



EE 552: Selected Topics in International Economics 2

Fundamentals of SAM and IO Table

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Simplified China IO Table , 1997

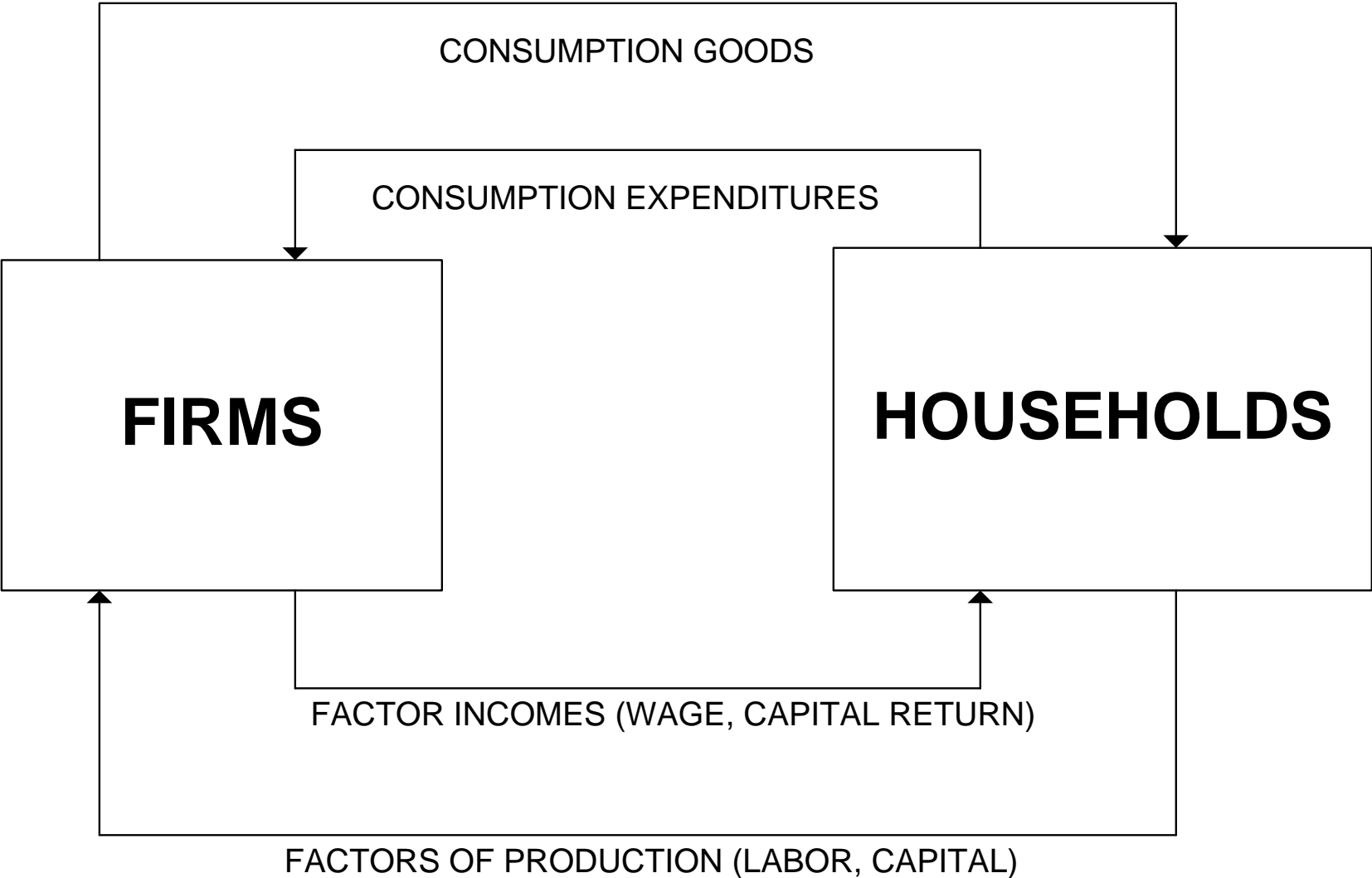
	Agriculture	MineMetal	ConsGood	ChemMet	ManuConst	TranServ	HH	Investment	Rest of World	Total
Agriculture	39.64	0.68	77.35	7.45	1.50	7.51	103.61	9.26	4.08	251.07
MineMetal	0.51	5.19	2.45	48.33	13.65	1.96	0.91	-0.19	3.90	76.71
ConsGood	17.98	1.00	111.12	21.29	9.35	35.36	117.15	22.06	58.48	393.79
ChemMet	25.47	12.84	32.76	226.41	126.48	51.14	25.23	64.51	39.21	604.05
ManuConst	2.65	5.62	8.94	37.67	53.67	34.30	23.25	176.17	32.78	375.03
TranServ	13.10	7.28	30.52	52.42	37.26	80.59	187.01	7.52	13.86	429.55
Capital	29.66	24.77	64.15	90.79	69.23	121.41				
Labor	113.43	7.29	19.12	26.84	24.50	42.70				
TAX	4.69	4.40	25.00	34.42	13.48	47.32				
Rest of World	3.94	7.66	22.39	58.44	25.91	7.25				
Total	251.07	76.71	393.79	604.05	375.03	429.55				

