm{C},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},2\rangle}D^{\langle \mathrm{D},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},2\rangle}D^{\langle \mathrm{E},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},2\rangle}D^{\langle \mathrm{F},2\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},2\rangle}D^{\langle}$$

$$(16.151)$$

$$-DEM^{\langle 3\rangle} + \theta^{\mathrm{dem}\langle 3\rangle}\left(\alpha^{\langle \mathrm{A},3\rangle}D^{\langle \mathrm{A},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},3\rangle}D^{\langle \mathrm{B},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},3\rangle}D^{\langle \mathrm{C},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},3\rangle}D^{\langle \mathrm{D},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},3\rangle}D^{\langle \mathrm{E},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},3\rangle}D^{\langle \mathrm{F},3\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},3\rangle}D^{\langle}$$

$$(16.152)$$

$$-DEM^{\langle 4\rangle} + \theta^{\mathrm{dem}\langle 4\rangle}\left(\alpha^{\langle \mathrm{A},4\rangle}D^{\langle \mathrm{A},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},4\rangle}D^{\langle \mathrm{B},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},4\rangle}D^{\langle \mathrm{C},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},4\rangle}D^{\langle \mathrm{D},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},4\rangle}D^{\langle \mathrm{E},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},4\rangle}D^{\langle \mathrm{F},4\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},4\rangle}D^{\langle}$$

$$(16.153)$$

$$-DEM^{\langle 5\rangle} + \theta^{\mathrm{dem}\langle 5\rangle}\left(\alpha^{\langle \mathrm{A},5\rangle}D^{\langle \mathrm{A},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},5\rangle}D^{\langle \mathrm{B},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},5\rangle}D^{\langle \mathrm{C},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},5\rangle}D^{\langle \mathrm{D},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},5\rangle}D^{\langle \mathrm{E},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},5\rangle}D^{\langle \mathrm{F},5\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},5\rangle}D^{\langle}$$

$$(16.154)$$

$$-DEM^{\langle 6\rangle} + \theta^{\mathrm{dem}\langle 6\rangle}\left(\alpha^{\langle \mathrm{A},6\rangle}D^{\langle \mathrm{A},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},6\rangle}D^{\langle \mathrm{B},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},6\rangle}D^{\langle \mathrm{C},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},6\rangle}D^{\langle \mathrm{D},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},6\rangle}D^{\langle \mathrm{E},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},6\rangle}D^{\langle \mathrm{F},6\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},6\rangle}D^{\langle}$$

$$(16.155)$$

$$-DEM^{\langle 7\rangle} + \theta^{\mathrm{dem}\langle 7\rangle}\left(\alpha^{\langle \mathrm{A},7\rangle}D^{\langle \mathrm{A},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{B},7\rangle}D^{\langle \mathrm{B},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{C},7\rangle}D^{\langle \mathrm{C},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{D},7\rangle}D^{\langle \mathrm{D},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{E},7\rangle}D^{\langle \mathrm{E},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{F},7\rangle}D^{\langle \mathrm{F},7\rangle^{\omega^{-1}(-1+\omega)}} + \alpha^{\langle \mathrm{G},7\rangle}D^{\langle}$$

$$(16.156)$$

$$-DEM^{\langle 8\rangle}+\theta^{\mathrm{dem}\langle 8\rangle}\left(\alpha^{\langle A,8\rangle}D^{\langle A,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle B,8\rangle}D^{\langle B,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle C,8\rangle}D^{\langle C,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle D,8\rangle}D^{\langle D,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle E,8\rangle}D^{\langle E,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle F,8\rangle}D^{\langle F,8\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle G,8\rangle}D^{\langle}$$

(16.157)

$$-DEM^{\langle 9\rangle}+\theta^{\mathrm{dem}\langle 9\rangle}\left(\alpha^{\langle A,9\rangle}D^{\langle A,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle B,9\rangle}D^{\langle B,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle C,9\rangle}D^{\langle C,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle D,9\rangle}D^{\langle D,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle E,9\rangle}D^{\langle E,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle F,9\rangle}D^{\langle F,9\rangle^{\omega^{-1}(-1+\omega)}}+\alpha^{\langle G,9\rangle}D^{\langle}$$

(16.158)

$$-EXPORT^{\langle A\rangle}+\theta^{\exp\langle A\rangle}\left(\alpha^{\exp\langle eu,A\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,A\rangle}\right)^{\sigma^{\exp\langle A\rangle^{-1}}\left(1+\sigma^{\exp\langle A\rangle}\right)}+\alpha^{\exp\langle neu,A\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,A\rangle}\right)^{\sigma^{\exp\langle A\rangle^{-1}}\left(1+\sigma^{\exp\langle A\rangle}\right)}\right)^{\sigma^{\exp\langle A\rangle}\left(1+\sigma^{\exp\langle A\rangle}\right)^{-1}}=0$$

(16.159)

$$-EXPORT^{\langle B\rangle}+\theta^{\exp\langle B\rangle}\left(\alpha^{\exp\langle eu,B\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,B\rangle}\right)^{\sigma^{\exp\langle B\rangle^{-1}}\left(1+\sigma^{\exp\langle B\rangle}\right)}+\alpha^{\exp\langle neu,B\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,B\rangle}\right)^{\sigma^{\exp\langle B\rangle^{-1}}\left(1+\sigma^{\exp\langle B\rangle}\right)}\right)^{\sigma^{\exp\langle B\rangle}\left(1+\sigma^{\exp\langle B\rangle}\right)^{-1}}=0$$

(16.160)

$$-EXPORT^{\langle C\rangle}+\theta^{\exp\langle C\rangle}\left(\alpha^{\exp\langle eu,C\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,C\rangle}\right)^{\sigma^{\exp\langle C\rangle^{-1}}\left(1+\sigma^{\exp\langle C\rangle}\right)}+\alpha^{\exp\langle neu,C\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,C\rangle}\right)^{\sigma^{\exp\langle C\rangle^{-1}}\left(1+\sigma^{\exp\langle C\rangle}\right)}\right)^{\sigma^{\exp\langle C\rangle}\left(1+\sigma^{\exp\langle C\rangle}\right)^{-1}}=0$$

(16.161)

$$-EXPORT^{\langle D\rangle}+\theta^{\exp\langle D\rangle}\left(\alpha^{\exp\langle eu,D\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,D\rangle}\right)^{\sigma^{\exp\langle D\rangle^{-1}}\left(1+\sigma^{\exp\langle D\rangle}\right)}+\alpha^{\exp\langle neu,D\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,D\rangle}\right)^{\sigma^{\exp\langle D\rangle^{-1}}\left(1+\sigma^{\exp\langle D\rangle}\right)}\right)^{\sigma^{\exp\langle D\rangle}\left(1+\sigma^{\exp\langle D\rangle}\right)^{-1}}=0$$

(16.162)

$$-EXPORT^{\langle E\rangle}+\theta^{\exp\langle E\rangle}\left(\alpha^{\exp\langle eu,E\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,E\rangle}\right)^{\sigma^{\exp\langle E\rangle^{-1}}\left(1+\sigma^{\exp\langle E\rangle}\right)}+\alpha^{\exp\langle neu,E\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,E\rangle}\right)^{\sigma^{\exp\langle E\rangle^{-1}}\left(1+\sigma^{\exp\langle E\rangle}\right)}\right)^{\sigma^{\exp\langle E\rangle}\left(1+\sigma^{\exp\langle E\rangle}\right)^{-1}}=0$$

(16.163)

$$-EXPORT^{\langle F\rangle}+\theta^{\exp\langle F\rangle}\left(\alpha^{\exp\langle eu,F\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,F\rangle}\right)^{\sigma^{\exp\langle F\rangle^{-1}}\left(1+\sigma^{\exp\langle F\rangle}\right)}+\alpha^{\exp\langle neu,F\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,F\rangle}\right)^{\sigma^{\exp\langle F\rangle^{-1}}\left(1+\sigma^{\exp\langle F\rangle}\right)}\right)^{\sigma^{\exp\langle F\rangle}\left(1+\sigma^{\exp\langle F\rangle}\right)^{-1}}=0$$

(16.164)

$$-EXPORT^{\langle G\rangle} + \theta^{\exp\langle G\rangle}\left(\alpha^{\exp\langle eu,G\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,G\rangle}\right)^{\sigma^{\exp\langle G\rangle}-1}\left(1+\sigma^{\exp\langle G\rangle}\right)} + \alpha^{\exp\langle neu,G\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,G\rangle}\right)^{\sigma^{\exp\langle G\rangle}-1}\left(1+\sigma^{\exp\langle G\rangle}\right)}\right)^{\sigma^{\exp\langle G\rangle}\left(1+\sigma^{\exp\langle G\rangle}\right)^{-1}} = 0$$

(16.165)

$$-EXPORT^{\langle H\rangle} + \theta^{\exp\langle H\rangle}\left(\alpha^{\exp\langle eu,H\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,H\rangle}\right)^{\sigma^{\exp\langle H\rangle}-1}\left(1+\sigma^{\exp\langle H\rangle}\right)} + \alpha^{\exp\langle neu,H\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,H\rangle}\right)^{\sigma^{\exp\langle H\rangle}-1}\left(1+\sigma^{\exp\langle H\rangle}\right)}\right)^{\sigma^{\exp\langle H\rangle}\left(1+\sigma^{\exp\langle H\rangle}\right)^{-1}} = 0$$

(16.166)

$$-EXPORT^{\langle I\rangle} + \theta^{\exp\langle I\rangle}\left(\alpha^{\exp\langle eu,I\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,I\rangle}\right)^{\sigma^{\exp\langle I\rangle}-1}\left(1+\sigma^{\exp\langle I\rangle}\right)} + \alpha^{\exp\langle neu,I\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,I\rangle}\right)^{\sigma^{\exp\langle I\rangle}-1}\left(1+\sigma^{\exp\langle I\rangle}\right)}\right)^{\sigma^{\exp\langle I\rangle}\left(1+\sigma^{\exp\langle I\rangle}\right)^{-1}} = 0$$ (16.167)

$$-EXPORT^{\langle J\rangle} + \theta^{\exp\langle J\rangle}\left(\alpha^{\exp\langle eu,J\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,J\rangle}\right)^{\sigma^{\exp\langle J\rangle}-1}\left(1+\sigma^{\exp\langle J\rangle}\right)} + \alpha^{\exp\langle neu,J\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,J\rangle}\right)^{\sigma^{\exp\langle J\rangle}-1}\left(1+\sigma^{\exp\langle J\rangle}\right)}\right)^{\sigma^{\exp\langle J\rangle}\left(1+\sigma^{\exp\langle J\rangle}\right)^{-1}} = 0$$

(16.168)

$$-EXPORT^{\langle K\rangle} + \theta^{\exp\langle K\rangle}\left(\alpha^{\exp\langle eu,K\rangle}\left(am^{\exp\langle eu\rangle}EXP^{\langle eu,K\rangle}\right)^{\sigma^{\exp\langle K\rangle}-1}\left(1+\sigma^{\exp\langle K\rangle}\right)} + \alpha^{\exp\langle neu,K\rangle}\left(am^{\exp\langle neu\rangle}EXP^{\langle neu,K\rangle}\right)^{\sigma^{\exp\langle K\rangle}-1}\left(1+\sigma^{\exp\langle K\rangle}\right)}\right)^{\sigma^{\exp\langle K\rangle}\left(1+\sigma^{\exp\langle K\rangle}\right)^{-1}} = 0$$

(16.169)

$$-EXCISE^{\langle A\rangle}+excise^{\langle A\rangle}p^{\text{market}\langle A\rangle}\left(D^{\text{GOV}\langle A\rangle} + INV^{\langle A\rangle} + X^{\langle A,A\rangle} + X^{\langle A,B\rangle} + X^{\langle A,C\rangle} + X^{\langle A,D\rangle} + X^{\langle A,E\rangle} + X^{\langle A,F\rangle} + X^{\langle A,G\rangle} + X^{\langle A,H\rangle} + X^{\langle A,I\rangle} + X^{\langle A,J\rangle} + X^{\langle A,K\rangle} + sale^{\langle 1\rangle}D^{\langle A,1\rangle} + s$$

(16.170)

$$-EXCISE^{\langle B\rangle}+excise^{\langle B\rangle}p^{\text{market}\langle B\rangle}\left(D^{\text{GOV}\langle B\rangle} + INV^{\langle B\rangle} + X^{\langle B,A\rangle} + X^{\langle B,B\rangle} + X^{\langle B,C\rangle} + X^{\langle B,D\rangle} + X^{\langle B,E\rangle} + X^{\langle B,F\rangle} + X^{\langle B,G\rangle} + X^{\langle B,H\rangle} + X^{\langle B,I\rangle} + X^{\langle B,J\rangle} + X^{\langle B,K\rangle} + sale^{\langle 1\rangle}D^{\langle B,1\rangle} + sa$$

(16.171)

$$-EXCISE^{\langle C\rangle}+excise^{\langle C\rangle}p^{\text{market}\langle C\rangle}\left(D^{\text{GOV}\langle C\rangle} + INV^{\langle C\rangle} + X^{\langle C,A\rangle} + X^{\langle C,B\rangle} + X^{\langle C,C\rangle} + X^{\langle C,D\rangle} + X^{\langle C,E\rangle} + X^{\langle C,F\rangle} + X^{\langle C,G\rangle} + X^{\langle C,H\rangle} + X^{\langle C,I\rangle} + X^{\langle C,J\rangle} + X^{\langle C,K\rangle} + sale^{\langle 1\rangle}D^{\langle C,1\rangle} + s$$

(16.172)

$$-EXCISE^{\langle D\rangle}+excise^{\langle D\rangle}p^{\text{market}\langle D\rangle}\left(D^{\text{GOV}\langle D\rangle} + INV^{\langle D\rangle} + X^{\langle D,A\rangle} + X^{\langle D,B\rangle} + X^{\langle D,C\rangle} + X^{\langle D,D\rangle} + X^{\langle D,E\rangle} + X^{\langle D,F\rangle} + X^{\langle D,G\rangle} + X^{\langle D,H\rangle} + X^{\langle D,I\rangle} + X^{\langle D,J\rangle} + X^{\langle D,K\rangle} + sale^{\langle 1\rangle}D^{\langle D,1\rangle} + .$$

(16.173)

$$-EXCISE^{\langle \mathrm{E}\rangle}+excise^{\langle \mathrm{E}\rangle}p^{\mathrm{market}\langle \mathrm{E}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{E}\rangle}+INV^{\langle \mathrm{E}\rangle}+X^{\langle \mathrm{E,A}\rangle}+X^{\langle \mathrm{E,B}\rangle}+X^{\langle \mathrm{E,C}\rangle}+X^{\langle \mathrm{E,D}\rangle}+X^{\langle \mathrm{E,E}\rangle}+X^{\langle \mathrm{E,F}\rangle}+X^{\langle \mathrm{E,G}\rangle}+X^{\langle \mathrm{E,H}\rangle}+X^{\langle \mathrm{E,I}\rangle}+X^{\langle \mathrm{E,J}\rangle}+X^{\langle \mathrm{E,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{E,1}\rangle}+sal\right.$$
(16.174)

$$-EXCISE^{\langle \mathrm{F}\rangle}+excise^{\langle \mathrm{F}\rangle}p^{\mathrm{market}\langle \mathrm{F}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{F}\rangle}+INV^{\langle \mathrm{F}\rangle}+X^{\langle \mathrm{F,A}\rangle}+X^{\langle \mathrm{F,B}\rangle}+X^{\langle \mathrm{F,C}\rangle}+X^{\langle \mathrm{F,D}\rangle}+X^{\langle \mathrm{F,E}\rangle}+X^{\langle \mathrm{F,F}\rangle}+X^{\langle \mathrm{F,G}\rangle}+X^{\langle \mathrm{F,H}\rangle}+X^{\langle \mathrm{F,I}\rangle}+X^{\langle \mathrm{F,J}\rangle}+X^{\langle \mathrm{F,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{F,1}\rangle}+sal\right.$$
(16.175)

$$-EXCISE^{\langle \mathrm{G}\rangle}+excise^{\langle \mathrm{G}\rangle}p^{\mathrm{market}\langle \mathrm{G}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{G}\rangle}+INV^{\langle \mathrm{G}\rangle}+X^{\langle \mathrm{G,A}\rangle}+X^{\langle \mathrm{G,B}\rangle}+X^{\langle \mathrm{G,C}\rangle}+X^{\langle \mathrm{G,D}\rangle}+X^{\langle \mathrm{G,E}\rangle}+X^{\langle \mathrm{G,F}\rangle}+X^{\langle \mathrm{G,G}\rangle}+X^{\langle \mathrm{G,H}\rangle}+X^{\langle \mathrm{G,I}\rangle}+X^{\langle \mathrm{G,J}\rangle}+X^{\langle \mathrm{G,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{G,1}\rangle}+\right.$$
(16.176)

$$-EXCISE^{\langle \mathrm{H}\rangle}+excise^{\langle \mathrm{H}\rangle}p^{\mathrm{market}\langle \mathrm{H}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{H}\rangle}+INV^{\langle \mathrm{H}\rangle}+X^{\langle \mathrm{H,A}\rangle}+X^{\langle \mathrm{H,B}\rangle}+X^{\langle \mathrm{H,C}\rangle}+X^{\langle \mathrm{H,D}\rangle}+X^{\langle \mathrm{H,E}\rangle}+X^{\langle \mathrm{H,F}\rangle}+X^{\langle \mathrm{H,G}\rangle}+X^{\langle \mathrm{H,H}\rangle}+X^{\langle \mathrm{H,I}\rangle}+X^{\langle \mathrm{H,J}\rangle}+X^{\langle \mathrm{H,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{H,1}\rangle}+s\right.$$
(16.177)

$$-EXCISE^{\langle \mathrm{I}\rangle}+excise^{\langle \mathrm{I}\rangle}p^{\mathrm{market}\langle \mathrm{I}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{I}\rangle}+INV^{\langle \mathrm{I}\rangle}+X^{\langle \mathrm{I,A}\rangle}+X^{\langle \mathrm{I,B}\rangle}+X^{\langle \mathrm{I,C}\rangle}+X^{\langle \mathrm{I,D}\rangle}+X^{\langle \mathrm{I,E}\rangle}+X^{\langle \mathrm{I,F}\rangle}+X^{\langle \mathrm{I,G}\rangle}+X^{\langle \mathrm{I,H}\rangle}+X^{\langle \mathrm{I,I}\rangle}+X^{\langle \mathrm{I,J}\rangle}+X^{\langle \mathrm{I,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{I,1}\rangle}+sale^{\langle 10\rangle}D^{\langle \mathrm{I,10}\rangle}\right.$$
(16.178)

$$-EXCISE^{\langle \mathrm{J}\rangle}+excise^{\langle \mathrm{J}\rangle}p^{\mathrm{market}\langle \mathrm{J}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{J}\rangle}+INV^{\langle \mathrm{J}\rangle}+X^{\langle \mathrm{J,A}\rangle}+X^{\langle \mathrm{J,B}\rangle}+X^{\langle \mathrm{J,C}\rangle}+X^{\langle \mathrm{J,D}\rangle}+X^{\langle \mathrm{J,E}\rangle}+X^{\langle \mathrm{J,F}\rangle}+X^{\langle \mathrm{J,G}\rangle}+X^{\langle \mathrm{J,H}\rangle}+X^{\langle \mathrm{J,I}\rangle}+X^{\langle \mathrm{J,J}\rangle}+X^{\langle \mathrm{J,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{J,1}\rangle}+sale^{\langle 10\rangle}D\right.$$
(16.179)

$$-EXCISE^{\langle \mathrm{K}\rangle}+excise^{\langle \mathrm{K}\rangle}p^{\mathrm{market}\langle \mathrm{K}\rangle}\left(D^{\mathrm{GOV}\langle \mathrm{K}\rangle}+INV^{\langle \mathrm{K}\rangle}+X^{\langle \mathrm{K,A}\rangle}+X^{\langle \mathrm{K,B}\rangle}+X^{\langle \mathrm{K,C}\rangle}+X^{\langle \mathrm{K,D}\rangle}+X^{\langle \mathrm{K,E}\rangle}+X^{\langle \mathrm{K,F}\rangle}+X^{\langle \mathrm{K,G}\rangle}+X^{\langle \mathrm{K,H}\rangle}+X^{\langle \mathrm{K,I}\rangle}+X^{\langle \mathrm{K,J}\rangle}+X^{\langle \mathrm{K,K}\rangle}+sale^{\langle 1\rangle}D^{\langle \mathrm{K,1}\rangle}+\right.$$
(16.180)

$$-EXPORT^{\mathrm{ROW}\langle \mathrm{eu}\rangle}+p^{\mathrm{for}\langle \mathrm{eu}\rangle}\left(EXP^{\langle \mathrm{eu,A}\rangle}+EXP^{\langle \mathrm{eu,B}\rangle}+EXP^{\langle \mathrm{eu,C}\rangle}+EXP^{\langle \mathrm{eu,D}\rangle}+EXP^{\langle \mathrm{eu,E}\rangle}+EXP^{\langle \mathrm{eu,F}\rangle}+EXP^{\langle \mathrm{eu,G}\rangle}+EXP^{\langle \mathrm{eu,H}\rangle}+EXP^{\langle \mathrm{eu,I}\rangle}+EXP^{\langle \mathrm{eu,J}\rangle}+EXP^{\langle \mathrm{eu,K}\rangle}\right)=0$$
(16.181)

$$-EXPORT^{\mathrm{ROW}\langle \mathrm{neu}\rangle}+p^{\mathrm{for}\langle \mathrm{neu}\rangle}\left(EXP^{\langle \mathrm{neu,A}\rangle}+EXP^{\langle \mathrm{neu,B}\rangle}+EXP^{\langle \mathrm{neu,C}\rangle}+EXP^{\langle \mathrm{neu,D}\rangle}+EXP^{\langle \mathrm{neu,E}\rangle}+EXP^{\langle \mathrm{neu,F}\rangle}+EXP^{\langle \mathrm{neu,G}\rangle}+EXP^{\langle \mathrm{neu,H}\rangle}+EXP^{\langle \mathrm{neu,I}\rangle}+EXP^{\langle \mathrm{neu,J}\rangle}+EXP^{\langle \mathrm{ne}\right.}$$
(16.182)

$$-IMPORT^{\langle \mathrm{A}\rangle}+\theta^{\mathrm{imp}\langle \mathrm{A}\rangle}\left(\alpha^{\mathrm{imp}\langle \mathrm{eu,A}\rangle}\left(am^{\mathrm{imp}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,A}\rangle}\right)^{\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle}\right)}+\alpha^{\mathrm{imp}\langle \mathrm{neu,A}\rangle}\left(am^{\mathrm{imp}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,A}\rangle}\right)^{\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle}\right)}\right)^{\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle}\left(-1+\sigma^{\mathrm{imp}\langle \mathrm{A}\rangle}\right)^{-1}}=0$$
(16.183)

$$-IMPORT^{\langle B\rangle}+\theta^{\text{imp}\langle B\rangle}\left(\alpha^{\text{imp}\langle \text{eu,B}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,B}\rangle}\right)^{\sigma^{\text{imp}\langle B\rangle-1}\left(-1+\sigma^{\text{imp}\langle B\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,B}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,B}\rangle}\right)^{\sigma^{\text{imp}\langle B\rangle-1}\left(-1+\sigma^{\text{imp}\langle B\rangle}\right)}\right)^{\sigma^{\text{imp}\langle B\rangle}\left(-1+\sigma^{\text{imp}\langle B\rangle}\right)^{-1}}=0$$

$$(16.184)$$

$$-IMPORT^{\langle C\rangle}+\theta^{\text{imp}\langle C\rangle}\left(\alpha^{\text{imp}\langle \text{eu,C}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,C}\rangle}\right)^{\sigma^{\text{imp}\langle C\rangle-1}\left(-1+\sigma^{\text{imp}\langle C\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,C}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,C}\rangle}\right)^{\sigma^{\text{imp}\langle C\rangle-1}\left(-1+\sigma^{\text{imp}\langle C\rangle}\right)}\right)^{\sigma^{\text{imp}\langle C\rangle}\left(-1+\sigma^{\text{imp}\langle C\rangle}\right)^{-1}}=0$$

$$(16.185)$$

$$-IMPORT^{\langle D\rangle}+\theta^{\text{imp}\langle D\rangle}\left(\alpha^{\text{imp}\langle \text{eu,D}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,D}\rangle}\right)^{\sigma^{\text{imp}\langle D\rangle-1}\left(-1+\sigma^{\text{imp}\langle D\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,D}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,D}\rangle}\right)^{\sigma^{\text{imp}\langle D\rangle-1}\left(-1+\sigma^{\text{imp}\langle D\rangle}\right)}\right)^{\sigma^{\text{imp}\langle D\rangle}\left(-1+\sigma^{\text{imp}\langle D\rangle}\right)^{-1}}=0$$

$$(16.186)$$

$$-IMPORT^{\langle E\rangle}+\theta^{\text{imp}\langle E\rangle}\left(\alpha^{\text{imp}\langle \text{eu,E}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,E}\rangle}\right)^{\sigma^{\text{imp}\langle E\rangle-1}\left(-1+\sigma^{\text{imp}\langle E\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,E}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,E}\rangle}\right)^{\sigma^{\text{imp}\langle E\rangle-1}\left(-1+\sigma^{\text{imp}\langle E\rangle}\right)}\right)^{\sigma^{\text{imp}\langle E\rangle}\left(-1+\sigma^{\text{imp}\langle E\rangle}\right)^{-1}}=0$$

$$(16.187)$$

$$-IMPORT^{\langle F\rangle}+\theta^{\text{imp}\langle F\rangle}\left(\alpha^{\text{imp}\langle \text{eu,F}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,F}\rangle}\right)^{\sigma^{\text{imp}\langle F\rangle-1}\left(-1+\sigma^{\text{imp}\langle F\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,F}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,F}\rangle}\right)^{\sigma^{\text{imp}\langle F\rangle-1}\left(-1+\sigma^{\text{imp}\langle F\rangle}\right)}\right)^{\sigma^{\text{imp}\langle F\rangle}\left(-1+\sigma^{\text{imp}\langle F\rangle}\right)^{-1}}=0$$

$$(16.188)$$

$$-IMPORT^{\langle G\rangle}+\theta^{\text{imp}\langle G\rangle}\left(\alpha^{\text{imp}\langle \text{eu,G}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,G}\rangle}\right)^{\sigma^{\text{imp}\langle G\rangle-1}\left(-1+\sigma^{\text{imp}\langle G\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,G}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,G}\rangle}\right)^{\sigma^{\text{imp}\langle G\rangle-1}\left(-1+\sigma^{\text{imp}\langle G\rangle}\right)}\right)^{\sigma^{\text{imp}\langle G\rangle}\left(-1+\sigma^{\text{imp}\langle G\rangle}\right)^{-1}}=0$$

$$(16.189)$$

$$-IMPORT^{\langle H\rangle}+\theta^{\text{imp}\langle H\rangle}\left(\alpha^{\text{imp}\langle \text{eu,H}\rangle}\left(am^{\text{imp}\langle \text{eu}\rangle}IMP^{\langle \text{eu,H}\rangle}\right)^{\sigma^{\text{imp}\langle H\rangle-1}\left(-1+\sigma^{\text{imp}\langle H\rangle}\right)}+\alpha^{\text{imp}\langle \text{neu,H}\rangle}\left(am^{\text{imp}\langle \text{neu}\rangle}IMP^{\langle \text{neu,H}\rangle}\right)^{\sigma^{\text{imp}\langle H\rangle-1}\left(-1+\sigma^{\text{imp}\langle H\rangle}\right)}\right)^{\sigma^{\text{imp}\langle H\rangle}\left(-1+\sigma^{\text{imp}\langle H\rangle}\right)^{-1}}=0$$

$$(16.190)$$

$$-IMPORT^{\langle\text{I}\rangle} + \theta^{\text{imp}\,\langle\text{I}\rangle}\left(\alpha^{\text{imp}\,\langle\text{eu,I}\rangle}\left(am^{\text{imp}\,\langle\text{eu}\rangle}IMP^{\langle\text{eu,I}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{I}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{I}\rangle}\right)} + \alpha^{\text{imp}\,\langle\text{neu,I}\rangle}\left(am^{\text{imp}\,\langle\text{neu}\rangle}IMP^{\langle\text{neu,I}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{I}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{I}\rangle}\right)}\right)^{\sigma^{\text{imp}\,\langle\text{I}\rangle}\left(-1+\sigma^{\text{imp}\,\langle\text{I}\rangle}\right)^{-1}} = 0$$

(16.191)

$$-IMPORT^{\langle\text{J}\rangle} + \theta^{\text{imp}\,\langle\text{J}\rangle}\left(\alpha^{\text{imp}\,\langle\text{eu,J}\rangle}\left(am^{\text{imp}\,\langle\text{eu}\rangle}IMP^{\langle\text{eu,J}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{J}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{J}\rangle}\right)} + \alpha^{\text{imp}\,\langle\text{neu,J}\rangle}\left(am^{\text{imp}\,\langle\text{neu}\rangle}IMP^{\langle\text{neu,J}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{J}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{J}\rangle}\right)}\right)^{\sigma^{\text{imp}\,\langle\text{J}\rangle}\left(-1+\sigma^{\text{imp}\,\langle\text{J}\rangle}\right)^{-1}} = 0$$

(16.192)

$$-IMPORT^{\langle\text{K}\rangle} + \theta^{\text{imp}\,\langle\text{K}\rangle}\left(\alpha^{\text{imp}\,\langle\text{eu,K}\rangle}\left(am^{\text{imp}\,\langle\text{eu}\rangle}IMP^{\langle\text{eu,K}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{K}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{K}\rangle}\right)} + \alpha^{\text{imp}\,\langle\text{neu,K}\rangle}\left(am^{\text{imp}\,\langle\text{neu}\rangle}IMP^{\langle\text{neu,K}\rangle}\right)^{\sigma^{\text{imp}\,\langle\text{K}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle\text{K}\rangle}\right)}\right)^{\sigma^{\text{imp}\,\langle\text{K}\rangle}\left(-1+\sigma^{\text{imp}\,\langle\text{K}\rangle}\right)^{-1}} = 0$$

(16.193)

$$-IMPORT^{\text{ROW}\,\langle\text{eu}\rangle} + p^{\text{for}\,\langle\text{eu}\rangle}ex^{\text{rate}\,\langle\text{eu}\rangle}\left(IMP^{\langle\text{eu,A}\rangle} + IMP^{\langle\text{eu,B}\rangle} + IMP^{\langle\text{eu,C}\rangle} + IMP^{\langle\text{eu,D}\rangle} + IMP^{\langle\text{eu,E}\rangle} + IMP^{\langle\text{eu,F}\rangle} + IMP^{\langle\text{eu,G}\rangle} + IMP^{\langle\text{eu,H}\rangle} + IMP^{\langle\text{eu,I}\rangle} + IMP^{\langle\text{eu,J}\rangle} + IMP^{\langle\text{eu,K}\rangle}\right) =$$

