An assessment of the regional impacts of post-2020 CAP budgetary cuts on production structures and agricultural incomes in the EU

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The Common Agricultural Policy of the European Union – the present and the future

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Outline

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Set preliminary new IUV for regions with LOWER than target IUV,
by covering the prescribed share of the differenece to target value,
divided in equal steps up to target year and in full thereafter.
(to adjust afterwards, if 30%-rule kicks in)
p_premDataE(rbpsLo,simyyy,"dp_bps","pgsaps")
    ...pre-convergence value
    = p_bps_noConvergence(rbpsLo,simyyy)
    ...plus share of difference to mean to cover
    + (p_bps_targetIUV(rbpsLo,simyyy)-p_bps_noConvergence(rbpsLo,simyyy))
    * p_bps_tunnel_gap_closure(ms,rbps)
    ...divided in equal steps up to implementation year and then fully (1).
    * min(1, ord_bpsYear(simyyy)/(1+card(ybpsPre)));

For all other regions, we start with the assumption of "no change in IUV"
The purpose is to enable a computation of the overshooting of budget
p_premDataE(rcur,simyyy,"dp_bps","pgsaps") $ [not rbpsLo(rcur)]
    = p_bps_noConvergence(rcur,simyyy);

Decrease IUVs in regions with payments above average to respect budget.
... to do adding $ depending on parameters chosen
1) Find budget overshooting
p_bps_envelopeOvershoot(ms,rbps,simyyy)
    = sum(rcur, p_premDataE(rcur,simyyy,"dp_bps","ceillev")*p_premDataE(rcur,simyyy,"dp_bps","pgsaps")/1000)
    - p_bps_envelope(ms,rbps,simyyy);

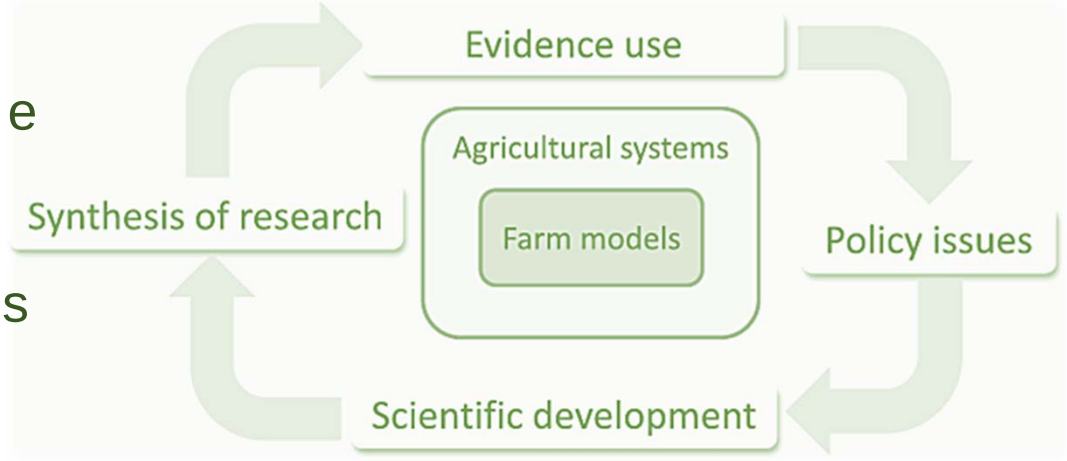
2) Allocate overshooting to all entitlements that were above average
    - using a linear model (same % reduction for all IUVs)
p_premDataE(rbpsUp,simyyy,"dp_bps","pgsaps") $ bps_region_to_option(ms,rbps,"bps_linear")
    = p_bps_aiuv(ms,rbps,simyyy)
    + (p_bps_noConvergence(rbpsUp,simyyy) - p_bps_aiuv(ms,rbps,simyyy))
    * (1 - p_bps_envelopeOvershoot(ms,rbps,simyyy)
        / sum(rcur $ rbpsUp(rcur), p_premDataE(rcur,simyyy,"dp_bps","ceillev")*(p_bps_noConvergence(rcur,simyyy)
```

- The CAPRI model
- Assumptions & scenarios
- Model results
- Conclusions

Common Agricultural Policy Regionalised Impact … analysis

Increasing demand and use of impact assessments by governments and international organizations

- ☞ **to improve the quality and transparency of regulation**



Source: Reidsma *et al*. (2017)

- **Example: CAPRI is**
  - ☞ **a GLOBAL, COMPARATIVE STATIC, PARTIAL EQUILIBRIUM model**
    - **for primary and secondary agricultural commodities**
  - ☞ **designed for EX-ANTE impact assessment**
