



TRAINING ON COMPUTABLE GENERAL EQUILIBRIUM MODELLING

MODEL EXTER

AN OPEN ECONOMY WITH GOVERNMENT

This pedagogical material was developed by Véronique Robichaud and accompanies Lesson 7. The model used is an adaptation of the model EXTER presented in: Decaluwé, B., A. Martens and L. Savard (2001), « La politique économique du développement et les modèles d'équilibre général calculable. Une introduction », Montréal, Presses de l'Université de Montréal, 524 p. Since the SAM has been changed, the simulation results cannot be compared.

Table of content

Hypotheses	2
Sets.....	2
Equations	3
Variables	6
Parameters	8
The social accounting matrix for EXTER.....	10
Correspondence between the SAM and the model	11
Schema.....	12
Value of parameters.....	13
Simulations	15

Hypotheses

- Model of an open economy with government
- Four industries / commodities:
 - Agriculture;
 - Manufacturing;
 - Services;
 - Public administrations
- Two factors of production:
 - Labour (mobile across sectors)
 - Capital (fixed by sector)
- Two categories of households:
 - Salaried households;
 - Capitalists.

Sets

Industries and commodities

$$i, j \in I = \{AGR, MAN, SER, PUB\}$$

(*AGR*: agriculture, *MAN*: manufacturing, *SER*: services, *PUB*: public administrations)

Tradable commodities and industries (excluding public administrations)

$$tr \in TR \subset I = \{AGR, MAN, SER\}$$

(*AGR*: agriculture, *MAN*: manufacturing, *SER*: services)

Sub-set of tradable industries and commodities excluding services:

$$bns \in BNS \subset TR = \{AGR, MAN\}$$

Households

$$h \in H = \{SAL, CAP\}$$

(*SAL*: salaried, *CAP*: capitalists)

Equations

Production 30

1. $VA_j = v_j \cdot XS_j$ 4
2. $CI_j = i\omega_j \cdot XS_j$ 4
3. $VA_{tr} = A_{tr} \cdot LD_{tr}^{\alpha_{tr}} \cdot KD_{tr}^{1-\alpha_{tr}}$ 3
4. $LD_{tr} = \frac{\alpha_{tr} \cdot PVA_{tr} \cdot VA_{tr}}{W}$ 3
5. $KD_{tr} = \frac{(1 - \alpha_{tr}) \cdot PVA_{tr} \cdot VA_{tr}}{R_{tr}}$ 3
6. $LD_{PUB} = VA_{PUB}$ 1
7. $DI_{tr,j} = aij_{tr,j} \cdot CI_j$ 12

Income and savings 24

8. $YH_{SAL} = W \cdot \sum_j LD_j + TG$ 1
9. $YH_{CAP} = \lambda \cdot \sum_{tr} R_{tr} \cdot KD_{tr} + DIV$ 1
10. $YDH_h = YH_h - DTH_h$ 2
11. $SH_h = \psi_h \cdot YDH_h$ 2
12. $CTH_h = YDH_h - SH_h$ 2
13. $YF = (1 - \lambda - \lambda^R) \cdot \sum_{tr} R_{tr} \cdot KD_{tr}$ 1
14. $SF = YF - DIV - DIV^R - DTF$ 1
15. $YG = \sum_{tr} \{TI_{tr} + TIM_{tr} + TIE_{tr}\} + \sum_h DTH_h + DTF$ 1
16. $TI_{tr} = tx_{tr} \cdot \{PL_{tr} \cdot DD_{tr} + (1 + tm_{tr}) \cdot e \cdot PWM_{tr} \cdot IM_{tr}\}$ 3
17. $TIM_{tr} = tm_{tr} \cdot e \cdot PWM_{tr} \cdot IM_{tr}$ 3
18. $TIE_{tr} = te_{tr} \cdot PE_{tr} \cdot EX_{tr}$ 3
19. $DTH_h = tyh_h \cdot YH_h$ 2
20. $DTF = tyf \cdot YF$ 1