Simplified Thailand IO Table, 2010

	Agriculture	Manufacturing	Service	Private Consumption	Government Consumpt	Gross Fixed Capital	Increase in Stock	Export	Total
Agriculture	0.17	1.20	0.17	0.61	0.01	0.00	0.03	0.17	2.35
Manufacturing	0.45	8.58	2.89	2.92	0.18	1.73	0.41	6.18	23.34
Service	0.06	0.95	1.97	2.36	1.51	0.86	0.10	0.79	8.60
Wages and Salaries	0.31	0.91	2.29						
Operating Surplus	0.76	1.58	2.85						
Depreciation	0.04	0.47	1.01						
Indirect Taxes less Subsidies	-	0.00	0.62	0.24					
Import	0.11	5.77	0.53						
Import Tax	0.00	0.35	0.00						
Wholesale Trade Margin	0.21	1.39	-	1.60					
Retail Trade Margin	0.18	1.14	-	1.32					
Transportation Cost	0.06	0.37	-	0.43					
Total (Row Sum)	2.35	23.34	8.60						

Introduction to SAM: 5-Step Exercise

Circulation within the economy



5-Step SAM Exercise

SAM Exercise 1: Simple SAM with 2 firms and 2 household (2 * 2 SAM)

SAM Exercise 2: 2 * 2 SAM + I/O table

SAM Exercise 3: 2 * 2 SAM + I/O table + investment & saving

SAM Exercise 4: 2 * 2 SAM + I/O table + investment & saving + Govt

SAM Exercise 5: 2 * 2 SAM + I/O table + investment & saving + Govt + Int'l Trade

SAM Exercise 1

Simple SAM with 2 firms and 2 household (2 * 2 SAM)

SAM Exercise 1: Income and Expenditure Tables

PRODUCTION (FIRMS) EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
LABOR	62	55
CAPITAL	63	95
TOTAL	125	150

INCOME

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
Sales of AGRI Commodity (AGR-C)	125	
Sales of NON-AGRI Commodity (NAGR-C)		150
TOTAL	125	150

CONSUMPTION (HOUSEHOLDS) EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGRI Commodity (AGR-C)	50	75
Sales of NON-AGRI Commodity (NAGR-C)	100	50
TOTAL	150	125

