



ANARRES_t: Aggregating the Project Database




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1




Outline

- Introduction
- Project database
- Aggregation process
 - Aggregation scheme
 - Aggregation code
 - Output
 - data_anar_t_***.gdx
 - data_anar_t_***.xlsx
- Preparation of model database
 - data_anar_t_***.xlsx



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2




Introduction

- Database
- Model Database
 - Aggregation (maximum)
 - 15 commodities/activities
 - 5 factors
 - 9 regions (excl. Globe)
 - Model data files
- Model Calibration
- *Shocks and closures*
- *Analyses of results*

KISS


Bigger is not necessarily better, may just be confusing


3

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Project Database

- Source:
 - GTAP v 8.1 for 2007 (57C_5F_138R)
- Dimensions:
 - 28 commodities
 - 5 factors
 - 58 regions
- Format:
 - GDX
 - Excel
- Accounts:
 - Listed in Excel and Project Exercise document


4

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Aggregation process


5

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HERE BE DRAGONS!

care and attention to detail **VERY** important

YOU WILL MAKE MISTAKES


6

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6



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Aggregation Code: Sets

* Sets for the UNAGGREGATED database

s

SAM accounts

cc(s)

Composite Commodities

aa(s)

Activities

ff(s)

Factors

tmmtax(s)

Trade taxes

teetax(s)

Export taxes

fftax(s)

Taxes on Factors

otppmarg(s)

All trade and transport

ww(s)

Rest of the World

ii(s)

Investment

kk

Regions

* Declaring other sets

sn(s)

SAM accounts excl total

* Sets for the AGGREGATED database

sac

SAM accounts

c(sac)

Composite Commodities

a(sac)

Activities

f(sac)

Factors

h(sac)

Household

g(sac)

Government accounts

tmr(sac)

Trade taxes

ter(sac)

Export taxes

tff(sac)

Taxes on Factors

owatpmarg(sac)

All trade and transport

w(sac)

Rest of the World

i(sac)

Investment

r

Regions

* Declaring other sets

sacn(sac)

SAM accounts excl total

* Mapping sets

map_sac_s(sac,s)


Mapping to sac from s

map_r_kk(r, kk)

Mapping to r from k

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7

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Notes on Set Ordering in GAMS

• GAMS operates on a ‘first in first out’ basis

– The order of output items is always controlled by the first time a symbol is seen


• GAMS uses a unique element list (UEL) to store set elements

– A **single** list of all set elements

– Elements enter the list in the **order** of their appearance

– The UEL defines the order in which they will appear in the output i.e.,

first in, first out



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8

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Files

Aggregation programme data

Aggregation programme output

Project database

Aggregation programme

project > data > Agg_sets

Name

data_samagg_anar_t_8_template.xlsx

data_samagg_anar_t_8_12_5_9.xlsx

project > data > Output

Name

data_anar_t_12_5_9.gdx

data_anar_t_12_5_9.xlsx

data_anar_t_C_F_R_template.xlsx

project > data >

Name

Agg_sets

G_data

Output

anar_t_proj_aggr.gms

Selected parts of the worksheets are locked

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9

9

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Aggregation Scheme 1

Notes on data_samagg_anar_t_C_F_R.xlsx

PAY CAREFUL ATTENTION TO THE NOTES IN THIS WORKSHEET

NB 1

NB 2

NB 3

NB 4

Cell colouring

12 RED Protected cells with data

13 BLUE Protected cells with computed values

14 BLACK Unprotected cells for user to define

15 The user needs to work with TWO worksheets

16 1 agg_sets

17 2 mapping

18 The worksheet 'agg_sets' is fixed and defines the sets for the database for the project, which is an aggregation of GTAP v8

19 In the worksheet 'agg_sets' the user needs to complete THREE actions

20 1 decide on the labels and descriptions for the accounts to include in the set sac for the aggregated SAM

21 Columns A and B in the worksheet 'agg_sets'

22 CAREFULLY READ THE GUIDANCE IN THE DOCUMENT 'Global CGE Course project.pdf'

23 the following subunits must be included, BUT those highlighted in RED must not be changed

24 Commodities

25 Activities

26 Factors

27 Households

28 Import taxes

29 Export taxes

30 Taxes on Factors

31 Government

32 Savings/ Investment

33 all margins on imports

34 Rest of the World

35 2 assign members to the subunits that must be included (HINT: Use COPY and PASTE)