$$21. SG = YG - G - TG \quad 1$$

Demand 12

$$22. C_{tr,h} = \frac{\gamma_{tr,h} CTH_h}{PC_{tr}} \quad 6$$

$$23. INV_{tr} = \frac{\mu_{tr} IT}{PC_{tr}} \quad 3$$

$$24. DIT_{tr} = \sum_j DI_{tr,j} \quad 3$$

International trade 13

$$25. XS_{tr} = A_{tr}^E \left[\beta_{tr}^E \cdot EX_{tr}^{\rho_{tr}^E} + (1 - \beta_{tr}^E) \cdot DS_{tr}^{\rho_{tr}^E} \right]^{\frac{1}{\rho_{tr}^E}} \quad 3$$

$$26. \frac{EX_{tr}}{DS_{tr}} = \left[\left(\frac{PE_{tr}}{PL_{tr}} \right) \cdot \left(\frac{1 - \beta_{tr}^E}{\beta_{tr}^E} \right) \right]^{\sigma_{tr}^E} \quad 3$$

$$27. Q_{tr} = A_{tr}^M \left[\beta_{tr}^M \cdot IM_{tr}^{-\rho_{tr}^M} + (1 - \beta_{tr}^M) \cdot DD_{tr}^{-\rho_{tr}^M} \right]^{\frac{-1}{\rho_{tr}^M}} \quad 3$$

$$28. \frac{IM_{tr}}{DD_{tr}} = \left[\left(\frac{PD_{tr}}{PM_{tr}} \right) \cdot \left(\frac{\beta_{tr}^M}{1 - \beta_{tr}^M} \right) \right]^{\sigma_{tr}^M} \quad 3$$

$$29. CAB = e \sum_{tr} PWE_{tr} \cdot EX_{tr} - e \sum_{tr} PWM_{tr} \cdot IM_{tr} - \lambda^R \sum_{tr} R_{tr} \cdot KD_{tr} - DIV^R \quad 1$$

Prices 24

$$30. PVA_{PUB'} = W \quad 1$$

$$31. PCI_j = \frac{\sum_{tr} PC_{tr} DI_{tr,j}}{CI_j} \quad 4$$

$$32. P_j = \frac{PVA_j \cdot VA_j + PCI_j \cdot CI_j}{XS_j} \quad 4$$

$$33. PD_{tr} = PL_{tr} \cdot (1 + tx_{tr}) \quad 3$$

$$34. PM_{tr} = e \cdot PWM_{tr} \cdot (1 + tm_{tr}) \cdot (1 + tx_{tr}) \quad 3$$

$$35. PC_{tr} = \frac{PD_{tr} \cdot DD_{tr} + PM_{tr} \cdot IM_{tr}}{Q_{tr}} \quad 3$$

4

$$36. PE_{tr} \cdot (1 + te_{tr}) = e \cdot PWE_{tr} \quad 3$$

$$37. P_{tr} = \frac{PL_{tr} \cdot DS_{tr} + PE_{tr} \cdot EX_{tr}}{XS_{tr}} \quad 3$$

$$38. PINDEX = \frac{\sum_j PVA_j \cdot VA_j^O}{\sum_j PVA_j^O \cdot VA_j^O} \quad 1$$

Equilibrium 11

$$39. Q_{bns} = \sum_h C_{h,bns} + DIT_{bns} + INV_{bns} \quad 2$$

$$40. XS_{PUB} = \frac{G}{P_{PUB}} \quad 1$$

$$41. DS_{tr} = DD_{tr} \quad 3$$

$$42. LS = \sum_j LD_j \quad 1$$

$$43. KS_{tr} = KD_{tr} \quad 3$$

$$44. IT = \sum_h SH_h + SF + SG - CAB \quad 1$$

Verification of the Walras' law

$$45. LEON = Q_{SER} - \sum_h C_{h,SER} - DIT_{SER} - INV_{SER} \quad 1$$

Total: 116

Variables

Volume variables (quantities) 62

$C_{tr,h}$:	Consumption of commodity tr by type h households	6
CI_j :	Total intermediate consumption of industry j	4
DD_{tr} :	Demand for domestic commodity tr	3
$DI_{tr,j}$:	Intermediate consumption of commodity tr in industry j	12
DIT_{tr} :	Total intermediate demand for commodity tr	3
DS_{tr} :	Supply of commodity tr on the local market	3
EX_{tr} :	Exports of commodity tr	3
IM_{tr} :	Imports of commodity tr	3
INV_{tr} :	Final demand of commodity tr for investment purposes	3
KD_{tr} :	Industry tr demand for capital	3
KS_{tr} :	Capital supply in industry tr	3
LD_j :	Industry j demand for labour	4
LS :	Total labour supply	1
Q_{tr} :	Demand for composite commodity tr	3
VA_j :	Value added of industry j	4
XS_j :	Output of industry j	4

