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(fpaseban49@gmail.com)

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(Dervis et al., 1982)

(De Melo and Tarr, 1992)

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P\*

P

Z

$Z(P) = P \times Z(P)$

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(Cororaton, 2000)

(Ballinal, 2001) .

(Wang, 2003) .



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(Carneiro and Arbache, 2003)

(Blake et al., 2002)

(Martin, 2003)

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:

(CES)  $\alpha$

$\alpha$

( $\delta_{fa}^{va}$ )  $\alpha$   $f$

CES

( $a_a^{va}$ )  $\alpha$

( $\rho_a^{va}$ ) CES

( $QF_{fa}$ )  $\alpha$   $f$

$$QVA_a = \alpha_a^{va} \times \left[ \sum_{f \in F} \delta_{fa}^{va} \times QF_{fa}^{-\rho_a^{va}} \right]^{\frac{-1}{\rho_a^{va}}}$$

:

$a \in A$

( )



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$$\begin{aligned}
 & \rho_a^{va} = \frac{\gamma}{\varepsilon} - \gamma \quad (CES) \quad ( ) \\
 & (a_a^a)^\alpha \quad (CES)^\alpha \\
 & (\delta_a^a)^\alpha \quad CES \\
 & (\rho_a^a) CES \quad (QINTA) \\
 & : \\
 & QA_a = a_a^a \left( \delta_a^a \cdot QVA_a^{-\rho_a^a} + (\gamma - \delta_a^a) \cdot QINTA_a^{-\rho_a^a} \right)^{\frac{-1}{\rho_a^a}} \quad a \in A \quad ( ) \\
 & : \quad (CES) \quad ( ) \\
 & \rho_a^a = \frac{\gamma}{\omega} - \gamma \quad ( ) \\
 & \alpha \quad ( ) \\
 & ( ) \\
 & (PA_a) ( ) \\
 & = ( ) \quad (\gamma + ta_a) \\
 & C \quad (PQ_c) ( + \\
 & (ica_{ca}) \quad \alpha \\
 & : \\
 & PVA_a = PA_a * (\gamma + ta_a) - \sum_c PQ_c * ica_{ca} \quad a \in A \quad ( ) \\
 & ( ) \\
 & ( ) \\
 & - (PDD_c) \\
 & (PM_c) \quad (QD_c) \\
 & : (QQ_c) \quad (QM_c)
 \end{aligned}$$



$$PQ_c = \frac{(PDD_c \cdot QD_c + PM_c \cdot QM)}{QQ_c} \quad c \in (CD \cup CM) \quad ( )$$

(Pwm<sub>c</sub>)

:

(tm<sub>c</sub>)

(EXR)

$$PM_c = Pwm_c \cdot (\lambda + tm_c) \cdot EXR \quad c \in CM \quad ( )$$

( )

( )

(QM<sub>c</sub>)

( )

$$QQ_c = a_c^q \left( \delta_c^q \cdot QM_c^{\rho_c^q} + (\lambda - \delta_c^q) \cdot QD_c^{\rho_c^q} \right)^{\frac{-1}{\rho_c^q}} \quad c \in (CM \cap CD) \quad ( )$$

:

$$\rho_c^q = \frac{(\eta_i - \lambda)}{\eta_i} \quad ( )$$

C

(QE<sub>c</sub>) ( ) CES

C

:

((QD<sub>c</sub>)

$$QX_c = a_c^t \left( \delta_c^t * QE_c^{\rho_c^t} + (\lambda - \delta_c^t) * QD_c^{\rho_c^t} \right)^{\frac{1}{\rho_c^t}} \quad c \in (CE \cap CD) \quad ( )$$

:

$$\rho_c^t = (\sigma_\lambda + \lambda) / \sigma_\lambda \quad ( )$$

**a**

(QA<sub>a</sub>) α

(ina<sub>a</sub>)

:



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$$QINT_a = ina_a \cdot QA_a \quad a \in A \quad ( )$$

$$\begin{array}{c}
 \alpha \\
 \alpha \\
 (ica_{ca}) \\
 : \\
 QINT_{ca} = ica_{ca} \cdot QA_a
 \end{array}
 \quad
 \begin{array}{c}
 \alpha \\
 \alpha \\
 \alpha \\
 (QA_a) \alpha \\
 c \in C \quad a \in A
 \end{array}
 \quad
 \begin{array}{c}
 C \\
 C \\
 C \\
 C \\
 C
 \end{array}
 \quad
 ( )$$

(LADJ)

$$\begin{array}{c}
 : \\
 QINV_c = IADJqinv_c \\
 \rangle
 \end{array}
 \quad
 \begin{array}{c}
 (qinv_c) \\
 c \in C
 \end{array}
 \quad
 ( )$$

$$\begin{array}{c}
 ( ) ( \\
 : \\
 QVA_a = iva_a \cdot QA_a
 \end{array}
 \quad
 \begin{array}{c}
 \alpha \\
 (QA_a) \alpha \\
 a \in A
 \end{array}
 \quad
 \begin{array}{c}
 \alpha \\
 (iva_a) \\
 ( )
 \end{array}$$

$$\begin{array}{c}
 (PE_c) \\
 : \\
 PX_c = \frac{PDS_c + QD_c + PE_c \cdot QE_c}{QX_c}
 \end{array}
 \quad
 \begin{array}{c}
 C \\
 C \\
 (PDS_c) \\
 (PE_c) \\
 : \\
 (QD_c) \\
 (QE_c) \\
 c \in CX
 \end{array}
 \quad
 ( )$$