    - **with linkages to other models**
- **Open-source community of modelers sharing development and maintenance**
- **Financial support by the EU Commission (DG-AGRI, DG-RTD & JRC) and national agencies**
- **Established connections to DG-AGRI & DG-CLIMA**

Source: based on Domínguez, JRC (2016)

Utilization of CAPRI

Models used in impact assessment reports in policy area 'Agriculture and Rural Development' at EU level

Models used	IA reports	Reference (yes/no)
CAPRI	CAP towards 2020; indication place of origin	yes: peer-review
PESERA	CAP towards 2020	yes: peer-review
GAINS	health check CAP 2008	yes: peer-review
AGLINK	health check CAP 2008; CAP towards 2020	yes: peer-review
QUEST	biofuels communication	yes: peer-review
ESIM	health check CAP 2008	yes: report
Standard Cost	CAP towards 2020; organic production; school aid fruit, vegegetables & milk	yes: report
OECD PEM	CAP towards 2020	yes: report
FADN	CAP towards 2020; support cotton sector	no
AIDS4K/AIDS7K	health check CAP 2008; CAP towards 2020	no
SPS	health check CAP 2008	no
CEN	agricultural product quality	no
LEADER	support for rural development	no

Source: Reidsma *et al*. (2017)

- traditional use for agricultural policy analysis and increasing use for the analysis of environmental issues

- it has been one of AKI's strategic goals to learn to use CAPRI for impact assessments

Core data sources of CAPRI

- **EUROSTAT: market balances, acreages, herd sizes, yields, slaughtering statistics, Economic Accounts for Agriculture, household surveys, macro-economic indicators, regional agricultural and land use statistics, Farm Structure Surveys …**
- **FAOSTAT: supply utilization accounts, trade matrices**
- **FADN: yields for farm types**
- **AMAD: tariffs**
- **'Lawbook': WTO commitments, CAP policies, FTAs ...**

Architecture: analysis of model results

Support for result analysis	Environmental indicators
• aggregation over scales/products/activities • decomposition of changes	• gaseous emissions • N, P, K balances • GHG inventories • energy use in European agriculture
Economics	**Spatial downscaling**
• farm income indicators • welfare analysis • CAP budget & CAP instruments	

Source: Blanco, Agrónomos ETSIA UPM (2017) and Jansson, SLU (2017)

The reference scenario for impact analysis

- **The CAPRI baseline is**
  - ☞ **calibrated both for**
    - **supply regions: EU MS & NUTS2 level**
    - **global market regions: trade blocks**
- **Updated regularly**
  - ☞ **typically after update of the data base & the DG-AGRI baseline**
- **Based on external sources and expert knowledge**
  - ☞ **medium-term projection from *AGLINK-COSIMO***