Prices 39

e :	Nominal exchange rate	1
P_j :	Price of industry j output	4
PC_{tr} :	Purchaser price of composite commodity i	3
PCI_j :	Intermediate consumption price index of industry j	4
PD_{tr} :	Price of commodity tr sold on the local market (including taxes)	3
PE_{tr} :	Producer price of exported commodity tr	3
$PINDEX$:	Price index (GDP deflator)	1

PL_{tr} :	Price of commodity tr sold on the local market (excluding taxes)	3
PM_{tr} :	Price of imported commodity tr (including duties and taxes)	3
PVA_j :	Price of industry j value added	4
PWE_{tr} :	World price of exported product tr (in foreign currency)	3
PWM_{tr} :	World price of imported product tr (in foreign currency)	3
R_{tr} :	Rental rate of capital in industry tr	3
W :	Wage rate	1

Nominal variables (values) 30

CAB :	Current account balance	1
CTH_h :	Consumption budget of type h households	2
DIV :	Dividends paid to households	1
DIV^R :	Dividends paid to foreigners	1
DTF :	Receipts from direct taxation on firms' income	1
DTH_h :	Receipts from direct taxation on household h income	2
G :	Current public expenditures	1
IT :	Total investment	1
SF :	Business savings	1
SG :	Government savings	1
SH_h :	Savings of type h households	2
TG :	Public transfers to salaried households	1
TI_{tr} :	Receipts from indirect tax on commodity tr	3
TIE_{tr} :	Receipts from indirect tax on exported commodity tr	3
TIM_{tr} :	Receipts from import duties on commodity tr	3
YDH_h :	Disposable income of type h households	2
YF :	Business income	1
YG :	Government income	1
YH_h :	Income of type h households	2

Other variables 1

$LEON$:	Excess supply on the market for services	1
----------	--	---

Total: 132

Exogenous variables (closures)

Number

CAB :	Current account balance	1
DIV :	Dividends paid to households	1
DIV^R :	Dividends paid to foreigners	1
e :	Nominal exchange rate (<i>numéraire</i>)	1
G :	Current public expenditures	1
KS_{tr} :	Capital supply in industry tr	3
LS :	Total labour supply	1
PWE_{tr} :	World price of exported product tr (in foreign currency)	3
PWM_{tr} :	World price of imported product tr (in foreign currency)	3
TG :	Public transfers to salaried households	1

Total: 16

Parameters

A_{tr} :	Scale parameter (Cobb-Douglas – production function)
A_{tr}^E :	Scale parameter (CET – supply function)
A_{tr}^M :	Scale parameter (CES – demand function)
$aij_{tr,j}$:	Coefficient (Leontief - intermediate consumption)
α_{tr} :	Elasticity (Cobb-Douglas – production function)
β_{tr}^E :	Distribution parameter (CET – supply function)
β_{tr}^M :	Distribution parameter (CES – demand function)
$\gamma_{tr,h}$:	Share of commodity tr in type h household consumption budget
io_j :	Coefficient (Leontief – total intermediate consumption)
λ :	Share of capital income received by capitalists
λ^R :	Share of capital income received by foreigners
μ_{tr} :	Share of commodity tr in total investment expenditures
ψ_h :	Average propensity to save of type h household
ρ_{tr}^E :	Elasticity parameter (CET – supply function)

- ρ_{tr}^M : Elasticity parameter (CES – demand function)
- σ_{tr}^E : Elasticity (CET – supply function)
- σ_{tr}^M : Elasticity (CES – demand function)
- te_{tr} : Tax rate on exported commodity tr
- tm_{tr} : Rate of duties on imported commodity tr
- tx_{tr} : Indirect tax rate on commodity tr
- ty^f : Direct tax rate on firms' income
- ty^h_h : Direct tax rate on household h income
- v_j : Coefficient (Leontief – value added)