(16.194)

$$-IMPORT^{\text{ROW}\,\langle\text{neu}\rangle} + p^{\text{for}\,\langle\text{neu}\rangle}ex^{\text{rate}\,\langle\text{neu}\rangle}\left(IMP^{\langle\text{neu,A}\rangle} + IMP^{\langle\text{neu,B}\rangle} + IMP^{\langle\text{neu,C}\rangle} + IMP^{\langle\text{neu,D}\rangle} + IMP^{\langle\text{neu,E}\rangle} + IMP^{\langle\text{neu,F}\rangle} + IMP^{\langle\text{neu,G}\rangle} + IMP^{\langle\text{neu,H}\rangle} + IMP^{\langle\text{neu,I}\rangle} + IMP^{\langle\text{neu,J}\rangle} +$$

(16.195)

$$-SAV^{\langle 1\rangle} + sav^{\langle 1\rangle}INC^{\langle 1\rangle} = 0$$

(16.196)

$$-SAV^{\langle 10\rangle} + sav^{\langle 10\rangle}INC^{\langle 10\rangle} = 0$$

(16.197)

$$-SAV^{\langle 2\rangle} + sav^{\langle 2\rangle}INC^{\langle 2\rangle} = 0$$

(16.198)

$$-SAV^{\langle 3\rangle} + sav^{\langle 3\rangle}INC^{\langle 3\rangle} = 0$$

(16.199)

$$-SAV^{\langle 4\rangle} + sav^{\langle 4\rangle}INC^{\langle 4\rangle} = 0$$

(16.200)

$$-SAV^{\langle 5\rangle} + sav^{\langle 5\rangle}INC^{\langle 5\rangle} = 0$$

(16.201)

$$-SAV^{\langle 6 \rangle} + sav^{\langle 6 \rangle} INC^{\langle 6 \rangle} = 0 \tag{16.202}$$

$$-SAV^{\langle 7 \rangle} + sav^{\langle 7 \rangle} INC^{\langle 7 \rangle} = 0 \tag{16.203}$$

$$-SAV^{\langle 8 \rangle} + sav^{\langle 8 \rangle} INC^{\langle 8 \rangle} = 0 \tag{16.204}$$

$$-SAV^{\langle 9 \rangle} + sav^{\langle 9 \rangle} INC^{\langle 9 \rangle} = 0 \tag{16.205}$$

$$-SUB^{\mathrm{s}\langle A \rangle} + sub^{\mathrm{rate}\langle A \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,A \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,A \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,A \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,A \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,A \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,A \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,A \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,A \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,A \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,A \rangle} \right. \tag{16.206}$$

$$-SUB^{\mathrm{s}\langle B \rangle} + sub^{\mathrm{rate}\langle B \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,B \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,B \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,B \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,B \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,B \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,B \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,B \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,B \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,B \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,B \rangle} \right. \tag{16.207}$$

$$-SUB^{\mathrm{s}\langle C \rangle} + sub^{\mathrm{rate}\langle C \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,C \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,C \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,C \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,C \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,C \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,C \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,C \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,C \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,C \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,C \rangle} \right. \tag{16.208}$$

$$-SUB^{\mathrm{s}\langle D \rangle} + sub^{\mathrm{rate}\langle D \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,D \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,D \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,D \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,D \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,D \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,D \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,D \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,D \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,D \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,D \rangle} \right. \tag{16.209}$$

$$-SUB^{\mathrm{s}\langle E \rangle} + sub^{\mathrm{rate}\langle E \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,E \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,E \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,E \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,E \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,E \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,E \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,E \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,E \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,E \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,E \rangle} \right. \tag{16.210}$$

$$-SUB^{\mathrm{s}\langle F \rangle} + sub^{\mathrm{rate}\langle F \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,F \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,F \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,F \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,F \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,F \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,F \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,F \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,F \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,F \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,F \rangle} \right. \tag{16.211}$$

$$-SUB^{\mathrm{s}\langle G \rangle} + sub^{\mathrm{rate}\langle G \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,G \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,G \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,G \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,G \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,G \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,G \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,G \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,G \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,G \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,G \rangle} \right. \tag{16.212}$$

$$-SUB^{\mathrm{s}\langle H \rangle} + sub^{\mathrm{rate}\langle H \rangle} \left(p^{\mathrm{int}\langle A \rangle} X^{\langle A,H \rangle} + p^{\mathrm{int}\langle B \rangle} X^{\langle B,H \rangle} + p^{\mathrm{int}\langle C \rangle} X^{\langle C,H \rangle} + p^{\mathrm{int}\langle D \rangle} X^{\langle D,H \rangle} + p^{\mathrm{int}\langle E \rangle} X^{\langle E,H \rangle} + p^{\mathrm{int}\langle F \rangle} X^{\langle F,H \rangle} + p^{\mathrm{int}\langle G \rangle} X^{\langle G,H \rangle} + p^{\mathrm{int}\langle H \rangle} X^{\langle H,H \rangle} + p^{\mathrm{int}\langle I \rangle} X^{\langle I,H \rangle} + p^{\mathrm{int}\langle J \rangle} X^{\langle J,H \rangle} \right. \tag{16.213}$$

$$-SUB^{\mathrm{s}\langle\mathrm{I}\rangle}+sub^{\mathrm{rate}\langle\mathrm{I}\rangle}\left(p^{\mathrm{int}\langle\mathrm{A}\rangle}X^{\langle\mathrm{A,I}\rangle}+p^{\mathrm{int}\langle\mathrm{B}\rangle}X^{\langle\mathrm{B,I}\rangle}+p^{\mathrm{int}\langle\mathrm{C}\rangle}X^{\langle\mathrm{C,I}\rangle}+p^{\mathrm{int}\langle\mathrm{D}\rangle}X^{\langle\mathrm{D,I}\rangle}+p^{\mathrm{int}\langle\mathrm{E}\rangle}X^{\langle\mathrm{E,I}\rangle}+p^{\mathrm{int}\langle\mathrm{F}\rangle}X^{\langle\mathrm{F,I}\rangle}+p^{\mathrm{int}\langle\mathrm{G}\rangle}X^{\langle\mathrm{G,I}\rangle}+p^{\mathrm{int}\langle\mathrm{H}\rangle}X^{\langle\mathrm{H,I}\rangle}+p^{\mathrm{int}\langle\mathrm{I}\rangle}X^{\langle\mathrm{I,I}\rangle}+p^{\mathrm{int}\langle\mathrm{J}\rangle}X^{\langle\mathrm{J,I}\rangle}+p^{\mathrm{int}\langle\mathrm{I}}$$

$$(16.214)$$

$$-SUB^{\mathrm{s}\langle\mathrm{J}\rangle}+sub^{\mathrm{rate}\langle\mathrm{J}\rangle}\left(p^{\mathrm{int}\langle\mathrm{A}\rangle}X^{\langle\mathrm{A,J}\rangle}+p^{\mathrm{int}\langle\mathrm{B}\rangle}X^{\langle\mathrm{B,J}\rangle}+p^{\mathrm{int}\langle\mathrm{C}\rangle}X^{\langle\mathrm{C,J}\rangle}+p^{\mathrm{int}\langle\mathrm{D}\rangle}X^{\langle\mathrm{D,J}\rangle}+p^{\mathrm{int}\langle\mathrm{E}\rangle}X^{\langle\mathrm{E,J}\rangle}+p^{\mathrm{int}\langle\mathrm{F}\rangle}X^{\langle\mathrm{F,J}\rangle}+p^{\mathrm{int}\langle\mathrm{G}\rangle}X^{\langle\mathrm{G,J}\rangle}+p^{\mathrm{int}\langle\mathrm{H}\rangle}X^{\langle\mathrm{H,J}\rangle}+p^{\mathrm{int}\langle\mathrm{I}\rangle}X^{\langle\mathrm{I,J}\rangle}+p^{\mathrm{int}\langle\mathrm{J}\rangle}X^{\langle\mathrm{J,J}\rangle}+p$$

$$(16.215)$$

$$-SUB^{\mathrm{s}\langle\mathrm{K}\rangle}+sub^{\mathrm{rate}\langle\mathrm{K}\rangle}\left(p^{\mathrm{int}\langle\mathrm{A}\rangle}X^{\langle\mathrm{A,K}\rangle}+p^{\mathrm{int}\langle\mathrm{B}\rangle}X^{\langle\mathrm{B,K}\rangle}+p^{\mathrm{int}\langle\mathrm{C}\rangle}X^{\langle\mathrm{C,K}\rangle}+p^{\mathrm{int}\langle\mathrm{D}\rangle}X^{\langle\mathrm{D,K}\rangle}+p^{\mathrm{int}\langle\mathrm{E}\rangle}X^{\langle\mathrm{E,K}\rangle}+p^{\mathrm{int}\langle\mathrm{F}\rangle}X^{\langle\mathrm{F,K}\rangle}+p^{\mathrm{int}\langle\mathrm{G}\rangle}X^{\langle\mathrm{G,K}\rangle}+p^{\mathrm{int}\langle\mathrm{H}\rangle}X^{\langle\mathrm{H,K}\rangle}+p^{\mathrm{int}\langle\mathrm{I}\rangle}X^{\langle\mathrm{I,K}\rangle}+p^{\mathrm{int}\langle\mathrm{J}\rangle}X^{\langle\mathrm{J,K}}$$

$$(16.216)$$

$$-SUB^{\mathrm{p}\langle\mathrm{A}\rangle}+sub^{\mathrm{p}\langle\mathrm{A}\rangle}ARM^{\langle\mathrm{A}\rangle}=0 \tag{16.217}$$

$$-SUB^{\mathrm{p}\langle\mathrm{B}\rangle}+sub^{\mathrm{p}\langle\mathrm{B}\rangle}ARM^{\langle\mathrm{B}\rangle}=0 \tag{16.218}$$

$$-SUB^{\mathrm{p}\langle\mathrm{C}\rangle}+sub^{\mathrm{p}\langle\mathrm{C}\rangle}ARM^{\langle\mathrm{C}\rangle}=0 \tag{16.219}$$

$$-SUB^{\mathrm{p}\langle\mathrm{D}\rangle}+sub^{\mathrm{p}\langle\mathrm{D}\rangle}ARM^{\langle\mathrm{D}\rangle}=0 \tag{16.220}$$

$$-SUB^{\mathrm{p}\langle\mathrm{E}\rangle}+sub^{\mathrm{p}\langle\mathrm{E}\rangle}ARM^{\langle\mathrm{E}\rangle}=0 \tag{16.221}$$

$$-SUB^{\mathrm{p}\langle\mathrm{F}\rangle}+sub^{\mathrm{p}\langle\mathrm{F}\rangle}ARM^{\langle\mathrm{F}\rangle}=0 \tag{16.222}$$

$$-SUB^{\mathrm{p}\langle\mathrm{G}\rangle}+sub^{\mathrm{p}\langle\mathrm{G}\rangle}ARM^{\langle\mathrm{G}\rangle}=0 \tag{16.223}$$

$$-SUB^{\mathrm{p}\langle\mathrm{H}\rangle}+sub^{\mathrm{p}\langle\mathrm{H}\rangle}ARM^{\langle\mathrm{H}\rangle}=0 \tag{16.224}$$

$$-SUB^{\mathrm{p}\langle\mathrm{I}\rangle}+sub^{\mathrm{p}\langle\mathrm{I}\rangle}ARM^{\langle\mathrm{I}\rangle}=0 \tag{16.225}$$

$$-SUB^{\mathrm{p}\langle\mathrm{J}\rangle}+sub^{\mathrm{p}\langle\mathrm{J}\rangle}ARM^{\langle\mathrm{J}\rangle}=0 \tag{16.226}$$

$$-SUB^{\mathrm{p}\langle\mathrm{K}\rangle}+sub^{\mathrm{p}\langle\mathrm{K}\rangle}ARM^{\langle\mathrm{K}\rangle}=0 \tag{16.227}$$

$$-TAX^{\mathrm{s}\langle \mathrm{A}\rangle}+tax^{\mathrm{rate}\langle \mathrm{A}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,A}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,A}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,A}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,A}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,A}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,A}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,A}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,A}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,A}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,A}\rangle}\right.$$

(16.228)

$$-TAX^{\mathrm{s}\langle \mathrm{B}\rangle}+tax^{\mathrm{rate}\langle \mathrm{B}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,B}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,B}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,B}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,B}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,B}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,B}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,B}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,B}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,B}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,B}\rangle}\right.$$

(16.229)

$$-TAX^{\mathrm{s}\langle \mathrm{C}\rangle}+tax^{\mathrm{rate}\langle \mathrm{C}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,C}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,C}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,C}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,C}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,C}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,C}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,C}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,C}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,C}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,C}\rangle}\right.$$

(16.230)

$$-TAX^{\mathrm{s}\langle \mathrm{D}\rangle}+tax^{\mathrm{rate}\langle \mathrm{D}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,D}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,D}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,D}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,D}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,D}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,D}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,D}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,D}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,D}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,D}\rangle}\right.$$

(16.231)

$$-TAX^{\mathrm{s}\langle \mathrm{E}\rangle}+tax^{\mathrm{rate}\langle \mathrm{E}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,E}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,E}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,E}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,E}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,E}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,E}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,E}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,E}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,E}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,E}\rangle}\right.$$

(16.232)

$$-TAX^{\mathrm{s}\langle \mathrm{F}\rangle}+tax^{\mathrm{rate}\langle \mathrm{F}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,F}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,F}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,F}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,F}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,F}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,F}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,F}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,F}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,F}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,F}\rangle}\right.$$

(16.233)

$$-TAX^{\mathrm{s}\langle \mathrm{G}\rangle}+tax^{\mathrm{rate}\langle \mathrm{G}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,G}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,G}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,G}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,G}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,G}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,G}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,G}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,G}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,G}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,G}\rangle}\right.$$

(16.234)

$$-TAX^{\mathrm{s}\langle \mathrm{H}\rangle}+tax^{\mathrm{rate}\langle \mathrm{H}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,H}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,H}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,H}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,H}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,H}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,H}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,H}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,H}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,H}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,H}\rangle}\right.$$

(16.235)

$$-TAX^{\mathrm{s}\langle \mathrm{I}\rangle}+tax^{\mathrm{rate}\langle \mathrm{I}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,I}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,I}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,I}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,I}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,I}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,I}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,I}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,I}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,I}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,I}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}\right.$$

(16.236)

$$-TAX^{\mathrm{s}\langle \mathrm{J}\rangle}+tax^{\mathrm{rate}\langle \mathrm{J}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,J}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,J}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,J}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,J}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,J}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,J}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,J}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,J}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,J}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,J}\rangle}+p\right.$$

(16.237)

$$-TAX^{\mathrm{s}\langle \mathrm{K}\rangle}+tax^{\mathrm{rate}\langle \mathrm{K}\rangle}\left(p^{\mathrm{int}\langle \mathrm{A}\rangle}X^{\langle \mathrm{A,K}\rangle}+p^{\mathrm{int}\langle \mathrm{B}\rangle}X^{\langle \mathrm{B,K}\rangle}+p^{\mathrm{int}\langle \mathrm{C}\rangle}X^{\langle \mathrm{C,K}\rangle}+p^{\mathrm{int}\langle \mathrm{D}\rangle}X^{\langle \mathrm{D,K}\rangle}+p^{\mathrm{int}\langle \mathrm{E}\rangle}X^{\langle \mathrm{E,K}\rangle}+p^{\mathrm{int}\langle \mathrm{F}\rangle}X^{\langle \mathrm{F,K}\rangle}+p^{\mathrm{int}\langle \mathrm{G}\rangle}X^{\langle \mathrm{G,K}\rangle}+p^{\mathrm{int}\langle \mathrm{H}\rangle}X^{\langle \mathrm{H,K}\rangle}+p^{\mathrm{int}\langle \mathrm{I}\rangle}X^{\langle \mathrm{I,K}\rangle}+p^{\mathrm{int}\langle \mathrm{J}\rangle}X^{\langle \mathrm{J,K}\rangle}\right.$$

(16.238)

$$-THBANK^{\langle 1\rangle}+\alpha uh^{\mathrm{b}\langle 1\rangle}INC^{\langle 1\rangle}=0 \tag{16.239}$$

$$-THBANK^{\langle 10\rangle}+\alpha uh^{\mathrm{b}\langle 10\rangle}INC^{\langle 10\rangle}=0 \tag{16.240}$$

$$-THBANK^{\langle 2\rangle}+\alpha uh^{\mathrm{b}\langle 2\rangle}INC^{\langle 2\rangle}=0 \tag{16.241}$$

$$-THBANK^{\langle 3\rangle}+\alpha uh^{\mathrm{b}\langle 3\rangle}INC^{\langle 3\rangle}=0 \tag{16.242}$$

$$-THBANK^{\langle 4\rangle}+\alpha uh^{\mathrm{b}\langle 4\rangle}INC^{\langle 4\rangle}=0 \tag{16.243}$$

$$-THBANK^{\langle 5\rangle}+\alpha uh^{\mathrm{b}\langle 5\rangle}INC^{\langle 5\rangle}=0 \tag{16.244}$$

$$-THBANK^{\langle 6\rangle}+\alpha uh^{\mathrm{b}\langle 6\rangle}INC^{\langle 6\rangle}=0 \tag{16.245}$$

$$-THBANK^{\langle 7\rangle}+\alpha uh^{\mathrm{b}\langle 7\rangle}INC^{\langle 7\rangle}=0 \tag{16.246}$$

$$-THBANK^{\langle 8\rangle}+\alpha uh^{\mathrm{b}\langle 8\rangle}INC^{\langle 8\rangle}=0 \tag{16.247}$$

$$-THBANK^{\langle 9\rangle}+\alpha uh^{\mathrm{b}\langle 9\rangle}INC^{\langle 9\rangle}=0 \tag{16.248}$$

$$-TROWFIRM^{\langle \mathrm{eu}\rangle}+t^{\mathrm{rf}\langle \mathrm{eu}\rangle}EXP^{\mathrm{ROW}\langle \mathrm{eu}\rangle}=0 \tag{16.249}$$

$$-TROWFIRM^{\langle \mathrm{neu}\rangle}+t^{\mathrm{rf}\langle \mathrm{neu}\rangle}EXP^{\mathrm{ROW}\langle \mathrm{neu}\rangle}=0 \tag{16.250}$$

$$-TROWBANK^{\langle \mathrm{eu}\rangle}+t^{\mathrm{rb}\langle \mathrm{eu}\rangle}EXP^{\mathrm{ROW}\langle \mathrm{eu}\rangle}=0 \tag{16.251}$$

$$-TROWBANK^{\langle \mathrm{neu}\rangle}+t^{\mathrm{rb}\langle \mathrm{neu}\rangle}EXP^{\mathrm{ROW}\langle \mathrm{neu}\rangle}=0 \tag{16.252}$$

$$-TROWGOV^{\langle\mathrm{eu}\rangle} + t^{\mathrm{rg}\,\langle\mathrm{eu}\rangle} EXP^{\mathrm{ROW}\,\langle\mathrm{eu}\rangle} = 0 \tag{16.253}$$

$$-TROWGOV^{\langle\mathrm{neu}\rangle} + t^{\mathrm{rg}\,\langle\mathrm{neu}\rangle} EXP^{\mathrm{ROW}\,\langle\mathrm{neu}\rangle} = 0 \tag{16.254}$$

$$U^{\langle 1\rangle} - \left(\alpha^{\mathrm{u}\langle 1\rangle} DEM^{\langle 1\rangle\,\omega^{\mathrm{u}\langle 1\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right) LEIS^{\langle 1\rangle\,\omega^{\mathrm{u}\langle 1\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 1\rangle}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)^{-1}} = 0 \tag{16.255}$$

$$U^{\langle 10\rangle} - \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle\,\omega^{\mathrm{u}\langle 10\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle\,\omega^{\mathrm{u}\langle 10\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 10\rangle}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)^{-1}} = 0 \tag{16.256}$$

$$U^{\langle 2\rangle} - \left(\alpha^{\mathrm{u}\langle 2\rangle} DEM^{\langle 2\rangle\,\omega^{\mathrm{u}\langle 2\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 2\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 2\rangle}\right) LEIS^{\langle 2\rangle\,\omega^{\mathrm{u}\langle 2\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 2\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 2\rangle}\left(-1+\omega^{\mathrm{u}\langle 2\rangle}\right)^{-1}} = 0 \tag{16.257}$$

$$U^{\langle 3\rangle} - \left(\alpha^{\mathrm{u}\langle 3\rangle} DEM^{\langle 3\rangle\,\omega^{\mathrm{u}\langle 3\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 3\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 3\rangle}\right) LEIS^{\langle 3\rangle\,\omega^{\mathrm{u}\langle 3\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 3\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 3\rangle}\left(-1+\omega^{\mathrm{u}\langle 3\rangle}\right)^{-1}} = 0 \tag{16.258}$$

$$U^{\langle 4\rangle} - \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle\,\omega^{\mathrm{u}\langle 4\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle\,\omega^{\mathrm{u}\langle 4\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)^{-1}} = 0 \tag{16.259}$$

$$U^{\langle 5\rangle} - \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle\,\omega^{\mathrm{u}\langle 5\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle\,\omega^{\mathrm{u}\langle 5\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)^{-1}} = 0 \tag{16.260}$$

$$U^{\langle 6\rangle} - \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle\,\omega^{\mathrm{u}\langle 6\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 6\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle\,\omega^{\mathrm{u}\langle 6\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 6\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 6\rangle}\left(-1+\omega^{\mathrm{u}\langle 6\rangle}\right)^{-1}} = 0 \tag{16.261}$$

$$U^{\langle 7\rangle} - \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle\,\omega^{\mathrm{u}\langle 7\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle\,\omega^{\mathrm{u}\langle 7\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)^{-1}} = 0 \tag{16.262}$$

$$U^{\langle 8\rangle} - \left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle\,\omega^{\mathrm{u}\langle 8\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle\,\omega^{\mathrm{u}\langle 8\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)^{-1}} = 0 \tag{16.263}$$

$$U^{\langle 9\rangle} - \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle\,\omega^{\mathrm{u}\langle 9\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle\,\omega^{\mathrm{u}\langle 9\rangle -1}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)} \right)^{\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)^{-1}} = 0 \tag{16.264}$$

$$-VAT^{\langle\mathrm{A}\rangle} + vat^{\langle\mathrm{A}\rangle} p^{\mathrm{market}\,\langle\mathrm{A}\rangle} \left(1 + excise^{\langle\mathrm{A}\rangle}\right) \left(D^{\mathrm{GOV}\,\langle\mathrm{A}\rangle} + INV^{\langle\mathrm{A}\rangle} + scale^{\langle 1\rangle} D^{\langle\mathrm{A},1\rangle} + scale^{\langle 10\rangle} D^{\langle\mathrm{A},10\rangle} + scale^{\langle 2\rangle} D^{\langle\mathrm{A},2\rangle} + scale^{\langle 3\rangle} D^{\langle\mathrm{A},3\rangle} + scale^{\langle 4\rangle} D^{\langle\mathrm{A},4\rangle} + scale^{\langle 5\rangle} D^{\langle\mathrm{A},5\rangle} + scale^{\langle 6\rangle} D^{\langle\mathrm{A},6\rangle} + scale^{\langle} \tag{16.265}$$

$$-VAT^{\langle \mathrm{B}\rangle}+vat^{\langle \mathrm{B}\rangle}p^{\mathrm{market}\langle \mathrm{B}\rangle}\left(1+excise^{\langle \mathrm{B}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{B}\rangle}+INV^{\langle \mathrm{B}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{B},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{B},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{B},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{B},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{B},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{B},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{B},6\rangle}+scale^{\langle 7\rangle}\right.$$
$$(16.266)$$

$$-VAT^{\langle \mathrm{C}\rangle}+vat^{\langle \mathrm{C}\rangle}p^{\mathrm{market}\langle \mathrm{C}\rangle}\left(1+excise^{\langle \mathrm{C}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{C}\rangle}+INV^{\langle \mathrm{C}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{C},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{C},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{C},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{C},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{C},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{C},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{C},6\rangle}+scale^{\langle 7\rangle}\right.$$
$$(16.267)$$

$$-VAT^{\langle \mathrm{D}\rangle}+vat^{\langle \mathrm{D}\rangle}p^{\mathrm{market}\langle \mathrm{D}\rangle}\left(1+excise^{\langle \mathrm{D}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{D}\rangle}+INV^{\langle \mathrm{D}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{D},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{D},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{D},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{D},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{D},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{D},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{D},6\rangle}+scale^{\langle \rangle}\right.$$
$$(16.268)$$

$$-VAT^{\langle \mathrm{E}\rangle}+vat^{\langle \mathrm{E}\rangle}p^{\mathrm{market}\langle \mathrm{E}\rangle}\left(1+excise^{\langle \mathrm{E}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{E}\rangle}+INV^{\langle \mathrm{E}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{E},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{E},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{E},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{E},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{E},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{E},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{E},6\rangle}+scale^{\langle 7\rangle}\right.$$
$$(16.269)$$

$$-VAT^{\langle \mathrm{F}\rangle}+vat^{\langle \mathrm{F}\rangle}p^{\mathrm{market}\langle \mathrm{F}\rangle}\left(1+excise^{\langle \mathrm{F}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{F}\rangle}+INV^{\langle \mathrm{F}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{F},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{F},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{F},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{F},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{F},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{F},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{F},6\rangle}+scale^{\langle 7\rangle}\right.$$
$$(16.270)$$

$$-VAT^{\langle \mathrm{G}\rangle}+vat^{\langle \mathrm{G}\rangle}p^{\mathrm{market}\langle \mathrm{G}\rangle}\left(1+excise^{\langle \mathrm{G}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{G}\rangle}+INV^{\langle \mathrm{G}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{G},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{G},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{G},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{G},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{G},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{G},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{G},6\rangle}+scale\right.$$
$$(16.271)$$

$$-VAT^{\langle \mathrm{H}\rangle}+vat^{\langle \mathrm{H}\rangle}p^{\mathrm{market}\langle \mathrm{H}\rangle}\left(1+excise^{\langle \mathrm{H}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{H}\rangle}+INV^{\langle \mathrm{H}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{H},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{H},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{H},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{H},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{H},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{H},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{H},6\rangle}+scale^{\langle \rangle}\right.$$
$$(16.272)$$

$$-VAT^{\langle \mathrm{I}\rangle}+vat^{\langle \mathrm{I}\rangle}p^{\mathrm{market}\langle \mathrm{I}\rangle}\left(1+excise^{\langle \mathrm{I}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{I}\rangle}+INV^{\langle \mathrm{I}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{I},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{I},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{I},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{I},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{I},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{I},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{I},6\rangle}+scale^{\langle 7\rangle}D^{\langle \mathrm{I},7\rangle}+\right.$$
$$(16.273)$$

$$-VAT^{\langle \mathrm{J}\rangle}+vat^{\langle \mathrm{J}\rangle}p^{\mathrm{market}\langle \mathrm{J}\rangle}\left(1+excise^{\langle \mathrm{J}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{J}\rangle}+INV^{\langle \mathrm{J}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{J},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{J},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{J},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{J},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{J},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{J},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{J},6\rangle}+scale^{\langle 7\rangle}D^{\langle \mathrm{J},\rangle}\right.$$
$$(16.274)$$

$$-VAT^{\langle \mathrm{K}\rangle}+vat^{\langle \mathrm{K}\rangle}p^{\mathrm{market}\langle \mathrm{K}\rangle}\left(1+excise^{\langle \mathrm{K}\rangle}\right)\left(D^{\mathrm{GOV}\langle \mathrm{K}\rangle}+INV^{\langle \mathrm{K}\rangle}+scale^{\langle 1\rangle}D^{\langle \mathrm{K},1\rangle}+scale^{\langle 10\rangle}D^{\langle \mathrm{K},10\rangle}+scale^{\langle 2\rangle}D^{\langle \mathrm{K},2\rangle}+scale^{\langle 3\rangle}D^{\langle \mathrm{K},3\rangle}+scale^{\langle 4\rangle}D^{\langle \mathrm{K},4\rangle}+scale^{\langle 5\rangle}D^{\langle \mathrm{K},5\rangle}+scale^{\langle 6\rangle}D^{\langle \mathrm{K},6\rangle}+scale^{\langle \rangle}\right.$$
$$(16.275)$$

$$-X^{\langle A,A\rangle} + \beta^{x\langle A,A\rangle}Y^{\mathrm{INT}\langle A\rangle} = 0 \tag{16.276}$$

$$-X^{\langle A,B\rangle} + \beta^{x\langle A,B\rangle}Y^{\mathrm{INT}\langle B\rangle} = 0 \tag{16.277}$$

$$-X^{\langle A,C\rangle} + \beta^{x\langle A,C\rangle}Y^{\mathrm{INT}\langle C\rangle} = 0 \tag{16.278}$$

$$-X^{\langle A,D\rangle} + \beta^{x\langle A,D\rangle}Y^{\mathrm{INT}\langle D\rangle} = 0 \tag{16.279}$$

$$-X^{\langle A,E\rangle} + \beta^{x\langle A,E\rangle}Y^{\mathrm{INT}\langle E\rangle} = 0 \tag{16.280}$$

$$-X^{\langle A,F\rangle} + \beta^{x\langle A,F\rangle}Y^{\mathrm{INT}\langle F\rangle} = 0 \tag{16.281}$$

$$-X^{\langle A,G\rangle} + \beta^{x\langle A,G\rangle}Y^{\mathrm{INT}\langle G\rangle} = 0 \tag{16.282}$$

$$-X^{\langle A,H\rangle} + \beta^{x\langle A,H\rangle}Y^{\mathrm{INT}\langle H\rangle} = 0 \tag{16.283}$$

$$-X^{\langle A,I\rangle} + \beta^{x\langle A,I\rangle}Y^{\mathrm{INT}\langle I\rangle} = 0 \tag{16.284}$$

$$-X^{\langle A,J\rangle} + \beta^{x\langle A,J\rangle}Y^{\mathrm{INT}\langle J\rangle} = 0 \tag{16.285}$$

$$-X^{\langle A,K\rangle} + \beta^{x\langle A,K\rangle}Y^{\mathrm{INT}\langle K\rangle} = 0 \tag{16.286}$$

$$-X^{\langle B,A\rangle} + \beta^{x\langle B,A\rangle}Y^{\mathrm{INT}\langle A\rangle} = 0 \tag{16.287}$$

$$-X^{\langle B,B\rangle} + \beta^{x\langle B,B\rangle}Y^{\mathrm{INT}\langle B\rangle} = 0 \tag{16.288}$$

$$-X^{\langle B,C\rangle} + \beta^{x\langle B,C\rangle}Y^{\mathrm{INT}\langle C\rangle} = 0 \tag{16.289}$$

$$-X^{\langle B,D\rangle} + \beta^{x\langle B,D\rangle}Y^{\mathrm{INT}\langle D\rangle} = 0 \tag{16.290}$$

$$-X^{\langle B,E\rangle} + \beta^{x\langle B,E\rangle}Y^{\mathrm{INT}\langle E\rangle} = 0 \tag{16.291}$$