36 3 decide on the labels and descriptions for the regions to include in the set r against the aggregated SAM

37 Columns D and E in the worksheet 'agg_sets'

38 In the worksheet 'mapping' the user needs to complete ?? Actions

39 1 Enter the appropriate (aggregate) member of the set sac against the corresponding member of the set s

40 This is done in Column B

41 2 Enter the appropriate (aggregate) member of the set r against the corresponding member of the set rk

42 This is done in Column F

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10

10

5

Aggregation Scheme 2

Sets	A	B	C	D	E	F	G	H	I	J	K	L	M	N
New SAM accounts														
	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions	Regions
	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)	(description)
1	agran	Grains	arg	Australia and New Zealand	agran	agran	arg	arg	arg	arg	arg	arg	arg	arg
2	agr	Cereals	agr	China and Hong Kong	agr	agr	agr	agr	agr	agr	agr	agr	agr	agr
3	coagr	Other agriculture	coagr	Japan	coagr	coagr	coagr	coagr	coagr	coagr	coagr	coagr	coagr	coagr
4	coag	Cereals	coag	Korea	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
5	coag	Oil and gas	coag	Rest of east Asia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
6	coag	Other mining	coag	South East Asia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
7	coag	Other Asia	coag	Other Asia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
8	coag	Other food	coag	India	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
9	coag	Food and drinks	coag	Philippines	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
10	coag	Other food	coag	Rest of South Asia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
11	coag	Paper products	coag	Canada	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
12	coag	Petroleum and coal products	coag	United States of America	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
13	coag	Chemical rubber plastics	coag	Mexico	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
14	coag	Mineral products	coag	Argentina	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
15	coag	Metals	coag	Brazil	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
16	coag	Metals	coag	East South America	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
17	coag	Metals	coag	Rest of South America	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
18	coag	Electronic equipment	coag	Venezuela	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
19	coag	Other manufacturing	coag	Central America	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
20	coag	Electricity	coag	Caribbean	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
21	coag	Gas production and distribution	coag	Austria	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
22	coag	Water	coag	Belgium	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
23	coag	Construction	coag	Bulgarian states	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
24	coag	Trade	coag	Rest of the EU	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
25	coag	Transport	coag	Czech republic	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
26	coag	Communication	coag	Denmark	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
27	coag	Financial business and other services	coag	France	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
28	coag	Public services	coag	Germany	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
29	coag	Gas	coag	Greece	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
30	coag	Luxembourg	coag	Hungary	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
31	coag	Other agriculture	coag	Indonesia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
32	coag	Coal	coag	Italy	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
33	coag	Oil and gas	coag	Netherlands	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
34	coag	Other mining	coag	Poland	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
35	coag	Meat and animal products	coag	Spain	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
36	coag	Other food	coag	Sweden	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
37	coag	Food and drinks	coag	United Kingdom	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
38	coag	Wood products	coag	Rest of Europe	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
39	coag	Paper products	coag	Russian Federation	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
40	coag	Petroleum and coal products	coag	Rest of Eastern Europe	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
41	coag	Chemical rubber plastics	coag	Rest of Former Soviet Union	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
42	coag	Mineral products	coag	Gulf States	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
43	coag	Metals	coag	Iran	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
44	coag	Metals	coag	Saudi Arabia	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
45	coag	Vehicle and parts	coag	Turkey	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
46	coag	Electronic equipment	coag	Egypt	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
47	coag	Other manufacturing	coag	Morocco	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
48	coag	Electricity	coag	Rest of North Africa	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
49	coag	Gas production and distribution	coag	C.A. zone	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag
50	coag	Water	coag	Rest of West Africa	coag	coag	coag	coag	coag	coag	coag	coag	coag	coag

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11

11

Aggregation Scheme 3a

P		Q	R	S	T	U	V	W	X	Y	Z	AA
gins	Rest of the World											
pmarg	w											
chn	wchn				Sectors	Description		Regions	Description		Factors	Description
jpo	wjpo				mns	Agriculture		chn	China and Hong Kong		ind	land
rasia	wrasia				food	Minerals		jpo	Japan and Korea		usl	Unskilled labour
india	windia				lman	Food products		rasia	Rest of Asia		skib	Skilled labour
nafta	wnafta				lman	Light Manufacturing		india	India		capi	Capital
ramer	wramer				hman	Heavy Manufacturing		nafta	NAFTA		nres	Natural resources
eu27	w eu27				eict	Electricity		ramer	Rest of Americas			
rworl	wrworl				gasw	Gas and Water		eu27	EU 27			
glo	wglo				cnst	Construction		rworl	Rest of the World			
					trade	Trade		glo	GLOBE			
					trans	Transport						
					comm	Communication						
					svcs	Services						