The social accounting matrix for EXTER

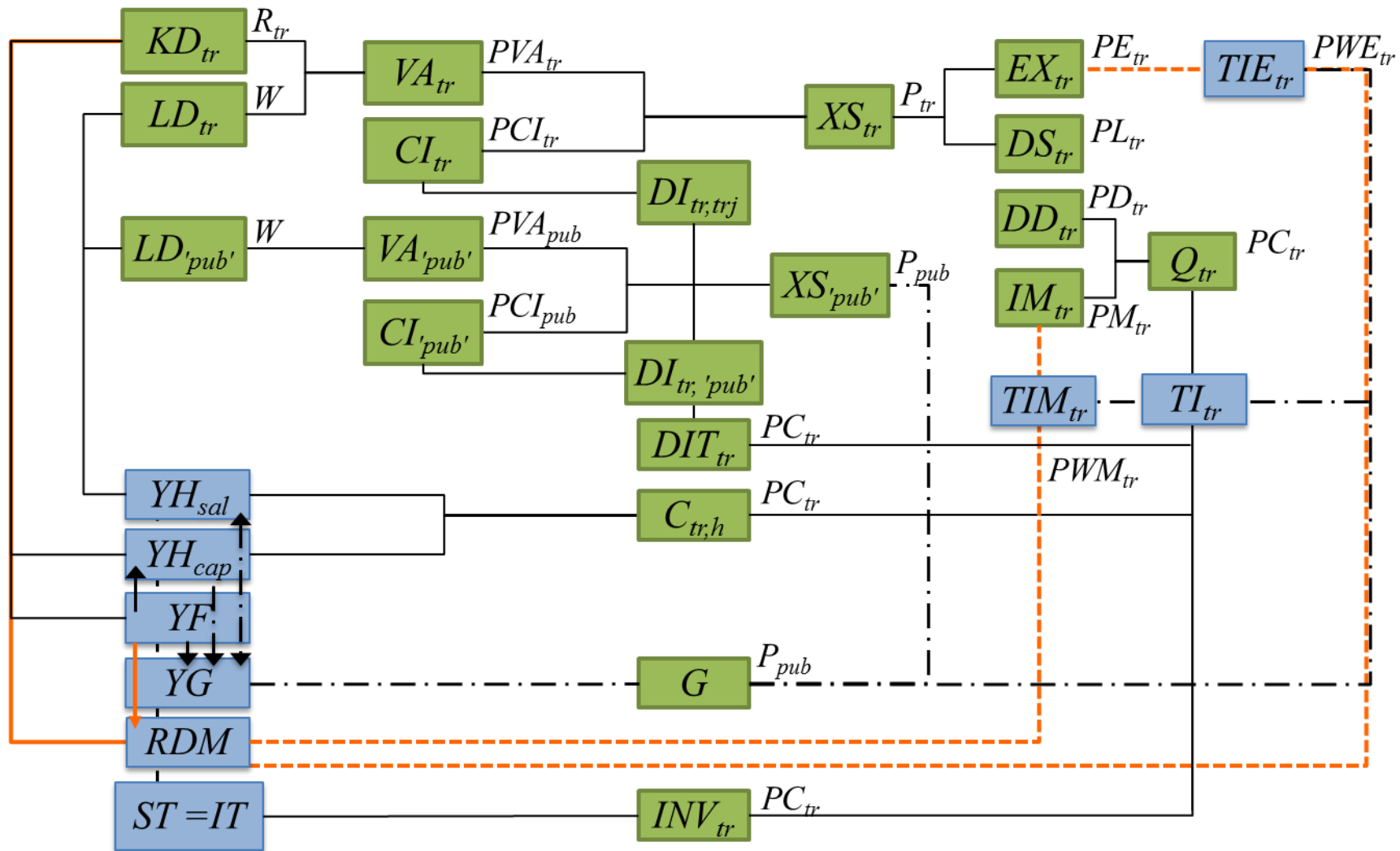
	FACTORS		AGENTS						INDUSTRIE				COMMODITIES (LOCAL MARKET)				COMMODITIES (WORLD MARKET)			ACC	TOTAL
	1.	2.	3.	4.	5.	6.	6a.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	(1 to 19)
1. Labour									300	100	200	150									750
2. Capital									100	150	100										350
3. Salaried households	750					50															800
4. Capitalists		210			70																280
5. Firms		105																			105
6. Government			40	28	7		82						8	10	13		20				208
6a. Duties													2	78	2						82
7. Rest of the world		35			8								50	780	5						878
8. Agriculture													310				190				500
9. Manufacturing														520				105			625
10. Services															565				35		600
11. Public admin.																200					200
12. Agriculture			90	10					20	75	60	10								105	370
13. Manufacturing			180	110					50	225	135	25								663	1388
14. Services			270	90					30	75	105	15									585
15. Public admin.						200															200
16. Agriculture								210													210
17. Manufacturing								105													105
18. Services								35													35
19. Accumulation			220	42	20	-42		528													768
Total (1 to 19)	750	350	800	280	105	208	82	878	500	625	600	200	370	1388	585	200	210	105	35	768	