$$-X^{\langle \text{B,F} \rangle} + \beta^{\text{x} \langle \text{B,F} \rangle} Y^{\text{INT} \langle \text{F} \rangle} = 0 \qquad (16.292)$$

$$-X^{\langle \text{B,G} \rangle} + \beta^{\text{x} \langle \text{B,G} \rangle} Y^{\text{INT} \langle \text{G} \rangle} = 0 \qquad (16.293)$$

$$-X^{\langle \text{B,H} \rangle} + \beta^{\text{x} \langle \text{B,H} \rangle} Y^{\text{INT} \langle \text{H} \rangle} = 0 \qquad (16.294)$$

$$-X^{\langle \text{B,I} \rangle} + \beta^{\text{x} \langle \text{B,I} \rangle} Y^{\text{INT} \langle \text{I} \rangle} = 0 \qquad (16.295)$$

$$-X^{\langle \text{B,J} \rangle} + \beta^{\text{x} \langle \text{B,J} \rangle} Y^{\text{INT} \langle \text{J} \rangle} = 0 \qquad (16.296)$$

$$-X^{\langle \text{B,K} \rangle} + \beta^{\text{x} \langle \text{B,K} \rangle} Y^{\text{INT} \langle \text{K} \rangle} = 0 \qquad (16.297)$$

$$-X^{\langle \text{C,A} \rangle} + \beta^{\text{x} \langle \text{C,A} \rangle} Y^{\text{INT} \langle \text{A} \rangle} = 0 \qquad (16.298)$$

$$-X^{\langle \text{C,B} \rangle} + \beta^{\text{x} \langle \text{C,B} \rangle} Y^{\text{INT} \langle \text{B} \rangle} = 0 \qquad (16.299)$$

$$-X^{\langle \text{C,C} \rangle} + \beta^{\text{x} \langle \text{C,C} \rangle} Y^{\text{INT} \langle \text{C} \rangle} = 0 \qquad (16.300)$$

$$-X^{\langle \text{C,D} \rangle} + \beta^{\text{x} \langle \text{C,D} \rangle} Y^{\text{INT} \langle \text{D} \rangle} = 0 \qquad (16.301)$$

$$-X^{\langle \text{C,E} \rangle} + \beta^{\text{x} \langle \text{C,E} \rangle} Y^{\text{INT} \langle \text{E} \rangle} = 0 \qquad (16.302)$$

$$-X^{\langle \text{C,F} \rangle} + \beta^{\text{x} \langle \text{C,F} \rangle} Y^{\text{INT} \langle \text{F} \rangle} = 0 \qquad (16.303)$$

$$-X^{\langle \text{C,G} \rangle} + \beta^{\text{x} \langle \text{C,G} \rangle} Y^{\text{INT} \langle \text{G} \rangle} = 0 \qquad (16.304)$$

$$-X^{\langle \text{C,H} \rangle} + \beta^{\text{x} \langle \text{C,H} \rangle} Y^{\text{INT} \langle \text{H} \rangle} = 0 \qquad (16.305)$$

$$-X^{\langle \text{C,I} \rangle} + \beta^{\text{x} \langle \text{C,I} \rangle} Y^{\text{INT} \langle \text{I} \rangle} = 0 \qquad (16.306)$$

$$-X^{\langle \text{C,J} \rangle} + \beta^{\text{x} \langle \text{C,J} \rangle} Y^{\text{INT} \langle \text{J} \rangle} = 0 \qquad (16.307)$$

$$-X^{\langle C,K \rangle} + \beta^{x\langle C,K \rangle} Y^{\text{INT}\langle K \rangle} = 0 \tag{16.308}$$

$$-X^{\langle D,A \rangle} + \beta^{x\langle D,A \rangle} Y^{\text{INT}\langle A \rangle} = 0 \tag{16.309}$$

$$-X^{\langle D,B \rangle} + \beta^{x\langle D,B \rangle} Y^{\text{INT}\langle B \rangle} = 0 \tag{16.310}$$

$$-X^{\langle D,C \rangle} + \beta^{x\langle D,C \rangle} Y^{\text{INT}\langle C \rangle} = 0 \tag{16.311}$$

$$-X^{\langle D,D \rangle} + \beta^{x\langle D,D \rangle} Y^{\text{INT}\langle D \rangle} = 0 \tag{16.312}$$

$$-X^{\langle D,E \rangle} + \beta^{x\langle D,E \rangle} Y^{\text{INT}\langle E \rangle} = 0 \tag{16.313}$$

$$-X^{\langle D,F \rangle} + \beta^{x\langle D,F \rangle} Y^{\text{INT}\langle F \rangle} = 0 \tag{16.314}$$

$$-X^{\langle D,G \rangle} + \beta^{x\langle D,G \rangle} Y^{\text{INT}\langle G \rangle} = 0 \tag{16.315}$$

$$-X^{\langle D,H \rangle} + \beta^{x\langle D,H \rangle} Y^{\text{INT}\langle H \rangle} = 0 \tag{16.316}$$

$$-X^{\langle D,I \rangle} + \beta^{x\langle D,I \rangle} Y^{\text{INT}\langle I \rangle} = 0 \tag{16.317}$$

$$-X^{\langle D,J \rangle} + \beta^{x\langle D,J \rangle} Y^{\text{INT}\langle J \rangle} = 0 \tag{16.318}$$

$$-X^{\langle D,K \rangle} + \beta^{x\langle D,K \rangle} Y^{\text{INT}\langle K \rangle} = 0 \tag{16.319}$$

$$-X^{\langle E,A \rangle} + \beta^{x\langle E,A \rangle} Y^{\text{INT}\langle A \rangle} = 0 \tag{16.320}$$

$$-X^{\langle E,B \rangle} + \beta^{x\langle E,B \rangle} Y^{\text{INT}\langle B \rangle} = 0 \tag{16.321}$$

$$-X^{\langle E,C \rangle} + \beta^{x\langle E,C \rangle} Y^{\text{INT}\langle C \rangle} = 0 \tag{16.322}$$

$$-X^{\langle E,D \rangle} + \beta^{x\langle E,D \rangle} Y^{\text{INT}\langle D \rangle} = 0 \tag{16.323}$$

$$-X^{\langle \text{E},\text{E}\rangle} + \beta^{\text{x}\langle \text{E},\text{E}\rangle}Y^{\text{INT}\langle \text{E}\rangle} = 0 \tag{16.324}$$

$$-X^{\langle \text{E},\text{F}\rangle} + \beta^{\text{x}\langle \text{E},\text{F}\rangle}Y^{\text{INT}\langle \text{F}\rangle} = 0 \tag{16.325}$$

$$-X^{\langle \text{E},\text{G}\rangle} + \beta^{\text{x}\langle \text{E},\text{G}\rangle}Y^{\text{INT}\langle \text{G}\rangle} = 0 \tag{16.326}$$

$$-X^{\langle \text{E},\text{H}\rangle} + \beta^{\text{x}\langle \text{E},\text{H}\rangle}Y^{\text{INT}\langle \text{H}\rangle} = 0 \tag{16.327}$$

$$-X^{\langle \text{E},\text{I}\rangle} + \beta^{\text{x}\langle \text{E},\text{I}\rangle}Y^{\text{INT}\langle \text{I}\rangle} = 0 \tag{16.328}$$

$$-X^{\langle \text{E},\text{J}\rangle} + \beta^{\text{x}\langle \text{E},\text{J}\rangle}Y^{\text{INT}\langle \text{J}\rangle} = 0 \tag{16.329}$$

$$-X^{\langle \text{E},\text{K}\rangle} + \beta^{\text{x}\langle \text{E},\text{K}\rangle}Y^{\text{INT}\langle \text{K}\rangle} = 0 \tag{16.330}$$

$$-X^{\langle \text{F},\text{A}\rangle} + \beta^{\text{x}\langle \text{F},\text{A}\rangle}Y^{\text{INT}\langle \text{A}\rangle} = 0 \tag{16.331}$$

$$-X^{\langle \text{F},\text{B}\rangle} + \beta^{\text{x}\langle \text{F},\text{B}\rangle}Y^{\text{INT}\langle \text{B}\rangle} = 0 \tag{16.332}$$

$$-X^{\langle \text{F},\text{C}\rangle} + \beta^{\text{x}\langle \text{F},\text{C}\rangle}Y^{\text{INT}\langle \text{C}\rangle} = 0 \tag{16.333}$$

$$-X^{\langle \text{F},\text{D}\rangle} + \beta^{\text{x}\langle \text{F},\text{D}\rangle}Y^{\text{INT}\langle \text{D}\rangle} = 0 \tag{16.334}$$

$$-X^{\langle \text{F},\text{E}\rangle} + \beta^{\text{x}\langle \text{F},\text{E}\rangle}Y^{\text{INT}\langle \text{E}\rangle} = 0 \tag{16.335}$$

$$-X^{\langle \text{F},\text{F}\rangle} + \beta^{\text{x}\langle \text{F},\text{F}\rangle}Y^{\text{INT}\langle \text{F}\rangle} = 0 \tag{16.336}$$

$$-X^{\langle \text{F},\text{G}\rangle} + \beta^{\text{x}\langle \text{F},\text{G}\rangle}Y^{\text{INT}\langle \text{G}\rangle} = 0 \tag{16.337}$$

$$-X^{\langle \text{F},\text{H}\rangle} + \beta^{\text{x}\langle \text{F},\text{H}\rangle}Y^{\text{INT}\langle \text{H}\rangle} = 0 \tag{16.338}$$

$$-X^{\langle \text{F},\text{I}\rangle} + \beta^{\text{x}\langle \text{F},\text{I}\rangle}Y^{\text{INT}\langle \text{I}\rangle} = 0 \tag{16.339}$$

$$-X^{\langle \text{F,J}\rangle} + \beta^{\text{x}\langle \text{F,J}\rangle}Y^{\text{INT}\langle \text{J}\rangle} = 0 \tag{16.340}$$

$$-X^{\langle \text{F,K}\rangle} + \beta^{\text{x}\langle \text{F,K}\rangle}Y^{\text{INT}\langle \text{K}\rangle} = 0 \tag{16.341}$$

$$-X^{\langle \text{G,A}\rangle} + \beta^{\text{x}\langle \text{G,A}\rangle}Y^{\text{INT}\langle \text{A}\rangle} = 0 \tag{16.342}$$

$$-X^{\langle \text{G,B}\rangle} + \beta^{\text{x}\langle \text{G,B}\rangle}Y^{\text{INT}\langle \text{B}\rangle} = 0 \tag{16.343}$$

$$-X^{\langle \text{G,C}\rangle} + \beta^{\text{x}\langle \text{G,C}\rangle}Y^{\text{INT}\langle \text{C}\rangle} = 0 \tag{16.344}$$

$$-X^{\langle \text{G,D}\rangle} + \beta^{\text{x}\langle \text{G,D}\rangle}Y^{\text{INT}\langle \text{D}\rangle} = 0 \tag{16.345}$$

$$-X^{\langle \text{G,E}\rangle} + \beta^{\text{x}\langle \text{G,E}\rangle}Y^{\text{INT}\langle \text{E}\rangle} = 0 \tag{16.346}$$

$$-X^{\langle \text{G,F}\rangle} + \beta^{\text{x}\langle \text{G,F}\rangle}Y^{\text{INT}\langle \text{F}\rangle} = 0 \tag{16.347}$$

$$-X^{\langle \text{G,G}\rangle} + \beta^{\text{x}\langle \text{G,G}\rangle}Y^{\text{INT}\langle \text{G}\rangle} = 0 \tag{16.348}$$

$$-X^{\langle \text{G,H}\rangle} + \beta^{\text{x}\langle \text{G,H}\rangle}Y^{\text{INT}\langle \text{H}\rangle} = 0 \tag{16.349}$$

$$-X^{\langle \text{G,I}\rangle} + \beta^{\text{x}\langle \text{G,I}\rangle}Y^{\text{INT}\langle \text{I}\rangle} = 0 \tag{16.350}$$

$$-X^{\langle \text{G,J}\rangle} + \beta^{\text{x}\langle \text{G,J}\rangle}Y^{\text{INT}\langle \text{J}\rangle} = 0 \tag{16.351}$$

$$-X^{\langle \text{G,K}\rangle} + \beta^{\text{x}\langle \text{G,K}\rangle}Y^{\text{INT}\langle \text{K}\rangle} = 0 \tag{16.352}$$

$$-X^{\langle \text{H,A}\rangle} + \beta^{\text{x}\langle \text{H,A}\rangle}Y^{\text{INT}\langle \text{A}\rangle} = 0 \tag{16.353}$$

$$-X^{\langle \text{H,B}\rangle} + \beta^{\text{x}\langle \text{H,B}\rangle}Y^{\text{INT}\langle \text{B}\rangle} = 0 \tag{16.354}$$

$$-X^{\langle \text{H,C}\rangle} + \beta^{\text{x}\langle \text{H,C}\rangle}Y^{\text{INT}\langle \text{C}\rangle} = 0 \tag{16.355}$$

$$-X^{\langle \text{H,D} \rangle} + \beta^{\text{x} \langle \text{H,D} \rangle} Y^{\text{INT} \langle \text{D} \rangle} = 0 \tag{16.356}$$

$$-X^{\langle \text{H,E} \rangle} + \beta^{\text{x} \langle \text{H,E} \rangle} Y^{\text{INT} \langle \text{E} \rangle} = 0 \tag{16.357}$$

$$-X^{\langle \text{H,F} \rangle} + \beta^{\text{x} \langle \text{H,F} \rangle} Y^{\text{INT} \langle \text{F} \rangle} = 0 \tag{16.358}$$

$$-X^{\langle \text{H,G} \rangle} + \beta^{\text{x} \langle \text{H,G} \rangle} Y^{\text{INT} \langle \text{G} \rangle} = 0 \tag{16.359}$$

$$-X^{\langle \text{H,H} \rangle} + \beta^{\text{x} \langle \text{H,H} \rangle} Y^{\text{INT} \langle \text{H} \rangle} = 0 \tag{16.360}$$

$$-X^{\langle \text{H,I} \rangle} + \beta^{\text{x} \langle \text{H,I} \rangle} Y^{\text{INT} \langle \text{I} \rangle} = 0 \tag{16.361}$$

$$-X^{\langle \text{H,J} \rangle} + \beta^{\text{x} \langle \text{H,J} \rangle} Y^{\text{INT} \langle \text{J} \rangle} = 0 \tag{16.362}$$

$$-X^{\langle \text{H,K} \rangle} + \beta^{\text{x} \langle \text{H,K} \rangle} Y^{\text{INT} \langle \text{K} \rangle} = 0 \tag{16.363}$$

$$-X^{\langle \text{I,A} \rangle} + \beta^{\text{x} \langle \text{I,A} \rangle} Y^{\text{INT} \langle \text{A} \rangle} = 0 \tag{16.364}$$

$$-X^{\langle \text{I,B} \rangle} + \beta^{\text{x} \langle \text{I,B} \rangle} Y^{\text{INT} \langle \text{B} \rangle} = 0 \tag{16.365}$$

$$-X^{\langle \text{I,C} \rangle} + \beta^{\text{x} \langle \text{I,C} \rangle} Y^{\text{INT} \langle \text{C} \rangle} = 0 \tag{16.366}$$

$$-X^{\langle \text{I,D} \rangle} + \beta^{\text{x} \langle \text{I,D} \rangle} Y^{\text{INT} \langle \text{D} \rangle} = 0 \tag{16.367}$$

$$-X^{\langle \text{I,E} \rangle} + \beta^{\text{x} \langle \text{I,E} \rangle} Y^{\text{INT} \langle \text{E} \rangle} = 0 \tag{16.368}$$

$$-X^{\langle \text{I,F} \rangle} + \beta^{\text{x} \langle \text{I,F} \rangle} Y^{\text{INT} \langle \text{F} \rangle} = 0 \tag{16.369}$$

$$-X^{\langle \text{I,G} \rangle} + \beta^{\text{x} \langle \text{I,G} \rangle} Y^{\text{INT} \langle \text{G} \rangle} = 0 \tag{16.370}$$

$$-X^{\langle \text{I,H} \rangle} + \beta^{\text{x} \langle \text{I,H} \rangle} Y^{\text{INT} \langle \text{H} \rangle} = 0 \tag{16.371}$$

$$-X^{\langle \text{I,I} \rangle} + \beta^{\text{x} \langle \text{I,I} \rangle} Y^{\text{INT} \langle \text{I} \rangle} = 0 \qquad (16.372)$$

$$-X^{\langle \text{I,J} \rangle} + \beta^{\text{x} \langle \text{I,J} \rangle} Y^{\text{INT} \langle \text{J} \rangle} = 0 \qquad (16.373)$$

$$-X^{\langle \text{I,K} \rangle} + \beta^{\text{x} \langle \text{I,K} \rangle} Y^{\text{INT} \langle \text{K} \rangle} = 0 \qquad (16.374)$$

$$-X^{\langle \text{J,A} \rangle} + \beta^{\text{x} \langle \text{J,A} \rangle} Y^{\text{INT} \langle \text{A} \rangle} = 0 \qquad (16.375)$$

$$-X^{\langle \text{J,B} \rangle} + \beta^{\text{x} \langle \text{J,B} \rangle} Y^{\text{INT} \langle \text{B} \rangle} = 0 \qquad (16.376)$$

$$-X^{\langle \text{J,C} \rangle} + \beta^{\text{x} \langle \text{J,C} \rangle} Y^{\text{INT} \langle \text{C} \rangle} = 0 \qquad (16.377)$$

$$-X^{\langle \text{J,D} \rangle} + \beta^{\text{x} \langle \text{J,D} \rangle} Y^{\text{INT} \langle \text{D} \rangle} = 0 \qquad (16.378)$$

$$-X^{\langle \text{J,E} \rangle} + \beta^{\text{x} \langle \text{J,E} \rangle} Y^{\text{INT} \langle \text{E} \rangle} = 0 \qquad (16.379)$$

$$-X^{\langle \text{J,F} \rangle} + \beta^{\text{x} \langle \text{J,F} \rangle} Y^{\text{INT} \langle \text{F} \rangle} = 0 \qquad (16.380)$$

$$-X^{\langle \text{J,G} \rangle} + \beta^{\text{x} \langle \text{J,G} \rangle} Y^{\text{INT} \langle \text{G} \rangle} = 0 \qquad (16.381)$$

$$-X^{\langle \text{J,H} \rangle} + \beta^{\text{x} \langle \text{J,H} \rangle} Y^{\text{INT} \langle \text{H} \rangle} = 0 \qquad (16.382)$$

$$-X^{\langle \text{J,I} \rangle} + \beta^{\text{x} \langle \text{J,I} \rangle} Y^{\text{INT} \langle \text{I} \rangle} = 0 \qquad (16.383)$$

$$-X^{\langle \text{J,J} \rangle} + \beta^{\text{x} \langle \text{J,J} \rangle} Y^{\text{INT} \langle \text{J} \rangle} = 0 \qquad (16.384)$$

$$-X^{\langle \text{J,K} \rangle} + \beta^{\text{x} \langle \text{J,K} \rangle} Y^{\text{INT} \langle \text{K} \rangle} = 0 \qquad (16.385)$$

$$-X^{\langle \text{K,A} \rangle} + \beta^{\text{x} \langle \text{K,A} \rangle} Y^{\text{INT} \langle \text{A} \rangle} = 0 \qquad (16.386)$$

$$-X^{\langle \text{K,B} \rangle} + \beta^{\text{x} \langle \text{K,B} \rangle} Y^{\text{INT} \langle \text{B} \rangle} = 0 \qquad (16.387)$$

$$-X^{\langle K,C \rangle} + \beta^{x \langle K,C \rangle} Y^{INT \langle C \rangle} = 0 \tag{16.388}$$

$$-X^{\langle K,D \rangle} + \beta^{x \langle K,D \rangle} Y^{INT \langle D \rangle} = 0 \tag{16.389}$$

$$-X^{\langle K,E \rangle} + \beta^{x \langle K,E \rangle} Y^{INT \langle E \rangle} = 0 \tag{16.390}$$

$$-X^{\langle K,F \rangle} + \beta^{x \langle K,F \rangle} Y^{INT \langle F \rangle} = 0 \tag{16.391}$$

$$-X^{\langle K,G \rangle} + \beta^{x \langle K,G \rangle} Y^{INT \langle G \rangle} = 0 \tag{16.392}$$

$$-X^{\langle K,H \rangle} + \beta^{x \langle K,H \rangle} Y^{INT \langle H \rangle} = 0 \tag{16.393}$$

$$-X^{\langle K,I \rangle} + \beta^{x \langle K,I \rangle} Y^{INT \langle I \rangle} = 0 \tag{16.394}$$

$$-X^{\langle K,J \rangle} + \beta^{x \langle K,J \rangle} Y^{INT \langle J \rangle} = 0 \tag{16.395}$$

$$-X^{\langle K,K \rangle} + \beta^{x \langle K,K \rangle} Y^{INT \langle K \rangle} = 0 \tag{16.396}$$

$$-Y^{\langle A \rangle} + Y^{VA \langle A \rangle} = 0 \tag{16.397}$$

$$-Y^{\langle A \rangle} + \theta^{y \langle A \rangle} \left(\alpha^{prod^h \langle A \rangle} Y^{HOME \langle A \rangle \sigma^{fprod \langle A \rangle -1} \left(1 + \sigma^{fprod \langle A \rangle}\right)} + \alpha^{prod^e \langle A \rangle} EXPORT^{\langle A \rangle \sigma^{fprod \langle A \rangle -1} \left(1 + \sigma^{fprod \langle A \rangle}\right)} \right)^{\sigma^{fprod \langle A \rangle} \left(1 + \sigma^{fprod \langle A \rangle}\right)^{-1}} = 0 \tag{16.398}$$

$$-Y^{\langle B \rangle} + Y^{VA \langle B \rangle} = 0 \tag{16.399}$$

$$-Y^{\langle B \rangle} + \theta^{y \langle B \rangle} \left(\alpha^{prod^h \langle B \rangle} Y^{HOME \langle B \rangle \sigma^{fprod \langle B \rangle -1} \left(1 + \sigma^{fprod \langle B \rangle}\right)} + \alpha^{prod^e \langle B \rangle} EXPORT^{\langle B \rangle \sigma^{fprod \langle B \rangle -1} \left(1 + \sigma^{fprod \langle B \rangle}\right)} \right)^{\sigma^{fprod \langle B \rangle} \left(1 + \sigma^{fprod \langle B \rangle}\right)^{-1}} = 0 \tag{16.400}$$

$$-Y^{\langle C \rangle} + Y^{VA \langle C \rangle} = 0 \tag{16.401}$$

$$-Y^{\langle \mathrm{C}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{C}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{C}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{C}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{C}\rangle} EXPORT^{\langle \mathrm{C}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{C}\rangle}\right)^{-1}} = 0 \tag{16.402}$$

$$-Y^{\langle \mathrm{D}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{D}\rangle} = 0 \tag{16.403}$$

$$-Y^{\langle \mathrm{D}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{D}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{D}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{D}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{D}\rangle} EXPORT^{\langle \mathrm{D}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{D}\rangle}\right)^{-1}} = 0 \tag{16.404}$$

$$-Y^{\langle \mathrm{E}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{E}\rangle} = 0 \tag{16.405}$$

$$-Y^{\langle \mathrm{E}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{E}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{E}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{E}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{E}\rangle} EXPORT^{\langle \mathrm{E}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{E}\rangle}\right)^{-1}} = 0 \tag{16.406}$$

$$-Y^{\langle \mathrm{F}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{F}\rangle} = 0 \tag{16.407}$$

$$-Y^{\langle \mathrm{F}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{F}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{F}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{F}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{F}\rangle} EXPORT^{\langle \mathrm{F}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{F}\rangle}\right)^{-1}} = 0 \tag{16.408}$$

$$-Y^{\langle \mathrm{G}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{G}\rangle} = 0 \tag{16.409}$$

$$-Y^{\langle \mathrm{G}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{G}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{G}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{G}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{G}\rangle} EXPORT^{\langle \mathrm{G}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{G}\rangle}\right)^{-1}} = 0 \tag{16.410}$$

$$-Y^{\langle \mathrm{H}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{H}\rangle} = 0 \tag{16.411}$$

$$-Y^{\langle \mathrm{H}\rangle} + \theta^{\mathrm{y}\,\langle \mathrm{H}\rangle}\left(\alpha^{\mathrm{prod^h}\,\langle \mathrm{H}\rangle} Y^{\mathrm{HOME}\,\langle \mathrm{H}\rangle \, \sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle}\right)} + \alpha^{\mathrm{prod^e}\,\langle \mathrm{H}\rangle} EXPORT^{\langle \mathrm{H}\rangle\,\sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle -1}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle}\right)}\right)^{\sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle \mathrm{H}\rangle}\right)^{-1}} = 0 \tag{16.412}$$

$$-Y^{\langle \mathrm{I}\rangle} + Y^{\mathrm{VA}\,\langle \mathrm{I}\rangle} = 0 \tag{16.413}$$

$$-Y^{\langle\mathrm{I}\rangle} + \theta^{\mathrm{y}\,\langle\mathrm{I}\rangle}\left(\alpha^{\mathrm{prod}^{\mathrm{h}}\,\langle\mathrm{I}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{I}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}\right) + \alpha^{\mathrm{prod}^{\mathrm{e}}\,\langle\mathrm{I}\rangle}EXPORT^{\langle\mathrm{I}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}\right)\right)^{\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{I}\rangle}\right)^{-1}} = 0 \tag{16.414}$$

$$-Y^{\langle\mathrm{J}\rangle} + Y^{\mathrm{VA}\,\langle\mathrm{J}\rangle} = 0 \tag{16.415}$$

$$-Y^{\langle\mathrm{J}\rangle} + \theta^{\mathrm{y}\,\langle\mathrm{J}\rangle}\left(\alpha^{\mathrm{prod}^{\mathrm{h}}\,\langle\mathrm{J}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{J}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}\right) + \alpha^{\mathrm{prod}^{\mathrm{e}}\,\langle\mathrm{J}\rangle}EXPORT^{\langle\mathrm{J}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}\right)\right)^{\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{J}\rangle}\right)^{-1}} = 0 \tag{16.416}$$

$$-Y^{\langle\mathrm{K}\rangle} + Y^{\mathrm{VA}\,\langle\mathrm{K}\rangle} = 0 \tag{16.417}$$

$$-Y^{\langle\mathrm{K}\rangle} + \theta^{\mathrm{y}\,\langle\mathrm{K}\rangle}\left(\alpha^{\mathrm{prod}^{\mathrm{h}}\,\langle\mathrm{K}\rangle}Y^{\mathrm{HOME}\,\langle\mathrm{K}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}\right) + \alpha^{\mathrm{prod}^{\mathrm{e}}\,\langle\mathrm{K}\rangle}EXPORT^{\langle\mathrm{K}\rangle}{}^{\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}-1}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}\right)\right)^{\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}\left(1+\sigma^{\mathrm{fprod}\,\langle\mathrm{K}\rangle}\right)^{-1}} = 0 \tag{16.418}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{A}\rangle} + Y^{\mathrm{INT}\,\langle\mathrm{A}\rangle} = 0 \tag{16.419}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{A}\rangle} + \gamma^{\mathrm{yva}\,\langle\mathrm{A}\rangle}K^{\langle\mathrm{A}\rangle^{\beta^{\mathrm{k}\,\langle\mathrm{A}\rangle}}}L^{\langle\mathrm{A}\rangle^{\beta^{\mathrm{l}\,\langle\mathrm{A}\rangle}}} = 0 \tag{16.420}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{B}\rangle} + Y^{\mathrm{INT}\,\langle\mathrm{B}\rangle} = 0 \tag{16.421}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{B}\rangle} + \gamma^{\mathrm{yva}\,\langle\mathrm{B}\rangle}K^{\langle\mathrm{B}\rangle^{\beta^{\mathrm{k}\,\langle\mathrm{B}\rangle}}}L^{\langle\mathrm{B}\rangle^{\beta^{\mathrm{l}\,\langle\mathrm{B}\rangle}}} = 0 \tag{16.422}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{C}\rangle} + Y^{\mathrm{INT}\,\langle\mathrm{C}\rangle} = 0 \tag{16.423}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{C}\rangle} + \gamma^{\mathrm{yva}\,\langle\mathrm{C}\rangle}K^{\langle\mathrm{C}\rangle^{\beta^{\mathrm{k}\,\langle\mathrm{C}\rangle}}}L^{\langle\mathrm{C}\rangle^{\beta^{\mathrm{l}\,\langle\mathrm{C}\rangle}}} = 0 \tag{16.424}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{D}\rangle} + Y^{\mathrm{INT}\,\langle\mathrm{D}\rangle} = 0 \tag{16.425}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{D}\rangle} + \gamma^{\mathrm{yva}\,\langle\mathrm{D}\rangle}K^{\langle\mathrm{D}\rangle^{\beta^{\mathrm{k}\,\langle\mathrm{D}\rangle}}}L^{\langle\mathrm{D}\rangle^{\beta^{\mathrm{l}\,\langle\mathrm{D}\rangle}}} = 0 \tag{16.426}$$

$$-Y^{\mathrm{VA}\,\langle\mathrm{E}\rangle} + Y^{\mathrm{INT}\,\langle\mathrm{E}\rangle} = 0 \tag{16.427}$$

$$-Y^{\mathrm{VA}\langle\mathrm{E}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{E}\rangle} K^{\langle\mathrm{E}\rangle^{\beta^{\mathrm{k}\langle\mathrm{E}\rangle}}} L^{\langle\mathrm{E}\rangle^{\beta^{\mathrm{l}\langle\mathrm{E}\rangle}}} = 0 \tag{16.428}$$

$$-Y^{\mathrm{VA}\langle\mathrm{F}\rangle} + Y^{\mathrm{INT}\langle\mathrm{F}\rangle} = 0 \tag{16.429}$$

$$-Y^{\mathrm{VA}\langle\mathrm{F}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{F}\rangle} K^{\langle\mathrm{F}\rangle^{\beta^{\mathrm{k}\langle\mathrm{F}\rangle}}} L^{\langle\mathrm{F}\rangle^{\beta^{\mathrm{l}\langle\mathrm{F}\rangle}}} = 0 \tag{16.430}$$

$$-Y^{\mathrm{VA}\langle\mathrm{G}\rangle} + Y^{\mathrm{INT}\langle\mathrm{G}\rangle} = 0 \tag{16.431}$$

$$-Y^{\mathrm{VA}\langle\mathrm{G}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{G}\rangle} K^{\langle\mathrm{G}\rangle^{\beta^{\mathrm{k}\langle\mathrm{G}\rangle}}} L^{\langle\mathrm{G}\rangle^{\beta^{\mathrm{l}\langle\mathrm{G}\rangle}}} = 0 \tag{16.432}$$

$$-Y^{\mathrm{VA}\langle\mathrm{H}\rangle} + Y^{\mathrm{INT}\langle\mathrm{H}\rangle} = 0 \tag{16.433}$$

$$-Y^{\mathrm{VA}\langle\mathrm{H}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{H}\rangle} K^{\langle\mathrm{H}\rangle^{\beta^{\mathrm{k}\langle\mathrm{H}\rangle}}} L^{\langle\mathrm{H}\rangle^{\beta^{\mathrm{l}\langle\mathrm{H}\rangle}}} = 0 \tag{16.434}$$

