ACT4CAP27

Advancing Capacity and analytical Tools for supporting Common Agricultural Policies post 2027

Accounting of inputs and outputs in CAPRI

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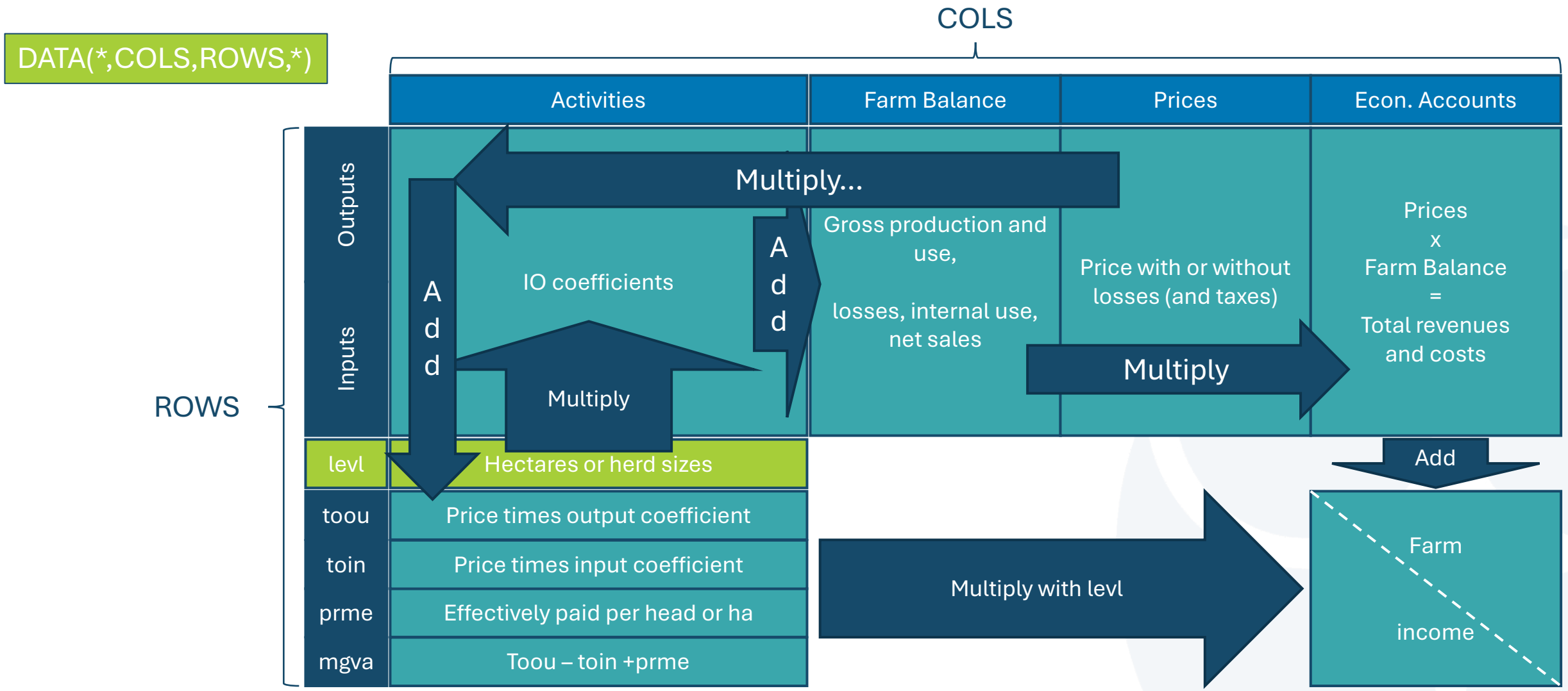
- Purpose: Show the ”ideal” model of accounting
  - Physical balances
  - Income flows
  - Only for the supply model
- Reality: CAPRI mostly follows the ideal
- Some ”known issues” with our current accounting

Activity Based Accounting System



The farm balance

Valuation (prices)	Balance position	Meaning	Computation
UVAG (Unit VAlue Gross)	GROF	GROss production or use on Farm	GROF = LEVL x ioCoef
Not valued, price = 0	-SEDF	Seed use on Farm	Fixed share of GROF
	-LOSF	Losses on Farm	Fixed share of GROF Or Endogenous variable (STRA, COMF) Or Activity-specific coefficients (manure)
UVAP, depending on situation **EAAG: all outputs** **EAAP: some outputs? All?**	-INTF	Internal use on farm	Decision variables in model: v_feedQuantReg (for fodder, or it should be?) v_youngAnimuse (for young animals) v_manureNPK (for manure)
UVAP (Unit VAlue at Producer price)	=NETF	Net sales from Farm	NETF = GROF – SEDF – LOSF – INTF
	-SEDM	Seed use on Market	Fixed share of GROF (to change?)
	-FEDM	Feed use on Market	Mixed definition depending on feed - ingredients in concentrates (CERE, OILS) - regional fodder (in reporting)

Activity Based Accounting System: UVAG and UVAP

- For consistency, we want:
  UVAG * GROF = UVAP * (INTF + NETF)
  (no value is created or destroyed in the accounting)

- Or, using GROF – SEDF – LOSF = INTF + NETF
  UVAP = UVAG * GROF / (INTF + NETF)
  = UVAG * GROF / (GROF – LOSF – SEDF)

- So UVAP ≥ UVAG, by a ”factor loss rate”

- (And UVAB is without taxes, UVAD is consumer price, Sugar Beet ABC)

INTF (internal use)
is included in output value for all products.

Since it is matched by an equal input cost, EAA is inflated

but gross value added is not changed.

Activity Based Accounting System: UVAG and UVAP

- Show Excel-sheet here
- Denmark, CAPREG base year 2017 in Trunk

- Problem 1: Confusion of UVAP and UVAG
- Problem 2: Mixing on/off farm positions (SEDF, SEDM, FEDM)
- Problem 3: Lack of input-output ROWS for crop nutrients
- Problem 4: ”Stock changes” of young animals

Demonstration of problem 1

- In the supply model, NETF ≈ v_netPutQuant
- v_netPutQuant is the key variable in the maximization
- However, we maximize
  - UVAG * v_netPutQuant
  - Instead of
  - UVAP * v_netPutQuant

```
LINEAR_(RUNR).. v_linObjePart(RUNR) =E=
*
* --- sales/purchases valued by "unit value" price
* from gross Economic Accounts for Agriculture


*
SUM( RUNR_OMOBJE(RUNR,OM_OBJE),
v_netPutQuant(RUNR,OM_OBJE) * ( SUM(R_RAGG(RUNR,MSACT), %data%(MSACT,"UVAG",OM_OBJE,"Y") ))
```

- Consequence: the model does something else than what we report
  - Reporting is ”right” (UVAG * GROF is output = UVAP * NETF)
  - Model is ”wrong” (output value too low by loss-ratio)
  - Usefulness for welfare analysis hampered