Global Trade Analysis Project
https://www.gtap.agecon.purdue.edu/

This paper is from the
GTAP Annual Conference on Global Economic Analysis
https://www.gtap.agecon.purdue.edu/events/conferences/default.asp

2030 European agricultural policy: A new CAP at a crossroad between market competitiveness and sustainability

Pierre Boulanger[1], Hasan Dudu[1], Emanuele Ferrari[1], Robert M'barek[1], George Philippidis[2]

1 Introduction

Over the past 50 years, the CAP has evolved radically, together with its main instruments from compensatory coupled subsidies to decoupled payments – conditioned to European and national statutory requirements. Challenges related to the agricultural sector are manifold, i.e. contributing to food security and an increased demand for various uses with finite resources in a changing climate. Against this background, the future design of the post-2020 CAP is under consultation and includes a wide range of policy options, from retaining the status quo to a radical reform.

Despite the current economic and financial climate, the agreed CAP budget over the period 2014-2020 strengthened strong public support to European agriculture with about 38% of the EU budget (i.e., about €400 billion) devoted to the CAP. The latest reform of the CAP took place in 2013 with a progressive implementation at member state levels over the period 2014-2020. It introduced new instruments (e.g., 30% of the direct payments envelope by member states have to be related to greening practices such as crop diversification or maintaining permanent pasture; voluntary re-coupling of former decoupled payments; etc.) and provided much more flexibility to member states in national implementations.

Using a multi-region neoclassical CGE framework, the contribution of the present paper is to explore different visions of a future CAP beyond 2020 in terms of agri-food products and factor markets, CAP budgetary effects and welfare. This research follows the tradition of the Scenar2020 study (Nowicki, 2009). The first edition of Scenar2020 was framed under the slogan *Understanding Change*. The second report focussed on *Preparing for Change*. The present work, in a way CGE component of a third edition, could be seen under the heading of *Performing Real Change*. Employing the latest EU agricultural policy modelling development and parameterisation, a well-founded and plausible baseline (*Reference scenario*) is constructed, as well as two diametrically opposed future visions of the CAP (*Liberalisation&Productivity scenario* vs. *Income&Environment scenario*). A last scenario proposes a full removal of the policy (*NoCAP scenario*). The paper is structured as follows. Section 2 presents the methodology. Section 3 sheds some light on key results. Section 4 concludes.

[1] European Commission, Joint Research Centre (JRC)
[2] Aragonese Agency for Research and Development (ARAID) & Wageningen University and Research (WUR)

Paper prepared for the 20th Annual Conference on Global Economic Analysis, West Lafayette, IN USA, June 7-9, 2017. Revised version: September 8, 2017.

2 Methodology

The paper uses the Modular Applied GeNeral Equilibrium Tool (MAGNET), a global neoclassical CGE model, adopting a modular approach, whereby the standard Global Trade Analysis Project (GTAP)-based core has been augmented with various modules (Woltjer and Kuiper, 2014). It improves the representation of the CAP, fully capturing the allocation of CAP expenditures, using data from the Clearance Audit Trail System (CATS) which gathers details of all CAP payments made to the recipients of the EAGF (European Agricultural Guarantee Fund) and EAFRD (European Agricultural Fund for Rural Development). By contrast to existing studies using the CAP module of MAGNET (Boulanger and Philippidis, 2014, 2015; Philippidis, M'barek and Ferrari, 2016), additional effort has been made to improve the model parameterisation. More specifically, updates have been inserted to improve the land use elasticities; the impact of second pillar expenditures on factor productivity; first pillar coupling factors and the quota fill and rent rates for member state sugar and milk quotas.

Reference scenario

The reference scenario includes the latest developments of the CAP; notably national implement of rural development programmes up to 2020 amounting to about €15 billion a year, and recoupling of support to specific activities amounting to about €4 billion a year. Integrating all national specialities within a common EU framework is nowadays key for any meaningful agri-food policy analysis. For the period 2020-2030, it is assumed that the CAP remains as in 2020.

The trade policies in the reference scenario follow the assumptions made in the DG AGRI market outlook 2015. In view of recent developments in climate change policies, the COP21 agreement is implemented following the latest official reference scenario of the European Commission for all sectors. In the model, there are 35 regions (all EU member states, and main trade partners) and 23 sectors. The model is run with four time periods (between five points in time), i.e. 2011-2016-2020-2025-2030.

With its economy-wide foundation, the CGE model is ideally placed to incorporate a plethora of different policy initiatives within a single coherent framework. Thus, in recognition of the fact that a holistic approach is a key ingredient for coherent policy making, as well as developments in EU agricultural policy; other relevant policy drivers are also taken into account. Two scenarios, taking polar paths against the reference scenario to characterize different visions for the CAP are modelled. A last scenario deepens the Lib&Prod scenario with a full withdrawal of the policy (NoCAP scenario).

Liberalisation&Productivity scenario

The Lib&Prod scenario emphasises low cost farming in an open world. This scenario presents an EU agricultural policy which focuses on providing quality agricultural commodities and food in a globally competitive market. That way the EU becomes a key player in ensuring food and nutrition security in the world. The agricultural sector is seen as any other in that it should focus more on those products in which it is more competitive. As a consequence most EU agriculture specific policies are assumed to be abolished in 2030. The key policy areas under this scenario include:

- A strong reduction of EU agricultural policy.
- The abolishment of the direct payment scheme. This includes both the basic payment and the greening part of the payment.

• Coupled production support is abolished.

• No supply management of price support measures are foreseen. The markets should regulate themselves to assure equilibrium between demand and supply.