Only **THREE** effective categories for accounts in GTAP: Sectors, Regions, Factors

Accounts used by anar_t are based on these 3 categories with prefixes

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12

12

Aggregation Scheme 3b

Sectors																									
New S&M accounts																									
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
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Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output levels		Trade in Factors		Government		Savings/Investment		All margins in %		Rest of the World		Sectors	
Sectors		Commodities		Activities		Factors		Households		Input levels		Output													

13

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Aggregation Scheme 4

	A	B	C	D	E	F	G	H	I	J	K	L			
	Sectors			Regions			Factors								
1	model	group	Description	model	group	Description	model	group	Description						
2	agri	agri	Cereals	meast	meast	Australia and New Zealand	ind	ind	Manufacturing						
3	agri	agri	Livestock	china	china	China and Hong Kong	ind	ind	Unskilled labour						
4	agri	agri	Other agriculture	japa	japa	Japan	skls	skls	Skilled labour						
5	agri	agri	Coffee	ruiss	ruiss	Russia	cap	cap	Capital						
6	agri	agri	Oil and gas	seas	seas	Rest of east asia	res	res	Natural resources						
7	agri	agri	Other mining	seas	seas	South east Asia									
8	agri	agri	Meat and animal products	seas	seas	Other Asia									
9	agri	agri	Other food	ind	ind	India									
10	agri	agri	Textiles and clothes	seas	seas	Pakistan									
11	agri	agri	Wood products	seas	seas	Rest of South Asia									
12	agri	agri	Paper products	nafta	nafta	Canada									
13	agri	agri	Plastics and coal products	nafta	nafta	United States of America									
14	agri	agri	Chemical rubber plastics	nafta	nafta	Mexico									
15	agri	agri	Mineral products	seas	seas	Argentina									
16	agri	agri	Metals	seas	seas	Brazil									
17	agri	agri	Metals products	seas	seas	East South America									
18	agri	agri	Vehicle and parts	seas	seas	Rest of South America									
19	agri	agri	Electronic equipment	seas	seas	Venezuela									
20	agri	agri	Other manufacturing	seas	seas	Central America									
21	agri	agri	Electricity	seas	seas	Caribbean									
22	agri	agri	Gas production and distribution	eu27	eu27	Austria									
23	agri	agri	Water	eu27	eu27	Belgium									
24	agri	agri	Construction	eu27	eu27	Spain									
25	agri	agri	Textile	eu27	eu27	Rest of the EU									
26	agri	agri	Transport	eu27	eu27	Canada specific									
27	agri	agri	Communication	eu27	eu27	Denmark									
28	agri	agri	Financial business and other services	eu27	eu27	France									
29	agri	agri	Public services	eu27	eu27	Germany									
30	agri	agri		eu27	eu27	Greece									
31	agri	agri		eu27	eu27	Hungary									
32	agri	agri		eu27	eu27	Ireland									
33	agri	agri		eu27	eu27	Italy									
34	agri	agri		eu27	eu27	Netherlands									
35	agri	agri		eu27	eu27	Poland									
36	agri	agri		eu27	eu27	Spain									
37	agri	agri		eu27	eu27	Sweden									
38	agri	agri		eu27	eu27	United Kingdom									
39	agri	agri		eu27	eu27	Rest of Europe									
40	agri	agri		eu27	eu27	Russian Federation									
41	agri	agri		eu27	eu27	Rest of Eastern Europe									
42	agri	agri		eu27	eu27	Rest of Former Soviet Union									
43	agri	agri		eu27	eu27	Gulf States									
44	agri	agri		eu27	eu27	Iran									
45	agri	agri		eu27	eu27	Saudi Arabia									
46	agri	agri		eu27	eu27	Turkey									
47	agri	agri		eu27	eu27	Egypt									
48	agri	agri		eu27	eu27	Mexico									
49	agri	agri		eu27	eu27	Rest of South Africa									
50	agri	agri		eu27	eu27	CFR zone									
51	agri	agri		eu27	eu27	Rest of West Africa									
52	agri	agri		eu27	eu27	Benin									
53	agri	agri		eu27	eu27	Ethiopia									
54	agri	agri		eu27	eu27	Rest of SADC									
55	agri	agri		eu27	eu27	South Africa									
56	agri	agri		eu27	eu27	East Africa									
57	agri	agri		eu27	eu27	West of Africa									
58	agri	agri		eu27	eu27	Rest of the World									
59	agri	agri		eu27	eu27	GLDBE									
60	agri	agri		eu27	eu27										