$$-Y^{\mathrm{VA}\langle\mathrm{I}\rangle} + Y^{\mathrm{INT}\langle\mathrm{I}\rangle} = 0 \tag{16.435}$$

$$-Y^{\mathrm{VA}\langle\mathrm{I}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{I}\rangle} K^{\langle\mathrm{I}\rangle^{\beta^{\mathrm{k}\langle\mathrm{I}\rangle}}} L^{\langle\mathrm{I}\rangle^{\beta^{\mathrm{l}\langle\mathrm{I}\rangle}}} = 0 \tag{16.436}$$

$$-Y^{\mathrm{VA}\langle\mathrm{J}\rangle} + Y^{\mathrm{INT}\langle\mathrm{J}\rangle} = 0 \tag{16.437}$$

$$-Y^{\mathrm{VA}\langle\mathrm{J}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{J}\rangle} K^{\langle\mathrm{J}\rangle^{\beta^{\mathrm{k}\langle\mathrm{J}\rangle}}} L^{\langle\mathrm{J}\rangle^{\beta^{\mathrm{l}\langle\mathrm{J}\rangle}}} = 0 \tag{16.438}$$

$$-Y^{\mathrm{VA}\langle\mathrm{K}\rangle} + Y^{\mathrm{INT}\langle\mathrm{K}\rangle} = 0 \tag{16.439}$$

$$-Y^{\mathrm{VA}\langle\mathrm{K}\rangle} + \gamma^{\mathrm{yva}\langle\mathrm{K}\rangle} K^{\langle\mathrm{K}\rangle^{\beta^{\mathrm{k}\langle\mathrm{K}\rangle}}} L^{\langle\mathrm{K}\rangle^{\beta^{\mathrm{l}\langle\mathrm{K}\rangle}}} = 0 \tag{16.440}$$

$$k^{\mathrm{total^{data}}} \mathit{ouc}^{\langle 1\rangle} - \mathit{scale}^{\langle 1\rangle} K^{\langle 1\rangle} = 0 \tag{16.441}$$

$$k^{\mathrm{total^{data}}} \mathit{ouc}^{\langle 10\rangle} - \mathit{scale}^{\langle 10\rangle} K^{\langle 10\rangle} = 0 \tag{16.442}$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 2 \rangle} - scale^{\langle 2 \rangle} K^{\langle 2 \rangle} = 0 \qquad (16.443)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 3 \rangle} - scale^{\langle 3 \rangle} K^{\langle 3 \rangle} = 0 \qquad (16.444)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 4 \rangle} - scale^{\langle 4 \rangle} K^{\langle 4 \rangle} = 0 \qquad (16.445)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 5 \rangle} - scale^{\langle 5 \rangle} K^{\langle 5 \rangle} = 0 \qquad (16.446)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 6 \rangle} - scale^{\langle 6 \rangle} K^{\langle 6 \rangle} = 0 \qquad (16.447)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 7 \rangle} - scale^{\langle 7 \rangle} K^{\langle 7 \rangle} = 0 \qquad (16.448)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 8 \rangle} - scale^{\langle 8 \rangle} K^{\langle 8 \rangle} = 0 \qquad (16.449)$$

$$k^{\text{total}^{\text{data}}} auc^{\langle 9 \rangle} - scale^{\langle 9 \rangle} K^{\langle 9 \rangle} = 0 \qquad (16.450)$$

$$inv^{\langle \text{A} \rangle} INV - p^{\text{cons}\langle \text{A} \rangle} INV^{\langle \text{A} \rangle} = 0 \qquad (16.451)$$

$$inv^{\langle \text{B} \rangle} INV - p^{\text{cons}\langle \text{B} \rangle} INV^{\langle \text{B} \rangle} = 0 \qquad (16.452)$$

$$inv^{\langle \text{C} \rangle} INV - p^{\text{cons}\langle \text{C} \rangle} INV^{\langle \text{C} \rangle} = 0 \qquad (16.453)$$

$$inv^{\langle \text{D} \rangle} INV - p^{\text{cons}\langle \text{D} \rangle} INV^{\langle \text{D} \rangle} = 0 \qquad (16.454)$$

$$inv^{\langle \text{E} \rangle} INV - p^{\text{cons}\langle \text{E} \rangle} INV^{\langle \text{E} \rangle} = 0 \qquad (16.455)$$

$$inv^{\langle \text{F} \rangle} INV - p^{\text{cons}\langle \text{F} \rangle} INV^{\langle \text{F} \rangle} = 0 \qquad (16.456)$$

$$inv^{\langle \text{G} \rangle} INV - p^{\text{cons}\langle \text{G} \rangle} INV^{\langle \text{G} \rangle} = 0 \qquad (16.457)$$

$$inv^{\langle \text{H} \rangle} INV - p^{\text{cons}\langle \text{H} \rangle} INV^{\langle \text{H} \rangle} = 0 \qquad (16.458)$$

$$inv^{\langle\mathrm{I}\rangle}INV - p^{\mathrm{cons}\langle\mathrm{I}\rangle}INV^{\langle\mathrm{I}\rangle} = 0 \tag{16.459}$$

$$inv^{\langle\mathrm{J}\rangle}INV - p^{\mathrm{cons}\langle\mathrm{J}\rangle}INV^{\langle\mathrm{J}\rangle} = 0 \tag{16.460}$$

$$inv^{\langle\mathrm{K}\rangle}INV - p^{\mathrm{cons}\langle\mathrm{K}\rangle}INV^{\langle\mathrm{K}\rangle} = 0 \tag{16.461}$$

$$owf^{\langle1\rangle}INC^{\mathrm{FIRM}} - scale^{\langle1\rangle}TFIRMH^{\langle1\rangle} = 0 \tag{16.462}$$

$$owf^{\langle10\rangle}INC^{\mathrm{FIRM}} - scale^{\langle10\rangle}TFIRMH^{\langle10\rangle} = 0 \tag{16.463}$$

$$owf^{\langle2\rangle}INC^{\mathrm{FIRM}} - scale^{\langle2\rangle}TFIRMH^{\langle2\rangle} = 0 \tag{16.464}$$

$$owf^{\langle3\rangle}INC^{\mathrm{FIRM}} - scale^{\langle3\rangle}TFIRMH^{\langle3\rangle} = 0 \tag{16.465}$$

$$owf^{\langle4\rangle}INC^{\mathrm{FIRM}} - scale^{\langle4\rangle}TFIRMH^{\langle4\rangle} = 0 \tag{16.466}$$

$$owf^{\langle5\rangle}INC^{\mathrm{FIRM}} - scale^{\langle5\rangle}TFIRMH^{\langle5\rangle} = 0 \tag{16.467}$$

$$owf^{\langle6\rangle}INC^{\mathrm{FIRM}} - scale^{\langle6\rangle}TFIRMH^{\langle6\rangle} = 0 \tag{16.468}$$

$$owf^{\langle7\rangle}INC^{\mathrm{FIRM}} - scale^{\langle7\rangle}TFIRMH^{\langle7\rangle} = 0 \tag{16.469}$$

$$owf^{\langle8\rangle}INC^{\mathrm{FIRM}} - scale^{\langle8\rangle}TFIRMH^{\langle8\rangle} = 0 \tag{16.470}$$

$$owf^{\langle9\rangle}INC^{\mathrm{FIRM}} - scale^{\langle9\rangle}TFIRMH^{\langle9\rangle} = 0 \tag{16.471}$$

$$owf^{\langle\mathrm{eu}\rangle}INC^{\mathrm{FIRM}} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}TFIRMROW^{\langle\mathrm{eu}\rangle} = 0 \tag{16.472}$$

$$owf^{\langle\mathrm{neu}\rangle}INC^{\mathrm{FIRM}} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}TFIRMROW^{\langle\mathrm{neu}\rangle} = 0 \tag{16.473}$$

$$owh^{\mathrm{r}\langle1,\mathrm{eu}\rangle}INC^{\langle1\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle1,\mathrm{eu}\rangle} = 0 \tag{16.474}$$

$$auh^{\mathrm{r}\langle 1,\mathrm{neu}\rangle}INC^{\langle 1\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 1,\mathrm{neu}\rangle} = 0 \tag{16.475}$$

$$auh^{\mathrm{r}\langle 10,\mathrm{eu}\rangle}INC^{\langle 10\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 10,\mathrm{eu}\rangle} = 0 \tag{16.476}$$

$$auh^{\mathrm{r}\langle 10,\mathrm{neu}\rangle}INC^{\langle 10\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 10,\mathrm{neu}\rangle} = 0 \tag{16.477}$$

$$auh^{\mathrm{r}\langle 2,\mathrm{eu}\rangle}INC^{\langle 2\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 2,\mathrm{eu}\rangle} = 0 \tag{16.478}$$

$$auh^{\mathrm{r}\langle 2,\mathrm{neu}\rangle}INC^{\langle 2\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 2,\mathrm{neu}\rangle} = 0 \tag{16.479}$$

$$auh^{\mathrm{r}\langle 3,\mathrm{eu}\rangle}INC^{\langle 3\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 3,\mathrm{eu}\rangle} = 0 \tag{16.480}$$

$$auh^{\mathrm{r}\langle 3,\mathrm{neu}\rangle}INC^{\langle 3\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 3,\mathrm{neu}\rangle} = 0 \tag{16.481}$$

$$auh^{\mathrm{r}\langle 4,\mathrm{eu}\rangle}INC^{\langle 4\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 4,\mathrm{eu}\rangle} = 0 \tag{16.482}$$

$$auh^{\mathrm{r}\langle 4,\mathrm{neu}\rangle}INC^{\langle 4\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 4,\mathrm{neu}\rangle} = 0 \tag{16.483}$$

$$auh^{\mathrm{r}\langle 5,\mathrm{eu}\rangle}INC^{\langle 5\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 5,\mathrm{eu}\rangle} = 0 \tag{16.484}$$

$$auh^{\mathrm{r}\langle 5,\mathrm{neu}\rangle}INC^{\langle 5\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 5,\mathrm{neu}\rangle} = 0 \tag{16.485}$$

$$auh^{\mathrm{r}\langle 6,\mathrm{eu}\rangle}INC^{\langle 6\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 6,\mathrm{eu}\rangle} = 0 \tag{16.486}$$

$$auh^{\mathrm{r}\langle 6,\mathrm{neu}\rangle}INC^{\langle 6\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 6,\mathrm{neu}\rangle} = 0 \tag{16.487}$$

$$auh^{\mathrm{r}\langle 7,\mathrm{eu}\rangle}INC^{\langle 7\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 7,\mathrm{eu}\rangle} = 0 \tag{16.488}$$

$$auh^{\mathrm{r}\langle 7,\mathrm{neu}\rangle}INC^{\langle 7\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 7,\mathrm{neu}\rangle} = 0 \tag{16.489}$$

$$auh^{\mathrm{r}\langle 8,\mathrm{eu}\rangle}INC^{\langle 8\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 8,\mathrm{eu}\rangle} = 0 \tag{16.490}$$

$$auh^{\mathrm{r}\langle 8,\mathrm{neu}\rangle}INC^{\langle 8\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 8,\mathrm{neu}\rangle} = 0 \tag{16.491}$$

$$auh^{\mathrm{r}\langle 9,\mathrm{eu}\rangle}INC^{\langle 9\rangle} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 9,\mathrm{eu}\rangle} = 0 \tag{16.492}$$

$$auh^{\mathrm{r}\langle 9,\mathrm{neu}\rangle}INC^{\langle 9\rangle} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 9,\mathrm{neu}\rangle} = 0 \tag{16.493}$$

$$aub^{\mathrm{h}\langle 1\rangle}INC^{\mathrm{BANK}} - scale^{\langle 1\rangle}TBANKH^{\langle 1\rangle} = 0 \tag{16.494}$$

$$aub^{\mathrm{h}\langle 10\rangle}INC^{\mathrm{BANK}} - scale^{\langle 10\rangle}TBANKH^{\langle 10\rangle} = 0 \tag{16.495}$$

$$aub^{\mathrm{h}\langle 2\rangle}INC^{\mathrm{BANK}} - scale^{\langle 2\rangle}TBANKH^{\langle 2\rangle} = 0 \tag{16.496}$$

$$aub^{\mathrm{h}\langle 3\rangle}INC^{\mathrm{BANK}} - scale^{\langle 3\rangle}TBANKH^{\langle 3\rangle} = 0 \tag{16.497}$$

$$aub^{\mathrm{h}\langle 4\rangle}INC^{\mathrm{BANK}} - scale^{\langle 4\rangle}TBANKH^{\langle 4\rangle} = 0 \tag{16.498}$$

$$aub^{\mathrm{h}\langle 5\rangle}INC^{\mathrm{BANK}} - scale^{\langle 5\rangle}TBANKH^{\langle 5\rangle} = 0 \tag{16.499}$$

$$aub^{\mathrm{h}\langle 6\rangle}INC^{\mathrm{BANK}} - scale^{\langle 6\rangle}TBANKH^{\langle 6\rangle} = 0 \tag{16.500}$$

$$aub^{\mathrm{h}\langle 7\rangle}INC^{\mathrm{BANK}} - scale^{\langle 7\rangle}TBANKH^{\langle 7\rangle} = 0 \tag{16.501}$$

$$aub^{\mathrm{h}\langle 8\rangle}INC^{\mathrm{BANK}} - scale^{\langle 8\rangle}TBANKH^{\langle 8\rangle} = 0 \tag{16.502}$$

$$aub^{\mathrm{h}\langle 9\rangle}INC^{\mathrm{BANK}} - scale^{\langle 9\rangle}TBANKH^{\langle 9\rangle} = 0 \tag{16.503}$$

$$aub^{\mathrm{r}\langle\mathrm{eu}\rangle}INC^{\mathrm{BANK}} - ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}TBANKROW^{\langle\mathrm{eu}\rangle} = 0 \tag{16.504}$$

$$aub^{\mathrm{r}\langle\mathrm{neu}\rangle}INC^{\mathrm{BANK}} - ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}TBANKROW^{\langle\mathrm{neu}\rangle} = 0 \tag{16.505}$$

$$-scale^{\langle 1 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 1 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 1 \rangle}\right)LEIS^{\langle 1 \rangle^{-1+\omega^{\mathrm{u}\,\langle 1 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 1 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 1 \rangle}DEM^{\langle 1 \rangle^{\omega^{\mathrm{u}\,\langle 1 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 1 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 1 \rangle}\right)LEIS^{\langle 1 \rangle^{\omega^{\mathrm{u}\,\langle 1 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 1 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 1 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 1 \rangle}\right)^{-1}}=0$$

(16.506)

$$-scale^{\langle 10 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 10 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 10 \rangle}\right)LEIS^{\langle 10 \rangle^{-1+\omega^{\mathrm{u}\,\langle 10 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 10 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 10 \rangle}DEM^{\langle 10 \rangle^{\omega^{\mathrm{u}\,\langle 10 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 10 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 10 \rangle}\right)LEIS^{\langle 10 \rangle^{\omega^{\mathrm{u}\,\langle 10 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 10 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 10 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 10 \rangle}\right)^{-1}}=0$$

(16.507)

$$-scale^{\langle 2 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 2 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 2 \rangle}\right)LEIS^{\langle 2 \rangle^{-1+\omega^{\mathrm{u}\,\langle 2 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 2 \rangle}DEM^{\langle 2 \rangle^{\omega^{\mathrm{u}\,\langle 2 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 2 \rangle}\right)LEIS^{\langle 2 \rangle^{\omega^{\mathrm{u}\,\langle 2 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 2 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 2 \rangle}\right)^{-1}}=0$$

(16.508)

$$-scale^{\langle 3 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 3 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 3 \rangle}\right)LEIS^{\langle 3 \rangle^{-1+\omega^{\mathrm{u}\,\langle 3 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3 \rangle}DEM^{\langle 3 \rangle^{\omega^{\mathrm{u}\,\langle 3 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3 \rangle}\right)LEIS^{\langle 3 \rangle^{\omega^{\mathrm{u}\,\langle 3 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 3 \rangle}\right)^{-1}}=0$$

(16.509)

$$-scale^{\langle 4 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 4 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 4 \rangle}\right)LEIS^{\langle 4 \rangle^{-1+\omega^{\mathrm{u}\,\langle 4 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 4 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 4 \rangle}DEM^{\langle 4 \rangle^{\omega^{\mathrm{u}\,\langle 4 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 4 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 4 \rangle}\right)LEIS^{\langle 4 \rangle^{\omega^{\mathrm{u}\,\langle 4 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 4 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 4 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 4 \rangle}\right)^{-1}}=0$$

(16.510)

$$-scale^{\langle 5 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 5 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 5 \rangle}\right)LEIS^{\langle 5 \rangle^{-1+\omega^{\mathrm{u}\,\langle 5 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 5 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 5 \rangle}DEM^{\langle 5 \rangle^{\omega^{\mathrm{u}\,\langle 5 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 5 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 5 \rangle}\right)LEIS^{\langle 5 \rangle^{\omega^{\mathrm{u}\,\langle 5 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 5 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 5 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 5 \rangle}\right)^{-1}}=0$$

(16.511)

$$-scale^{\langle 6 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 6 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 6 \rangle}\right)LEIS^{\langle 6 \rangle^{-1+\omega^{\mathrm{u}\,\langle 6 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 6 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 6 \rangle}DEM^{\langle 6 \rangle^{\omega^{\mathrm{u}\,\langle 6 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 6 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 6 \rangle}\right)LEIS^{\langle 6 \rangle^{\omega^{\mathrm{u}\,\langle 6 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 6 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 6 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 6 \rangle}\right)^{-1}}=0$$

(16.512)

$$-scale^{\langle 7 \rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 7 \rangle}+\left(1-\alpha^{\mathrm{u}\,\langle 7 \rangle}\right)LEIS^{\langle 7 \rangle^{-1+\omega^{\mathrm{u}\,\langle 7 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 7 \rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 7 \rangle}DEM^{\langle 7 \rangle^{\omega^{\mathrm{u}\,\langle 7 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 7 \rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 7 \rangle}\right)LEIS^{\langle 7 \rangle^{\omega^{\mathrm{u}\,\langle 7 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 7 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 7 \rangle}\left(-1+\omega^{\mathrm{u}\,\langle 7 \rangle}\right)^{-1}}=0$$

(16.513)

$$-scale^{\langle 8 \rangle} \lambda^{\mathrm{CONSUMER}1\langle 8 \rangle} + \left(1 - \alpha^{\mathrm{u}\langle 8 \rangle}\right) LEIS^{\langle 8 \rangle^{-1+\omega^{\mathrm{u}\langle 8 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8 \rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 8 \rangle} DEM^{\langle 8 \rangle^{\omega^{\mathrm{u}\langle 8 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8 \rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 8 \rangle}\right) LEIS^{\langle 8 \rangle^{\omega^{\mathrm{u}\langle 8 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8 \rangle}\left(-1+\omega^{\mathrm{u}\langle 8 \rangle}\right)^{-1}} = 0$$

$$(16.514)$$

$$-scale^{\langle 9 \rangle} \lambda^{\mathrm{CONSUMER}1\langle 9 \rangle} + \left(1 - \alpha^{\mathrm{u}\langle 9 \rangle}\right) LEIS^{\langle 9 \rangle^{-1+\omega^{\mathrm{u}\langle 9 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9 \rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9 \rangle} DEM^{\langle 9 \rangle^{\omega^{\mathrm{u}\langle 9 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9 \rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 9 \rangle}\right) LEIS^{\langle 9 \rangle^{\omega^{\mathrm{u}\langle 9 \rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9 \rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 9 \rangle}\left(-1+\omega^{\mathrm{u}\langle 9 \rangle}\right)^{-1}} = 0$$

$$(16.515)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},1 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 1 \rangle} TROWH^{\langle \mathrm{eu},1 \rangle} = 0$$

$$(16.516)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},10 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 10 \rangle} TROWH^{\langle \mathrm{eu},10 \rangle} = 0$$

$$(16.517)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},2 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 2 \rangle} TROWH^{\langle \mathrm{eu},2 \rangle} = 0$$

$$(16.518)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},3 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 3 \rangle} TROWH^{\langle \mathrm{eu},3 \rangle} = 0$$

$$(16.519)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},4 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 4 \rangle} TROWH^{\langle \mathrm{eu},4 \rangle} = 0$$

$$(16.520)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},5 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 5 \rangle} TROWH^{\langle \mathrm{eu},5 \rangle} = 0$$

$$(16.521)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},6 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 6 \rangle} TROWH^{\langle \mathrm{eu},6 \rangle} = 0$$

$$(16.522)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},7 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 7 \rangle} TROWH^{\langle \mathrm{eu},7 \rangle} = 0$$

$$(16.523)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},8 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 8 \rangle} TROWH^{\langle \mathrm{eu},8 \rangle} = 0$$

$$(16.524)$$

$$t^{\mathrm{rh}\langle \mathrm{eu},9 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{eu} \rangle} - scale^{\langle 9 \rangle} TROWH^{\langle \mathrm{eu},9 \rangle} = 0$$

$$(16.525)$$

$$t^{\mathrm{rh}\langle \mathrm{neu},1 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{neu} \rangle} - scale^{\langle 1 \rangle} TROWH^{\langle \mathrm{neu},1 \rangle} = 0$$

$$(16.526)$$

$$t^{\mathrm{rh}\langle \mathrm{neu},10 \rangle} EXP^{\mathrm{ROW}\langle \mathrm{neu} \rangle} - scale^{\langle 10 \rangle} TROWH^{\langle \mathrm{neu},10 \rangle} = 0$$

$$(16.527)$$

$$t^{\mathrm{rh}\langle\mathrm{neu},2\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 2\rangle}TROWH^{\langle\mathrm{neu},2\rangle} = 0 \tag{16.528}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},3\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 3\rangle}TROWH^{\langle\mathrm{neu},3\rangle} = 0 \tag{16.529}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},4\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 4\rangle}TROWH^{\langle\mathrm{neu},4\rangle} = 0 \tag{16.530}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},5\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 5\rangle}TROWH^{\langle\mathrm{neu},5\rangle} = 0 \tag{16.531}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},6\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 6\rangle}TROWH^{\langle\mathrm{neu},6\rangle} = 0 \tag{16.532}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},7\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 7\rangle}TROWH^{\langle\mathrm{neu},7\rangle} = 0 \tag{16.533}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},8\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 8\rangle}TROWH^{\langle\mathrm{neu},8\rangle} = 0 \tag{16.534}$$

$$t^{\mathrm{rh}\langle\mathrm{neu},9\rangle}EXP^{\mathrm{ROW}\langle\mathrm{neu}\rangle} - scale^{\langle 9\rangle}TROWH^{\langle\mathrm{neu},9\rangle} = 0 \tag{16.535}$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} + auh^{\mathrm{b}\langle 1\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} + auh^{\mathrm{r}\langle 1,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 1,\mathrm{eu}\rangle} + auh^{\mathrm{r}\langle 1,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 1,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\langle 1\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} + auh^{\mathrm{b}\langle 1\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} + auh^{\mathrm{r}\langle 1,\epsilon}\right.\right.$$
$$\tag{16.536}$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} + auh^{\mathrm{b}\langle 10\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} + auh^{\mathrm{r}\langle 10,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 10,\mathrm{eu}\rangle} + auh^{\mathrm{r}\langle 10,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 10,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\langle 10\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} + auh^{\mathrm{b}\langle 10\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle}\right.\right.$$
$$\tag{16.537}$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} + auh^{\mathrm{b}\langle 2\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} + auh^{\mathrm{r}\langle 2,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 2,\mathrm{eu}\rangle} + auh^{\mathrm{r}\langle 2,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 2,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\langle 2\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} + auh^{\mathrm{b}\langle 2\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} + auh^{\mathrm{r}\langle 2,\epsilon}\right.\right.$$
$$\tag{16.538}$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 3\rangle} + auh^{\mathrm{b}\langle 3\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 3\rangle} + auh^{\mathrm{r}\langle 3,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 3,\mathrm{eu}\rangle} + auh^{\mathrm{r}\langle 3,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 3,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\langle 3\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 3\rangle} + auh^{\mathrm{b}\langle 3\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 3\rangle} + auh^{\mathrm{r}\langle 3,\epsilon}\right.\right.$$
$$\tag{16.539}$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + \alpha u h^{\mathrm{b}\,\langle 4\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + \alpha u h^{\mathrm{r}\,\langle 4,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 4,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 4,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 4,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 4\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + \alpha u h^{\mathrm{b}\,\langle 4\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + \alpha u h^{\mathrm{r}\,\langle 4,\right.\right.$$

$$(16.540)$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + \alpha u h^{\mathrm{b}\,\langle 5\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + \alpha u h^{\mathrm{r}\,\langle 5,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 5,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 5,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 5,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 5\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + \alpha u h^{\mathrm{b}\,\langle 5\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + \alpha u h^{\mathrm{r}\,\langle 5,\right.\right.$$

$$(16.541)$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 6\rangle} + \alpha u h^{\mathrm{b}\,\langle 6\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 6\rangle} + \alpha u h^{\mathrm{r}\,\langle 6,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 6,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 6,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 6,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 6\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 6\rangle} + \alpha u h^{\mathrm{b}\,\langle 6\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 6\rangle} + \alpha u h^{\mathrm{r}\,\langle 6,\right.\right.$$

$$(16.542)$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 7\rangle} + \alpha u h^{\mathrm{b}\,\langle 7\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 7\rangle} + \alpha u h^{\mathrm{r}\,\langle 7,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 7,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 7,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 7,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 7\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 7\rangle} + \alpha u h^{\mathrm{b}\,\langle 7\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 7\rangle} + \alpha u h^{\mathrm{r}\,\langle 7,\right.\right.$$

$$(16.543)$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 8\rangle} + \alpha u h^{\mathrm{b}\,\langle 8\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 8\rangle} + \alpha u h^{\mathrm{r}\,\langle 8,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 8,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 8,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 8,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 8\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 8\rangle} + \alpha u h^{\mathrm{b}\,\langle 8\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 8\rangle} + \alpha u h^{\mathrm{r}\,\langle 8,\right.\right.$$

$$(16.544)$$

$$p^{\mathrm{k}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 9\rangle} + \alpha u h^{\mathrm{b}\,\langle 9\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 9\rangle} + \alpha u h^{\mathrm{r}\,\langle 9,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 9,\mathrm{eu}\rangle} + \alpha u h^{\mathrm{r}\,\langle 9,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 9,\mathrm{neu}\rangle} - p i t^{\mathrm{tax}\,\langle 9\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 9\rangle} + \alpha u h^{\mathrm{b}\,\langle 9\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 9\rangle} + \alpha u h^{\mathrm{r}\,\langle 9,\right.\right.$$

$$(16.545)$$

$$e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 1\rangle} - e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 1,\mathrm{eu}\rangle} = 0 \tag{16.546}$$

$$e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 10\rangle} - e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 10,\mathrm{eu}\rangle} = 0 \tag{16.547}$$

$$e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 2\rangle} - e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 2,\mathrm{eu}\rangle} = 0 \tag{16.548}$$

$$e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle} - e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 3,\mathrm{eu}\rangle} = 0 \tag{16.549}$$

$$e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} - e x^{\mathrm{rate}\,\langle\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 4,\mathrm{eu}\rangle} = 0 \tag{16.550}$$

$$ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 5\rangle} - ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 5,\text{eu}\rangle} = 0 \tag{16.551}$$

$$ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 6\rangle} - ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 6,\text{eu}\rangle} = 0 \tag{16.552}$$

$$ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 7\rangle} - ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 7,\text{eu}\rangle} = 0 \tag{16.553}$$

$$ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 8\rangle} - ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 8,\text{eu}\rangle} = 0 \tag{16.554}$$

$$ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 9\rangle} - ex^{\text{rate}\,\langle\text{eu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 9,\text{eu}\rangle} = 0 \tag{16.555}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 1\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 1,\text{neu}\rangle} = 0 \tag{16.556}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 10\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 10,\text{neu}\rangle} = 0 \tag{16.557}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 2\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 2,\text{neu}\rangle} = 0 \tag{16.558}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 3\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 3,\text{neu}\rangle} = 0 \tag{16.559}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 4\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 4,\text{neu}\rangle} = 0 \tag{16.560}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 5\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 5,\text{neu}\rangle} = 0 \tag{16.561}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 6\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 6,\text{neu}\rangle} = 0 \tag{16.562}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 7\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 7,\text{neu}\rangle} = 0 \tag{16.563}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 8\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 8,\text{neu}\rangle} = 0 \tag{16.564}$$

$$ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{12}\,\langle 9\rangle} - ex^{\text{rate}\,\langle\text{neu}\rangle}\lambda^{\text{CONSUMER}^{11}\,\langle 9,\text{neu}\rangle} = 0 \tag{16.565}$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{A}\rangle}+\alpha^{\langle \mathrm{A},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{A},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.566)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{B}\rangle}+\alpha^{\langle \mathrm{B},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{B},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.567)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{C}\rangle}+\alpha^{\langle \mathrm{C},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{C},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.568)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{D}\rangle}+\alpha^{\langle \mathrm{D},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{D},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.569)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{E}\rangle}+\alpha^{\langle \mathrm{E},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{E},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.570)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{F}\rangle}+\alpha^{\langle \mathrm{F},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{F},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.571)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{G}\rangle}+\alpha^{\langle \mathrm{G},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{G},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.572)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle}p^{\mathrm{cons}\langle \mathrm{H}\rangle}+\alpha^{\langle \mathrm{H},1\rangle}\alpha^{\mathrm{u}\langle 1\rangle}\theta^{\mathrm{dem}\langle 1\rangle}D^{\langle \mathrm{H},1\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 1\rangle}DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\langle 1\rangle}\right)LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+}$$

$$(16.573)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} p^{\mathrm{cons}\langle \mathrm{I}\rangle} + \alpha^{\langle \mathrm{I},1\rangle} \alpha^{\mathrm{u}\langle 1\rangle} \theta^{\mathrm{dem}\langle 1\rangle} D^{\langle \mathrm{I},1\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 1\rangle} DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 1\rangle}\right) LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+\omega^{\mathrm{u}}\right)}$$

(16.574)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} p^{\mathrm{cons}\langle \mathrm{J}\rangle} + \alpha^{\langle \mathrm{J},1\rangle} \alpha^{\mathrm{u}\langle 1\rangle} \theta^{\mathrm{dem}\langle 1\rangle} D^{\langle \mathrm{J},1\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 1\rangle} DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 1\rangle}\right) LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+\omega\right.}$$

(16.575)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 1\rangle} p^{\mathrm{cons}\langle \mathrm{K}\rangle} + \alpha^{\langle \mathrm{K},1\rangle} \alpha^{\mathrm{u}\langle 1\rangle} \theta^{\mathrm{dem}\langle 1\rangle} D^{\langle \mathrm{K},1\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 1\rangle^{-1+\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 1\rangle} DEM^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 1\rangle}\right) LEIS^{\langle 1\rangle^{\omega^{\mathrm{u}\langle 1\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 1\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 1\rangle}\left(-1+\right.}$$