• The rural development program is drastically reduced. Some measures are maintained and other schemes complement the current system (e.g., support to young farmers, investment support to modernize the chain and realize economies of scale).

• To be globally competitive the EU takes a strong step towards liberalisation of its markets. Significant progress is made in bilateral trade agreements (for scenario implementation, see Boulanger et al., 2016) assuring increased market access for competitive products and access to cheap inputs and commodities.

• Climate policy is a reality by 2030. Binding Greenhouse Gas (GHG) emission targets are set for the different economic sectors. However, the impact for EU agriculture might be moderate as some of the GHG intensive sectors (livestock) might decrease in this scenario while the modernisation of the sector assures the most efficient technologies are used.

NoCAP scenario

The NoCAP scenario adopts the same trade and climate policy approach but fully abolishes the CAP.

Income&Environment scenario

The Inc&Env scenario places greater emphasis on farmers striking a balance between public and private goods. It presents an agricultural policy which is consistent with the broader EU goal of a sustainable model of European economic growth to 2030. Within this policy vision the agricultural sector, as the primary sector taking care of the land and landscape, ensures the sustainable use of natural resources in rural landscapes and the provision of wider public goods to the society. Nevertheless, providing food and agricultural products continues to be a priority to assure food and nutrition security in the EU and abroad. Therefore, EU agricultural policy's main aim is to facilitate farmers to find a balance between the provision of public goods and ensuring farmers' income from the market. The key elements under this scenario include:

• The EU budget for agricultural policy kept at the current level.

• Basic direct payment is substantially reduced and the process of both internal and external convergence is continued.

• Additional direct payments can be provided to the farmer conditional on the compliance with more stringent requirements.

• Coupled support is minimized and is only justified if the production provides a specific public good (e.g., extensive livestock grazing to maintain grasslands in less productive areas).

• The reduction of direct payments and market measures allows a shift of budget towards programmed policies, i.e. the current rural development measures.

• Farmers in areas with high natural value or natural constraints receive an extra payment. Strong rural development support is given to agri-environmental and climate change measures, and investments in human and physical capital.

• Trade policies are held at a status quo.

• Given the EU's push toward a circular and sustainable economy the climate policy is stringent. This results in strong GHG emission reduction targets for all economic sectors including agriculture.

• Biofuels based on agricultural products are not actively supported in this scenario.

3 Results and discussion

Results are presented in comparison with the reference scenario. The complexity of the CGE model framework renders a full discussion of all results as unwieldy. Therefore the focus is on welfare, output, prices and factor markets.

CAP budget and welfare impacts

Table 1 presents the revenues and costs corresponding to the CAP budget in the reference scenario for the year 2016. The first column of the first row shows total CAP receipts of €53,371 million accruing to the EU28 member states (€38,947 million EU15 and €14,424 million in EU13). This total is split between first and second pillars (second pillar figures exclude nationally co-financed support) amounting to €41,355 million and €12,016 million, respectively. Of the former, decoupled payments total €26,801 million, greening amounts to €11,322 million and remaining coupled payments sum to €3,232 million. Contributions to the CAP budget are financed by tariff revenues and a uniform EU-wide percentage of each member's gross domestic product (GDP). The rebate row in Table 1 accounts for the net impacts on EU members from both UK rebate and additional corrective payments.

The 'net position' row shows that the 'old' EU15 (except Greece, Ireland, Portugal and Spain) are net contributors to the CAP budget, whilst the newer member states (as expected) are net beneficiaries. This observation underlies the redistributive nature of the CAP. A closer look reveals that France is the largest recipient of CAP funding, but makes significant payments to the CAP budget and the UK rebate whilst receiving no special dispensation.

On the basis of these estimates, a CAP budget cut would benefit (detriment) net contributors (net beneficiaries) in the form of a taxpayer saving (loss). In the model, income changes feedback to each economy as an increase (decrease) in expenditure and savings. This effect is demonstrated in the lower part of Table 1 (parts B, C and D). As an initial observation, the results are consistent for all scenarios in terms of the comparative magnitudes across regions and the signs of the estimates.

For the Lib&Prod scenario the following observations can be made compared with the reference in 2030. First, the CAP budget cuts lead to strong reductions of the CAP receipts in all countries. Second, most of the net contributors turn now into a positive net position, i.e. the removal of the calculated CAP contribution is higher than the loss of CAP receipts. This is the case in particular for Belgium, Germany, Italy, Netherland, Sweden and the UK. Third, among the biggest losers (> -€400 million) are Bulgaria, Croatia, France, Greece, Hungary, Ireland, Poland, Romania and Spain.

The Inc&Env scenario shows much smaller impacts on the CAP budget. Compared to the size of the payments, only Croatia has a tangible reduction compared to the initial net position.

The description of the CAP budget is the exact accountancy of payments and receipts by member state according to the current policies and the assumed changes in the two scenarios. The welfare impacts instead take into account the impacts of the scenarios on the economy,

presented as the real income or equivalent variation (EV) changes. To better analyse where the impacts or changes come from, Figure 1 presents a decomposition of the EV changes for EU aggregates.

The EV results in the Lib&Prod scenario, with a €18.4 billion welfare gain, show losses accruing to the 'new' EU13 states vis-à-vis EV gains of the 'old' EU15 states. This result is driven by the CAP budget, but also changes in *Allocative efficiency* (i.e., efficiency gains which arise from changing resource or product usage in the presence of market distortions), and *Technology effects* (i.e., money metric equivalent from improvements in output or input augmenting technical change). Moreover, the *Terms of Trade* effect (i.e, the unit price ratio of exchange between exports and imports) in the EU regions is the net result of (i) change in agri-food prices from adjustment in agricultural support and (ii) changes in the real exchange rate (i.e., factor prices). The Inc&Env scenario results in a slightly negative EV of €2.6 billion, with higher losses on the EU15 side. Remarkably, a NoCAP scenario would impact positively EU28 welfare by €900 million corresponding to a gain of €14.5 billion for the 'old' EU15 states and a loss of €13.6 billion for the 'new' EU13 states.