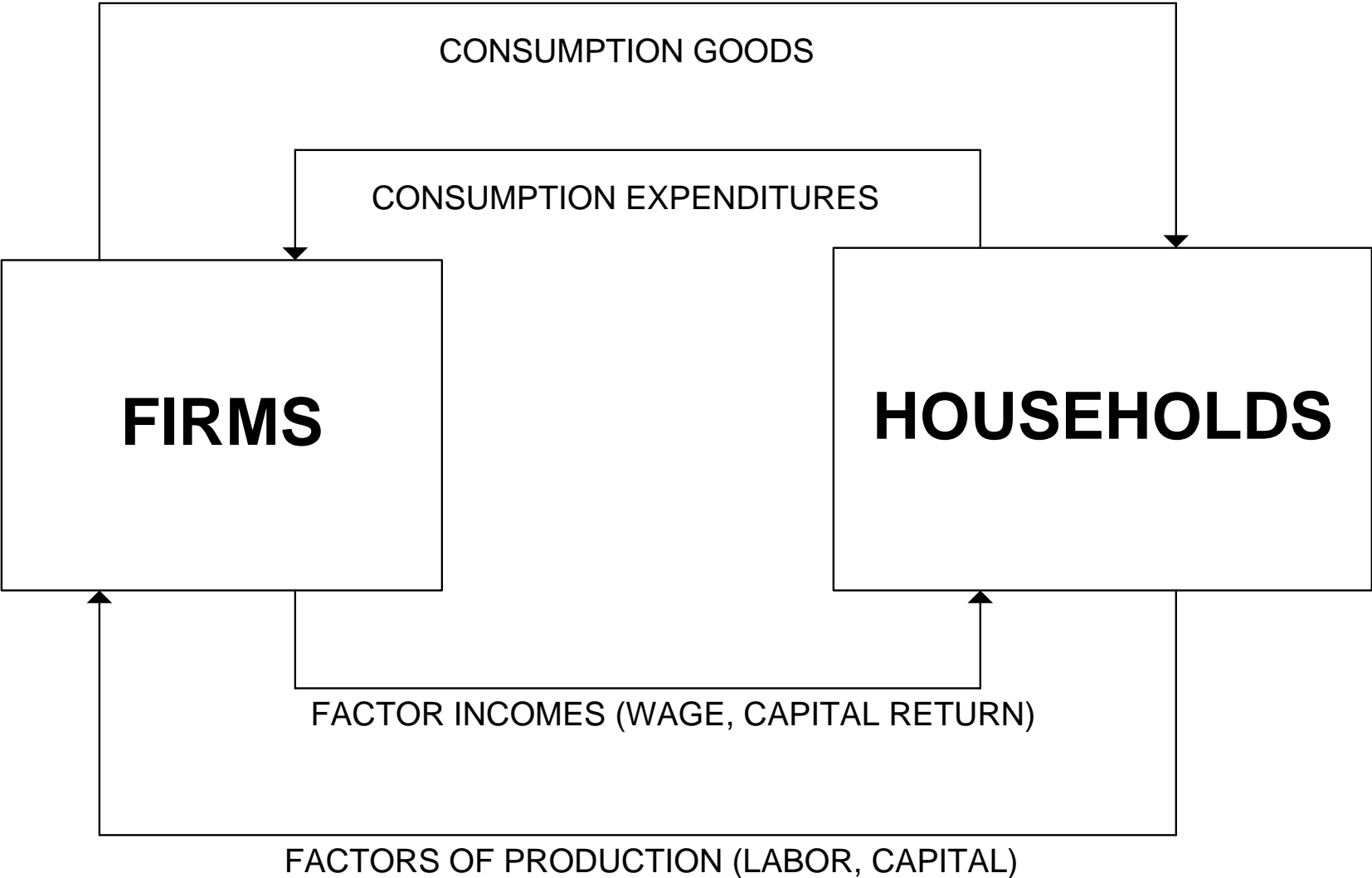
INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	60	57
CAPITAL	90	68
TOTAL	150	125

SAM Exercise 1: Completing SAM Table

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	TOTAL
AGR-A			Production Outputs						125
NAGR-A									
AGR-C							Consumption Expenditures		125
NAGR-C									
LAB	Value Added								117
CAP									158
U-HHD					Factor Incomes				150
R-HHD									125
TOTAL	125	150	125	150	117	158	150	125	

Circulation within the economy



SAM Exercise 2

2 * 2 SAM + I/O table

SAM Exercise 2: Income and Expenditure Tables

PRODUCTION (FIRMS) EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
AGR-C	60	40
NAGR-C	40	60
LABOR	62	55
CAPITAL	63	95
TOTAL	225	250

INCOME

	AGR-A	NAGR-A
AGRI Commodity (AGR-C)	225	
NON- AGRI Commodity (NAGR-C)		250
TOTAL	225	250

CONSUMPTION (HOUSEHOLDS) EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGRI Commodity (AGR-C)	50	75
Sales of NON- AGRI Commodity (NAGR-C)	100	50
TOTAL	150	125

INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	60	57
CAPITAL	90	68
TOTAL	150	125

SAM Exercise 2: Completing SAM Table

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	TOTAL
AGR-A			Production Outputs						225
NAGR-A									
AGR-C	Input – Output Table						Consumption Expenditures		225
NAGR-C									250
LAB	Value Added								117
CAP									158
U-HHD					Factor Incomes				150
R-HHD									125
TOTAL	225	250	225	250	117	158	150	125	

SAM Exercise 3

**2 * 2 SAM + I/O table + Investment
& Saving**

SAM Exercise 3: Income and Expenditure Tables

PRODUCTION (FIRMS)

EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
AGR-C	60	40
NAGR-C	40	60
LABOR	72	80
CAPITAL	78	125
TOTAL	250	305

INCOME

	AGR-A	NAGR-A
AGRI Commodity (AGR-C)	250	
NON- AGRI Commodity (NAGR-C)		305
TOTAL	250	305