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$$PA_a = \sum_c PX_c \cdot \theta_{ac} \quad (\theta_{ac}) \alpha \quad ( )$$

$$\frac{QM_c}{QD_c} = \left( \frac{PDD_c}{PM_c} * \frac{\alpha_c^m}{\alpha_c^d} \right)^{\frac{1}{1+\rho_c^q}} \quad c \in (CM \cap CD) \quad ( )$$
$$QM_c = \left( \frac{PDD_c}{PM_c} * \frac{\alpha_c^m}{\alpha_c^d} \right)^{\frac{1}{1+\rho_c^q}} * QD_c \quad c \in (CM \cap CD) \quad ( )$$

$$\frac{QE_c}{QD_c} = \left( \frac{PE_c}{PDS_c} * \frac{\delta_c^d}{\delta_c^e} \right)^{\frac{1}{\rho_c^t-1}} \quad c \in (CE \cap CD) \quad ( )$$

$$: \quad (EXR) \quad (Pwe_c)$$



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$$PE_c = Pwe_c \cdot EXR \quad c \in CE \quad ( )$$

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(QD<sub>c</sub>)

(QM<sub>c</sub>)

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$$QQ_c = QD_c + QM_c \quad c \in (CM \cup CDN) \cup (CD \cap CMN) \quad ( )$$

**C**

**C**

**C**

: (QA<sub>a</sub>) α

(θ<sub>ac</sub>) α

$$QX_c = \sum_a \theta_{ac} \cdot QA_a \quad c \in CX \quad ( )$$

**C**

**C**

: (QE<sub>c</sub>)

(QD<sub>c</sub>)

$$QX_c = QD_c + QE_c \quad c \in (CE \cup CDN) \cup (CD \cap CEN) \quad ( )$$

(YF<sub>hf</sub>) f h

: (transf<sub>hi</sub>) h

$$YH_h = \sum_{f \in F} YF_{hf} + \sum_{i \in INSD} transf_{hi} \quad f \in F \quad ( )$$

:

$$YH = \sum_h YH_h \quad ( )$$

(mps<sub>h</sub>)

**h**

$$(DTAX_h) ( ) \quad ( YH_h )$$



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$$\begin{aligned}
 & \text{HSAV}_h = \text{mps}_h (\text{YH}_h - \text{DTAX}_h) \quad h \in H \quad ( ) \\
 & \text{YDH}_h = \text{YH}_h - \text{DTAX}_h \quad ( ) : \\
 & \text{PSAV} = \sum_h \text{HSAV}_h \quad ( ) \\
 & \quad ( \text{YH}_h ) \quad ( \text{ty}_h ) \\
 & \quad : \\
 & \text{DTAX}_h = \text{ty}_h \cdot \text{YH}_h \quad h \in H \quad ( ) \\
 & \quad \text{C} \\
 & \quad \text{C} \quad \text{C} \\
 & (\text{MPS}_h)_h \quad ( \beta_{ch} ) \\
 & \quad ( \text{YH}_h ) \quad ( \text{ty}_h ) \\
 & \quad ( \text{PQ}_c ) ( ) \\
 & \quad : \\
 & \text{QH}_{ch} = \frac{\beta_{ch} (1 - \text{mps}_h) (1 - \text{ty}_h) \text{YH}_h}{\text{PQ}_c} \quad h \in H, c \in C \quad ( ) \\
 & \quad ( \text{DTAX}_h ) \\
 & \quad ( \text{TARIFF}_c ) \quad ( \text{IDTAX}_A ) \\
 & \quad : \quad ( \text{DTAX}_{\text{INS}} ) \\
 & \text{YG} = \sum_h \text{DTAX}_h + \sum_A \text{IDTAX} + \sum_{cM} \text{TARIFF}_c + \sum_{\text{INS}} \text{DTAX}_{\text{INS}} \quad ( )
 \end{aligned}$$