Effects on product and factor markets

The agri-food production slightly falls under both Lib&Prod and Inc&Env scenarios compared to the reference (Figures 2 and 3). The two scenarios show some different sectorial patterns and different path to reach similar results in terms of production. The most notable difference appears in the dairy sector which under the Lib&Prod scenario, due to the increased market access in many third countries, increases its production by about 1% while under the Inc&Env scenario it drops by more than 1%. The cause behind the difference between both two scenarios relies on the change in production drivers. Under the Lib&Prod scenario the increase in imports (about one sixth of agri-food imports) is one of the key factors in the decrease of domestic production. Under the Inc&Env scenario the domestic policy changes are the main trigger for the change in production, while trade flows remain almost unchanged, with a limited decrease in exports (around €3 billion) and only a reduced increase in imports (about €3.6 billion).

The policy with the highest impact on agricultural production is, under the Lib&Prod scenario, the removal of the first pillar. Analysing the shock decomposition, the removal of decoupled payments has a negative effect on agricultural production with about 4% compared to the reference (the reduction of decoupled payments under the Inc&Env scenario affects the production by about 2%). The trade policies have a negative effect particularly on rice production and beef & sheep meat, while is positive mainly for the dairy products. In 2030, EU28 agri-food trade balance deteriorates for Lib&Prod and Inc&Env scenarios by €10.3 billion and €6.5 billion euros respectively.

The change in the production causes a consequent increase in the market prices of agricultural (and food) products which in 2030 would be 2.6% (0.3%) under the Lib&Prod scenario and 2.9% (0.4%) under the Inc&Env scenario. Abolishing the CAP would amplify such variations, with rise of agricultural and food market prices of 8.3% and 1.3% respectively (Figures 4 and 5).

Agricultural and food market price rises are driven in large part by marginal cost increases in land rents paid by the farmer. The magnitude of these cost-push increases is positively related to the magnitude of changes in CAP support.

Interestingly EU28 aggregated land rent shows a clear pattern between 2011 and 2030. In the base the rent is almost stable while the changes of the CAP are having opposite effects on

land rent (Figure 6). Under Lib&Prod (Inc&Env) scenario CAP support shocks are causing a decrease (increase) of land rent. In the case of the Lib&Prod scenario the drop is due to the removal of first pillar payments which are (partially) capitalized into land rent. In the case of the Inc&Env scenario the redirection of payments into greening and agri-environmental payments, which are entirely capitalised into land, is the main force behind the land rent increase in the EU. Looking at member states, the pattern is similar (decrease under Lib&Prod and increase under Inc&Env) with magnitude of the shocks varying mainly according to member states' initial level of capitalisation of first pillar payments into land. Abolishing the CAP would result in cut by two of the EU28 land rent by 2030.

On the employment side, both scenarios have a negative effect on jobs in the agricultural and food sector. In comparison with the reference scenario, decrease in agricultural jobs is more pronounced in the Lib&Prod scenario (-4.5%) compared with the Inc&Env scenario (-1.8%). Decreases in food industry employments are less noticeable with -0.5% and 0.3% respectively. Figure 7 decomposes the changes in agri-food employment. It shows the adverse impact of the reduction in first pillar payment for employment, while the impacts of second pillar policy changes are mixed. Trade policy has a small negative impact on jobs. Again the NoCAP scenario magnifies the results of the Lib&Prod scenario.

4 Conclusion

This study examines some potential effects arising from two extreme alternatives for the CAP at the horizon 2030. It represents the CGE part of a more comprehensive research work (*Scenar2030*) which aims at identifying major future trends and driving factors for the European agriculture and rural regions and the challenges resulting from them (M'barek et al., 2017). One scenario emphasises a low cost and competitive farming in an open world (Lib&Prod). The other scenario accentuates a sustainable use of natural resources and the provision of public goods (Inc&Env). It is expected the post-2020 CAP will be somewhere between these two scenarios. A NoCAP scenario is presented as an extension of the Lib&Prod scenario, and broadly magnifies results of this later.

As any CGE analysis, there are number of caveats, although this should not detract from the contribution that this study makes in providing a first set of results. The paper presents traditional macro results (i.e., welfare, output, input and prices). There are currently refined together with the generation of other results such as effects on employment, self-sufficiency or environment. For instance, on the latter, GHG emission of the EU economy experiences very minor changes compared to the reference in 2030. Looking only at the agricultural sector, in both scenarios a reduction between 1.9% and 2.6% can be appreciated. When decomposing these changes, the first pillar policy changes contribute the most to GHG emission reduction. Total drop is higher in the Inc&Env scenario due to the emphasize of second pillar support. Taking a worldwide perspective, the increase of 3% of GHG emissions in Mercosur in the NoCAP scenario illustrates the leakage effect, mainly incentivised through the trade policy (Figure 8).

