1. The structure of the data cube in CAPRI

Data Cube in CAPRI

• Parameter DATA(RU,COLS,ROWS,TIME)

| | Activities | Farm- and market balances | Prices | Positions from the EAA |
|--------------------|---|---|---|---|
| Outputs | Output coefficients | Production, seed and feed use, other internal use, losses, stock changes, exports and imports, human consumption, processing | Unit value prices from the EAA with and without subsidies and taxes | Value of outputs with or without subsidies and taxes linked to production |
| Inputs | Input coefficients | Purchases, internal deliveries | Unit value prices from the EAA with and without subsidies and taxes | Value of inputs with or without subsidies and taxes link to input use |
| Income indicators | Revenues, costs, Gross Value Added, premiums | | | Total revenues, costs, gross value added, subsidies, taxes |
| Activity levels | Hectares, slaughtered heads or herd sizes | | | |
| Secondary products | | Marketable production, losses, stock changes, exports and imports, human consumption, processing | Consumer prices | |

Data Cube in CAPRI

- Parameter DATA contains the basic farm balance information for the supply model
- Challenge:
 - Many data in CAPMOD are stored and later reload to save memory
 - Data cube depends on the regional resolution (MS includes Market Balance, Nuts2)
- For supply model we have a core
 - Calculation of EAA accounts (income, revenue, costs ...)
 - Market balance

2. Calculation of important economic indicators

Market balance at MS level

• NETF = GROF-SEDF-LOSF-INTF

imports (*IMPT*) and production (*NETF*) =

sum of feed (FEDM) and seed (SEDM) use, human consumption (HCOM), processing (INDM (industrial use), PRCM (processing primary products), BIOF (biofuels)), losses (LOSM) and exports (EXPT)

Whereas Domestic use DOMM

= feed (FEDM) + seed (SEDM) use + human consumption (HCOM) +
processing (INDM (industrial use), PRCM (processing primary
products), BIOF (biofuels)) + losses (LOSM)

Economic accounts for agriculture: EAA

- EAAG, position from the Economic Accounts for Agriculture EAAG=GROF*UVAG -> product of production (*GROF*) times the gross unit value prices (*UVAG*) derived fro EAA
- UVAD= UVAG+CMRG -> Consumer prices (UVAD) are equal to producer prices (UVAG) plus a margin
- Income = Revenue Costs + premium
- Income = for paying factors for land (own and rented land), labour and capital GVA

Exercise 2:

- Building the data cube:
- CAPRI\gams\ts_data_cube.gms

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