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Aggregation Scheme 5

Fixed & Locked

Computed & Locked

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Special set elements

glo – GLOBE regions

institution and tax accounts

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Aggregation Code: Parameters

```

##### Base Data
* Transactions
  SAM_anar_t_8(s,s,kk)      UNAggregate SAM for regions k
* Elasticities from GTAP using Region specific weights
  ESUBD2(s,kk)             LOADED Armington CES for domestic_import allocation
  ESUBM2(s,kk)             LOADED Armington CES regional allocation of imports
  ESUBVA2(s,kk)            LOADED CES between primary factors in production
* Other data
  fsk(kk)                  UNAggregated capital stocks
  pop(kk)                  UNAggregated population stocks

##### Aggregated data
* Transactions
  SAMG(sac,sac,r)          Aggregate SAM derived
  *****
* Elasticities
  ESUBD(sac,r)             MODEL Armington CES for domestic_import allocation
  ESUBM(sac,r)             MODEL Armington CES regional allocation of imports
  ESUBVA(sac,r)            MODEL CES between primary factors in production
* Other data
  FS_K(r)                  Aggregated capital stocks
  popn(r)                  Aggregated population stocks
  
```

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Aggregation Code: Data Load

```

$SETGLOBAL agg_schem data_samagg_anar_t_8_12_5_9

##### 1. DATA ENTRY SECTION #####
*---- 1a. Excel workbook sets and data converted to gdx here
* Convert Excel workbook data to GDX here
$CALL "GDXXRW i=Agg_sets\%agg_schem%.xlsx o=data_in.gdx INDEX=LAYOUT!A4
                                           trace=3"
$if errorLevel 1 $abort problems with GDXXRW
*---- 1b. All sets from excel are assigned here
  
```

‘Your’ Excel
workbook

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Aggregation Code: Data Export

\$SETGLOBAL

data_out

data_anar_t_12_5_9

EXPORT OF RESULT FILES

Export new aggregation to GDX

Writing out the NEW SAM and data to GDX

Execute_Unload 'output\'%data_out%.gdx',

* Aggregate SAM

SAMG

* Aggregated GTAP Elasticities

ESUBD

ESUBM

ESUBVA

* Aggregate capital stocks

FS_K


* Aggregated populations

popn

* common instruction for unloading sets to GDX

sac

‘Your’ model database



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Aggregation Code: Data Export

\$SETGLOBAL

data_out

data_anar_t_12_5_9

EXPORT DATA FOR MODEL EXCEL

* Writing out the sets

* SAM set

Execute "GDXXRW i=output\'%data_out%.gdx o=output\'%data_out%.xlsx set=sac Rng=sets!A5 rdim=1"

* region set

Execute "GDXXRW i=output\'%data_out%.gdx o=output\'%data_out%.xlsx set=r Rng=sets!D5 rdim=1"

* reference set

Execute "GDXXRW i=output\'%data_out%.gdx o=output\'%data_out%.xlsx set=r Rng=sets!G5 rdim=1"

* SAM major sub sets


Execute "GDXXRW i=output\'%data_out%.gdx o=output\'%data_out%.xlsx set=c Rng=sets!I5 rdim=1"

Execute "GDXXRW i=output\'%data_out%.gdx o=output\'%data_out%.xlsx set=a Rng=sets!R5 rdim=1"

Execute "GDXXRW i=....."