If the CAP remains a redistributive policy as shown with the breakdown by member states of CAP expenditures, tougher CAP budget cut in the Lib&Prod scenario benefit net budget contributors. A more market-oriented CAP seems to have larger positive effects on macroeconomic indicators, including welfare gains (real income). Interestingly welfare gains are poorer with a NoCAP scenario. On the other hand, a more sustainable CAP provides further gains in terms of public goods delivering that are not fully captured by our model. It remains to better scrutinize the main driving forces behind national and sectorial changes

through robust decomposition by CAP measures and EU policy (agricultural, trade, climate change). Finally the linkage with other models would allow the inclusion of a wider range of factors and connecting global markets to individual farms.

5 References

Boulanger, P. and Philippidis, G. (2014). Modelling the Common Agricultural Policy with the Modular Agricultural GeNeral Equilibrium Tool (MAGNET): Effects of the 2014-2020 CAP financial agreement on welfare, trade, factor and product markets; EUR 26835 EN; doi:10.2791/12628.

Boulanger, P. and Philippidis, G. (2015). The EU budget battle: Assessing the trade and welfare impacts of CAP budgetary reform. *Food Policy, 51*, 119-130.

Boulanger, P., Dudu, H., Ferrari, E., Himics, M., and M'barek, R. (2016). Cumulative economic impact of future trade agreements on EU agriculture. European Commission; EUR 28206 EN; doi:10.2788/194880.

M'barek, R. et al. (2017). Scenar 2030 – Scenario study on agriculture and the rural world; JRC Science for Policy Report, forthcoming.

Nowicki, P., Goba, V., Knierim, A., van Meijl, H., Banse, M., Delbaere, B., Helming, J., Hunke, P., Jansson, K., Jansson, T., Jones-Walters, L., Mikos, V., Sattler, C., Schlaefke, N., Terluin, I. and Verhoog, D. (2009). Scenar 2020-II – Update of Analysis of Prospects in the Scenar 2020 Study – Contract No. 30-CE-0200286/00-21, European Commission, Directorate-General Agriculture and Rural Development, Brussels.

Philippidis, G., M'barek, R. and Ferrari, E. (2016). Drivers of the European Bioeconomy in Transition (BioEconomy2030) - an exploratory, model-based assessment; EUR 27563 EN; doi:10.2791/529794.

Woltjer, G. and Kuiper, M. (2014). The MAGNET model. Wageningen: LEI, Wageningen UR. http://edepot.wur.nl/310764

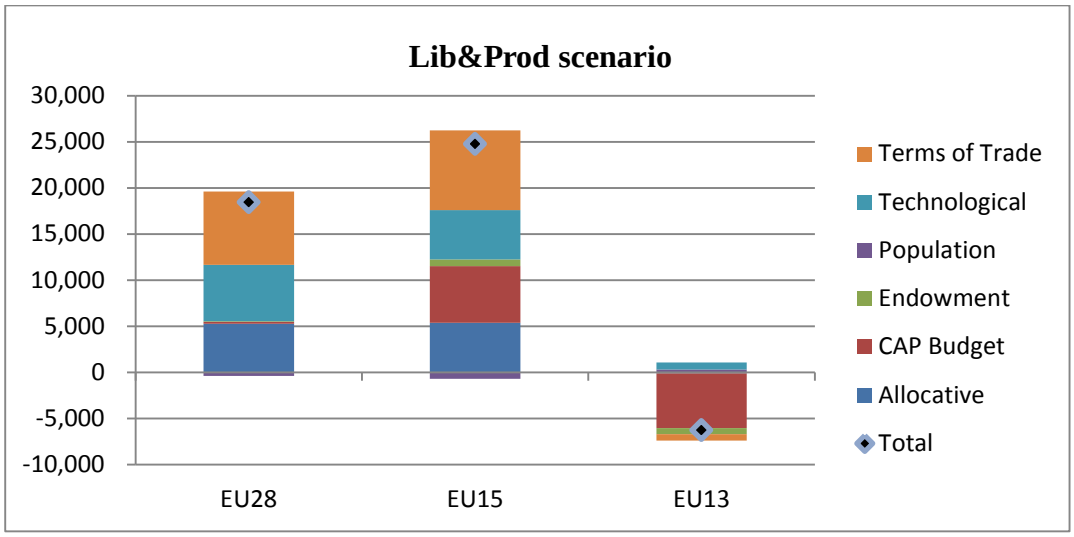
Table 1: CAP budget (€millions, 2016 prices)