Correspondence between the SAM and the model

	FACTORS		AGENTS				INDUSTRIES				COMMODITIES (LOCAL MARKET)				COMMODITIES (WORLD MARKET)		ACC	TOTAL		
	1.	2.	3.	4.	5.	6.	6a.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	(1 to 19)	
1. Labour	$W \times \sum_j LD_j$								300	100	200	150						$W \times \sum_j LD_j$	750	
2. Capital		$\lambda \sum_{tr} R_{tr} KD_{tr}$							100	150	100		$R_{tr} \times KD_{tr}$					$\sum_{tr} R_{tr} \times KD_{tr}$	350	
3. Salaried households	750																		800	
4. Capital																			280	
5. Factor	$(1 - \lambda - \lambda^R) \sum_{tr} R_{tr} KD_{tr}$	210																	105	
6. Government			40	28	7														208	
6a. Duties																			82	
7. Rest of the																			878	
8. Agriculture	$\lambda^R \sum_{tr} R_{tr} KD_{tr}$	35																	500	
9. Manufacturing																			625	
10. Services																			600	
11. Public admin.																			200	
12. Agriculture			90	10					20	75	60	10							370	
13. Manufacturing			180	110					50	225	135	25							1388	
14. Services			270	90					30	75	105	15							585	
15. Public admin.																			200	
16. Agriculture									210										210	
17. Manufacturing	$W \times \sum_j LD_j$	$\sum_{tr} R_{tr} \times KD_{tr}$							105										105	
18. Services									35										35	
19. Accumulation									528										768	
Total (1 to 19)	750	350	800	280	105	208	82	878	500	625	600	200	370	1388	585	200	210	105	35	768

$W \times \sum_j LD_j$ (Factors 1, 17)
 $\lambda \sum_{tr} R_{tr} KD_{tr}$ (Factor 2)
 $(1 - \lambda - \lambda^R) \sum_{tr} R_{tr} KD_{tr}$ (Factor 5)
 $\lambda^R \sum_{tr} R_{tr} KD_{tr}$ (Factor 8)
 $\sum_{tr} R_{tr} \times KD_{tr}$ (Factor 17)
 $W \times LD_j$ (Agents 6, 7)
 DIV (Agents 4, 5)
 TG (Agents 6, 7)
 DTF (Agents 5, 6)
 $\sum_{tr} TIM_{tr}$ (Agents 7, 11)
 DIV^R (Agents 7, 8)
 DTH_h (Agents 3, 4)
 $PC_{tr} \times C_{tr,h}$ (Agents 12, 13, 14)
 G (Agents 15, 16)
 SH_h (Agents 17, 18)
 SF (Agents 17, 18)
 SG (Agents 17, 18)
 $-CAB$ (Agents 17, 18)
 YH_h (Agents 3, 4)
 YF (Agents 5, 6)
 YG (Agents 6, 7)
 $R_{tr} \times KD_{tr}$ (Industries 8, 9, 10)
 TIE_{tr} (Industries 12, 13, 14)
 YH_h (Industries 12, 13, 14)
 YF (Industries 12, 13, 14)
 YG (Industries 12, 13, 14)
 TIM_{tr} (Industries 12, 13, 14)
 $PE_{tr} \times EX_{tr}$ (Industries 12, 13, 14)
 $P_j \times XS_j$ (Industries 12, 13, 14)
 $PC_{tr} \times DI_{tr,j}$ (Industries 12, 13, 14)
 $PL_{tr} \times DS_{tr}$ (Industries 12, 13, 14)
 $PC_{tr} \times INV_{tr}$ (Industries 12, 13, 14)
 $PC_{tr} \times Q_{tr}$ (Industries 12, 13, 14)
 $e \times PWM_{tr} \times IM_{tr}$ (Industries 12, 13, 14)
 $e \times PWE_{tr} \times EX_{tr}$ (Industries 12, 13, 14)
 $P_{PUB'} \times XS_{PUB'}$ (Industries 12, 13, 14)
 $PC_{tr} \times Q_{tr}$ (Industries 12, 13, 14)
 $e \times PWE_{tr} \times EX_{tr}$ (Industries 12, 13, 14)
 IT (Industries 12, 13, 14)