CONSUMPTION (HOUSEHOLDS)

EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGRI Commodity (AGR-C)	50	75
Sales of NON- AGRI Commodity (NAGR-C)	100	50
SAVING	50	30
TOTAL	200	155

INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	80	72
CAPITAL	120	83
TOTAL	200	155

SAM Exercise 3: Income and Expenditure Tables

INVESTMENT	
	INVESTMENT
AGRI Commodity (AGR-C)	25
NON- AGRI Commodity (NAGR-C)	55
TOTAL	80

SAM Exercise 3: Completing SAM Table

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	S-I	TOTAL
AGR-A			Production Outputs							250
NAGR-A										
AGR-C	Input – Output Table						Consumption Expenditures		I N V E S T	250
NAGR-C										
LAB	Value Added									152
CAP										203
U-HHD					Factor Incomes					200
R-HHD										155
S-I							Saving			80
TOTAL	250	305	250	305	152	203			200	155

SAM Exercise 4

**2 * 2 SAM + I/O table + Investment
& Saving + Govt**

SAM Exercise 4: Income and Expenditure Tables

PRODUCTION (FIRMS)

EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
AGR-C	66	44
NAGR-C	44	66
LABOR	72	105
CAPITAL	73	135
TOTAL	255	350

INCOME

	AGR-A	NAGR-A
AGRI Commodity (AGR-C)	255	
NON- AGRI Commodity (NAGR-C)		350
TOTAL	255	350

CONSUMPTION (HOUSEHOLDS)

EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGR-C	55	77
NAGR-C	110	55
SAVING	60	33
Income Tax (YTAX)	20	5
TOTAL	245	170

INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	95	82
CAPITAL	125	83
Govt Transfer	25	5
TOTAL	245	170

SAM Exercise 4: Income and Expenditure Tables

INVESTMENT

	INVESTMENT
AGRI Commodity (AGR-C)	27
NON- AGRI Commodity (NAGR-C)	61
TOTAL	88

GOV EXPENDITURE

Consumptions	
AGRI Commodity (AGR-C)	11
NON- AGRI Commodity (NAGR-C)	47
Transfers	
Urban-HHD	25
Rural-HHD	5
Saving (or budget balance)	-5
Total	83

INCOME

Sales Tax (STAX)	
AGRI Commodity (AGR-C)	25
NON- AGRI Commodity (NAGR-C)	33
Income Tax (YTAX)	
Urban-HHD	20
Rural-HHD	5
Total	83

SAM Exercise 4: Completing SAM Table

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	GOV	S-I	YTAX	STAX	TOTAL
AGR-A			Production Outputs										255
NAGR-A			Production Outputs										350
AGR-C	Input – Output Table						Consumption Expenditures			I N V E S T			280
NAGR-C	Input – Output Table						Consumption Expenditures						383
LAB	Value Added												177
CAP	Value Added												208
U-HHD					Factor Incomes				Transfer				245
R-HHD					Factor Incomes				Transfer				170
GOV											Gov's Income		83
S-I							Saving						88
YTAX							Income Tax						25
STAX			Sales Tax										58
TOTAL	255	350	280	383	177	208	245	170	83	88	25	58	

SAM Exercise 5

**2 * 2 SAM + I/O table + Investment
& Saving + Govt + Int'l Trade**

SAM Exercise 5: Income and Expenditure Tables

PRODUCTION (FIRMS)

EXPENDITURE

	AGRI activity (AGR-A)	NON-AGRI activity (NAGR-A)
AGR-C	84	55
NAGR-C	50	99
LABOR	72	105
CAPITAL	73	135
TOTAL	279	394

INCOME

	AGR-A	NAGR-A
AGRI Commodity (AGR-C)	279	
NON- AGRI Commodity (NAGR-C)		394
TOTAL	279	394

CONSUMPTION (HOUSEHOLDS)

EXPENDITURE

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
AGR-C	30	49
NAGR-C	165	92
SAVING	70	40
Income Tax (YTAX)	20	5
TOTAL	285	186

INCOME

	URBAN-HHD (U-HHD)	RURAL-HHD (R-HHD)
LABOR	95	82
CAPITAL	125	83
Govt Transfer	25	5
RoW Transfer	40	16
TOTAL	285	186

SAM Exercise 5: Income and Expenditure Tables

INVESTMENT

	INVESTMENT
AGRI Commodity (AGR-C)	28
NON- AGRI Commodity (NAGR-C)	85
TOTAL	113

GOV EXPENDITURE

Consumptions	
AGRI Commodity (AGR-C)	13
NON- AGRI Commodity (NAGR-C)	67
Transfers	
Urban-HHD	25
Rural-HHD	5
Saving (or budget balance)	-1
Total	109