(16.576)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle \mathrm{A}\rangle} + \alpha^{\langle \mathrm{A},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle \mathrm{A},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \right)$$

(16.577)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle \mathrm{B}\rangle} + \alpha^{\langle \mathrm{B},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle \mathrm{B},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \right)$$

(16.578)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle \mathrm{C}\rangle} + \alpha^{\langle \mathrm{C},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle \mathrm{C},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \right)$$

(16.579)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle \mathrm{D}\rangle} + \alpha^{\langle \mathrm{D},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle \mathrm{D},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \right)$$

(16.580)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle \mathrm{E}\rangle} + \alpha^{\langle \mathrm{E},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle \mathrm{E},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} + \left(1 - \alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 10\rangle}\right)}} \right)$$

(16.581)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{F}\rangle} + \alpha^{\langle\mathrm{F},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{F},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.582)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{G}\rangle} + \alpha^{\langle\mathrm{G},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{G},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.583)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{H}\rangle} + \alpha^{\langle\mathrm{H},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{H},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.584)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{I}\rangle} + \alpha^{\langle\mathrm{I},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{I},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.585)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{J}\rangle} + \alpha^{\langle\mathrm{J},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{J},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.586)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 10\rangle} p^{\mathrm{cons}\langle\mathrm{K}\rangle} + \alpha^{\langle\mathrm{K},10\rangle} \alpha^{\mathrm{u}\langle 10\rangle} \theta^{\mathrm{dem}\langle 10\rangle} D^{\langle\mathrm{K},10\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 10\rangle^{-1+\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} \left(\alpha^{\mathrm{u}\langle 10\rangle} DEM^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 10\rangle}\right) LEIS^{\langle 10\rangle^{\omega^{\mathrm{u}\langle 10\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 10\rangle})}}\right)$$

(16.587)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} p^{\mathrm{cons}\langle\mathrm{A}\rangle} + \alpha^{\langle\mathrm{A},2\rangle} \alpha^{\mathrm{u}\langle 2\rangle} \theta^{\mathrm{dem}\langle 2\rangle} D^{\langle\mathrm{A},2\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 2\rangle^{-1+\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}} \left(\alpha^{\mathrm{u}\langle 2\rangle} DEM^{\langle 2\rangle^{\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 2\rangle}\right) LEIS^{\langle 2\rangle^{\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 2\rangle}(-1+}$$

(16.588)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 2\rangle} p^{\mathrm{cons}\langle\mathrm{B}\rangle} + \alpha^{\langle\mathrm{B},2\rangle} \alpha^{\mathrm{u}\langle 2\rangle} \theta^{\mathrm{dem}\langle 2\rangle} D^{\langle\mathrm{B},2\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 2\rangle^{-1+\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}} \left(\alpha^{\mathrm{u}\langle 2\rangle} DEM^{\langle 2\rangle^{\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 2\rangle}\right) LEIS^{\langle 2\rangle^{\omega^{\mathrm{u}\langle 2\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 2\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 2\rangle}(-1+}$$

(16.589)

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{C}\rangle}+\alpha^{\langle \text{C},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{C},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.590)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{D}\rangle}+\alpha^{\langle \text{D},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{D},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.591)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{E}\rangle}+\alpha^{\langle \text{E},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{E},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.592)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{F}\rangle}+\alpha^{\langle \text{F},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{F},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.593)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{G}\rangle}+\alpha^{\langle \text{G},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{G},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.594)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{H}\rangle}+\alpha^{\langle \text{H},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{H},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\right.}$$

$$(16.595)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{I}\rangle}+\alpha^{\langle \text{I},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{I},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\omega^{\text{u}\right.}$$

$$(16.596)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 2\rangle}p^{\text{cons}\langle \text{J}\rangle}+\alpha^{\langle \text{J},2\rangle}\alpha^{\text{u}\langle 2\rangle}\theta^{\text{dem}\langle 2\rangle}D^{\langle \text{J},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\left(\alpha^{\text{u}\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\text{u}\langle 2\rangle^{-1}}\left(-1+\omega^{\text{u}\langle 2\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 2\rangle}\left(-1+\omega\right.}$$

$$(16.597)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 2\rangle}p^{\mathrm{cons}\,\langle\mathrm{K}\rangle}+\alpha^{\langle\mathrm{K},2\rangle}\alpha^{\mathrm{u}\,\langle 2\rangle}\theta^{\mathrm{dem}\,\langle 2\rangle}D^{\langle\mathrm{K},2\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 2\rangle^{-1+\omega^{\mathrm{u}\,\langle 2\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 2\rangle}DEM^{\langle 2\rangle^{\omega^{\mathrm{u}\,\langle 2\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 2\rangle}\right)LEIS^{\langle 2\rangle^{\omega^{\mathrm{u}\,\langle 2\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 2\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 2\rangle}\left(-1+}$$

(16.598)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{A}\rangle}+\alpha^{\langle\mathrm{A},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{A},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.599)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{B}\rangle}+\alpha^{\langle\mathrm{B},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{B},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.600)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{C}\rangle}+\alpha^{\langle\mathrm{C},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{C},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.601)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{D}\rangle}+\alpha^{\langle\mathrm{D},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{D},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.602)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{E}\rangle}+\alpha^{\langle\mathrm{E},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{E},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.603)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{F}\rangle}+\alpha^{\langle\mathrm{F},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{F},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.604)

$$\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle}p^{\mathrm{cons}\,\langle\mathrm{G}\rangle}+\alpha^{\langle\mathrm{G},3\rangle}\alpha^{\mathrm{u}\,\langle 3\rangle}\theta^{\mathrm{dem}\,\langle 3\rangle}D^{\langle\mathrm{G},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\left(\alpha^{\mathrm{u}\,\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}+\left(1-\alpha^{\mathrm{u}\,\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\mathrm{u}\,\langle 3\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\,\langle 3\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\,\langle 3\rangle}\left(-1+}$$

(16.605)

$$\lambda^{\text{CONSUMER}^{12}\langle 3\rangle}p^{\text{cons}\langle\text{H}\rangle}+\alpha^{\langle\text{H},3\rangle}\alpha^{\text{u}\langle 3\rangle}\theta^{\text{dem}\langle 3\rangle}D^{\langle\text{H},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\left(\alpha^{\text{u}\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 3\rangle}\left(-1+\right.}$$

$$(16.606)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 3\rangle}p^{\text{cons}\langle\text{I}\rangle}+\alpha^{\langle\text{I},3\rangle}\alpha^{\text{u}\langle 3\rangle}\theta^{\text{dem}\langle 3\rangle}D^{\langle\text{I},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\left(\alpha^{\text{u}\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 3\rangle}\left(-1+\omega^{\text{u}\right.}$$

$$(16.607)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 3\rangle}p^{\text{cons}\langle\text{J}\rangle}+\alpha^{\langle\text{J},3\rangle}\alpha^{\text{u}\langle 3\rangle}\theta^{\text{dem}\langle 3\rangle}D^{\langle\text{J},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\left(\alpha^{\text{u}\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 3\rangle}\left(-1+\omega\right.}$$

$$(16.608)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 3\rangle}p^{\text{cons}\langle\text{K}\rangle}+\alpha^{\langle\text{K},3\rangle}\alpha^{\text{u}\langle 3\rangle}\theta^{\text{dem}\langle 3\rangle}D^{\langle\text{K},3\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 3\rangle^{-1+\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\left(\alpha^{\text{u}\langle 3\rangle}DEM^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 3\rangle}\right)LEIS^{\langle 3\rangle^{\omega^{\text{u}\langle 3\rangle-1}\left(-1+\omega^{\text{u}\langle 3\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 3\rangle}\left(-1+\right.}$$

$$(16.609)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 4\rangle}p^{\text{cons}\langle\text{A}\rangle}+\alpha^{\langle\text{A},4\rangle}\alpha^{\text{u}\langle 4\rangle}\theta^{\text{dem}\langle 4\rangle}D^{\langle\text{A},4\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 4\rangle^{-1+\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\left(\alpha^{\text{u}\langle 4\rangle}DEM^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 4\rangle}\right)LEIS^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 4\rangle}\left(-1+\right.}$$

$$(16.610)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 4\rangle}p^{\text{cons}\langle\text{B}\rangle}+\alpha^{\langle\text{B},4\rangle}\alpha^{\text{u}\langle 4\rangle}\theta^{\text{dem}\langle 4\rangle}D^{\langle\text{B},4\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 4\rangle^{-1+\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\left(\alpha^{\text{u}\langle 4\rangle}DEM^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 4\rangle}\right)LEIS^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 4\rangle}\left(-1+\right.}$$

$$(16.611)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 4\rangle}p^{\text{cons}\langle\text{C}\rangle}+\alpha^{\langle\text{C},4\rangle}\alpha^{\text{u}\langle 4\rangle}\theta^{\text{dem}\langle 4\rangle}D^{\langle\text{C},4\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 4\rangle^{-1+\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\left(\alpha^{\text{u}\langle 4\rangle}DEM^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 4\rangle}\right)LEIS^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 4\rangle}\left(-1+\right.}$$

$$(16.612)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 4\rangle}p^{\text{cons}\langle\text{D}\rangle}+\alpha^{\langle\text{D},4\rangle}\alpha^{\text{u}\langle 4\rangle}\theta^{\text{dem}\langle 4\rangle}D^{\langle\text{D},4\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 4\rangle^{-1+\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\left(\alpha^{\text{u}\langle 4\rangle}DEM^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 4\rangle}\right)LEIS^{\langle 4\rangle^{\omega^{\text{u}\langle 4\rangle-1}\left(-1+\omega^{\text{u}\langle 4\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 4\rangle}\left(-1+\right.}$$

$$(16.613)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{E}\rangle} + \alpha^{\langle \mathrm{E},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{E},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\omega\right)}$$

(16.614)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{F}\rangle} + \alpha^{\langle \mathrm{F},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{F},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\omega\right)}$$

(16.615)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{G}\rangle} + \alpha^{\langle \mathrm{G},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{G},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\right.}$$

(16.616)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{H}\rangle} + \alpha^{\langle \mathrm{H},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{H},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\right.}$$

(16.617)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{I}\rangle} + \alpha^{\langle \mathrm{I},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{I},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\omega^{\mathrm{u}}\right.}$$

(16.618)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{J}\rangle} + \alpha^{\langle \mathrm{J},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{J},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\omega\right.}$$

(16.619)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 4\rangle} p^{\mathrm{cons}\langle \mathrm{K}\rangle} + \alpha^{\langle \mathrm{K},4\rangle} \alpha^{\mathrm{u}\langle 4\rangle} \theta^{\mathrm{dem}\langle 4\rangle} D^{\langle \mathrm{K},4\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 4\rangle^{-1+\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 4\rangle} DEM^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 4\rangle}\right) LEIS^{\langle 4\rangle^{\omega^{\mathrm{u}\langle 4\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 4\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 4\rangle}\left(-1+\right.}$$

(16.620)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle \mathrm{A}\rangle} + \alpha^{\langle \mathrm{A},5\rangle} \alpha^{\mathrm{u}\langle 5\rangle} \theta^{\mathrm{dem}\langle 5\rangle} D^{\langle \mathrm{A},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 5\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\right.}$$

(16.621)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{B}\rangle} + \alpha^{\langle\mathrm{B},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{B},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.622)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{C}\rangle} + \alpha^{\langle\mathrm{C},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{C},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.623)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{D}\rangle} + \alpha^{\langle\mathrm{D},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{D},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.624)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{E}\rangle} + \alpha^{\langle\mathrm{E},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{E},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.625)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{F}\rangle} + \alpha^{\langle\mathrm{F},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{F},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.626)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{G}\rangle} + \alpha^{\langle\mathrm{G},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{G},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.627)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{H}\rangle} + \alpha^{\langle\mathrm{H},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{H},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\cdots\right.}$$

(16.628)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle\mathrm{I}\rangle} + \alpha^{\langle\mathrm{I},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle\mathrm{I},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}\left(-1+\omega^{\mathrm{u}\cdots\right.}$$

(16.629)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle \mathrm{J}\rangle} + \alpha^{\langle \mathrm{J},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle \mathrm{J},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}(-1+\omega}$$
(16.630)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 5\rangle} p^{\mathrm{cons}\langle \mathrm{K}\rangle} + \alpha^{\langle \mathrm{K},5\rangle}\alpha^{\mathrm{u}\langle 5\rangle}\theta^{\mathrm{dem}\langle 5\rangle} D^{\langle \mathrm{K},5\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 5\rangle^{-1+\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} \left(\alpha^{\mathrm{u}\langle 5\rangle} DEM^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 5\rangle}\right) LEIS^{\langle 5\rangle^{\omega^{\mathrm{u}\langle 5\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 5\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 5\rangle}(-1+}$$
(16.631)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{A}\rangle} + \alpha^{\langle \mathrm{A},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{A},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.632)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{B}\rangle} + \alpha^{\langle \mathrm{B},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{B},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.633)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{C}\rangle} + \alpha^{\langle \mathrm{C},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{C},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.634)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{D}\rangle} + \alpha^{\langle \mathrm{D},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{D},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.635)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{E}\rangle} + \alpha^{\langle \mathrm{E},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{E},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.636)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle} p^{\mathrm{cons}\langle \mathrm{F}\rangle} + \alpha^{\langle \mathrm{F},6\rangle}\alpha^{\mathrm{u}\langle 6\rangle}\theta^{\mathrm{dem}\langle 6\rangle} D^{\langle \mathrm{F},6\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 6\rangle^{-1+\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} \left(\alpha^{\mathrm{u}\langle 6\rangle} DEM^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}} + \left(1-\alpha^{\mathrm{u}\langle 6\rangle}\right) LEIS^{\langle 6\rangle^{\omega^{\mathrm{u}\langle 6\rangle^{-1}}(-1+\omega^{\mathrm{u}\langle 6\rangle})}}\right)^{-1+\omega^{\mathrm{u}\langle 6\rangle}(-1+}$$
(16.637)

$$\lambda^{\text{CONSUMER}^{12}\langle 6\rangle}p^{\text{cons}\langle G\rangle}+\alpha^{\langle G,6\rangle}\alpha^{\text{u}\langle 6\rangle}\theta^{\text{dem}\langle 6\rangle}D^{\langle G,6\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 6\rangle^{-1+\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\left(\alpha^{\text{u}\langle 6\rangle}DEM^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 6\rangle}\right)LEIS^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 6\rangle}\left(-1+\right.}$$

$$(16.638)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 6\rangle}p^{\text{cons}\langle H\rangle}+\alpha^{\langle H,6\rangle}\alpha^{\text{u}\langle 6\rangle}\theta^{\text{dem}\langle 6\rangle}D^{\langle H,6\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 6\rangle^{-1+\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\left(\alpha^{\text{u}\langle 6\rangle}DEM^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 6\rangle}\right)LEIS^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 6\rangle}\left(-1+\right.}$$

$$(16.639)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 6\rangle}p^{\text{cons}\langle I\rangle}+\alpha^{\langle I,6\rangle}\alpha^{\text{u}\langle 6\rangle}\theta^{\text{dem}\langle 6\rangle}D^{\langle I,6\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 6\rangle^{-1+\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\left(\alpha^{\text{u}\langle 6\rangle}DEM^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 6\rangle}\right)LEIS^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 6\rangle}\left(-1+\omega^{\text{u}\right.}$$

$$(16.640)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 6\rangle}p^{\text{cons}\langle J\rangle}+\alpha^{\langle J,6\rangle}\alpha^{\text{u}\langle 6\rangle}\theta^{\text{dem}\langle 6\rangle}D^{\langle J,6\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 6\rangle^{-1+\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\left(\alpha^{\text{u}\langle 6\rangle}DEM^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 6\rangle}\right)LEIS^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 6\rangle}\left(-1+\omega\right.}$$

$$(16.641)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 6\rangle}p^{\text{cons}\langle K\rangle}+\alpha^{\langle K,6\rangle}\alpha^{\text{u}\langle 6\rangle}\theta^{\text{dem}\langle 6\rangle}D^{\langle K,6\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 6\rangle^{-1+\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\left(\alpha^{\text{u}\langle 6\rangle}DEM^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 6\rangle}\right)LEIS^{\langle 6\rangle^{\omega^{\text{u}\langle 6\rangle-1}\left(-1+\omega^{\text{u}\langle 6\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 6\rangle}\left(-1+\right.}$$

$$(16.642)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 7\rangle}p^{\text{cons}\langle A\rangle}+\alpha^{\langle A,7\rangle}\alpha^{\text{u}\langle 7\rangle}\theta^{\text{dem}\langle 7\rangle}D^{\langle A,7\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 7\rangle^{-1+\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\left(\alpha^{\text{u}\langle 7\rangle}DEM^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 7\rangle}\right)LEIS^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 7\rangle}\left(-1+\right.}$$

$$(16.643)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 7\rangle}p^{\text{cons}\langle B\rangle}+\alpha^{\langle B,7\rangle}\alpha^{\text{u}\langle 7\rangle}\theta^{\text{dem}\langle 7\rangle}D^{\langle B,7\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 7\rangle^{-1+\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\left(\alpha^{\text{u}\langle 7\rangle}DEM^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 7\rangle}\right)LEIS^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 7\rangle}\left(-1+\right.}$$

$$(16.644)$$

$$\lambda^{\text{CONSUMER}^{12}\langle 7\rangle}p^{\text{cons}\langle C\rangle}+\alpha^{\langle C,7\rangle}\alpha^{\text{u}\langle 7\rangle}\theta^{\text{dem}\langle 7\rangle}D^{\langle C,7\rangle^{-1+\omega^{-1}(-1+\omega)}}DEM^{\langle 7\rangle^{-1+\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\left(\alpha^{\text{u}\langle 7\rangle}DEM^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}+\left(1-\alpha^{\text{u}\langle 7\rangle}\right)LEIS^{\langle 7\rangle^{\omega^{\text{u}\langle 7\rangle-1}\left(-1+\omega^{\text{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\text{u}\langle 7\rangle}\left(-1+\right.}$$

$$(16.645)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{D}\rangle} + \alpha^{\langle \mathrm{D},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{D},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.646)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{E}\rangle} + \alpha^{\langle \mathrm{E},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{E},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.647)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{F}\rangle} + \alpha^{\langle \mathrm{F},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{F},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.648)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{G}\rangle} + \alpha^{\langle \mathrm{G},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{G},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.649)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{H}\rangle} + \alpha^{\langle \mathrm{H},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{H},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.650)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{I}\rangle} + \alpha^{\langle \mathrm{I},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{I},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\omega^{\mathrm{u}\right.}$$

(16.651)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{J}\rangle} + \alpha^{\langle \mathrm{J},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{J},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\omega\right.}$$

(16.652)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle} p^{\mathrm{cons}\langle \mathrm{K}\rangle} + \alpha^{\langle \mathrm{K},7\rangle} \alpha^{\mathrm{u}\langle 7\rangle} \theta^{\mathrm{dem}\langle 7\rangle} D^{\langle \mathrm{K},7\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 7\rangle^{-1+\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 7\rangle} DEM^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 7\rangle}\right) LEIS^{\langle 7\rangle^{\omega^{\mathrm{u}\langle 7\rangle-1}\left(-1+\omega^{\mathrm{u}\langle 7\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 7\rangle}\left(-1+\right.}$$

(16.653)

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{A}\rangle} + \alpha^{\langle\mathrm{A},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{A},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.654)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{B}\rangle} + \alpha^{\langle\mathrm{B},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{B},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.655)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{C}\rangle} + \alpha^{\langle\mathrm{C},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{C},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.656)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{D}\rangle} + \alpha^{\langle\mathrm{D},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{D},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.657)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{E}\rangle} + \alpha^{\langle\mathrm{E},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{E},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.658)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{F}\rangle} + \alpha^{\langle\mathrm{F},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{F},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.659)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{G}\rangle} + \alpha^{\langle\mathrm{G},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{G},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.660)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle\mathrm{H}\rangle} + \alpha^{\langle\mathrm{H},8\rangle}\alpha^{\mathrm{u}\langle 8\rangle}\theta^{\mathrm{dem}\langle 8\rangle} D^{\langle\mathrm{H},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}}\right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.661)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle \mathrm{I}\rangle} + \alpha^{\langle \mathrm{I},8\rangle} \alpha^{\mathrm{u}\langle 8\rangle} \theta^{\mathrm{dem}\langle 8\rangle} D^{\langle \mathrm{I},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\omega^{\mathrm{u}}\right.}$$

$$(16.662)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle \mathrm{J}\rangle} + \alpha^{\langle \mathrm{J},8\rangle} \alpha^{\mathrm{u}\langle 8\rangle} \theta^{\mathrm{dem}\langle 8\rangle} D^{\langle \mathrm{J},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\omega\right.}$$

$$(16.663)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle} p^{\mathrm{cons}\langle \mathrm{K}\rangle} + \alpha^{\langle \mathrm{K},8\rangle} \alpha^{\mathrm{u}\langle 8\rangle} \theta^{\mathrm{dem}\langle 8\rangle} D^{\langle \mathrm{K},8\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 8\rangle^{-1+\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 8\rangle} DEM^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 8\rangle}\right) LEIS^{\langle 8\rangle^{\omega^{\mathrm{u}\langle 8\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 8\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 8\rangle}\left(-1+\right.}$$

$$(16.664)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle} p^{\mathrm{cons}\langle \mathrm{A}\rangle} + \alpha^{\langle \mathrm{A},9\rangle} \alpha^{\mathrm{u}\langle 9\rangle} \theta^{\mathrm{dem}\langle 9\rangle} D^{\langle \mathrm{A},9\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 9\rangle^{-1+\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\right.}$$

$$(16.665)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle} p^{\mathrm{cons}\langle \mathrm{B}\rangle} + \alpha^{\langle \mathrm{B},9\rangle} \alpha^{\mathrm{u}\langle 9\rangle} \theta^{\mathrm{dem}\langle 9\rangle} D^{\langle \mathrm{B},9\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 9\rangle^{-1+\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\right.}$$

$$(16.666)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle} p^{\mathrm{cons}\langle \mathrm{C}\rangle} + \alpha^{\langle \mathrm{C},9\rangle} \alpha^{\mathrm{u}\langle 9\rangle} \theta^{\mathrm{dem}\langle 9\rangle} D^{\langle \mathrm{C},9\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 9\rangle^{-1+\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\right.}$$

$$(16.667)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle} p^{\mathrm{cons}\langle \mathrm{D}\rangle} + \alpha^{\langle \mathrm{D},9\rangle} \alpha^{\mathrm{u}\langle 9\rangle} \theta^{\mathrm{dem}\langle 9\rangle} D^{\langle \mathrm{D},9\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 9\rangle^{-1+\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\right.}$$

$$(16.668)$$

$$\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle} p^{\mathrm{cons}\langle \mathrm{E}\rangle} + \alpha^{\langle \mathrm{E},9\rangle} \alpha^{\mathrm{u}\langle 9\rangle} \theta^{\mathrm{dem}\langle 9\rangle} D^{\langle \mathrm{E},9\rangle^{-1+\omega^{-1}(-1+\omega)}} DEM^{\langle 9\rangle^{-1+\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \left(\alpha^{\mathrm{u}\langle 9\rangle} DEM^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} + \left(1-\alpha^{\mathrm{u}\langle 9\rangle}\right) LEIS^{\langle 9\rangle^{\omega^{\mathrm{u}\langle 9\rangle^{-1}}\left(-1+\omega^{\mathrm{u}\langle 9\rangle}\right)}} \right)^{-1+\omega^{\mathrm{u}\langle 9\rangle}\left(-1+\right.}$$

$$(16.669)$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{F}\rangle}+\alpha^{\langle \text{F},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{F},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\cdots\right.}$$

$$\tag{16.670}$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{G}\rangle}+\alpha^{\langle \text{G},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{G},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\cdots\right.}$$

$$\tag{16.671}$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{H}\rangle}+\alpha^{\langle \text{H},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{H},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\cdots\right.}$$

$$\tag{16.672}$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{I}\rangle}+\alpha^{\langle \text{I},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{I},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\omega^{\text{u}\cdots}\right.}$$

$$\tag{16.673}$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{J}\rangle}+\alpha^{\langle \text{J},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{J},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\omega\cdots\right.}$$

$$\tag{16.674}$$

$$\lambda^{\text{CONSUMER}12\,\langle 9\rangle}p^{\text{cons}\,\langle \text{K}\rangle}+\alpha^{\langle \text{K},9\rangle}\alpha^{\text{u}\,\langle 9\rangle}\theta^{\text{dem}\,\langle 9\rangle}D^{\langle \text{K},9\rangle\,-1+\omega^{-1}(-1+\omega)}DEM^{\langle 9\rangle\,-1+\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\left(\alpha^{\text{u}\,\langle 9\rangle}DEM^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}+\left(1-\alpha^{\text{u}\,\langle 9\rangle}\right)LEIS^{\langle 9\rangle\,\omega^{\text{u}\,\langle 9\rangle\,-1}\left(-1+\omega^{\text{u}\,\langle 9\rangle}\right)}\right)^{-1+\omega^{\text{u}\,\langle 9\rangle}\left(-1+\cdots\right.}$$

$$\tag{16.675}$$

$$-p^{\text{for}\,\langle \text{eu}\rangle}ex^{\text{rate}\,\langle \text{eu}\rangle}\left(1+im^{\text{tax}\,\langle \text{eu,A}\rangle}\right)+\alpha^{\text{imp}\,\langle \text{eu,A}\rangle}am^{\text{imp}\,\langle \text{eu}\rangle}\theta^{\text{imp}\,\langle \text{A}\rangle}p^{\text{imp}\,\langle \text{A}\rangle}\left(\alpha^{\text{imp}\,\langle \text{eu,A}\rangle}\left(am^{\text{imp}\,\langle \text{eu}\rangle}IMP^{\langle \text{eu,A}\rangle}\right)^{\sigma^{\text{imp}\,\langle \text{A}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle \text{A}\rangle}\right)}+\alpha^{\text{imp}\,\langle \text{neu,A}\rangle}\left(am^{\text{imp}\,\langle \text{neu}\rangle}IMP^{\langle \text{neu,A}\rangle}\right)^{\sigma^{\text{imp}\,\langle \text{A}\rangle\,-1}\left(-1+\cdots\right.}$$

$$\tag{16.676}$$

$$-p^{\text{for}\,\langle \text{eu}\rangle}ex^{\text{rate}\,\langle \text{eu}\rangle}\left(1+im^{\text{tax}\,\langle \text{eu,B}\rangle}\right)+\alpha^{\text{imp}\,\langle \text{eu,B}\rangle}am^{\text{imp}\,\langle \text{eu}\rangle}\theta^{\text{imp}\,\langle \text{B}\rangle}p^{\text{imp}\,\langle \text{B}\rangle}\left(\alpha^{\text{imp}\,\langle \text{eu,B}\rangle}\left(am^{\text{imp}\,\langle \text{eu}\rangle}IMP^{\langle \text{eu,B}\rangle}\right)^{\sigma^{\text{imp}\,\langle \text{B}\rangle\,-1}\left(-1+\sigma^{\text{imp}\,\langle \text{B}\rangle}\right)}+\alpha^{\text{imp}\,\langle \text{neu,B}\rangle}\left(am^{\text{imp}\,\langle \text{neu}\rangle}IMP^{\langle \text{neu,B}\rangle}\right)^{\sigma^{\text{imp}\,\langle \text{B}\rangle\,-1}\left(-1+\sigma\cdots\right.}$$

$$\tag{16.677}$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,C}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,C}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{C}\rangle}p^{\text{imp}\langle\text{C}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,C}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,C}\rangle}\right)^{\sigma^{\text{imp}\langle\text{C}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{C}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,C}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,C}\rangle}\right)^{\sigma^{\text{imp}\langle\text{C}\rangle-1}\left(-1+\sigma\right.}\right.$$

$$(16.678)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,D}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,D}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{D}\rangle}p^{\text{imp}\langle\text{D}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,D}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,D}\rangle}\right)^{\sigma^{\text{imp}\langle\text{D}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{D}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,D}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,D}\rangle}\right)^{\sigma^{\text{imp}\langle\text{D}\rangle-1}\left(-1+\sigma\right.}\right.$$

$$(16.679)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,E}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,E}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{E}\rangle}p^{\text{imp}\langle\text{E}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,E}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,E}\rangle}\right)^{\sigma^{\text{imp}\langle\text{E}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{E}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,E}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,E}\rangle}\right)^{\sigma^{\text{imp}\langle\text{E}\rangle-1}\left(-1+\sigma\right.}\right.$$

$$(16.680)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,F}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,F}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{F}\rangle}p^{\text{imp}\langle\text{F}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,F}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,F}\rangle}\right)^{\sigma^{\text{imp}\langle\text{F}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{F}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,F}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,F}\rangle}\right)^{\sigma^{\text{imp}\langle\text{F}\rangle-1}\left(-1+\sigma\right.}\right.$$

$$(16.681)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,G}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,G}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{G}\rangle}p^{\text{imp}\langle\text{G}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,G}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,G}\rangle}\right)^{\sigma^{\text{imp}\langle\text{G}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{G}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,G}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,G}\rangle}\right)^{\sigma^{\text{imp}\langle\text{G}\rangle-1}\left(-1+\right.}\right.$$

$$(16.682)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,H}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,H}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{H}\rangle}p^{\text{imp}\langle\text{H}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,H}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,H}\rangle}\right)^{\sigma^{\text{imp}\langle\text{H}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{H}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,H}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,H}\rangle}\right)^{\sigma^{\text{imp}\langle\text{H}\rangle-1}\left(-1+\sigma\right.}\right.$$

$$(16.683)$$

$$-p^{\text{for}\langle\text{eu}\rangle}ex^{\text{rate}\langle\text{eu}\rangle}\left(1+im^{\text{tax}\langle\text{eu,I}\rangle}\right)+\alpha^{\text{imp}\langle\text{eu,I}\rangle}am^{\text{imp}\langle\text{eu}\rangle}\theta^{\text{imp}\langle\text{I}\rangle}p^{\text{imp}\langle\text{I}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,I}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,I}\rangle}\right)^{\sigma^{\text{imp}\langle\text{I}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{I}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,I}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,I}\rangle}\right)^{\sigma^{\text{imp}\langle\text{I}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{I}\rangle}\right)}\right.$$

$$(16.684)$$

$$-p^{\mathrm{for}\langle\mathrm{eu}\rangle}ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{eu,J}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{eu,J}\rangle}am^{\mathrm{imp}\langle\mathrm{eu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{J}\rangle}p^{\mathrm{imp}\langle\mathrm{J}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,J}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,J}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{J}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{J}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,J}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,J}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{J}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle}\right.}\right.$$

$$(16.685)$$

$$-p^{\mathrm{for}\langle\mathrm{eu}\rangle}ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{eu,K}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{eu,K}\rangle}am^{\mathrm{imp}\langle\mathrm{eu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{K}\rangle}p^{\mathrm{imp}\langle\mathrm{K}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,K}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,K}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{K}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{K}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,K}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,K}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{K}\rangle-1}\left(-1+\right.}\right.$$

$$(16.686)$$

$$-p^{\mathrm{for}\langle\mathrm{neu}\rangle}ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{neu,A}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{neu,A}\rangle}am^{\mathrm{imp}\langle\mathrm{neu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{A}\rangle}p^{\mathrm{imp}\langle\mathrm{A}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,A}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,A}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{A}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{A}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,A}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,A}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{A}\rangle-1}}\right.$$

$$(16.687)$$

$$-p^{\mathrm{for}\langle\mathrm{neu}\rangle}ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{neu,B}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{neu,B}\rangle}am^{\mathrm{imp}\langle\mathrm{neu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{B}\rangle}p^{\mathrm{imp}\langle\mathrm{B}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,B}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,B}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{B}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{B}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,B}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,B}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{B}\rangle-1}}\right.$$

$$(16.688)$$

$$-p^{\mathrm{for}\langle\mathrm{neu}\rangle}ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{neu,C}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{neu,C}\rangle}am^{\mathrm{imp}\langle\mathrm{neu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{C}\rangle}p^{\mathrm{imp}\langle\mathrm{C}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,C}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,C}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{C}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{C}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,C}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,C}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{C}\rangle-1}}\right.$$

$$(16.689)$$

$$-p^{\mathrm{for}\langle\mathrm{neu}\rangle}ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{neu,D}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{neu,D}\rangle}am^{\mathrm{imp}\langle\mathrm{neu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{D}\rangle}p^{\mathrm{imp}\langle\mathrm{D}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,D}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,D}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{D}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{D}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,D}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,D}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{D}\rangle-1}}\right.$$

$$(16.690)$$

$$-p^{\mathrm{for}\langle\mathrm{neu}\rangle}ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}\left(1+im^{\mathrm{tax}\langle\mathrm{neu,E}\rangle}\right)+\alpha^{\mathrm{imp}\langle\mathrm{neu,E}\rangle}am^{\mathrm{imp}\langle\mathrm{neu}\rangle}\theta^{\mathrm{imp}\langle\mathrm{E}\rangle}p^{\mathrm{imp}\langle\mathrm{E}\rangle}\left(\alpha^{\mathrm{imp}\langle\mathrm{eu,E}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{eu}\rangle}IMP^{\langle\mathrm{eu,E}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{E}\rangle-1}\left(-1+\sigma^{\mathrm{imp}\langle\mathrm{E}\rangle}\right)}+\alpha^{\mathrm{imp}\langle\mathrm{neu,E}\rangle}\left(am^{\mathrm{imp}\langle\mathrm{neu}\rangle}IMP^{\langle\mathrm{neu,E}\rangle}\right)^{\sigma^{\mathrm{imp}\langle\mathrm{E}\rangle-1}}\right.$$

$$(16.691)$$

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,F}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,F}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{F}\rangle}p^{\text{imp}\langle\text{F}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,F}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,F}\rangle}\right)^{\sigma^{\text{imp}\langle\text{F}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{F}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,F}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,F}\rangle}\right)^{\sigma^{\text{imp}\langle\text{F}\rangle-1}\left(-\right.}$$