  - ☞ **trade flows and commodity balances from FAO**
  - ☞ **long-term projections from *GLOBIOM* (IIASA) and *IMPACT* (IFPRI)**
  - ☞ **biofuel related projections from energy models (*PRIMES*, *POLES*)**
- **Assumptions as for now**
  - ☞ **EU CAP 2014-2020**
  - ☞ **WTO Uruguay Round Agreement on Agriculture (1995)**
  - ☞ **EU Renewable Energy Directive (2009)**

Source: based on Blanco, Agrónomos ETSIA UPM (2017)

Scenarios (our first ever designs)

1. Brexit (2019)

- **Assumption: no compensation for cuts in the CAP budget**
  - ☞ **weighted distribution of EUR 3 bln (net contribution) reduction among 27 EU MS**
  - ☞ **weighted distribution of the reduction between the CAP Pillars per MS**
  - ☞ **share of only partly exploited direct support schemes allowed to increase up to the limits laid down in Regulation (EU) No 1307/2013 in each MS**

2. CAP –15%

- **Assumption: 15% overall cut in the CAP budget**
  - ☞ **weighted distribution of the reduction between the CAP Pillars per MS**
  - ☞ **share of only partly exploited direct support schemes allowed to increase up to the limits laid down in Regulation (EU) No 1307/2013 in each MS**

3. CAP –30%

- **Assumption: 30% overall cut in the CAP budget**
  - ☞ **weighted distribution of the reduction between the CAP Pillars per MS**
  - ☞ **share of only partly exploited direct support schemes allowed to increase up to the limits laid down in Regulation (EU) No 1307/2013 in each MS**

☝ *… the EU Commission is assessing the impact of several budget scenarios that range from some sort of status quo to a 30% reduction, including a 15% „reference scenario" (Agence Europe, 23 november 2017)*

Model results: changes versus the baseline for the period 2020-2030 (crops)

	Brexit			*CAP -15%*			*CAP -30%*			*Brexit*			*CAP -15%*			*CAP -30%*		
	Changes in area (%)									Changes in incomes (%)								
	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14
Cereals	**-0.91**	**-0.79**	**-0.99**	**-0.93**	**-0.81**	**-1.03**	**-1.54**	**-1.34**	**-1.69**	**-5.12**	**-6.47**	**-4.39**	**-5.48**	**-6.88**	**-4.72**	**-14.06**	**-14.75**	**-13.65**
Soft wheat	0.32	-0.09	0.62	0.31	-0.10	0.60	-0.03	-0.41	0.24	-3.50	-6.49	-2.09	-3.84	-6.91	-2.38	-12.67	-15.07	-11.55
Grain maize	0.14	0.05	0.26	0.14	0.06	0.26	0.09	-0.04	0.26	-3.38	-3.54	-3.28	-3.65	-3.86	-3.50	-10.04	-9.97	-10.17
Oilseeds	**-0.55**	**-0.45**	**-0.63**	**-0.56**	**-0.46**	**-0.65**	**-0.95**	**-0.82**	**-1.04**	**-5.50**	**-6.72**	**-4.90**	**-5.77**	**-7.17**	**-5.09**	**-13.88**	**-15.71**	**-13.00**
Rapeseed	-0.49	-0.39	-0.55	-0.50	-0.39	-0.57	-0.64	-0.41	-0.78	-5.06	-6.96	-4.30	-5.27	-7.35	-4.45	-12.84	-14.71	-12.07