Schema



Value of parameters

Definition	Symbol	Value
Scale parameter – Cobb-Douglas	A_{agr}	1.755
	A_{man}	1.960
	A_{ser}	1.890
Scale parameter – CET	A_{agr}^E	2.040
	A_{man}^E	3.328
	A_{ser}^E	4.267
Scale parameter – CES	A_{agr}^M	1.712
	A_{man}^M	1.918
	A_{ser}^M	1.012
Intermediate consumption coefficient – Leontief	$a_{ij,agr,agr}$	0.204
	$a_{ij,man,agr}$	0.490
	$a_{ij,ser,agr}$	0.306
	$a_{ij,agr,man}$	0.205
	$a_{ij,man,man}$	0.591
	$a_{ij,ser,man}$	0.205
	$a_{ij,agr,ser}$	0.203
	$a_{ij,man,ser}$	0.440
	$a_{ij,ser,ser}$	0.356
	$a_{ij,agr,pub}$	0.204
	$a_{ij,man,pub}$	0.490
	$a_{ij,ser,pub}$	0.303
Elasticity – Cobb-Douglas	α_{agr}	0.750
	α_{man}	0.400
	α_{ser}	0.667
Distribution parameter – CET	β_{agr}^E	0.581
	β_{man}^E	0.961
	β_{ser}^E	0.942
Distribution parameter – CES	β_{agr}^M	0.295
	β_{man}^M	0.684
	β_{ser}^M	7.598E-11
Share of commodity in the consumption budget of salaried households	$\gamma_{agr,sal}$	0.167
	$\gamma_{man,sal}$	0.333
	$\gamma_{ser,sal}$	0.500
Share of commodity in the consumption budget of capitalists households	$\gamma_{agr,cap}$	0.048
	$\gamma_{man,cap}$	0.524
	$\gamma_{ser,cap}$	0.429

Definition	Symbol	Value
Total intermediate consumption coefficient – Leontief	io_{agr}	0.191
	io_{man}	0.571
	io_{ser}	0.479
	io_{pub}	0.239
Shares of capital income	λ	0.600
	λ^R	0.100
Share of commodity in total investment expenditures	μ_{agr}	0.137
	μ_{man}	0.863
	μ_{serl}	
Propensity to save	ψ_{sal}	0.289
	ψ_{cap}	0.167
Elasticity parameter – CET	ρ_{agr}^E	1.667
	ρ_{man}^E	3.000
	ρ_{ser}^E	2.000
Elasticity parameter – CES	ρ_{agr}^M	-0.500
	ρ_{man}^M	0.667
	ρ_{ser}^M	4.000
Elasticity – CET	σ_{agr}^E	1.500
	σ_{man}^E	0.500
	σ_{ser}^E	1.000
Elasticity – CES	σ_{agr}^M	2.000
	σ_{man}^M	0.600
	σ_{ser}^M	0.200
Indirect tax rate – exports	te_{agr}	0.105
	te_{man}	0
	te_{ser}	0
Indirect tax rate – imports	tm_{agr}	0.040
	tm_{man}	0.100
	tm_{ser}	0.400
Indirect tax rate – local	tx_{agr}	0.022
	tx_{man}	0.007
	tx_{ser}	0.023
Direct tax rate on firms' income	tyf	0.067
Direct tax rate on households' income	tyh_{sal}	0.050
	tyh_{cap}	0.100
Value-added coefficient – Leontief	v_{agr}	0.800
	v_{man}	0.400
	v_{ser}	0.500
	v_{pub}	0.750