Depends on a structured Excel workbook

‘Your’ model database



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Model Database

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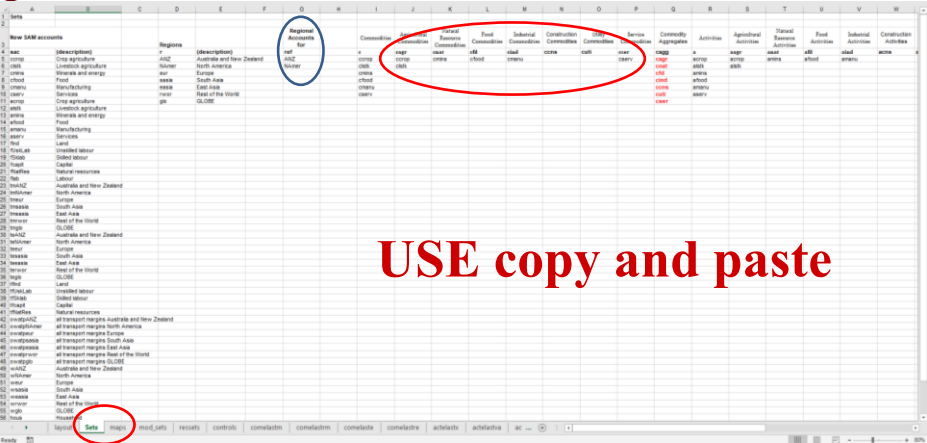
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Model Excel Workbook: Sets



USE copy and paste

sac and first level subsets, e.g., c, a, etc., already written out during aggregation process

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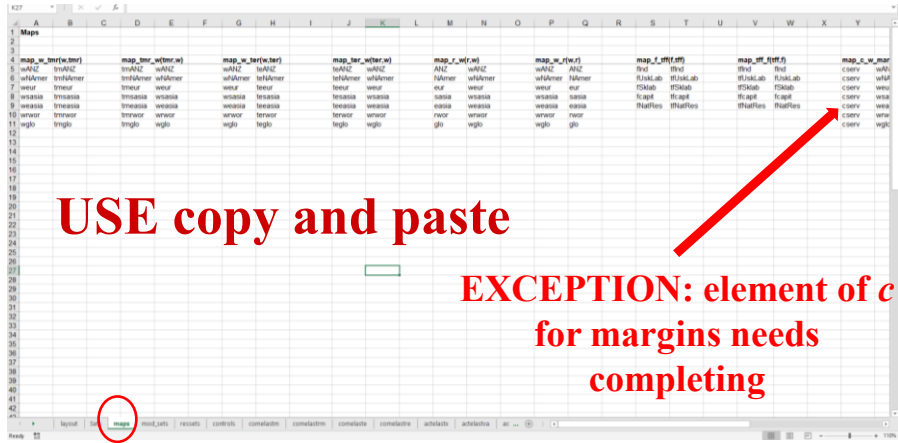
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Model Excel Workbook: Maps



USE copy and paste

EXCEPTION: element of c for margins needs completing

the set elements have all been assigned in the worksheet 'sets'

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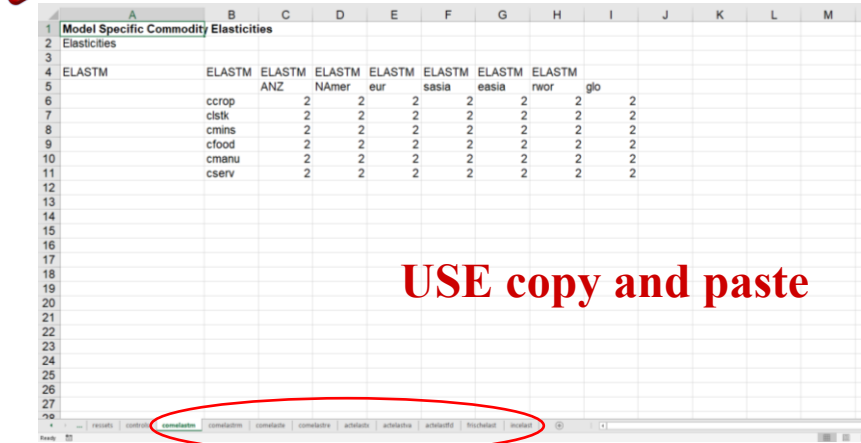
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Model Excel Workbook: Elasticities



USE copy and paste

ALL elasticity parameters will need to be adjusted:
comelastm, comelastm, comelaste, comelastre, actelastx,
actelastva, frishcelast and incelast aggregation process

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**SOME MISTAKES MAY NOT HAVE
BEEN DETECTED**

**The model should find any remaining mistakes,
BUT....**





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***ANARRES_t: Aggregating the
Project Database***

The End



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