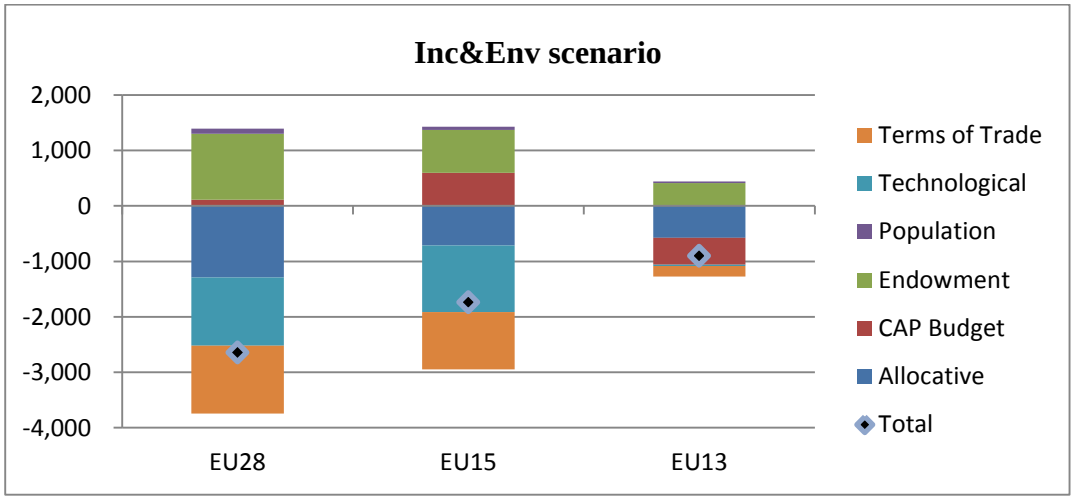
A. CAP budget estimates in 2016	EU28	EU13	EU15	AT	BE	BG	HR	CY	CZ	DK	EE	FI	FR	DE	EL
1. CAP receipts	53,371	14,424	38,947	1,204	565	1,091	786	72	1,120	899	218	806	8,426	5,771	2,285
Pillar 1: decoupled	26,801	6,862	19,939	420	292	526	510	34	556	560	78	319	4,396	3,277	1,122
Pillar 1: coupled	3,232	394	2,838	79	87	43	8	3	34	13	1	50	969	18	257
Pillar 1: greening	11,322	2,777	8,545	180	125	226	55	15	238	240	33	137	1,884	1,405	481
Pillar 1: total	*41,355*	*10,033*	*31,322*	*678*	*504*	*795*	*573*	*51*	*829*	*814*	*112*	*506*	*7,249*	*4,700*	*1,860*
Pillar 2: ANC/LFA	2,238	822	1,416	135	3	30	72	4	67	0	4	115	437	146	90
Pillar 2: agri-environmental	3,794	1,208	2,586	264	19	100	31	9	138	30	40	118	254	408	62
Pillar 2: physical capital	3,207	1,206	2,001	42	23	82	66	4	45	40	39	22	235	263	172
Pillar 2: human capital	1,763	767	996	37	10	41	24	3	23	10	15	32	178	103	87
Pillar 2: wider development	1,013	387	626	46	5	43	19	1	19	6	8	13	74	151	15
Pillar 2: total	*12,016*	*4,391*	*7,625*	*525*	*61*	*295*	*212*	*21*	*292*	*85*	*106*	*300*	*1,177*	*1,071*	*426*
2. CAP contribution	53,371	4,624	48,748	1,182	1,901	166	227	81	666	1,006	84	703	8,152	11,168	749
3. Rebates	0	-507	507	-45	-172	-18	-20	-8	-73	39	-8	-82	-916	-403	-85
4. Net position	0	9,294	-9,294	-23	-1,508	906	539	-16	381	-68	126	22	-643	-5,801	1,452
B. CAP budget estimates in 2030															
1. CAP receipts	45,475	12,076	33,399	1,008	482	924	911	55	962	792	231	693	7,335	5,051	2,053
2. CAP contribution	45,475	4,407	41,068	997	1,535	166	213	84	609	868	83	602	6,745	9,344	661
3. Rebates	0	-517	517	-38	-152	-20	-22	-9	-71	14	-9	-75	-802	-335	-80
4. Net position	0	7,152	-7,151	-27	-1,206	739	676	-37	282	-61	140	17	-212	-4,627	1,312
C. Lib&Prod vs. baseline in 2030															
1. CAP receipts	11,156	4,067	7,090	335	91	306	256	13	200	132	115	177	1,068	1,048	534
2. CAP contribution	11,156	1,123	10,034	216	449	40	71	28	155	228	26	131	1,631	2,313	151
3. Rebates	0	-233	233	-26	-69	-9	-10	-4	-32	70	-4	-34	-362	-230	-36
4. Net position	0	2,711	-2,711	93	-427	257	175	-19	13	-27	84	13	-926	-1,495	347
D. Inc&Env vs. baseline in 2030															
1. CAP receipts	44,042	11,461	32,581	1,138	419	948	595	65	996	706	242	755	6,709	4,897	2,085
2. CAP contribution	44,041	4,267	39,774	964	1,495	161	206	82	590	840	81	582	6,527	9,053	639
3. Rebates	0	-475	475	-36	-140	-18	-20	-8	-65	23	-8	-68	-736	-319	-73
4. Net position	1	6,719	-6,718	137	-1,215	769	369	-25	340	-111	153	104	-554	-4,475	1,373

Table 1 (cont.): CAP budget (€millions, 2016 prices)