Simulations

50% decrease of tariff duties on manufacturing

Definition	Symbol	Initial value	Simulation	Variation (%)
PRICES				
• wage rate	W	1	1.000	-0.050
• GDP deflator	$PIINDEX$	1	0.998	-0.226
Rental rate of capital				
• agriculture	R_{agr}	1	0.996	-0.443
• manufacturing	R_{man}	1	0.983	-1.702
• services	R_{ser}	1	1.009	0.898
Price of value added				
• agriculture	PVA_{agr}	1	0.999	-0.148
• manufacturing	PVA_{man}	1	0.990	-1.044
• services	PVA_{ser}	1	1.003	0.265
• public administrations	PVA_{pub}	1	1.000	-0.050
Intermediate consumption price index				
• agriculture	PCI_{agr}	1.047	1.022	-2.333
• manufacturing	PCI_{man}	1.051	1.024	-2.605
• services	PCI_{ser}	1.045	1.022	-2.197
• public administrations	PCI_{pub}	1.047	1.022	-2.333
Producer price				
• agriculture	P_{agr}	1	0.994	-0.585
• manufacturing	P_{man}	1	0.980	-1.980
• services	P_{ser}	1	0.990	-0.966
• public administrations	P_{pub}	1	0.994	-0.620
Price of local sales (excluding taxes)				
• agriculture	PL_{agr}	1	0.991	-0.946
• manufacturing	PL_{man}	1	0.976	-2.383
• services	PL_{ser}	1	0.990	-1.026
Price of exports (excluding taxes)				
• agriculture	PE_{agr}	1	1.000	0.000
• manufacturing	PE_{man}	1	1.000	0.000
• services	PE_{ser}	1	1.000	0.000
Composite price				
• agriculture	PC_{agr}	1.028	1.019	-0.811
• manufacturing	PC_{man}	1.068	1.028	-3.733
• services	PC_{ser}	1.026	1.016	-1.013

Price of local sales (including taxes)				
• agriculture	PD_{agr}	1.022	1.012	-0.946
• manufacturing	PD_{man}	1.007	0.983	-2.383
• services	PD_{ser}	1.023	1.012	-1.026
Price of imports (including taxes)				
• agriculture	PM_{agr}	1.063	1.063	-
• manufactures	PM_{man}	1.108	1.058	-4.545
• services	PM_{ser}	1.432	1.432	-
PRODUCTION AND FACTORS				
Output				
• agriculture	XS_{agr}	500	498.525	-0.295
• manufacturing	XS_{man}	625	620.847	-0.664
• services	XS_{ser}	600	603.786	0.631
• public administrations	XS_{pub}	200	201.248	0.624
Value added				
• agriculture	VA_{agr}	400	398.820	-0.295
• manufacturing	VA_{man}	250	248.339	-0.664
• services	VA_{ser}	300	301.893	0.631
• public administrations	VA_{pub}	150	150.936	0.624
Labour				
• agriculture	LD_{agr}	300	298.821	-0.393
• manufacturing	LD_{man}	100	98.347	-1.653
• services	LD_{ser}	200	201.896	0.948
• public administrations	LD_{pub}	150	150.936	0.624
• total	LS	750	750	0
Capital				
• agriculture	KD_{agr}	100	100.000	-
• manufacturing	KD_{man}	150	150.000	-
• services	KD_{ser}	100	110.000	-
Total intermediate consumption				
• agriculture	CI_{agr}	95.520	95.238	-0.295
• manufacturing	CI_{man}	356.785	354.414	-0.664
• services	CI_{ser}	287.127	288.939	0.631
• public administrations	CI_{pub}	47.760	48.058	0.624
Intermediate consumption				
• agriculture	$DI_{agr,agr}$	19.459	19.402	-0.295
	$DI_{man,agr}$	46.830	46.692	-0.295
	$DI_{ser,agr}$	29.231	29.145	-0.295
• manufacturing	$DI_{agr,man}$	72.973	72.488	-0.664
	$DI_{man,man}$	210.735	209.335	-0.664
	$DI_{ser,man}$	73.077	72.591	-0.664