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$$\begin{aligned}
 & \left( \begin{array}{c} \text{ } \\ \text{ } \end{array} \right) \\
 & \quad \left( \text{qg}_c \right) C \quad \left( \text{PQ}_c \right) \\
 & \quad : \quad \left( \text{trnsfr}_{h,\text{gov}} \right) \quad \left( \text{trnsfr}_{h,\text{gov}} \right) \\
 \text{EG} &= \sum_{c \in C} \text{PQ}_c \cdot \text{qg}_c + \sum_H \text{trnsfr}_{h,\text{gov}} + \text{trnsfr}_{\text{INS},\text{gov}} \quad i \in H, c \in C \quad ( )
 \end{aligned}$$

$$\begin{aligned}
 & \left( \text{mspg} \right) \\
 \text{GSAV} &= \text{mspg} \times \text{YG} \quad ( ) : \quad \left( \text{YG} \right)
 \end{aligned}$$

$$\begin{aligned}
 & \left( \text{GADJ} \right) \quad \begin{array}{c} C \\ C \end{array} \\
 & \quad : \quad \left( \text{YG} \right) C
 \end{aligned}$$

$$\text{QG}_c = \text{GADJ} \times \text{qg}_c \quad ( )$$

$$\begin{aligned}
 & \quad \begin{array}{c} f \quad i \\ f \quad i \end{array} \\
 & \quad \left( \beta_{\text{ins},f} \right) \quad i \quad \left( \text{WF}_f \right) \\
 & \quad \left( \text{trnsfr}_{\text{row},f} \right) \quad f \quad \left( \text{QF}_{fa} \right) \alpha \\
 & \quad : \quad \left( \text{EXR} \right) \\
 \text{YIF}_{\text{ins},f} &= \beta_{\text{ins},f} \left( \sum_{f \in F} \text{WF}_f \cdot \text{QF}_{fa} + \text{trnsfr}_{\text{row},f} \cdot \text{EXR} \right) \quad i \in \text{INSD}, f \in F \quad ( )
 \end{aligned}$$

$$\begin{aligned}
 & \quad \begin{array}{c} i \\ i \end{array} \\
 & \quad \left( \text{YIF}_{\text{ins},f} \right) f \quad i \quad \left( \text{trnsfr}_{\text{ins},i} \right) i \\
 & \quad : \quad \left( \text{trnsfr}_{\text{ins},i} \right) i \\
 \text{YI}_i &= \sum_{f \in F} \text{YIF}_{\text{ins},f} + \sum_{i \in \text{INSDNG}} \text{trnsfr}_{\text{ins},i} \quad i \in \text{INSD}, f \in F \quad ( )
 \end{aligned}$$



$$EI_i = \sum_{c \in C} PQ_c \cdot qi_c + \sum_{i \in INSD} \text{trnsfr}_{i,ins} \quad i \in INSD, c \in C \quad (PQ_c)$$

$$TSAV = PSAV + GSAV + FSAV \quad (FSAV)$$

$$BP = \sum_{c \in C} pwm_c \cdot QM_c - \sum_{c \in C} pwe_c \cdot QE_c + FSAV + NETROW$$

$$PINTA_a = \sum_{c \in C} PQ_c \cdot ica_{ca} \quad c \in C \quad a \in A \quad (PQ_c)$$

$$( \delta_{fa}^{va} ) \alpha$$



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$$\begin{array}{ccc}
 f & (QA_a) \alpha & (PVA_a) \\
 & : & (QF_{fa}) \alpha \\
 WF_f \cdot WFD_{fa} = \frac{\delta_{fa}^{va} \cdot PVA_a \cdot QA_a}{QF_{fa}} & f \in F \quad a \in A & ( )
 \end{array}$$

(cwts<sub>c</sub>)

$$\begin{array}{ccc}
 & : & (QP_c) \\
 CPI = \sum_c QP_c \cdot cwtsc & & ( )
 \end{array}$$

$$\begin{array}{ccc}
 & : & \\
 TARIFF_c = tm_c \cdot PWM_c \cdot QM_c \cdot EXR & & ( ) \\
 & PWM_c & EXR
 \end{array}$$

$$\begin{array}{ccc}
 & : & \\
 DITAX_i = ITAX_i \cdot YI_i & & ( ) \\
 & ITAX_i & YI_i
 \end{array}$$

$$\begin{array}{ccc}
 & : & \\
 \sum_c PQ_c * QINV_c + IFOR = PSAV + GSAV + ISAV + FSAV & & ( )
 \end{array}$$

$$\begin{array}{ccc}
 & : & (QFS_f) & (QF_{fa}) \\
 \sum_A QF_{fa} = \overline{QFS_f} & & & ( )
 \end{array}$$



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$$QQ_c = \sum_{a \in A} QINT_{ca} + \sum_{h \in H} QH_{ch} + QG_c + QINV_c \quad ( )$$

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جدول ۲- اثر کاهش نرخ تعرفه بر بخش کشاورزی ایران (درصد تغییرات)

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1. General Agreement on Tariff and Trade (GATT)
2. World Trade Organisation (WTO)
3. Applied General Equilibrium Models (AGEM)
4. Computable General Equilibrium (CGE)
5. Walrasian model
6. L. Johanson





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(Dixon et al., 1992)

(Dervis et al., 1982)

(Bautista, 2000)

(Panagariya, 2002)

(Blasco, 2006)

(Dorosh et al., 2003)

(Doi et al., 2001)

9. social accounting matrix

10. constant elasticity of substitution (CES)

11. constant elasticity of transformation (CET)

12. Heckscher-Ohlin-Samuelson model

13. Armington function

14. Leontief function

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