INCOME

Sales Tax (STAX)	
AGRI Commodity (AGR-C)	10
NON- AGRI Commodity (NAGR-C)	20
Income Tax (YTAX)	
Urban-HHD	20
Rural-HHD	5
Tariffs	
AGRI Commodity (AGR-C)	
NON- AGRI Commodity (NAGR-C)	39
Transfer from Rest of the World (Row)	15
Total	105

SAM Exercise 5: Income and Expenditure Tables

Rest of the World (RoW) EXPENDITURE

Import from economy A	
AGRI Commodity (AGR-C)	30
NON- AGRI Commodity (NAGR-C)	
Transfers to economy A	
Urban-HHD	40
Rural-HHD	16
Gov	15
Saving	4
Total	105

INCOME

Export to economy A	
AGRI Commodity (AGR-C)	
NON- AGRI Commodity (NAGR-C)	105
Total	105

SAM Exercise 5: Income and Expenditure Tables

	AGR-A	NAGR-A	AGR-C	NAGR-C	LAB	CAP	U-HHD	R-HHD	GOV	S-I	YTAX	STAX	TARIFF	ROW	TOTAL
AGR-A			Production Outputs												279
NAGR-A			Production Outputs												394
AGR-C	Input – Output Table						Consumption Expenditures			I N V E S T				Exports	289
NAGR-C	Input – Output Table						Consumption Expenditures							Exports	558
LAB	Value Added														177
CAP	Value Added														208
U-HHD					Factor Incomes										285
R-HHD					Factor Incomes				Transfer					Transfer	186
GOV									Gov's Income					109	
S-I							Saving							Foreign Saving	113
YTAX							Income Tax								25
STAX			Sales Tax												30
TARIFF			Tariff												39
ROW			Imports												105
TOTAL	279	394	289	558	177	208	285	186	109	113	25	30	39	105	

Thai SAM 1998

- 3 Sectors (Agriculture, Manufacturing, Service)
- 2 Factors of production (Labor and Capital)
- 1 Type of Household
- 1 Type of Enterprise
- Government with 3 types of tax and 1 subsidy item
- International trade and transfer are included

	AGRI-A	MANU-A	SERVICE-A	AGRI-C	MANU-C	SERVICE-C	LABOR	CAP	HH	GOV	ENTP	DIR TAX	IND TAX	TARIF	SUBSIDY	S-I	ROW
AGRI-A				1040.4													
MANU-A					6319.1												
SERVICE-A						3713.6											
AGRI-C	87.3	397.9	129.6						212.2	0.83					19.8	28.9	215.2
MANU-C	232.0	3379.1	672.4						1269.2	298.5					12.9	750.9	1967.0
SERVICE-C	150.5	1100.3	733.2						1047.9	470.3					12.6	104.6	531.5
LABOR	181.7	603.9	672.5														
CAP	388.9	838.0	1505.1														
HH							1458.0	1600.5		120.7	298.8						58.8
GOV								110.0			321.3	219.3	428.3	62			20.7
ENTP								1022.4	423.1	78.1	1454.1						639.8
DIRTAX									127.8		91.5						
INDTAX				0.96	314.4	112.9											
TARIF				1.691	56.491	3.852											
SUBSIDY										45.2							
S-I									456.5	281.5	722.9						-576.3
ROW				48.6	1623.0	320.7				135.4	728.9						
TOTAL	1040.4	6319.1	3713.6	1091.7	8313.02	4151.0	1457.9	2732.8	3536.7	1161.5	3617.5	219.3	428.3	62.0	45.23	884.53	2856.62

Structure of the economy indicated by SAM

1. Input structure: Intensity of type of intermediate input

Agri : Main intermediate input is manufacturing goods
Manufacturing : Main intermediate input is manufacturing good
Service :

2. Capital vs. labor intensiveness

Agri :Capital.....
Manufacturing :Capital

3. Import intensiveness

Agri :3.....
Manufacturing :1.....
Service :2.....

Structure of the economy indicated by SAM

4. Consumption composition

Household :#1 spending is on manufacturing goods ; #2 is on service; # 3 is on agri goods

.....
Government :

5. Saving rate

Household :

Government :

Enterprise :

6. Investment composition

Agri :

Manufacturing :

Service :

7. Export Intensiveness

Agri :

Manufacturing :

Service :