A. CAP budget estimates in 2016	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	ES	SE	UK
1. CAP receipts	1,769	1,485	5,017	331	613	43	14	810	4,672	1,178	2,885	603	250	5,819	912	3,727
Pillar 1: decoupled	893	818	2,474	137	297	22	4	487	2,254	281	1,198	288	88	2,894	467	2,109
Pillar 1: coupled	67	21	283	5	13	0	0	23	102	249	90	16	13	761	3	25
Pillar 1: greening	383	351	1,060	59	127	10	2	209	966	120	513	124	38	1,240	200	904
Pillar 1: total	*1,342*	*1,190*	*3,817*	*200*	*437*	*32*	*5*	*719*	*3,321*	*650*	*1,801*	*428*	*138*	*4,896*	*670*	*3,038*
Pillar 2: ANC/LFA	11	93	109	30	29	4	1	2	235	111	244	60	34	77	44	52
Pillar 2: agri-environmental	146	129	355	28	33	4	1	34	306	89	307	38	32	262	116	443
Pillar 2: physical capital	174	20	457	53	58	2	4	39	360	215	261	38	23	353	21	94
Pillar 2: human capital	65	21	175	12	33	1	2	10	321	73	193	17	17	172	33	56
Pillar 2: wider development	30	33	103	8	23	0	0	7	128	41	79	24	5	59	28	45
Pillar 2: total	*427*	*295*	*1,200*	*130*	*176*	*11*	*9*	*91*	*1,350*	*529*	*1,084*	*175*	*112*	*923*	*242*	*689*
2. CAP contribution	410	747	5,875	97	159	175	58	2,478	1,636	649	571	308	160	4,261	1,632	8,071
3. Rebates	-47	-84	-674	-10	-16	-21	-4	648	-185	-75	-67	-34	-16	-482	156	2,703
4. Net position	1,312	654	-1,533	223	438	-153	-47	-1,020	2,850	454	2,247	261	73	1,076	-564	-1,640
B. CAP budget estimates in 2030																
1. CAP receipts	1,418	1,230	4,147	361	585	38	15	675	3,417	954	2,508	485	203	4,816	758	3,368
2. CAP contribution	381	640	4,423	98	139	158	55	2,029	1,572	545	563	291	153	3,764	1,363	7,393
3. Rebates	-46	-77	-534	-11	-15	-20	-4	495	-189	-67	-71	-34	-17	-451	117	2,521
4. Net position	990	512	-810	252	431	-140	-44	-859	1,656	342	1,874	160	34	601	-488	-1,505
C. Lib&Prod vs. baseline in 2030																
1. CAP receipts	466	150	1,358	124	198	9	16	111	1,111	439	1,014	165	82	1,018	160	460
2. CAP contribution	89	139	1,083	27	39	31	29	469	375	119	120	77	45	907	306	1,861
3. Rebates	-21	-35	-242	-5	-7	-9	-2	519	-85	-30	-32	-15	-8	-204	133	789
4. Net position	356	-24	33	92	152	-30	-15	161	651	289	862	73	30	-93	-13	-612
D. Inc&Env vs. baseline in 2030																
1. CAP receipts	1,365	1,247	3,823	348	532	37	10	616	3,147	933	2,537	456	223	4,907	773	3,536
2. CAP contribution	369	620	4,280	95	135	153	54	1,967	1,521	526	545	282	148	3,643	1,318	7,167
3. Rebates	-42	-71	-490	-10	-14	-18	-3	499	-174	-62	-65	-31	-15	-414	119	2,261
4. Net position	953	557	-947	243	384	-135	-48	-852	1,453	345	1,927	143	59	850	-426	-1,371

Figure 1: EV decomposition in EU aggregates, 2030 (€millions, scenarios vs. reference)





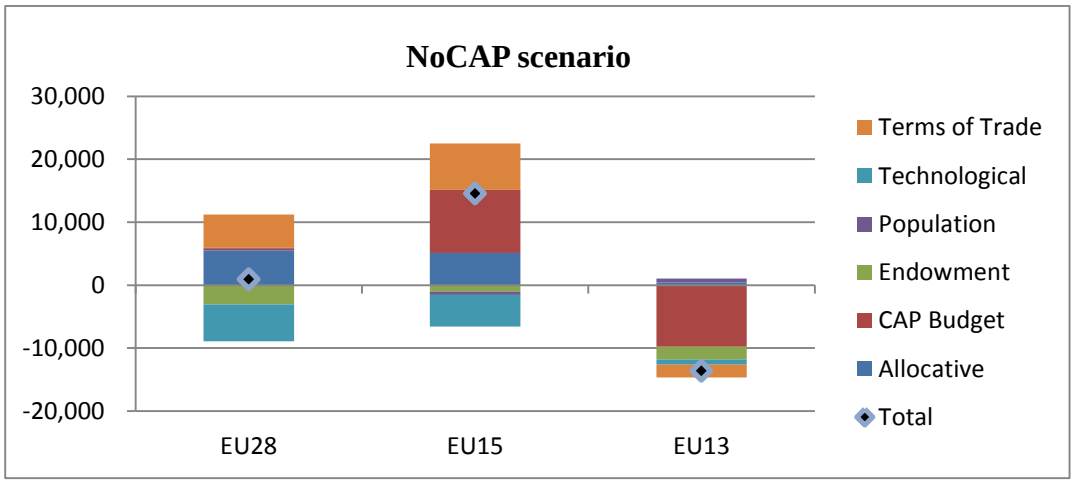


Figure 2: Index of agricultural production in the EU28, 2016- 2030 (2016=100)

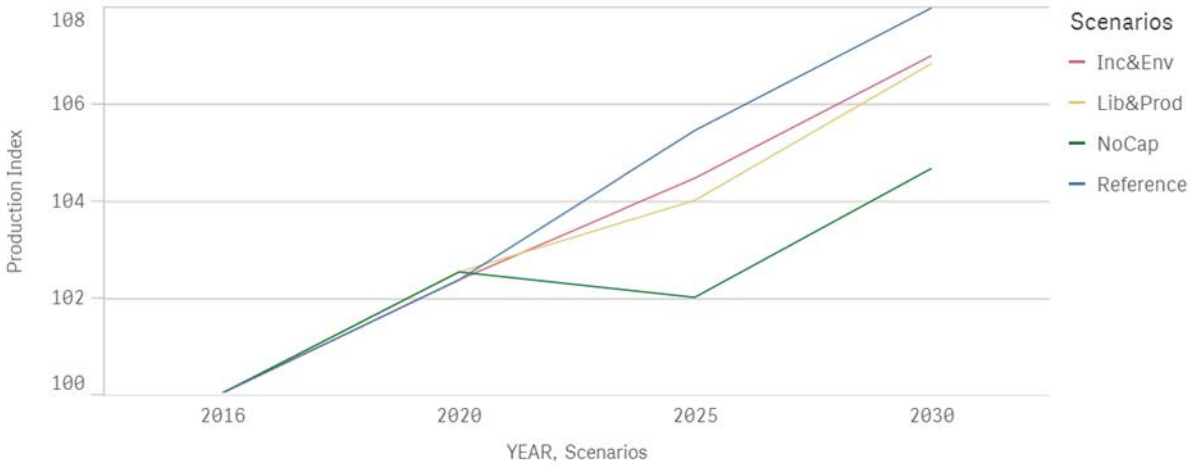


Figure 3: Index of food production in the EU28, 2016- 2030 (2016=100)