• services	$DI_{agr,ser}$	58.378	58.747	0.631
	$DI_{man,ser}$	126.441	127.239	0.631
	$DI_{ser,ser}$	29.231	29.145	0.631
• public administrations	$DI_{agr,pub}$	9.730	9.790	0.624
	$DI_{man,pub}$	23.415	23.561	0.624
	$DI_{ser,pub}$	14.615	14.707	0.624
INCOME AND SAVINGS				
Income				
• workers	YH_{sal}	800	799.628	-0.046
• capitalists	YH_{cap}	280	278.742	-0.449
• firms	YF	105	104.371	-0.599
• government	YG	208	168.480	-19.000
Disposable income				
• workers	YDH_{sal}	760	759.647	-0.046
• capitalists	YDH_{cap}	252	250.868	-0.449
Receipts from direct taxation				
• workers	DTH_{sal}	40	39.981	-0.046
• capitalists	DTH_{cap}	28	27.874	-0.449
• firms	DTF	7	6.958	-0.599
Receipts from indirect taxation				
• agriculture	TI_{agr}	8	7.847	-1.909
• manufacturing	TI_{man}	10	9.623	-3.768
• services	TI_{ser}	13	12.941	-0.452
Receipts from import duties				
• agriculture	TIM_{agr}	2	1.946	-2.705
• manufacturing	TIM_{man}	78	39.184	-49.763
• services	TIM_{ser}	2	2.007	0.363
Receipts from export taxes				
• agriculture	TIE_{agr}	20	20.117	0.586
• manufacturing	TIE_{man}	0	0.000	-
• services	TIE_{ser}	0	0.000	-
Savings				
• workers	SH_{sal}	220	219.898	-0.046
• capitalists	SH_{cap}	42	41.811	-0.449
• firms	SF	20	19.413	-2.936
• government	SG	-42	-81.520	94.095
DEMAND				
Salaried households – consumption				
• agriculture	$C_{agr,sal}$	87.568	88.243	0.771
• manufacturing	$C_{man,sal}$	168.588	175.043	3.829
• services	$C_{ser,sal}$	263.077	265.646	0.977
• total budget	CTH_{sal}	540	539.749	-0.046

Capitalists – consumption				
• agriculture	$C_{agr,cap}$	9.730	9.765	0.365
• manufacturing	$C_{man,cap}$	103.026	106.540	3.411
• services	$C_{ser,cap}$	87.692	88.192	0.570
• total budget	CTH_{cap}	210	209.056	-0.449
Intermediate demand				
• agriculture	DIT_{agr}	160.541	160.427	-0.071
• manufacturing	DIT_{man}	407.421	406.826	-0.146
• services	DIT_{ser}	219.231	219.396	0.075
Demand for investment purposes				
• agriculture	INV_{agr}	102.162	97.580	-4.485
• manufacturing	INV_{man}	620.965	611.113	-1.587
• total	IT	768	727.602	-5.260
Current public expenditure				
• government	G	200	200.000	-
Demand for the local commodity				
• agriculture	D_{agr}	310	307.403	-0.838
• manufacturing	D_{man}	520	515.484	-0.869
• services	D_{ser}	565	568.220	0.570
Domestic absorption				
• agriculture	Q_{agr}	360	356.015	-1.107
• manufacturing	Q_{man}	1300	1299.522	-0.037
• services	Q_{ser}	570	573.234	0.567
INTERNATIONAL TRADE				
Imports				
• agriculture	IM_{agr}	50	48.648	-2.705
• manufacturing	IM_{man}	780	783.690	0.473
• services	IM_{ser}	5	5.018	0.363
Exports				
• agriculture	EX_{agr}	190	191.114	0.586
• manufacturing	EX_{man}	105	105.351	0.334
• services	EX_{ser}	35	35.564	1.612
Current account balance				
	CAB	-528	-528.000	0.000