Sunflower	-0.43	-0.14	-0.77	-0.44	-0.12	-0.80	-0.59	-0.05	-1.34	-6.18	-6.48	-5.84	-6.58	-7.03	-6.14	-15.95	-17.38	-14.80
Soybeans	-1.88	-2.82	-0.78	-2.10	-3.14	-0.89	-6.34	-9.25	-2.98	-6.64	-5.93	-7.55	-6.93	-6.40	-7.78	-14.49	-15.26	-15.46

- **arable crops of particular importance in Hungary**
- **small adjustments in sowing areas**
  - **except for soybeans**
- **slightly higher decline in incomes for the EU-13**
  - **more pronounced contribution of direct support to incomes**
- **overall negative impacts on oilseeds**

Source: calculations by AKI

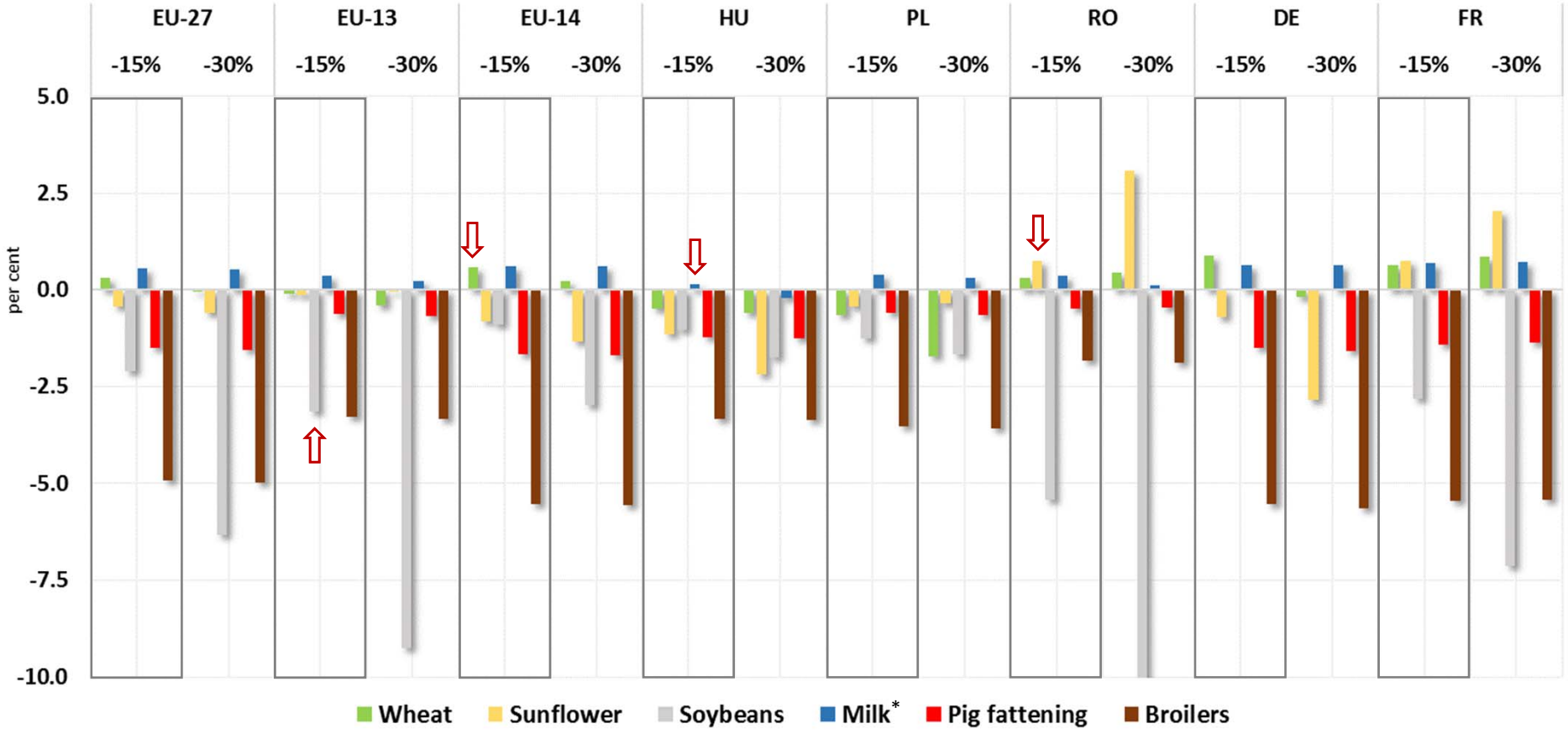
Model results: changes versus the baseline for the period 2020-2030 (livestock)

	Brexit			*CAP -15%*			*CAP -30%*			*Brexit*			*CAP -15%*			*CAP -30%*		
	Changes in livestock numbers (%)									Change in incomes (%)								
	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14	EU-27	EU-13	EU-14
Beef	**-1.06**	**-1.12**	**-1.05**	**-1.09**	**-1.14**	**-1.08**	**-1.59**	**-1.61**	**-1.59**	**3.92**	**-2.97**	**5.96**	**3.78**	**-3.06**	**5.80**	**0.82**	**-4.89**	**2.50**
All dairy	**0.26**	**0.17**	**0.28**	**0.25**	**0.16**	**0.27**	**0.10**	**-0.05**	**0.13**	**3.34**	**9.48**	**2.93**	**3.34**	**9.40**	**2.94**	**3.22**	**7.50**	**2.92**
Pig fattening	-1.50	-0.63	-1.65	-1.50	-0.63	-1.66	-1.54	-0.68	-1.69	-23.12	-29.64	-22.97	-23.13	-29.67	-22.97	-23.42	-31.05	-23.21
Laying hens	-0.29	-0.12	-0.38	-0.30	-0.12	-0.39	-0.34	-0.15	-0.44	-1.59	-0.54	-2.31	-1.59	-0.55	-2.31	-1.73	-0.66	-2.47
Broilers	-4.93	-3.29	-5.55	-4.93	-3.29	-5.55	-4.98	-3.34	-5.59	-17.31	-21.38	-17.11	-17.31	-21.39	-17.11	-17.44	-21.67	-17.22

- **negative incomes for beef in the baseline scenario**
  - **VCS for beef extensively applied by the MS**
- **anticipated increase in milk prices compensates for dairy direct support cuts**
  - **even for declining VCS for dairy cows in many MS**
- **cuts in indirect (area based) support weights rather heavily on pig farming**
- **limited exposure of laying hens to changes in direct support**
- **negative incomes for broilers in the baseline scenario**

Source: calculations by AKI

Comparison of changes in area and livestock numbers for the scenarios CAP -15% & -30%



* changes in production volume

Source: calculations by AKI

Conclusions

- ✓ **Small adjustments in both sowing areas and livestock numbers**
  - **except for soybeans and broilers**
- ✓ **Generally larger decline in incomes in the EU-13**
  - **except for milk production**
- ✓ **Baseline market assumptions influencing the results heavily**
  - **caution needed in the case of the livestock sectors**

Anybody here attending these workshops and contributing?

Dziękuję za uwagę!