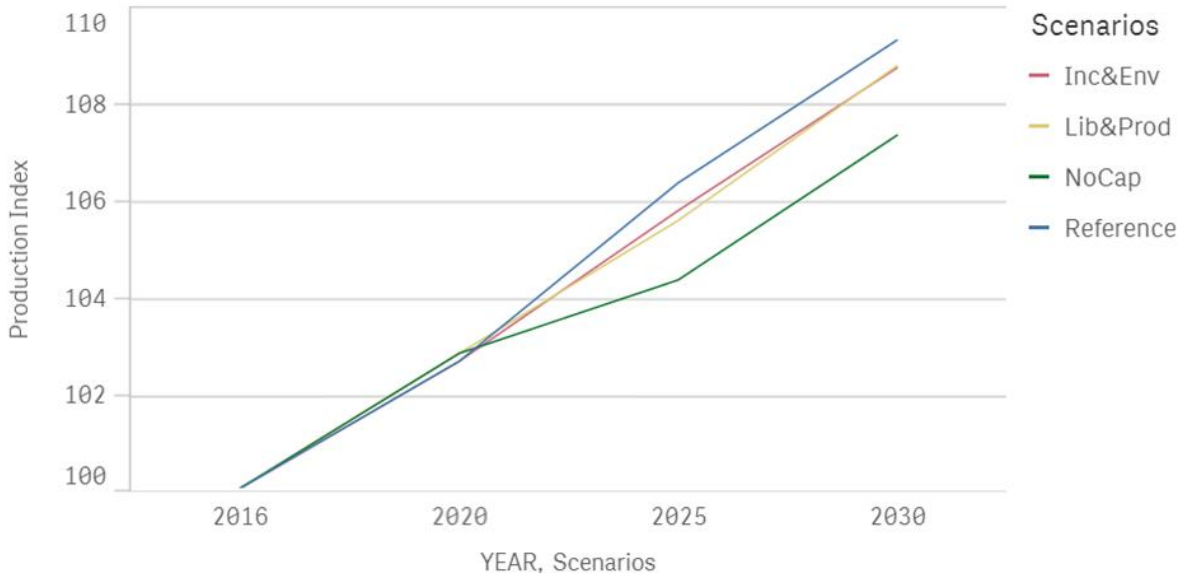


Figure 4: Index of agricultural market price in the EU28, 2016- 2030 (2016=100)

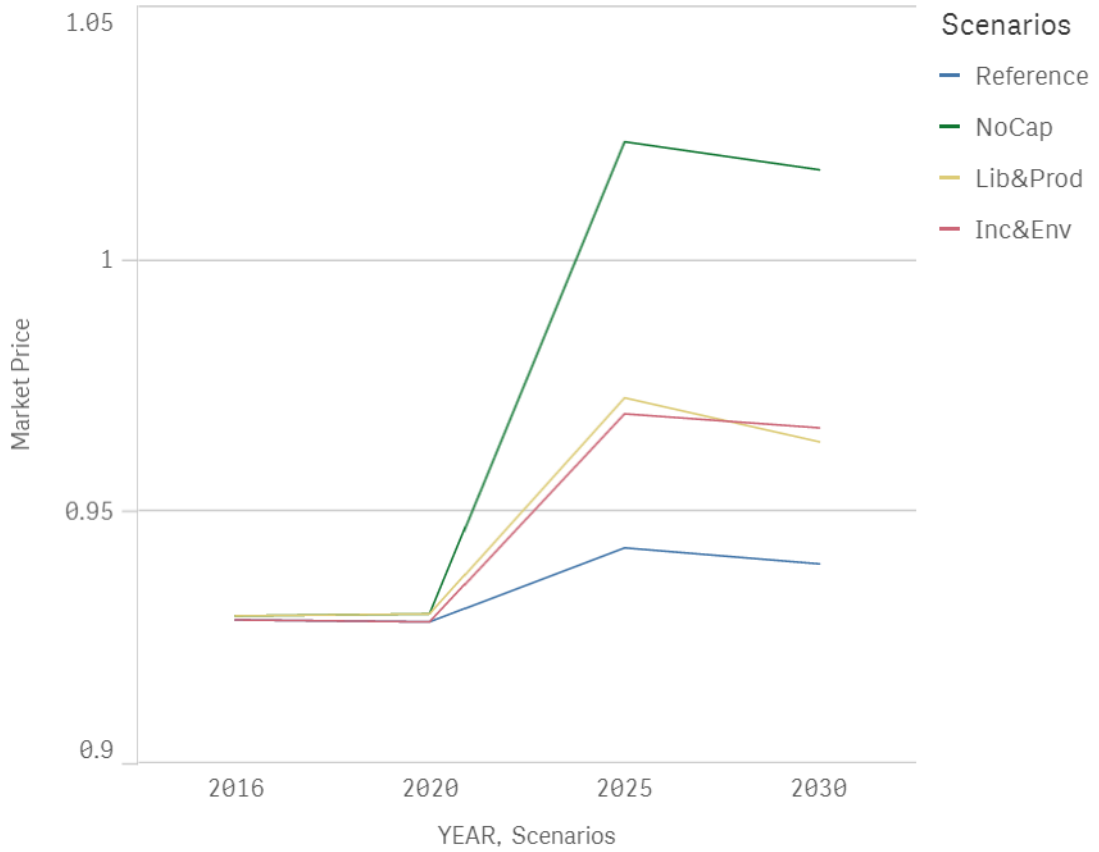


Figure 5: Index of food market price in the EU28, 2016- 2030 (2016=100)