(16.692)

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,G}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,G}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{G}\rangle}p^{\text{imp}\langle\text{G}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,G}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,G}\rangle}\right)^{\sigma^{\text{imp}\langle\text{G}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{G}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,G}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,G}\rangle}\right)^{\sigma^{\text{imp}\langle\text{G}\rangle-1}}\right.$$

(16.693)

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,H}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,H}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{H}\rangle}p^{\text{imp}\langle\text{H}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,H}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,H}\rangle}\right)^{\sigma^{\text{imp}\langle\text{H}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{H}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,H}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,H}\rangle}\right)^{\sigma^{\text{imp}\langle\text{H}\rangle-1}}\right.$$

(16.694)

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,I}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,I}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{I}\rangle}p^{\text{imp}\langle\text{I}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,I}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,I}\rangle}\right)^{\sigma^{\text{imp}\langle\text{I}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{I}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,I}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,I}\rangle}\right)^{\sigma^{\text{imp}\langle\text{I}\rangle-1}\left(-1+\sigma^{\text{im}}\right.}\right.$$

(16.695)

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,J}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,J}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{J}\rangle}p^{\text{imp}\langle\text{J}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,J}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,J}\rangle}\right)^{\sigma^{\text{imp}\langle\text{J}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{J}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,J}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,J}\rangle}\right)^{\sigma^{\text{imp}\langle\text{J}\rangle-1}\left(-1+\right.}\right.$$

(16.696)

$$-p^{\text{for}\langle\text{neu}\rangle}ex^{\text{rate}\langle\text{neu}\rangle}\left(1+im^{\text{tax}\langle\text{neu,K}\rangle}\right)+\alpha^{\text{imp}\langle\text{neu,K}\rangle}am^{\text{imp}\langle\text{neu}\rangle}\theta^{\text{imp}\langle\text{K}\rangle}p^{\text{imp}\langle\text{K}\rangle}\left(\alpha^{\text{imp}\langle\text{eu,K}\rangle}\left(am^{\text{imp}\langle\text{eu}\rangle}IMP^{\langle\text{eu,K}\rangle}\right)^{\sigma^{\text{imp}\langle\text{K}\rangle-1}\left(-1+\sigma^{\text{imp}\langle\text{K}\rangle}\right)}+\alpha^{\text{imp}\langle\text{neu,K}\rangle}\left(am^{\text{imp}\langle\text{neu}\rangle}IMP^{\langle\text{neu,K}\rangle}\right)^{\sigma^{\text{imp}\langle\text{K}\rangle-1}}\right.$$

(16.697)

$$-p^{\text{k}}\left(1+k^{\text{tax}}\right)\left(1-sub^{\text{rate}\langle\text{A}\rangle}+tax^{\text{rate}\langle\text{A}\rangle}\right)+\beta^{\text{k}\langle\text{A}\rangle}\gamma^{\text{yva}\langle\text{A}\rangle}\left(p^{\langle\text{A}\rangle}-\beta^{\text{x}\langle\text{A,A}\rangle}p^{\text{int}\langle\text{A}\rangle}\left(1-sub^{\text{rate}\langle\text{A}\rangle}+tax^{\text{rate}\langle\text{A}\rangle}\right)-\beta^{\text{x}\langle\text{B,A}\rangle}p^{\text{int}\langle\text{B}\rangle}\left(1-sub^{\text{rate}\langle\text{A}\rangle}+tax^{\text{rate}\langle\text{A}\rangle}\right)-\beta^{\text{x}\langle\text{C,A}\rangle}p^{\text{int}\langle\text{C}\rangle}\left(1-sub^{\text{rat}}\right.\right.$$

(16.698)

$$-p^{\text{k}}\left(1+k^{\text{tax}}\right)\left(1-sub^{\text{rate}\langle\text{B}\rangle}+tax^{\text{rate}\langle\text{B}\rangle}\right)+\beta^{\text{k}\langle\text{B}\rangle}\gamma^{\text{yva}\langle\text{B}\rangle}\left(p^{\langle\text{B}\rangle}-\beta^{\text{x}\langle\text{A,B}\rangle}p^{\text{int}\langle\text{A}\rangle}\left(1-sub^{\text{rate}\langle\text{B}\rangle}+tax^{\text{rate}\langle\text{B}\rangle}\right)-\beta^{\text{x}\langle\text{B,B}\rangle}p^{\text{int}\langle\text{B}\rangle}\left(1-sub^{\text{rate}\langle\text{B}\rangle}+tax^{\text{rate}\langle\text{B}\rangle}\right)-\beta^{\text{x}\langle\text{C,B}\rangle}p^{\text{int}\langle\text{C}\rangle}\left(1-sub^{\text{rate}}\right.\right.$$

(16.699)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{C}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{C}\rangle}\left(p^{\langle\mathrm{C}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,C}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,C}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,C}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.$$

(16.700)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{D}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{D}\rangle}\left(p^{\langle\mathrm{D}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,D}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,D}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,D}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rat}}\right.$$

(16.701)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{E}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{E}\rangle}\left(p^{\langle\mathrm{E}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,E}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,E}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,E}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle}\right.$$

(16.702)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{F}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{F}\rangle}\left(p^{\langle\mathrm{F}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,F}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,F}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,F}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}}\right.$$

(16.703)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{G}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{G}\rangle}\left(p^{\langle\mathrm{G}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,G}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,G}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,G}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{ra}}\right.$$

(16.704)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{H}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{H}\rangle}\left(p^{\langle\mathrm{H}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,H}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,H}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,H}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.$$

(16.705)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{I}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{I}\rangle}\left(p^{\langle\mathrm{I}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,I}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,I}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,I}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax\right.$$

(16.706)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{J}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{J}\rangle}\left(p^{\langle\mathrm{J}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,J}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,J}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,J}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+\right.$$

(16.707)

$$-p^{\mathrm{k}}\left(1+k^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)+\beta^{\mathrm{k}\langle\mathrm{K}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{K}\rangle}\left(p^{\langle\mathrm{K}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,K}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,K}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,K}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rat}}\right.$$

(16.708)

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{A}\rangle}+tax^{\mathrm{rate}\langle\mathrm{A}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{A}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{A}\rangle}\left(p^{\langle\mathrm{A}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,A}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{A}\rangle}+tax^{\mathrm{rate}\langle\mathrm{A}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,A}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{A}\rangle}+tax^{\mathrm{rate}\langle\mathrm{A}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,A}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.\right.$$
$$\tag{16.709}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{B}\rangle}+tax^{\mathrm{rate}\langle\mathrm{B}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{B}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{B}\rangle}\left(p^{\langle\mathrm{B}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,B}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{B}\rangle}+tax^{\mathrm{rate}\langle\mathrm{B}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,B}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{B}\rangle}+tax^{\mathrm{rate}\langle\mathrm{B}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,B}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{B}\rangle}\right.\right.$$
$$\tag{16.710}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{C}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{C}\rangle}\left(p^{\langle\mathrm{C}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,C}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,C}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}+tax^{\mathrm{rate}\langle\mathrm{C}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,C}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{C}\rangle}\right.\right.$$
$$\tag{16.711}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{D}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{D}\rangle}\left(p^{\langle\mathrm{D}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,D}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,D}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{D}\rangle}+tax^{\mathrm{rate}\langle\mathrm{D}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,D}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.\right.$$
$$\tag{16.712}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{E}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{E}\rangle}\left(p^{\langle\mathrm{E}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,E}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,E}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}+tax^{\mathrm{rate}\langle\mathrm{E}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,E}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{E}\rangle}\right.\right.$$
$$\tag{16.713}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{F}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{F}\rangle}\left(p^{\langle\mathrm{F}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,F}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,F}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}+tax^{\mathrm{rate}\langle\mathrm{F}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,F}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{F}\rangle}\right.\right.$$
$$\tag{16.714}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{G}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{G}\rangle}\left(p^{\langle\mathrm{G}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,G}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,G}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{G}\rangle}+tax^{\mathrm{rate}\langle\mathrm{G}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,G}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.\right.$$
$$\tag{16.715}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{H}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{H}\rangle}\left(p^{\langle\mathrm{H}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,H}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,H}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{H}\rangle}+tax^{\mathrm{rate}\langle\mathrm{H}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,H}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle}\right.\right.$$
$$\tag{16.716}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{I}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{I}\rangle}\left(p^{\langle\mathrm{I}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,I}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,I}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{rate}\langle\mathrm{I}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,I}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{I}\rangle}+tax^{\mathrm{ra}}\right.\right.$$
$$\tag{16.717}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{J}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{J}\rangle}\left(p^{\langle\mathrm{J}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,J}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,J}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+tax^{\mathrm{rate}\langle\mathrm{J}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,J}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{J}\rangle}+\right.$$
$$\tag{16.718}$$

$$-p^{\mathrm{l}}\left(1+l^{\mathrm{tax}}\right)\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)+\beta^{\mathrm{l}\langle\mathrm{K}\rangle}\gamma^{\mathrm{yva}\langle\mathrm{K}\rangle}\left(p^{\langle\mathrm{K}\rangle}-\beta^{\mathrm{x}\langle\mathrm{A,K}\rangle}p^{\mathrm{int}\langle\mathrm{A}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{B,K}\rangle}p^{\mathrm{int}\langle\mathrm{B}\rangle}\left(1-sub^{\mathrm{rate}\langle\mathrm{K}\rangle}+tax^{\mathrm{rate}\langle\mathrm{K}\rangle}\right)-\beta^{\mathrm{x}\langle\mathrm{C,K}\rangle}p^{\mathrm{int}\langle\mathrm{C}\rangle}\left(1-sub^{\mathrm{rate}}\right.$$
$$\tag{16.719}$$

$$-sub^{\mathrm{p}\langle\mathrm{A}\rangle}+p^{\mathrm{arm}\langle\mathrm{A}\rangle}-p^{\mathrm{market}\langle\mathrm{A}\rangle}=0 \tag{16.720}$$

$$-sub^{\mathrm{p}\langle\mathrm{B}\rangle}+p^{\mathrm{arm}\langle\mathrm{B}\rangle}-p^{\mathrm{market}\langle\mathrm{B}\rangle}=0 \tag{16.721}$$

$$-sub^{\mathrm{p}\langle\mathrm{C}\rangle}+p^{\mathrm{arm}\langle\mathrm{C}\rangle}-p^{\mathrm{market}\langle\mathrm{C}\rangle}=0 \tag{16.722}$$

$$-sub^{\mathrm{p}\langle\mathrm{D}\rangle}+p^{\mathrm{arm}\langle\mathrm{D}\rangle}-p^{\mathrm{market}\langle\mathrm{D}\rangle}=0 \tag{16.723}$$

$$-sub^{\mathrm{p}\langle\mathrm{E}\rangle}+p^{\mathrm{arm}\langle\mathrm{E}\rangle}-p^{\mathrm{market}\langle\mathrm{E}\rangle}=0 \tag{16.724}$$

$$-sub^{\mathrm{p}\langle\mathrm{F}\rangle}+p^{\mathrm{arm}\langle\mathrm{F}\rangle}-p^{\mathrm{market}\langle\mathrm{F}\rangle}=0 \tag{16.725}$$

$$-sub^{\mathrm{p}\langle\mathrm{G}\rangle}+p^{\mathrm{arm}\langle\mathrm{G}\rangle}-p^{\mathrm{market}\langle\mathrm{G}\rangle}=0 \tag{16.726}$$

$$-sub^{\mathrm{p}\langle\mathrm{H}\rangle}+p^{\mathrm{arm}\langle\mathrm{H}\rangle}-p^{\mathrm{market}\langle\mathrm{H}\rangle}=0 \tag{16.727}$$

$$-sub^{\mathrm{p}\langle\mathrm{I}\rangle}+p^{\mathrm{arm}\langle\mathrm{I}\rangle}-p^{\mathrm{market}\langle\mathrm{I}\rangle}=0 \tag{16.728}$$

$$-sub^{\mathrm{p}\langle\mathrm{J}\rangle}+p^{\mathrm{arm}\langle\mathrm{J}\rangle}-p^{\mathrm{market}\langle\mathrm{J}\rangle}=0 \tag{16.729}$$

$$-sub^{\mathrm{p}\langle\mathrm{K}\rangle}+p^{\mathrm{arm}\langle\mathrm{K}\rangle}-p^{\mathrm{market}\langle\mathrm{K}\rangle}=0 \tag{16.730}$$

$$tgovh^{\mathrm{data}\langle 1\rangle}+tgovh^{\mathrm{data}^{\mathrm{extra}}\langle 1\rangle}-scale^{\langle 1\rangle}TGOVH^{\langle 1\rangle}=0 \tag{16.731}$$

$$tgovh^{\mathrm{data}\langle 10\rangle}+tgovh^{\mathrm{data}^{\mathrm{extra}}\langle 10\rangle}-scale^{\langle 10\rangle}TGOVH^{\langle 10\rangle}=0 \tag{16.732}$$

$$tgovh^{\text{data}\langle 2\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 2\rangle} - scale^{\langle 2\rangle} TGOVH^{\langle 2\rangle} = 0 \tag{16.733}$$

$$tgovh^{\text{data}\langle 3\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 3\rangle} - scale^{\langle 3\rangle} TGOVH^{\langle 3\rangle} = 0 \tag{16.734}$$

$$tgovh^{\text{data}\langle 4\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 4\rangle} - scale^{\langle 4\rangle} TGOVH^{\langle 4\rangle} = 0 \tag{16.735}$$

$$tgovh^{\text{data}\langle 5\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 5\rangle} - scale^{\langle 5\rangle} TGOVH^{\langle 5\rangle} = 0 \tag{16.736}$$

$$tgovh^{\text{data}\langle 6\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 6\rangle} - scale^{\langle 6\rangle} TGOVH^{\langle 6\rangle} = 0 \tag{16.737}$$

$$tgovh^{\text{data}\langle 7\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 7\rangle} - scale^{\langle 7\rangle} TGOVH^{\langle 7\rangle} = 0 \tag{16.738}$$

$$tgovh^{\text{data}\langle 8\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 8\rangle} - scale^{\langle 8\rangle} TGOVH^{\langle 8\rangle} = 0 \tag{16.739}$$

$$tgovh^{\text{data}\langle 9\rangle} + tgovh^{\text{data}^{\text{extra}}\langle 9\rangle} - scale^{\langle 9\rangle} TGOVH^{\langle 9\rangle} = 0 \tag{16.740}$$

$$BANKTAX - CIT + FIRMTAX = 0 \tag{16.741}$$

$$EXP^{\text{GOV}} - INC^{\text{GOV}} + SAV^{\text{GOV}} = 0 \tag{16.742}$$

$$INC^{\text{FIRM}} - SAV^{\text{FIRM}} - TRAN^{\text{FIRM}} = 0 \tag{16.743}$$

$$INC^{\text{BANK}} - SAV^{\text{BANK}} - TRAN^{\text{BANK}} = 0 \tag{16.744}$$

$$K^{\text{TAX}} + L^{\text{TAX}} - SOCTAX = 0 \tag{16.745}$$

$$-TROWGOV + TROWGOV^{\langle \text{eu}\rangle} + TROWGOV^{\langle \text{neu}\rangle} = 0 \tag{16.746}$$

$$\pi^{\langle A\rangle} - p^{\langle A\rangle} Y^{\langle A\rangle} + \left(1 - sub^{\text{rate}\langle A\rangle} + tax^{\text{rate}\langle A\rangle}\right)\left(p^{\text{int}\langle A\rangle} X^{\langle A,A\rangle} + p^{\text{int}\langle B\rangle} X^{\langle B,A\rangle} + p^{\text{int}\langle C\rangle} X^{\langle C,A\rangle} + p^{\text{int}\langle D\rangle} X^{\langle D,A\rangle} + p^{\text{int}\langle E\rangle} X^{\langle E,A\rangle} + p^{\text{int}\langle F\rangle} X^{\langle F,A\rangle} + p^{\text{int}\langle G\rangle} X^{\langle G,A\rangle} + p^{\text{int}\langle H\rangle} X^{\langle H,A\rangle} + p^{\text{int}}$$
$$\tag{16.747}$$

$$\pi^{\langle \text{B}\rangle} - p^{\langle \text{B}\rangle}Y^{\langle \text{B}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{B}\rangle} + \textit{tax}^{\text{rate}\langle \text{B}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,B}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,B}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,B}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,B}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,B}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,B}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,B}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,B}\rangle} + p^{\text{int}\langle}$$

$$\tag{16.748}$$

$$\pi^{\langle \text{C}\rangle} - p^{\langle \text{C}\rangle}Y^{\langle \text{C}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{C}\rangle} + \textit{tax}^{\text{rate}\langle \text{C}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,C}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,C}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,C}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,C}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,C}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,C}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,C}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,C}\rangle} + p^{\text{int}}$$

$$\tag{16.749}$$

$$\pi^{\langle \text{D}\rangle} - p^{\langle \text{D}\rangle}Y^{\langle \text{D}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{D}\rangle} + \textit{tax}^{\text{rate}\langle \text{D}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,D}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,D}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,D}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,D}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,D}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,D}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,D}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,D}\rangle} + p^{\text{int}}$$

$$\tag{16.750}$$

$$\pi^{\langle \text{E}\rangle} - p^{\langle \text{E}\rangle}Y^{\langle \text{E}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{E}\rangle} + \textit{tax}^{\text{rate}\langle \text{E}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,E}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,E}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,E}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,E}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,E}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,E}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,E}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,E}\rangle} + p^{\text{int}\langle \text{I}\rangle}$$

$$\tag{16.751}$$

$$\pi^{\langle \text{F}\rangle} - p^{\langle \text{F}\rangle}Y^{\langle \text{F}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{F}\rangle} + \textit{tax}^{\text{rate}\langle \text{F}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,F}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,F}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,F}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,F}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,F}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,F}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,F}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,F}\rangle} + p^{\text{int}\langle \text{I}\rangle}$$

$$\tag{16.752}$$

$$\pi^{\langle \text{G}\rangle} - p^{\langle \text{G}\rangle}Y^{\langle \text{G}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{G}\rangle} + \textit{tax}^{\text{rate}\langle \text{G}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,G}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,G}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,G}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,G}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,G}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,G}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,G}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,G}\rangle} + p^{\text{int}}$$

$$\tag{16.753}$$

$$\pi^{\langle \text{H}\rangle} - p^{\langle \text{H}\rangle}Y^{\langle \text{H}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{H}\rangle} + \textit{tax}^{\text{rate}\langle \text{H}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,H}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,H}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,H}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,H}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,H}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,H}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,H}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,H}\rangle} + p^{\text{int}}$$

$$\tag{16.754}$$

$$\pi^{\langle \text{I}\rangle} - p^{\langle \text{I}\rangle}Y^{\langle \text{I}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{I}\rangle} + \textit{tax}^{\text{rate}\langle \text{I}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,I}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,I}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,I}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,I}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,I}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,I}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,I}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,I}\rangle} + p^{\text{int}\langle \text{I}\rangle}X^{\langle \text{I,I}\rangle}$$

$$\tag{16.755}$$

$$\pi^{\langle \text{J}\rangle} - p^{\langle \text{J}\rangle}Y^{\langle \text{J}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{J}\rangle} + \textit{tax}^{\text{rate}\langle \text{J}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,J}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,J}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,J}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,J}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,J}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,J}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,J}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,J}\rangle} + p^{\text{int}\langle \text{I}\rangle}X^{\langle}$$

$$\tag{16.756}$$

$$\pi^{\langle \text{K}\rangle} - p^{\langle \text{K}\rangle}Y^{\langle \text{K}\rangle} + \left(1 - \textit{sub}^{\text{rate}\langle \text{K}\rangle} + \textit{tax}^{\text{rate}\langle \text{K}\rangle}\right)\left(p^{\text{int}\langle \text{A}\rangle}X^{\langle \text{A,K}\rangle} + p^{\text{int}\langle \text{B}\rangle}X^{\langle \text{B,K}\rangle} + p^{\text{int}\langle \text{C}\rangle}X^{\langle \text{C,K}\rangle} + p^{\text{int}\langle \text{D}\rangle}X^{\langle \text{D,K}\rangle} + p^{\text{int}\langle \text{E}\rangle}X^{\langle \text{E,K}\rangle} + p^{\text{int}\langle \text{F}\rangle}X^{\langle \text{F,K}\rangle} + p^{\text{int}\langle \text{G}\rangle}X^{\langle \text{G,K}\rangle} + p^{\text{int}\langle \text{H}\rangle}X^{\langle \text{H,K}\rangle} + p^{\text{int}}$$

$$\tag{16.757}$$

$$BTINC^{\langle 1 \rangle} - INC^{\langle 1 \rangle} - pit^{\text{tax} \langle 1 \rangle} PIT^{\text{base} \langle 1 \rangle} = 0 \tag{16.758}$$

$$BTINC^{\langle 10 \rangle} - INC^{\langle 10 \rangle} - pit^{\text{tax} \langle 10 \rangle} PIT^{\text{base} \langle 10 \rangle} = 0 \tag{16.759}$$

$$BTINC^{\langle 2 \rangle} - INC^{\langle 2 \rangle} - pit^{\text{tax} \langle 2 \rangle} PIT^{\text{base} \langle 2 \rangle} = 0 \tag{16.760}$$

$$BTINC^{\langle 3 \rangle} - INC^{\langle 3 \rangle} - pit^{\text{tax} \langle 3 \rangle} PIT^{\text{base} \langle 3 \rangle} = 0 \tag{16.761}$$

$$BTINC^{\langle 4 \rangle} - INC^{\langle 4 \rangle} - pit^{\text{tax} \langle 4 \rangle} PIT^{\text{base} \langle 4 \rangle} = 0 \tag{16.762}$$

$$BTINC^{\langle 5 \rangle} - INC^{\langle 5 \rangle} - pit^{\text{tax} \langle 5 \rangle} PIT^{\text{base} \langle 5 \rangle} = 0 \tag{16.763}$$

$$BTINC^{\langle 6 \rangle} - INC^{\langle 6 \rangle} - pit^{\text{tax} \langle 6 \rangle} PIT^{\text{base} \langle 6 \rangle} = 0 \tag{16.764}$$

$$BTINC^{\langle 7 \rangle} - INC^{\langle 7 \rangle} - pit^{\text{tax} \langle 7 \rangle} PIT^{\text{base} \langle 7 \rangle} = 0 \tag{16.765}$$

$$BTINC^{\langle 8 \rangle} - INC^{\langle 8 \rangle} - pit^{\text{tax} \langle 8 \rangle} PIT^{\text{base} \langle 8 \rangle} = 0 \tag{16.766}$$

$$BTINC^{\langle 9 \rangle} - INC^{\langle 9 \rangle} - pit^{\text{tax} \langle 9 \rangle} PIT^{\text{base} \langle 9 \rangle} = 0 \tag{16.767}$$

$$EXCISE^{\langle \text{A} \rangle} - TAX^{\text{p} \langle \text{A} \rangle} + VAT^{\langle \text{A} \rangle} = 0 \tag{16.768}$$

$$EXCISE^{\langle \text{B} \rangle} - TAX^{\text{p} \langle \text{B} \rangle} + VAT^{\langle \text{B} \rangle} = 0 \tag{16.769}$$

$$EXCISE^{\langle \text{C} \rangle} - TAX^{\text{p} \langle \text{C} \rangle} + VAT^{\langle \text{C} \rangle} = 0 \tag{16.770}$$

$$EXCISE^{\langle \text{D} \rangle} - TAX^{\text{p} \langle \text{D} \rangle} + VAT^{\langle \text{D} \rangle} = 0 \tag{16.771}$$

$$EXCISE^{\langle \text{E} \rangle} - TAX^{\text{p} \langle \text{E} \rangle} + VAT^{\langle \text{E} \rangle} = 0 \tag{16.772}$$

$$EXCISE^{\langle \text{F} \rangle} - TAX^{\text{p} \langle \text{F} \rangle} + VAT^{\langle \text{F} \rangle} = 0 \tag{16.773}$$

$$EXCISE^{\langle G\rangle} - TAX^{p\langle G\rangle} + VAT^{\langle G\rangle} = 0 \tag{16.774}$$

$$EXCISE^{\langle H\rangle} - TAX^{p\langle H\rangle} + VAT^{\langle H\rangle} = 0 \tag{16.775}$$

$$EXCISE^{\langle I\rangle} - TAX^{p\langle I\rangle} + VAT^{\langle I\rangle} = 0 \tag{16.776}$$

$$EXCISE^{\langle J\rangle} - TAX^{p\langle J\rangle} + VAT^{\langle J\rangle} = 0 \tag{16.777}$$

$$EXCISE^{\langle K\rangle} - TAX^{p\langle K\rangle} + VAT^{\langle K\rangle} = 0 \tag{16.778}$$

$$-EXP^{ROW\langle eu\rangle} + EXPORT^{ROW\langle eu\rangle} + TRAN^{\langle eu\rangle} = 0 \tag{16.779}$$

$$EXP^{ROW\langle eu\rangle} - INC^{ROW\langle eu\rangle} + SAV^{\langle eu\rangle} = 0 \tag{16.780}$$

$$-EXP^{ROW\langle neu\rangle} + EXPORT^{ROW\langle neu\rangle} + TRAN^{\langle neu\rangle} = 0 \tag{16.781}$$

$$EXP^{ROW\langle neu\rangle} - INC^{ROW\langle neu\rangle} + SAV^{\langle neu\rangle} = 0 \tag{16.782}$$

$$IMPORT^{ROW\langle eu\rangle} - INC^{ROW\langle eu\rangle} + ex^{rate\langle eu\rangle}\left(TBANKROW^{\langle eu\rangle} + TFIRMROW^{\langle eu\rangle} + TGOVROW^{\langle eu\rangle} + sale^{\langle 1\rangle}THROW^{\langle 1,eu\rangle} + sale^{\langle 10\rangle}THROW^{\langle 10,eu\rangle} + sale^{\langle 2\rangle}THROW^{\langle 2,eu\rangle} + sale^{\langle 3\rangle}THRO \right. \tag{16.783}$$

$$IMPORT^{ROW\langle neu\rangle} - INC^{ROW\langle neu\rangle} + ex^{rate\langle neu\rangle}\left(TBANKROW^{\langle neu\rangle} + TFIRMROW^{\langle neu\rangle} + TGOVROW^{\langle neu\rangle} + sale^{\langle 1\rangle}THROW^{\langle 1,neu\rangle} + sale^{\langle 10\rangle}THROW^{\langle 10,neu\rangle} + sale^{\langle 2\rangle}THROW^{\langle 2,neu\rangle} + sal \right. \tag{16.784}$$

$$L^{\langle 1\rangle} - LL^{\langle 1\rangle} + UNEMP^{\langle 1\rangle} = 0 \tag{16.785}$$

$$L^{\langle 10\rangle} - LL^{\langle 10\rangle} + UNEMP^{\langle 10\rangle} = 0 \tag{16.786}$$

$$L^{\langle 2\rangle} - LL^{\langle 2\rangle} + UNEMP^{\langle 2\rangle} = 0 \tag{16.787}$$

$$L^{\langle 3\rangle} - LL^{\langle 3\rangle} + UNEMP^{\langle 3\rangle} = 0 \tag{16.788}$$

$$L^{\langle 4\rangle} - LL^{\langle 4\rangle} + UNEMP^{\langle 4\rangle} = 0 \tag{16.789}$$

$$L^{\langle 5\rangle} - LL^{\langle 5\rangle} + UNEMP^{\langle 5\rangle} = 0 \tag{16.790}$$

$$L^{\langle 6\rangle} - LL^{\langle 6\rangle} + UNEMP^{\langle 6\rangle} = 0 \tag{16.791}$$

$$L^{\langle 7\rangle} - LL^{\langle 7\rangle} + UNEMP^{\langle 7\rangle} = 0 \tag{16.792}$$

$$L^{\langle 8\rangle} - LL^{\langle 8\rangle} + UNEMP^{\langle 8\rangle} = 0 \tag{16.793}$$

$$L^{\langle 9\rangle} - LL^{\langle 9\rangle} + UNEMP^{\langle 9\rangle} = 0 \tag{16.794}$$

$$-scale^{\langle 1\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 1\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 1\rangle} + auh^{\mathrm{b}\,\langle 1\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 1\rangle} + auh^{\mathrm{r}\,\langle 1,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 1,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 1,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 1,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 1\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 1\rangle} + auh^{\mathrm{b}\,\langle 1\rangle}\lambda\right.\right. \tag{16.795}$$

$$-scale^{\langle 10\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 10\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 10\rangle} + auh^{\mathrm{b}\,\langle 10\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 10\rangle} + auh^{\mathrm{r}\,\langle 10,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 10,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 10,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 10,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 10\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 10\rangle}\right.\right. \tag{16.796}$$

$$-scale^{\langle 2\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 2\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 2\rangle} + auh^{\mathrm{b}\,\langle 2\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 2\rangle} + auh^{\mathrm{r}\,\langle 2,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 2,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 2,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 2,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 2\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 2\rangle} + auh^{\mathrm{b}\,\langle 2\rangle}\lambda\right.\right. \tag{16.797}$$

$$-scale^{\langle 3\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 3\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle} + auh^{\mathrm{b}\,\langle 3\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle} + auh^{\mathrm{r}\,\langle 3,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 3,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 3,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 3,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 3\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 3\rangle} + auh^{\mathrm{b}\,\langle 3\rangle}\lambda\right.\right. \tag{16.798}$$

$$-scale^{\langle 4\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 4\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + auh^{\mathrm{b}\,\langle 4\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + auh^{\mathrm{r}\,\langle 4,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 4,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 4,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 4,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 4\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 4\rangle} + auh^{\mathrm{b}\,\langle 4\rangle}\lambda\right.\right. \tag{16.799}$$

$$-scale^{\langle 5\rangle}\lambda^{\mathrm{CONSUMER}^1\,\langle 5\rangle} + p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + auh^{\mathrm{b}\,\langle 5\rangle}\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + auh^{\mathrm{r}\,\langle 5,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 5,\mathrm{eu}\rangle} + auh^{\mathrm{r}\,\langle 5,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\,\langle 5,\mathrm{neu}\rangle} - pit^{\mathrm{tax}\,\langle 5\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\,\langle 5\rangle} + auh^{\mathrm{b}\,\langle 5\rangle}\lambda\right.\right. \tag{16.800}$$

$$-\mathit{scale}^{\langle 6\rangle}\lambda^{\mathrm{CONSUMER}^1\langle 6\rangle}+p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle}+\mathit{auh}^{\mathrm{b}\langle 6\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle}+\mathit{auh}^{\mathrm{r}\langle 6,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 6,\mathrm{eu}\rangle}+\mathit{auh}^{\mathrm{r}\langle 6,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 6,\mathrm{neu}\rangle}-\mathit{pit}^{\mathrm{tax}\langle 6\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 6\rangle}+\mathit{auh}^{\mathrm{b}\langle 6\rangle}\lambda\right.\right.$$
$$\tag{16.801}$$

$$-\mathit{scale}^{\langle 7\rangle}\lambda^{\mathrm{CONSUMER}^1\langle 7\rangle}+p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle}+\mathit{auh}^{\mathrm{b}\langle 7\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle}+\mathit{auh}^{\mathrm{r}\langle 7,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 7,\mathrm{eu}\rangle}+\mathit{auh}^{\mathrm{r}\langle 7,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 7,\mathrm{neu}\rangle}-\mathit{pit}^{\mathrm{tax}\langle 7\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 7\rangle}+\mathit{auh}^{\mathrm{b}\langle 7\rangle}\lambda\right.\right.$$
$$\tag{16.802}$$

$$-\mathit{scale}^{\langle 8\rangle}\lambda^{\mathrm{CONSUMER}^1\langle 8\rangle}+p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle}+\mathit{auh}^{\mathrm{b}\langle 8\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle}+\mathit{auh}^{\mathrm{r}\langle 8,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 8,\mathrm{eu}\rangle}+\mathit{auh}^{\mathrm{r}\langle 8,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 8,\mathrm{neu}\rangle}-\mathit{pit}^{\mathrm{tax}\langle 8\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 8\rangle}+\mathit{auh}^{\mathrm{b}\langle 8\rangle}\lambda\right.\right.$$
$$\tag{16.803}$$

$$-\mathit{scale}^{\langle 9\rangle}\lambda^{\mathrm{CONSUMER}^1\langle 9\rangle}+p^{\mathrm{l}}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle}+\mathit{auh}^{\mathrm{b}\langle 9\rangle}\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle}+\mathit{auh}^{\mathrm{r}\langle 9,\mathrm{eu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 9,\mathrm{eu}\rangle}+\mathit{auh}^{\mathrm{r}\langle 9,\mathrm{neu}\rangle}\lambda^{\mathrm{CONSUMER}^{11}\langle 9,\mathrm{neu}\rangle}-\mathit{pit}^{\mathrm{tax}\langle 9\rangle}\left(-\lambda^{\mathrm{CONSUMER}^{12}\langle 9\rangle}+\mathit{auh}^{\mathrm{b}\langle 9\rangle}\lambda\right.\right.$$
$$\tag{16.804}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 1\rangle}-\mathit{PIT}^{\mathrm{base}\langle 1\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 1\rangle}=0\tag{16.805}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 10\rangle}-\mathit{PIT}^{\mathrm{base}\langle 10\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 10\rangle}=0\tag{16.806}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 2\rangle}-\mathit{PIT}^{\mathrm{base}\langle 2\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 2\rangle}=0\tag{16.807}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 3\rangle}-\mathit{PIT}^{\mathrm{base}\langle 3\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 3\rangle}=0\tag{16.808}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 4\rangle}-\mathit{PIT}^{\mathrm{base}\langle 4\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 4\rangle}=0\tag{16.809}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 5\rangle}-\mathit{PIT}^{\mathrm{base}\langle 5\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 5\rangle}=0\tag{16.810}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 6\rangle}-\mathit{PIT}^{\mathrm{base}\langle 6\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 6\rangle}=0\tag{16.811}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 7\rangle}-\mathit{PIT}^{\mathrm{base}\langle 7\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 7\rangle}=0\tag{16.812}$$

$$-\mathit{pit}^{\mathrm{free}}+\mathit{BTINC}^{\langle 8\rangle}-\mathit{PIT}^{\mathrm{base}\langle 8\rangle}-\mathit{eip}^{\mathrm{l}}L^{\langle 8\rangle}=0\tag{16.813}$$

$$-pit^{\text{free}} + BTINC^{\langle 9 \rangle} - PIT^{\text{base}\,\langle 9 \rangle} - œip^{\text{l}}L^{\langle 9 \rangle} = 0 \tag{16.814}$$

$$DEM^{\text{GOV}} - EXP^{\text{GOV}} + SUB + TRAN^{\text{GOV}} = 0 \tag{16.815}$$

$$-BTINC^{\langle 1 \rangle} + TINSTH^{\langle 1 \rangle} + p^{\text{k}}K^{\langle 1 \rangle} + p^{\text{l}}L^{\langle 1 \rangle} = 0 \tag{16.816}$$

$$-BTINC^{\langle 10 \rangle} + TINSTH^{\langle 10 \rangle} + p^{\text{k}}K^{\langle 10 \rangle} + p^{\text{l}}L^{\langle 10 \rangle} = 0 \tag{16.817}$$

$$-BTINC^{\langle 2 \rangle} + TINSTH^{\langle 2 \rangle} + p^{\text{k}}K^{\langle 2 \rangle} + p^{\text{l}}L^{\langle 2 \rangle} = 0 \tag{16.818}$$

$$-BTINC^{\langle 3 \rangle} + TINSTH^{\langle 3 \rangle} + p^{\text{k}}K^{\langle 3 \rangle} + p^{\text{l}}L^{\langle 3 \rangle} = 0 \tag{16.819}$$

$$-BTINC^{\langle 4 \rangle} + TINSTH^{\langle 4 \rangle} + p^{\text{k}}K^{\langle 4 \rangle} + p^{\text{l}}L^{\langle 4 \rangle} = 0 \tag{16.820}$$

$$-BTINC^{\langle 5 \rangle} + TINSTH^{\langle 5 \rangle} + p^{\text{k}}K^{\langle 5 \rangle} + p^{\text{l}}L^{\langle 5 \rangle} = 0 \tag{16.821}$$

$$-BTINC^{\langle 6 \rangle} + TINSTH^{\langle 6 \rangle} + p^{\text{k}}K^{\langle 6 \rangle} + p^{\text{l}}L^{\langle 6 \rangle} = 0 \tag{16.822}$$

$$-BTINC^{\langle 7 \rangle} + TINSTH^{\langle 7 \rangle} + p^{\text{k}}K^{\langle 7 \rangle} + p^{\text{l}}L^{\langle 7 \rangle} = 0 \tag{16.823}$$

$$-BTINC^{\langle 8 \rangle} + TINSTH^{\langle 8 \rangle} + p^{\text{k}}K^{\langle 8 \rangle} + p^{\text{l}}L^{\langle 8 \rangle} = 0 \tag{16.824}$$

$$-BTINC^{\langle 9 \rangle} + TINSTH^{\langle 9 \rangle} + p^{\text{k}}K^{\langle 9 \rangle} + p^{\text{l}}L^{\langle 9 \rangle} = 0 \tag{16.825}$$

$$\Pi^{\text{EXP}\,\langle \text{A} \rangle} + p^{\text{for}\,\langle \text{eu} \rangle} EXP^{\langle \text{eu,A} \rangle} + p^{\text{for}\,\langle \text{neu} \rangle} EXP^{\langle \text{neu,A} \rangle} - p^{\text{exp}\,\langle \text{A} \rangle} EXPORT^{\langle \text{A} \rangle} = 0 \tag{16.826}$$

$$\Pi^{\text{EXP}\,\langle \text{B} \rangle} + p^{\text{for}\,\langle \text{eu} \rangle} EXP^{\langle \text{eu,B} \rangle} + p^{\text{for}\,\langle \text{neu} \rangle} EXP^{\langle \text{neu,B} \rangle} - p^{\text{exp}\,\langle \text{B} \rangle} EXPORT^{\langle \text{B} \rangle} = 0 \tag{16.827}$$

$$\Pi^{\text{EXP}\,\langle \text{C} \rangle} + p^{\text{for}\,\langle \text{eu} \rangle} EXP^{\langle \text{eu,C} \rangle} + p^{\text{for}\,\langle \text{neu} \rangle} EXP^{\langle \text{neu,C} \rangle} - p^{\text{exp}\,\langle \text{C} \rangle} EXPORT^{\langle \text{C} \rangle} = 0 \tag{16.828}$$

$$\Pi^{\text{EXP}\,\langle \text{D} \rangle} + p^{\text{for}\,\langle \text{eu} \rangle} EXP^{\langle \text{eu,D} \rangle} + p^{\text{for}\,\langle \text{neu} \rangle} EXP^{\langle \text{neu,D} \rangle} - p^{\text{exp}\,\langle \text{D} \rangle} EXPORT^{\langle \text{D} \rangle} = 0 \tag{16.829}$$

$$\Pi^{\text{EXP}\langle\text{E}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,E}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,E}\rangle} - p^{\exp\langle\text{E}\rangle} EXPORT^{\langle\text{E}\rangle} = 0 \tag{16.830}$$

$$\Pi^{\text{EXP}\langle\text{F}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,F}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,F}\rangle} - p^{\exp\langle\text{F}\rangle} EXPORT^{\langle\text{F}\rangle} = 0 \tag{16.831}$$

$$\Pi^{\text{EXP}\langle\text{G}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,G}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,G}\rangle} - p^{\exp\langle\text{G}\rangle} EXPORT^{\langle\text{G}\rangle} = 0 \tag{16.832}$$

$$\Pi^{\text{EXP}\langle\text{H}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,H}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,H}\rangle} - p^{\exp\langle\text{H}\rangle} EXPORT^{\langle\text{H}\rangle} = 0 \tag{16.833}$$

$$\Pi^{\text{EXP}\langle\text{I}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,I}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,I}\rangle} - p^{\exp\langle\text{I}\rangle} EXPORT^{\langle\text{I}\rangle} = 0 \tag{16.834}$$

$$\Pi^{\text{EXP}\langle\text{J}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,J}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,J}\rangle} - p^{\exp\langle\text{J}\rangle} EXPORT^{\langle\text{J}\rangle} = 0 \tag{16.835}$$

$$\Pi^{\text{EXP}\langle\text{K}\rangle} + p^{\text{for}\langle\text{eu}\rangle} EXP^{\langle\text{eu,K}\rangle} + p^{\text{for}\langle\text{neu}\rangle} EXP^{\langle\text{neu,K}\rangle} - p^{\exp\langle\text{K}\rangle} EXPORT^{\langle\text{K}\rangle} = 0 \tag{16.836}$$

$$\Pi^{\text{Y}\langle\text{A}\rangle} - p^{\langle\text{A}\rangle} Y^{\langle\text{A}\rangle} + p^{\exp\langle\text{A}\rangle} EXPORT^{\langle\text{A}\rangle} + p^{\text{home}\langle\text{A}\rangle} Y^{\text{HOME}\langle\text{A}\rangle} = 0 \tag{16.837}$$

$$\Pi^{\text{Y}\langle\text{B}\rangle} - p^{\langle\text{B}\rangle} Y^{\langle\text{B}\rangle} + p^{\exp\langle\text{B}\rangle} EXPORT^{\langle\text{B}\rangle} + p^{\text{home}\langle\text{B}\rangle} Y^{\text{HOME}\langle\text{B}\rangle} = 0 \tag{16.838}$$

$$\Pi^{\text{Y}\langle\text{C}\rangle} - p^{\langle\text{C}\rangle} Y^{\langle\text{C}\rangle} + p^{\exp\langle\text{C}\rangle} EXPORT^{\langle\text{C}\rangle} + p^{\text{home}\langle\text{C}\rangle} Y^{\text{HOME}\langle\text{C}\rangle} = 0 \tag{16.839}$$

$$\Pi^{\text{Y}\langle\text{D}\rangle} - p^{\langle\text{D}\rangle} Y^{\langle\text{D}\rangle} + p^{\exp\langle\text{D}\rangle} EXPORT^{\langle\text{D}\rangle} + p^{\text{home}\langle\text{D}\rangle} Y^{\text{HOME}\langle\text{D}\rangle} = 0 \tag{16.840}$$

$$\Pi^{\text{Y}\langle\text{E}\rangle} - p^{\langle\text{E}\rangle} Y^{\langle\text{E}\rangle} + p^{\exp\langle\text{E}\rangle} EXPORT^{\langle\text{E}\rangle} + p^{\text{home}\langle\text{E}\rangle} Y^{\text{HOME}\langle\text{E}\rangle} = 0 \tag{16.841}$$

$$\Pi^{\text{Y}\langle\text{F}\rangle} - p^{\langle\text{F}\rangle} Y^{\langle\text{F}\rangle} + p^{\exp\langle\text{F}\rangle} EXPORT^{\langle\text{F}\rangle} + p^{\text{home}\langle\text{F}\rangle} Y^{\text{HOME}\langle\text{F}\rangle} = 0 \tag{16.842}$$

$$\Pi^{\text{Y}\langle\text{G}\rangle} - p^{\langle\text{G}\rangle} Y^{\langle\text{G}\rangle} + p^{\exp\langle\text{G}\rangle} EXPORT^{\langle\text{G}\rangle} + p^{\text{home}\langle\text{G}\rangle} Y^{\text{HOME}\langle\text{G}\rangle} = 0 \tag{16.843}$$

$$\Pi^{\text{Y}\langle\text{H}\rangle} - p^{\langle\text{H}\rangle} Y^{\langle\text{H}\rangle} + p^{\exp\langle\text{H}\rangle} EXPORT^{\langle\text{H}\rangle} + p^{\text{home}\langle\text{H}\rangle} Y^{\text{HOME}\langle\text{H}\rangle} = 0 \tag{16.844}$$

$$\Pi^{\text{Y}\langle\text{I}\rangle} - p^{\langle\text{I}\rangle} Y^{\langle\text{I}\rangle} + p^{\exp\langle\text{I}\rangle} EXPORT^{\langle\text{I}\rangle} + p^{\text{home}\langle\text{I}\rangle} Y^{\text{HOME}\langle\text{I}\rangle} = 0 \tag{16.845}$$

$$\Pi^{\mathrm{Y}\langle \mathrm{J}\rangle} - p^{\langle \mathrm{J}\rangle}Y^{\langle \mathrm{J}\rangle} + p^{\exp\langle \mathrm{J}\rangle}EXPORT^{\langle \mathrm{J}\rangle} + p^{\mathrm{home}\langle \mathrm{J}\rangle}Y^{\mathrm{HOME}\langle \mathrm{J}\rangle} = 0 \tag{16.846}$$

$$\Pi^{\mathrm{Y}\langle \mathrm{K}\rangle} - p^{\langle \mathrm{K}\rangle}Y^{\langle \mathrm{K}\rangle} + p^{\exp\langle \mathrm{K}\rangle}EXPORT^{\langle \mathrm{K}\rangle} + p^{\mathrm{home}\langle \mathrm{K}\rangle}Y^{\mathrm{HOME}\langle \mathrm{K}\rangle} = 0 \tag{16.847}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{A}\rangle} - p^{\mathrm{imp}\langle \mathrm{A}\rangle}IMPORT^{\langle \mathrm{A}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,A}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,A}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,A}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,A}\rangle}\right) = 0 \tag{16.848}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{B}\rangle} - p^{\mathrm{imp}\langle \mathrm{B}\rangle}IMPORT^{\langle \mathrm{B}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,B}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,B}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,B}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,B}\rangle}\right) = 0 \tag{16.849}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{C}\rangle} - p^{\mathrm{imp}\langle \mathrm{C}\rangle}IMPORT^{\langle \mathrm{C}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,C}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,C}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,C}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,C}\rangle}\right) = 0 \tag{16.850}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{D}\rangle} - p^{\mathrm{imp}\langle \mathrm{D}\rangle}IMPORT^{\langle \mathrm{D}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,D}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,D}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,D}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,D}\rangle}\right) = 0 \tag{16.851}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{E}\rangle} - p^{\mathrm{imp}\langle \mathrm{E}\rangle}IMPORT^{\langle \mathrm{E}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,E}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,E}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,E}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,E}\rangle}\right) = 0 \tag{16.852}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{F}\rangle} - p^{\mathrm{imp}\langle \mathrm{F}\rangle}IMPORT^{\langle \mathrm{F}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,F}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,F}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,F}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,F}\rangle}\right) = 0 \tag{16.853}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{G}\rangle} - p^{\mathrm{imp}\langle \mathrm{G}\rangle}IMPORT^{\langle \mathrm{G}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,G}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,G}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,G}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,G}\rangle}\right) = 0 \tag{16.854}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{H}\rangle} - p^{\mathrm{imp}\langle \mathrm{H}\rangle}IMPORT^{\langle \mathrm{H}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,H}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,H}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,H}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,H}\rangle}\right) = 0 \tag{16.855}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{I}\rangle} - p^{\mathrm{imp}\langle \mathrm{I}\rangle}IMPORT^{\langle \mathrm{I}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,I}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,I}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,I}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,I}\rangle}\right) = 0 \tag{16.856}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{J}\rangle} - p^{\mathrm{imp}\langle \mathrm{J}\rangle}IMPORT^{\langle \mathrm{J}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,J}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,J}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,J}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,J}\rangle}\right) = 0 \tag{16.857}$$

$$\Pi^{\mathrm{IMP}\langle \mathrm{K}\rangle} - p^{\mathrm{imp}\langle \mathrm{K}\rangle}IMPORT^{\langle \mathrm{K}\rangle} + p^{\mathrm{for}\langle \mathrm{eu}\rangle}ex^{\mathrm{rate}\langle \mathrm{eu}\rangle}IMP^{\langle \mathrm{eu,K}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{eu,K}\rangle}\right) + p^{\mathrm{for}\langle \mathrm{neu}\rangle}ex^{\mathrm{rate}\langle \mathrm{neu}\rangle}IMP^{\langle \mathrm{neu,K}\rangle}\left(1 + im^{\mathrm{tax}\langle \mathrm{neu,K}\rangle}\right) = 0 \tag{16.858}$$

$$\Pi^{\mathrm{ARM}\langle \mathrm{A}\rangle} + p^{\mathrm{home}\langle \mathrm{A}\rangle}Y^{\mathrm{HOME}\langle \mathrm{A}\rangle} + p^{\mathrm{imp}\langle \mathrm{A}\rangle}IMPORT^{\langle \mathrm{A}\rangle} - p^{\mathrm{arm}\langle \mathrm{A}\rangle}ARM^{\langle \mathrm{A}\rangle} = 0 \tag{16.859}$$

$$\Pi^{\mathrm{ARM}\langle \mathrm{B}\rangle} + p^{\mathrm{home}\langle \mathrm{B}\rangle}Y^{\mathrm{HOME}\langle \mathrm{B}\rangle} + p^{\mathrm{imp}\langle \mathrm{B}\rangle}IMPORT^{\langle \mathrm{B}\rangle} - p^{\mathrm{arm}\langle \mathrm{B}\rangle}ARM^{\langle \mathrm{B}\rangle} = 0 \tag{16.860}$$

$$\Pi^{\mathrm{ARM}\langle \mathrm{C}\rangle} + p^{\mathrm{home}\langle \mathrm{C}\rangle}Y^{\mathrm{HOME}\langle \mathrm{C}\rangle} + p^{\mathrm{imp}\langle \mathrm{C}\rangle}IMPORT^{\langle \mathrm{C}\rangle} - p^{\mathrm{arm}\langle \mathrm{C}\rangle}ARM^{\langle \mathrm{C}\rangle} = 0 \tag{16.861}$$

$$\Pi^{\mathrm{ARM}^{\langle D \rangle}} + p^{\mathrm{home}^{\langle D \rangle}} Y^{\mathrm{HOME}^{\langle D \rangle}} + p^{\mathrm{imp}^{\langle D \rangle}} \mathit{IMPORT}^{\langle D \rangle} - p^{\mathrm{arm}^{\langle D \rangle}} \mathit{ARM}^{\langle D \rangle} = 0 \tag{16.862}$$

$$\Pi^{\mathrm{ARM}^{\langle E \rangle}} + p^{\mathrm{home}^{\langle E \rangle}} Y^{\mathrm{HOME}^{\langle E \rangle}} + p^{\mathrm{imp}^{\langle E \rangle}} \mathit{IMPORT}^{\langle E \rangle} - p^{\mathrm{arm}^{\langle E \rangle}} \mathit{ARM}^{\langle E \rangle} = 0 \tag{16.863}$$

$$\Pi^{\mathrm{ARM}^{\langle F \rangle}} + p^{\mathrm{home}^{\langle F \rangle}} Y^{\mathrm{HOME}^{\langle F \rangle}} + p^{\mathrm{imp}^{\langle F \rangle}} \mathit{IMPORT}^{\langle F \rangle} - p^{\mathrm{arm}^{\langle F \rangle}} \mathit{ARM}^{\langle F \rangle} = 0 \tag{16.864}$$

$$\Pi^{\mathrm{ARM}^{\langle G \rangle}} + p^{\mathrm{home}^{\langle G \rangle}} Y^{\mathrm{HOME}^{\langle G \rangle}} + p^{\mathrm{imp}^{\langle G \rangle}} \mathit{IMPORT}^{\langle G \rangle} - p^{\mathrm{arm}^{\langle G \rangle}} \mathit{ARM}^{\langle G \rangle} = 0 \tag{16.865}$$

$$\Pi^{\mathrm{ARM}^{\langle H \rangle}} + p^{\mathrm{home}^{\langle H \rangle}} Y^{\mathrm{HOME}^{\langle H \rangle}} + p^{\mathrm{imp}^{\langle H \rangle}} \mathit{IMPORT}^{\langle H \rangle} - p^{\mathrm{arm}^{\langle H \rangle}} \mathit{ARM}^{\langle H \rangle} = 0 \tag{16.866}$$

$$\Pi^{\mathrm{ARM}^{\langle I \rangle}} + p^{\mathrm{home}^{\langle I \rangle}} Y^{\mathrm{HOME}^{\langle I \rangle}} + p^{\mathrm{imp}^{\langle I \rangle}} \mathit{IMPORT}^{\langle I \rangle} - p^{\mathrm{arm}^{\langle I \rangle}} \mathit{ARM}^{\langle I \rangle} = 0 \tag{16.867}$$

$$\Pi^{\mathrm{ARM}^{\langle J \rangle}} + p^{\mathrm{home}^{\langle J \rangle}} Y^{\mathrm{HOME}^{\langle J \rangle}} + p^{\mathrm{imp}^{\langle J \rangle}} \mathit{IMPORT}^{\langle J \rangle} - p^{\mathrm{arm}^{\langle J \rangle}} \mathit{ARM}^{\langle J \rangle} = 0 \tag{16.868}$$

$$\Pi^{\mathrm{ARM}^{\langle K \rangle}} + p^{\mathrm{home}^{\langle K \rangle}} Y^{\mathrm{HOME}^{\langle K \rangle}} + p^{\mathrm{imp}^{\langle K \rangle}} \mathit{IMPORT}^{\langle K \rangle} - p^{\mathrm{arm}^{\langle K \rangle}} \mathit{ARM}^{\langle K \rangle} = 0 \tag{16.869}$$

$$\mathit{THBANK}^{\langle 1 \rangle} - \mathit{TRAN}^{\langle 1 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 1,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 1,neu \rangle} = 0 \tag{16.870}$$

$$\mathit{THBANK}^{\langle 10 \rangle} - \mathit{TRAN}^{\langle 10 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 10,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 10,neu \rangle} = 0 \tag{16.871}$$

$$\mathit{THBANK}^{\langle 2 \rangle} - \mathit{TRAN}^{\langle 2 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 2,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 2,neu \rangle} = 0 \tag{16.872}$$

$$\mathit{THBANK}^{\langle 3 \rangle} - \mathit{TRAN}^{\langle 3 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 3,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 3,neu \rangle} = 0 \tag{16.873}$$

$$\mathit{THBANK}^{\langle 4 \rangle} - \mathit{TRAN}^{\langle 4 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 4,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 4,neu \rangle} = 0 \tag{16.874}$$

$$\mathit{THBANK}^{\langle 5 \rangle} - \mathit{TRAN}^{\langle 5 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 5,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 5,neu \rangle} = 0 \tag{16.875}$$

$$\mathit{THBANK}^{\langle 6 \rangle} - \mathit{TRAN}^{\langle 6 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 6,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 6,neu \rangle} = 0 \tag{16.876}$$

$$\mathit{THBANK}^{\langle 7 \rangle} - \mathit{TRAN}^{\langle 7 \rangle} + ex^{\mathrm{rate}^{\langle eu \rangle}} \mathit{THROW}^{\langle 7,eu \rangle} + ex^{\mathrm{rate}^{\langle neu \rangle}} \mathit{THROW}^{\langle 7,neu \rangle} = 0 \tag{16.877}$$

$$THBANK^{\langle 8 \rangle} - TRAN^{\langle 8 \rangle} + ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 8,\mathrm{eu}\rangle} + ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 8,\mathrm{neu}\rangle} = 0 \tag{16.878}$$

$$THBANK^{\langle 9 \rangle} - TRAN^{\langle 9 \rangle} + ex^{\mathrm{rate}\langle\mathrm{eu}\rangle}THROW^{\langle 9,\mathrm{eu}\rangle} + ex^{\mathrm{rate}\langle\mathrm{neu}\rangle}THROW^{\langle 9,\mathrm{neu}\rangle} = 0 \tag{16.879}$$

$$TBANKH^{\langle 1 \rangle} + TFIRMH^{\langle 1 \rangle} + TGOVH^{\langle 1 \rangle} - TINSTH^{\langle 1 \rangle} + TROWH^{\langle\mathrm{eu},1\rangle} + TROWH^{\langle\mathrm{neu},1\rangle} = 0 \tag{16.880}$$

$$TBANKH^{\langle 10 \rangle} + TFIRMH^{\langle 10 \rangle} + TGOVH^{\langle 10 \rangle} - TINSTH^{\langle 10 \rangle} + TROWH^{\langle\mathrm{eu},10\rangle} + TROWH^{\langle\mathrm{neu},10\rangle} = 0 \tag{16.881}$$

$$TBANKH^{\langle 2 \rangle} + TFIRMH^{\langle 2 \rangle} + TGOVH^{\langle 2 \rangle} - TINSTH^{\langle 2 \rangle} + TROWH^{\langle\mathrm{eu},2\rangle} + TROWH^{\langle\mathrm{neu},2\rangle} = 0 \tag{16.882}$$

$$TBANKH^{\langle 3 \rangle} + TFIRMH^{\langle 3 \rangle} + TGOVH^{\langle 3 \rangle} - TINSTH^{\langle 3 \rangle} + TROWH^{\langle\mathrm{eu},3\rangle} + TROWH^{\langle\mathrm{neu},3\rangle} = 0 \tag{16.883}$$

$$TBANKH^{\langle 4 \rangle} + TFIRMH^{\langle 4 \rangle} + TGOVH^{\langle 4 \rangle} - TINSTH^{\langle 4 \rangle} + TROWH^{\langle\mathrm{eu},4\rangle} + TROWH^{\langle\mathrm{neu},4\rangle} = 0 \tag{16.884}$$

$$TBANKH^{\langle 5 \rangle} + TFIRMH^{\langle 5 \rangle} + TGOVH^{\langle 5 \rangle} - TINSTH^{\langle 5 \rangle} + TROWH^{\langle\mathrm{eu},5\rangle} + TROWH^{\langle\mathrm{neu},5\rangle} = 0 \tag{16.885}$$

$$TBANKH^{\langle 6 \rangle} + TFIRMH^{\langle 6 \rangle} + TGOVH^{\langle 6 \rangle} - TINSTH^{\langle 6 \rangle} + TROWH^{\langle\mathrm{eu},6\rangle} + TROWH^{\langle\mathrm{neu},6\rangle} = 0 \tag{16.886}$$

$$TBANKH^{\langle 7 \rangle} + TFIRMH^{\langle 7 \rangle} + TGOVH^{\langle 7 \rangle} - TINSTH^{\langle 7 \rangle} + TROWH^{\langle\mathrm{eu},7\rangle} + TROWH^{\langle\mathrm{neu},7\rangle} = 0 \tag{16.887}$$

$$TBANKH^{\langle 8 \rangle} + TFIRMH^{\langle 8 \rangle} + TGOVH^{\langle 8 \rangle} - TINSTH^{\langle 8 \rangle} + TROWH^{\langle\mathrm{eu},8\rangle} + TROWH^{\langle\mathrm{neu},8\rangle} = 0 \tag{16.888}$$

$$TBANKH^{\langle 9 \rangle} + TFIRMH^{\langle 9 \rangle} + TGOVH^{\langle 9 \rangle} - TINSTH^{\langle 9 \rangle} + TROWH^{\langle\mathrm{eu},9\rangle} + TROWH^{\langle\mathrm{neu},9\rangle} = 0 \tag{16.889}$$

$$-BTINC^{\mathrm{FIRM}} + PROFIT + TBANKFIRM + TGOVFIRM + TROWFIRM^{\langle\mathrm{eu}\rangle} + TROWFIRM^{\langle\mathrm{neu}\rangle} + p^{\mathrm{k}}K^{\mathrm{FIRM}} = 0 \tag{16.890}$$

$$CIT + EXCISE + IMTAX - INC^{\mathrm{GOV}} + PIT + SOCTAX + STAX + TROWGOV + VAT = 0 \tag{16.891}$$

$$-LS + scale^{\langle 1 \rangle}L^{\langle 1 \rangle} + scale^{\langle 10 \rangle}L^{\langle 10 \rangle} + scale^{\langle 2 \rangle}L^{\langle 2 \rangle} + scale^{\langle 3 \rangle}L^{\langle 3 \rangle} + scale^{\langle 4 \rangle}L^{\langle 4 \rangle} + scale^{\langle 5 \rangle}L^{\langle 5 \rangle} + scale^{\langle 6 \rangle}L^{\langle 6 \rangle} + scale^{\langle 7 \rangle}L^{\langle 7 \rangle} + scale^{\langle 8 \rangle}L^{\langle 8 \rangle} + scale^{\langle 9 \rangle}L^{\langle 9 \rangle} = 0 \tag{16.892}$$

$$-PIT + pit^{\mathrm{tax}\langle 1 \rangle}scale^{\langle 1 \rangle}PIT^{\mathrm{base}\langle 1 \rangle} + pit^{\mathrm{tax}\langle 10 \rangle}scale^{\langle 10 \rangle}PIT^{\mathrm{base}\langle 10 \rangle} + pit^{\mathrm{tax}\langle 2 \rangle}scale^{\langle 2 \rangle}PIT^{\mathrm{base}\langle 2 \rangle} + pit^{\mathrm{tax}\langle 3 \rangle}scale^{\langle 3 \rangle}PIT^{\mathrm{base}\langle 3 \rangle} + pit^{\mathrm{tax}\langle 4 \rangle}scale^{\langle 4 \rangle}PIT^{\mathrm{base}\langle 4 \rangle} + pit^{\mathrm{tax}\langle 5 \rangle}scale^{\langle 5 \rangle}PIT^{\mathrm{base}\langle 5 \rangle} + pit^{\mathrm{tax}\langle 6 \rangle}scale^{\langle 6 \rangle}PIT$$

$$\tag{16.893}$$

$$-DEM^{\mathrm{GOV}}+p^{\mathrm{cons}\langle\mathrm{A}\rangle}D^{\mathrm{GOV}\langle\mathrm{A}\rangle}+p^{\mathrm{cons}\langle\mathrm{B}\rangle}D^{\mathrm{GOV}\langle\mathrm{B}\rangle}+p^{\mathrm{cons}\langle\mathrm{C}\rangle}D^{\mathrm{GOV}\langle\mathrm{C}\rangle}+p^{\mathrm{cons}\langle\mathrm{D}\rangle}D^{\mathrm{GOV}\langle\mathrm{D}\rangle}+p^{\mathrm{cons}\langle\mathrm{E}\rangle}D^{\mathrm{GOV}\langle\mathrm{E}\rangle}+p^{\mathrm{cons}\langle\mathrm{F}\rangle}D^{\mathrm{GOV}\langle\mathrm{F}\rangle}+p^{\mathrm{cons}\langle\mathrm{G}\rangle}D^{\mathrm{GOV}\langle\mathrm{G}\rangle}+p^{\mathrm{cons}\langle\mathrm{H}\rangle}D^{\mathrm{GOV}\langle\mathrm{H}\rangle}+p^{\mathrm{cons}\langle\mathrm{I}\rangle}D^{\mathrm{GOV}\langle\mathrm{I}\rangle}$$
(16.894)

$$-EXCISE+EXCISE^{\langle\mathrm{A}\rangle}+EXCISE^{\langle\mathrm{B}\rangle}+EXCISE^{\langle\mathrm{C}\rangle}+EXCISE^{\langle\mathrm{D}\rangle}+EXCISE^{\langle\mathrm{E}\rangle}+EXCISE^{\langle\mathrm{F}\rangle}+EXCISE^{\langle\mathrm{G}\rangle}+EXCISE^{\langle\mathrm{H}\rangle}+EXCISE^{\langle\mathrm{I}\rangle}+EXCISE^{\langle\mathrm{J}\rangle}+EXCISE^{\langle\mathrm{K}\rangle}=0$$
(16.895)

$$-KS+K^{\langle\mathrm{A}\rangle}+K^{\langle\mathrm{B}\rangle}+K^{\langle\mathrm{C}\rangle}+K^{\langle\mathrm{D}\rangle}+K^{\langle\mathrm{E}\rangle}+K^{\langle\mathrm{F}\rangle}+K^{\langle\mathrm{G}\rangle}+K^{\langle\mathrm{H}\rangle}+K^{\langle\mathrm{I}\rangle}+K^{\langle\mathrm{J}\rangle}+K^{\langle\mathrm{K}\rangle}=0$$
(16.896)

$$-PROFIT+\pi^{\langle\mathrm{A}\rangle}+\pi^{\langle\mathrm{B}\rangle}+\pi^{\langle\mathrm{C}\rangle}+\pi^{\langle\mathrm{D}\rangle}+\pi^{\langle\mathrm{E}\rangle}+\pi^{\langle\mathrm{F}\rangle}+\pi^{\langle\mathrm{G}\rangle}+\pi^{\langle\mathrm{H}\rangle}+\pi^{\langle\mathrm{I}\rangle}+\pi^{\langle\mathrm{J}\rangle}+\pi^{\langle\mathrm{K}\rangle}=0$$
(16.897)

$$-STAX+TAX^{\mathrm{s}\langle\mathrm{A}\rangle}+TAX^{\mathrm{s}\langle\mathrm{B}\rangle}+TAX^{\mathrm{s}\langle\mathrm{C}\rangle}+TAX^{\mathrm{s}\langle\mathrm{D}\rangle}+TAX^{\mathrm{s}\langle\mathrm{E}\rangle}+TAX^{\mathrm{s}\langle\mathrm{F}\rangle}+TAX^{\mathrm{s}\langle\mathrm{G}\rangle}+TAX^{\mathrm{s}\langle\mathrm{H}\rangle}+TAX^{\mathrm{s}\langle\mathrm{I}\rangle}+TAX^{\mathrm{s}\langle\mathrm{J}\rangle}+TAX^{\mathrm{s}\langle\mathrm{K}\rangle}=0$$
(16.898)

$$-VAT+VAT^{\langle\mathrm{A}\rangle}+VAT^{\langle\mathrm{B}\rangle}+VAT^{\langle\mathrm{C}\rangle}+VAT^{\langle\mathrm{D}\rangle}+VAT^{\langle\mathrm{E}\rangle}+VAT^{\langle\mathrm{F}\rangle}+VAT^{\langle\mathrm{G}\rangle}+VAT^{\langle\mathrm{H}\rangle}+VAT^{\langle\mathrm{I}\rangle}+VAT^{\langle\mathrm{J}\rangle}+VAT^{\langle\mathrm{K}\rangle}=0$$
(16.899)

$$TBANKFIRM-TRAN^{\mathrm{BANK}}+scale^{\langle1\rangle}TBANKH^{\langle1\rangle}+scale^{\langle10\rangle}TBANKH^{\langle10\rangle}+scale^{\langle2\rangle}TBANKH^{\langle2\rangle}+scale^{\langle3\rangle}TBANKH^{\langle3\rangle}+scale^{\langle4\rangle}TBANKH^{\langle4\rangle}+scale^{\langle5\rangle}TBANKH^{\langle5\rangle}+scale^{\langle6\rangle}TBANKH^{\langle6\rangle}+scale^{\langle7\rangle}T$$
(16.900)

$$TFIRMBANK-TRAN^{\mathrm{FIRM}}+scale^{\langle1\rangle}TFIRMH^{\langle1\rangle}+scale^{\langle10\rangle}TFIRMH^{\langle10\rangle}+scale^{\langle2\rangle}TFIRMH^{\langle2\rangle}+scale^{\langle3\rangle}TFIRMH^{\langle3\rangle}+scale^{\langle4\rangle}TFIRMH^{\langle4\rangle}+scale^{\langle5\rangle}TFIRMH^{\langle5\rangle}+scale^{\langle6\rangle}TFIRMH^{\langle6\rangle}+scale^{\langle7\rangle}TFIR$$
(16.901)

$$-INC^{\langle1\rangle}+SAV^{\langle1\rangle}+TRAN^{\langle1\rangle}+p^{\mathrm{cons}\langle\mathrm{A}\rangle}D^{\langle\mathrm{A},1\rangle}+p^{\mathrm{cons}\langle\mathrm{B}\rangle}D^{\langle\mathrm{B},1\rangle}+p^{\mathrm{cons}\langle\mathrm{C}\rangle}D^{\langle\mathrm{C},1\rangle}+p^{\mathrm{cons}\langle\mathrm{D}\rangle}D^{\langle\mathrm{D},1\rangle}+p^{\mathrm{cons}\langle\mathrm{E}\rangle}D^{\langle\mathrm{E},1\rangle}+p^{\mathrm{cons}\langle\mathrm{F}\rangle}D^{\langle\mathrm{F},1\rangle}+p^{\mathrm{cons}\langle\mathrm{G}\rangle}D^{\langle\mathrm{G},1\rangle}+p^{\mathrm{cons}\langle\mathrm{H}\rangle}D^{\langle\mathrm{H},1\rangle}+p^{\mathrm{cons}\langle\mathrm{I}\rangle}D^{\langle\mathrm{I},1\rangle}+p^{\mathrm{cons}\langle\mathrm{J}\rangle}$$
(16.902)

$$-INC^{\langle10\rangle}+SAV^{\langle10\rangle}+TRAN^{\langle10\rangle}+p^{\mathrm{cons}\langle\mathrm{A}\rangle}D^{\langle\mathrm{A},10\rangle}+p^{\mathrm{cons}\langle\mathrm{B}\rangle}D^{\langle\mathrm{B},10\rangle}+p^{\mathrm{cons}\langle\mathrm{C}\rangle}D^{\langle\mathrm{C},10\rangle}+p^{\mathrm{cons}\langle\mathrm{D}\rangle}D^{\langle\mathrm{D},10\rangle}+p^{\mathrm{cons}\langle\mathrm{E}\rangle}D^{\langle\mathrm{E},10\rangle}+p^{\mathrm{cons}\langle\mathrm{F}\rangle}D^{\langle\mathrm{F},10\rangle}+p^{\mathrm{cons}\langle\mathrm{G}\rangle}D^{\langle\mathrm{G},10\rangle}+p^{\mathrm{cons}\langle\mathrm{H}\rangle}D^{\langle\mathrm{H},10\rangle}+p^{\mathrm{cons}\langle\mathrm{I}\rangle}D^{\langle\mathrm{I},1}$$
(16.903)

$$-INC^{\langle2\rangle}+SAV^{\langle2\rangle}+TRAN^{\langle2\rangle}+p^{\mathrm{cons}\langle\mathrm{A}\rangle}D^{\langle\mathrm{A},2\rangle}+p^{\mathrm{cons}\langle\mathrm{B}\rangle}D^{\langle\mathrm{B},2\rangle}+p^{\mathrm{cons}\langle\mathrm{C}\rangle}D^{\langle\mathrm{C},2\rangle}+p^{\mathrm{cons}\langle\mathrm{D}\rangle}D^{\langle\mathrm{D},2\rangle}+p^{\mathrm{cons}\langle\mathrm{E}\rangle}D^{\langle\mathrm{E},2\rangle}+p^{\mathrm{cons}\langle\mathrm{F}\rangle}D^{\langle\mathrm{F},2\rangle}+p^{\mathrm{cons}\langle\mathrm{G}\rangle}D^{\langle\mathrm{G},2\rangle}+p^{\mathrm{cons}\langle\mathrm{H}\rangle}D^{\langle\mathrm{H},2\rangle}+p^{\mathrm{cons}\langle\mathrm{I}\rangle}D^{\langle\mathrm{I},2\rangle}+p^{\mathrm{cons}\langle\mathrm{J}\rangle}$$
(16.904)

$$-INC^{\langle3\rangle}+SAV^{\langle3\rangle}+TRAN^{\langle3\rangle}+p^{\mathrm{cons}\langle\mathrm{A}\rangle}D^{\langle\mathrm{A},3\rangle}+p^{\mathrm{cons}\langle\mathrm{B}\rangle}D^{\langle\mathrm{B},3\rangle}+p^{\mathrm{cons}\langle\mathrm{C}\rangle}D^{\langle\mathrm{C},3\rangle}+p^{\mathrm{cons}\langle\mathrm{D}\rangle}D^{\langle\mathrm{D},3\rangle}+p^{\mathrm{cons}\langle\mathrm{E}\rangle}D^{\langle\mathrm{E},3\rangle}+p^{\mathrm{cons}\langle\mathrm{F}\rangle}D^{\langle\mathrm{F},3\rangle}+p^{\mathrm{cons}\langle\mathrm{G}\rangle}D^{\langle\mathrm{G},3\rangle}+p^{\mathrm{cons}\langle\mathrm{H}\rangle}D^{\langle\mathrm{H},3\rangle}+p^{\mathrm{cons}\langle\mathrm{I}\rangle}D^{\langle\mathrm{I},3\rangle}+p^{\mathrm{cons}\langle\mathrm{J}\rangle}$$
(16.905)

$$-INC^{\langle 4\rangle}+SAV^{\langle 4\rangle}+TRAN^{\langle 4\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,4\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,4\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,4\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,4\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,4\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,4\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,4\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,4\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,4\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.906)$$

$$-INC^{\langle 5\rangle}+SAV^{\langle 5\rangle}+TRAN^{\langle 5\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,5\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,5\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,5\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,5\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,5\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,5\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,5\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,5\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,5\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.907)$$

$$-INC^{\langle 6\rangle}+SAV^{\langle 6\rangle}+TRAN^{\langle 6\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,6\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,6\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,6\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,6\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,6\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,6\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,6\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,6\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,6\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.908)$$

$$-INC^{\langle 7\rangle}+SAV^{\langle 7\rangle}+TRAN^{\langle 7\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,7\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,7\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,7\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,7\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,7\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,7\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,7\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,7\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,7\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.909)$$

$$-INC^{\langle 8\rangle}+SAV^{\langle 8\rangle}+TRAN^{\langle 8\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,8\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,8\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,8\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,8\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,8\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,8\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,8\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,8\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,8\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.910)$$

$$-INC^{\langle 9\rangle}+SAV^{\langle 9\rangle}+TRAN^{\langle 9\rangle}+p^{\mathrm{cons}\langle A\rangle}D^{\langle A,9\rangle}+p^{\mathrm{cons}\langle B\rangle}D^{\langle B,9\rangle}+p^{\mathrm{cons}\langle C\rangle}D^{\langle C,9\rangle}+p^{\mathrm{cons}\langle D\rangle}D^{\langle D,9\rangle}+p^{\mathrm{cons}\langle E\rangle}D^{\langle E,9\rangle}+p^{\mathrm{cons}\langle F\rangle}D^{\langle F,9\rangle}+p^{\mathrm{cons}\langle G\rangle}D^{\langle G,9\rangle}+p^{\mathrm{cons}\langle H\rangle}D^{\langle H,9\rangle}+p^{\mathrm{cons}\langle I\rangle}D^{\langle I,9\rangle}+p^{\mathrm{cons}\langle J\rangle}$$
$$(16.911)$$

$$-TRAN^{\langle\mathrm{eu}\rangle}+TROWFIRM^{\langle\mathrm{eu}\rangle}+TROWBANK^{\langle\mathrm{eu}\rangle}+TROWGOV^{\langle\mathrm{eu}\rangle}+scale^{\langle 1\rangle}TROWH^{\langle\mathrm{eu},1\rangle}+scale^{\langle 10\rangle}TROWH^{\langle\mathrm{eu},10\rangle}+scale^{\langle 2\rangle}TROWH^{\langle\mathrm{eu},2\rangle}+scale^{\langle 3\rangle}TROWH^{\langle\mathrm{eu},3\rangle}+scale^{\langle 4\rangle}TROWH^{\langle\mathrm{eu},4\rangle}+scale^{\langle 5\rangle}$$
$$(16.912)$$

$$-TRAN^{\langle\mathrm{neu}\rangle}+TROWFIRM^{\langle\mathrm{neu}\rangle}+TROWBANK^{\langle\mathrm{neu}\rangle}+TROWGOV^{\langle\mathrm{neu}\rangle}+scale^{\langle 1\rangle}TROWH^{\langle\mathrm{neu},1\rangle}+scale^{\langle 10\rangle}TROWH^{\langle\mathrm{neu},10\rangle}+scale^{\langle 2\rangle}TROWH^{\langle\mathrm{neu},2\rangle}+scale^{\langle 3\rangle}TROWH^{\langle\mathrm{neu},3\rangle}+scale^{\langle 4\rangle}TROWH^{\langle\mathrm{neu},4\rangle}$$
$$(16.913)$$

$$TGOVFIRM+TGOVBANK-TRAN^{\mathrm{GOV}}+scale^{\langle 1\rangle}TGOVH^{\langle 1\rangle}+scale^{\langle 10\rangle}TGOVH^{\langle 10\rangle}+scale^{\langle 2\rangle}TGOVH^{\langle 2\rangle}+scale^{\langle 3\rangle}TGOVH^{\langle 3\rangle}+scale^{\langle 4\rangle}TGOVH^{\langle 4\rangle}+scale^{\langle 5\rangle}TGOVH^{\langle 5\rangle}+scale^{\langle 6\rangle}TGOVH^{\langle 6\rangle}+scale^{\langle 7\rangle}TGO$$
$$(16.914)$$

$$-BTINC^{\mathrm{BANK}}+TFIRMBANK+TGOVBANK+TROWBANK^{\langle\mathrm{eu}\rangle}+TROWBANK^{\langle\mathrm{neu}\rangle}+scale^{\langle 1\rangle}THBANK^{\langle 1\rangle}+scale^{\langle 10\rangle}THBANK^{\langle 10\rangle}+scale^{\langle 2\rangle}THBANK^{\langle 2\rangle}+scale^{\langle 3\rangle}THBANK^{\langle 3\rangle}+scale^{\langle 4\rangle}THBAN$$
$$(16.915)$$

$$-SAV+SAV^{\mathrm{FIRM}}+SAV^{\mathrm{BANK}}+SAV^{\mathrm{GOV}}+SAV^{\langle\mathrm{eu}\rangle}+SAV^{\langle\mathrm{neu}\rangle}+scale^{\langle 1\rangle}SAV^{\langle 1\rangle}+scale^{\langle 10\rangle}SAV^{\langle 10\rangle}+scale^{\langle 2\rangle}SAV^{\langle 2\rangle}+scale^{\langle 3\rangle}SAV^{\langle 3\rangle}+scale^{\langle 4\rangle}SAV^{\langle 4\rangle}+scale^{\langle 5\rangle}SAV^{\langle 5\rangle}+scale^{\langle 6\rangle}SAV^{\langle 6\rangle}+scale^{\langle 7\rangle}SAV^{\langle 7\rangle}$$
$$(16.916)$$

$$-L^{\langle \text{A} \rangle}-L^{\langle \text{B} \rangle}-L^{\langle \text{C} \rangle}-L^{\langle \text{D} \rangle}-L^{\langle \text{E} \rangle}-L^{\langle \text{F} \rangle}-L^{\langle \text{G} \rangle}-L^{\langle \text{H} \rangle}-L^{\langle \text{I} \rangle}-L^{\langle \text{J} \rangle}-L^{\langle \text{K} \rangle}+scale^{\langle 1 \rangle}L^{\langle 1 \rangle}+scale^{\langle 10 \rangle}L^{\langle 10 \rangle}+scale^{\langle 2 \rangle}L^{\langle 2 \rangle}+scale^{\langle 3 \rangle}L^{\langle 3 \rangle}+scale^{\langle 4 \rangle}L^{\langle 4 \rangle}+scale^{\langle 5 \rangle}L^{\langle 5 \rangle}+scale^{\langle 6 \rangle}L^{\langle 6 \rangle}+scale^{\langle 7 \rangle}L^{\langle 7 \rangle}+scale^{\langle 8 \rangle}L^{\langle 8 \rangle}$$
$$(16.917)$$

$$-IMTAX+im^{\text{tax}\langle \text{eu,A} \rangle}p^{\text{for}\langle \text{eu} \rangle}ex^{\text{rate}\langle \text{eu} \rangle}IMP^{\langle \text{eu,A} \rangle}+im^{\text{tax}\langle \text{eu,B} \rangle}p^{\text{for}\langle \text{eu} \rangle}ex^{\text{rate}\langle \text{eu} \rangle}IMP^{\langle \text{eu,B} \rangle}+im^{\text{tax}\langle \text{eu,C} \rangle}p^{\text{for}\langle \text{eu} \rangle}ex^{\text{rate}\langle \text{eu} \rangle}IMP^{\langle \text{eu,C} \rangle}+im^{\text{tax}\langle \text{eu,D} \rangle}p^{\text{for}\langle \text{eu} \rangle}ex^{\text{rate}\langle \text{eu} \rangle}IMP^{\langle \text{eu,D} \rangle}+im^{\text{tax}\langle \text{eu,E} \rangle}p^{\text{for}\langle \text{eu} \rangle}$$
$$(16.918)$$

$$-SUB+SUB^{\text{s}\langle \text{A} \rangle}+SUB^{\text{s}\langle \text{B} \rangle}+SUB^{\text{s}\langle \text{C} \rangle}+SUB^{\text{s}\langle \text{D} \rangle}+SUB^{\text{s}\langle \text{E} \rangle}+SUB^{\text{s}\langle \text{F} \rangle}+SUB^{\text{s}\langle \text{G} \rangle}+SUB^{\text{s}\langle \text{H} \rangle}+SUB^{\text{s}\langle \text{I} \rangle}+SUB^{\text{s}\langle \text{J} \rangle}+SUB^{\text{s}\langle \text{K} \rangle}+SUB^{\text{p}\langle \text{A} \rangle}+SUB^{\text{p}\langle \text{B} \rangle}+SUB^{\text{p}\langle \text{C} \rangle}+SUB^{\text{p}\langle \text{D} \rangle}+SUB^{\text{p}\langle \text{E} \rangle}+SUB^{\text{p}\langle \text{F} \rangle}$$
$$(16.919)$$

$$-ARM^{\langle \text{A} \rangle}+D^{\text{GOV}\langle \text{A} \rangle}+INV^{\langle \text{A} \rangle}+X^{\langle \text{A,A} \rangle}+X^{\langle \text{A,B} \rangle}+X^{\langle \text{A,C} \rangle}+X^{\langle \text{A,D} \rangle}+X^{\langle \text{A,E} \rangle}+X^{\langle \text{A,F} \rangle}+X^{\langle \text{A,G} \rangle}+X^{\langle \text{A,H} \rangle}+X^{\langle \text{A,I} \rangle}+X^{\langle \text{A,J} \rangle}+X^{\langle \text{A,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{A,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{A,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{A,2} \rangle}+scale^{\langle 3 \rangle}D$$
$$(16.920)$$

$$-ARM^{\langle \text{B} \rangle}+D^{\text{GOV}\langle \text{B} \rangle}+INV^{\langle \text{B} \rangle}+X^{\langle \text{B,A} \rangle}+X^{\langle \text{B,B} \rangle}+X^{\langle \text{B,C} \rangle}+X^{\langle \text{B,D} \rangle}+X^{\langle \text{B,E} \rangle}+X^{\langle \text{B,F} \rangle}+X^{\langle \text{B,G} \rangle}+X^{\langle \text{B,H} \rangle}+X^{\langle \text{B,I} \rangle}+X^{\langle \text{B,J} \rangle}+X^{\langle \text{B,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{B,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{B,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{B,2} \rangle}+scale^{\langle 3 \rangle}D$$
$$(16.921)$$

$$-ARM^{\langle \text{C} \rangle}+D^{\text{GOV}\langle \text{C} \rangle}+INV^{\langle \text{C} \rangle}+X^{\langle \text{C,A} \rangle}+X^{\langle \text{C,B} \rangle}+X^{\langle \text{C,C} \rangle}+X^{\langle \text{C,D} \rangle}+X^{\langle \text{C,E} \rangle}+X^{\langle \text{C,F} \rangle}+X^{\langle \text{C,G} \rangle}+X^{\langle \text{C,H} \rangle}+X^{\langle \text{C,I} \rangle}+X^{\langle \text{C,J} \rangle}+X^{\langle \text{C,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{C,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{C,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{C,2} \rangle}+scale^{\langle 3 \rangle}D$$
$$(16.922)$$

$$-ARM^{\langle \text{D} \rangle}+D^{\text{GOV}\langle \text{D} \rangle}+INV^{\langle \text{D} \rangle}+X^{\langle \text{D,A} \rangle}+X^{\langle \text{D,B} \rangle}+X^{\langle \text{D,C} \rangle}+X^{\langle \text{D,D} \rangle}+X^{\langle \text{D,E} \rangle}+X^{\langle \text{D,F} \rangle}+X^{\langle \text{D,G} \rangle}+X^{\langle \text{D,H} \rangle}+X^{\langle \text{D,I} \rangle}+X^{\langle \text{D,J} \rangle}+X^{\langle \text{D,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{D,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{D,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{D,2} \rangle}+scale^{\langle 3 \rangle}$$
$$(16.923)$$

$$-ARM^{\langle \text{E} \rangle}+D^{\text{GOV}\langle \text{E} \rangle}+INV^{\langle \text{E} \rangle}+X^{\langle \text{E,A} \rangle}+X^{\langle \text{E,B} \rangle}+X^{\langle \text{E,C} \rangle}+X^{\langle \text{E,D} \rangle}+X^{\langle \text{E,E} \rangle}+X^{\langle \text{E,F} \rangle}+X^{\langle \text{E,G} \rangle}+X^{\langle \text{E,H} \rangle}+X^{\langle \text{E,I} \rangle}+X^{\langle \text{E,J} \rangle}+X^{\langle \text{E,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{E,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{E,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{E,2} \rangle}+scale^{\langle 3 \rangle}D$$
$$(16.924)$$

$$-ARM^{\langle \text{F} \rangle}+D^{\text{GOV}\langle \text{F} \rangle}+INV^{\langle \text{F} \rangle}+X^{\langle \text{F,A} \rangle}+X^{\langle \text{F,B} \rangle}+X^{\langle \text{F,C} \rangle}+X^{\langle \text{F,D} \rangle}+X^{\langle \text{F,E} \rangle}+X^{\langle \text{F,F} \rangle}+X^{\langle \text{F,G} \rangle}+X^{\langle \text{F,H} \rangle}+X^{\langle \text{F,I} \rangle}+X^{\langle \text{F,J} \rangle}+X^{\langle \text{F,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{F,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{F,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{F,2} \rangle}+scale^{\langle 3 \rangle}D^{\langle \text{F}}$$
$$(16.925)$$

$$-ARM^{\langle \text{G} \rangle}+D^{\text{GOV}\langle \text{G} \rangle}+INV^{\langle \text{G} \rangle}+X^{\langle \text{G,A} \rangle}+X^{\langle \text{G,B} \rangle}+X^{\langle \text{G,C} \rangle}+X^{\langle \text{G,D} \rangle}+X^{\langle \text{G,E} \rangle}+X^{\langle \text{G,F} \rangle}+X^{\langle \text{G,G} \rangle}+X^{\langle \text{G,H} \rangle}+X^{\langle \text{G,I} \rangle}+X^{\langle \text{G,J} \rangle}+X^{\langle \text{G,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{G,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{G,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{G,2} \rangle}+scale^{\langle 3 \rangle}$$
$$(16.926)$$

$$-ARM^{\langle \text{H} \rangle}+D^{\text{GOV}\langle \text{H} \rangle}+INV^{\langle \text{H} \rangle}+X^{\langle \text{H,A} \rangle}+X^{\langle \text{H,B} \rangle}+X^{\langle \text{H,C} \rangle}+X^{\langle \text{H,D} \rangle}+X^{\langle \text{H,E} \rangle}+X^{\langle \text{H,F} \rangle}+X^{\langle \text{H,G} \rangle}+X^{\langle \text{H,H} \rangle}+X^{\langle \text{H,I} \rangle}+X^{\langle \text{H,J} \rangle}+X^{\langle \text{H,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{H,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{H,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{H,2} \rangle}+scale^{\langle 3 \rangle}D$$
$$(16.927)$$

$$-ARM^{\langle \text{I} \rangle}+D^{\text{GOV}^{\langle \text{I} \rangle}}+INV^{\langle \text{I} \rangle}+X^{\langle \text{I,A} \rangle}+X^{\langle \text{I,B} \rangle}+X^{\langle \text{I,C} \rangle}+X^{\langle \text{I,D} \rangle}+X^{\langle \text{I,E} \rangle}+X^{\langle \text{I,F} \rangle}+X^{\langle \text{I,G} \rangle}+X^{\langle \text{I,H} \rangle}+X^{\langle \text{I,I} \rangle}+X^{\langle \text{I,J} \rangle}+X^{\langle \text{I,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{I,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{I,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{I,2} \rangle}+scale^{\langle 3 \rangle}D^{\langle \text{I,3} \rangle}+scale^{\langle 4}$$

(16.928)

$$-ARM^{\langle \text{J} \rangle}+D^{\text{GOV}^{\langle \text{J} \rangle}}+INV^{\langle \text{J} \rangle}+X^{\langle \text{J,A} \rangle}+X^{\langle \text{J,B} \rangle}+X^{\langle \text{J,C} \rangle}+X^{\langle \text{J,D} \rangle}+X^{\langle \text{J,E} \rangle}+X^{\langle \text{J,F} \rangle}+X^{\langle \text{J,G} \rangle}+X^{\langle \text{J,H} \rangle}+X^{\langle \text{J,I} \rangle}+X^{\langle \text{J,J} \rangle}+X^{\langle \text{J,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{J,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{J,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{J,2} \rangle}+scale^{\langle 3 \rangle}D^{\langle \text{J,3} \rangle}+$$

(16.929)

$$-ARM^{\langle \text{K} \rangle}+D^{\text{GOV}^{\langle \text{K} \rangle}}+INV^{\langle \text{K} \rangle}+X^{\langle \text{K,A} \rangle}+X^{\langle \text{K,B} \rangle}+X^{\langle \text{K,C} \rangle}+X^{\langle \text{K,D} \rangle}+X^{\langle \text{K,E} \rangle}+X^{\langle \text{K,F} \rangle}+X^{\langle \text{K,G} \rangle}+X^{\langle \text{K,H} \rangle}+X^{\langle \text{K,I} \rangle}+X^{\langle \text{K,J} \rangle}+X^{\langle \text{K,K} \rangle}+scale^{\langle 1 \rangle}D^{\langle \text{K,1} \rangle}+scale^{\langle 10 \rangle}D^{\langle \text{K,10} \rangle}+scale^{\langle 2 \rangle}D^{\langle \text{K,2} \rangle}+scale^{\langle 3}$$

(16.930)