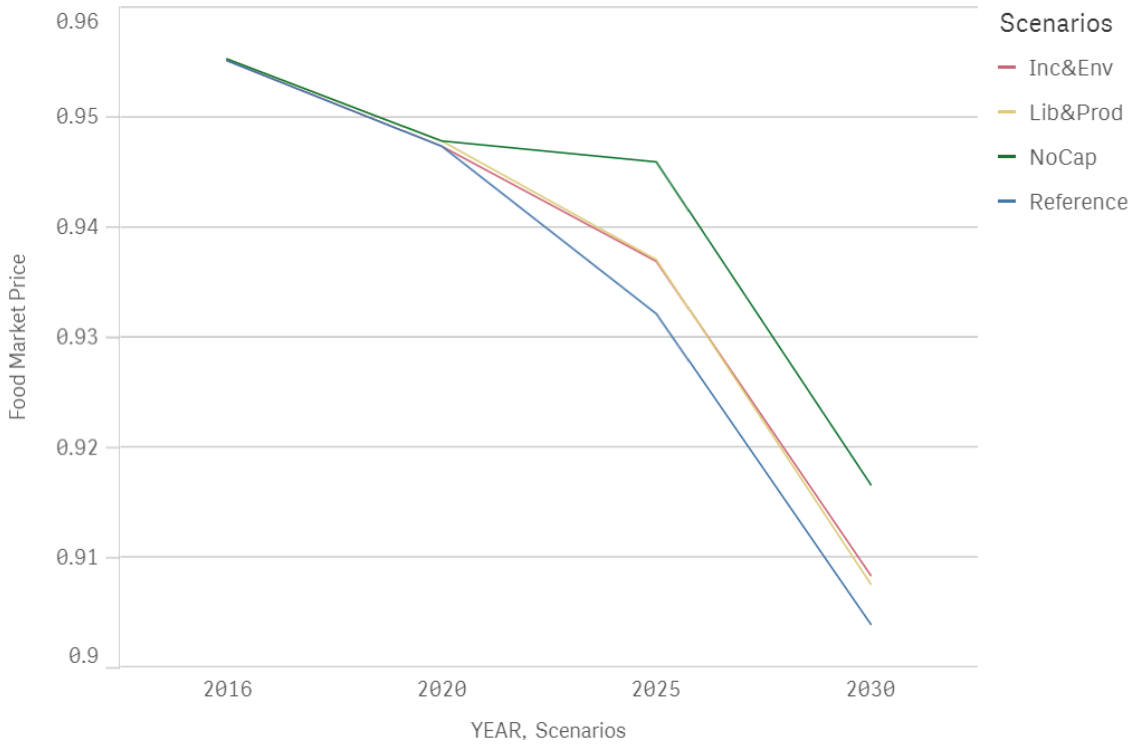


Figure 6: Index of land price in the EU28, 2011-2030 (2011=100)

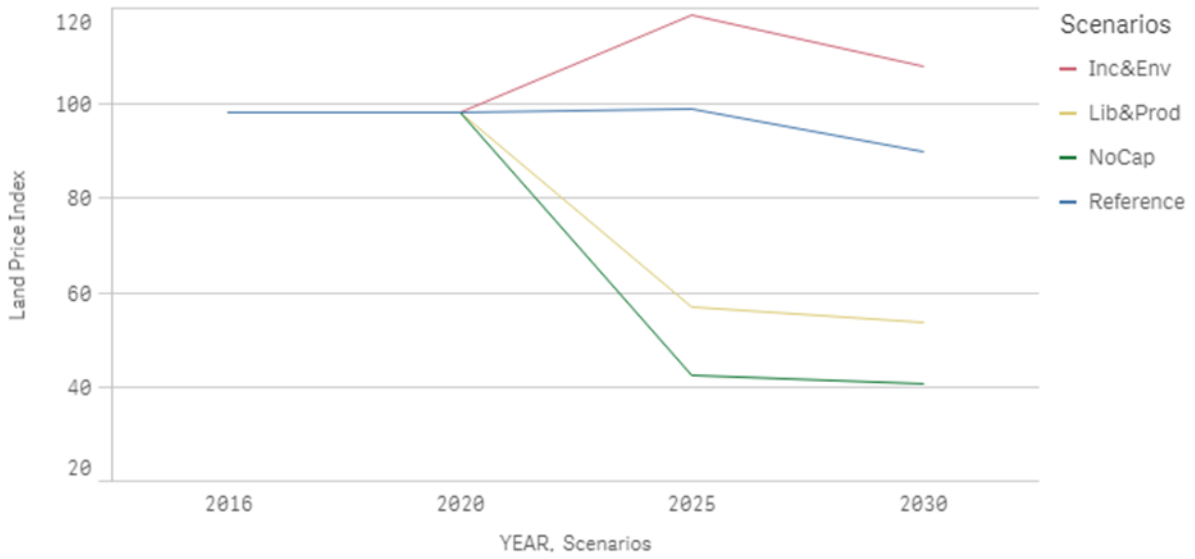


Figure 7: Decomposition of agricultural and food sectors' employment drivers in the EU28, 2030 (% change, scenarios vs. reference,)

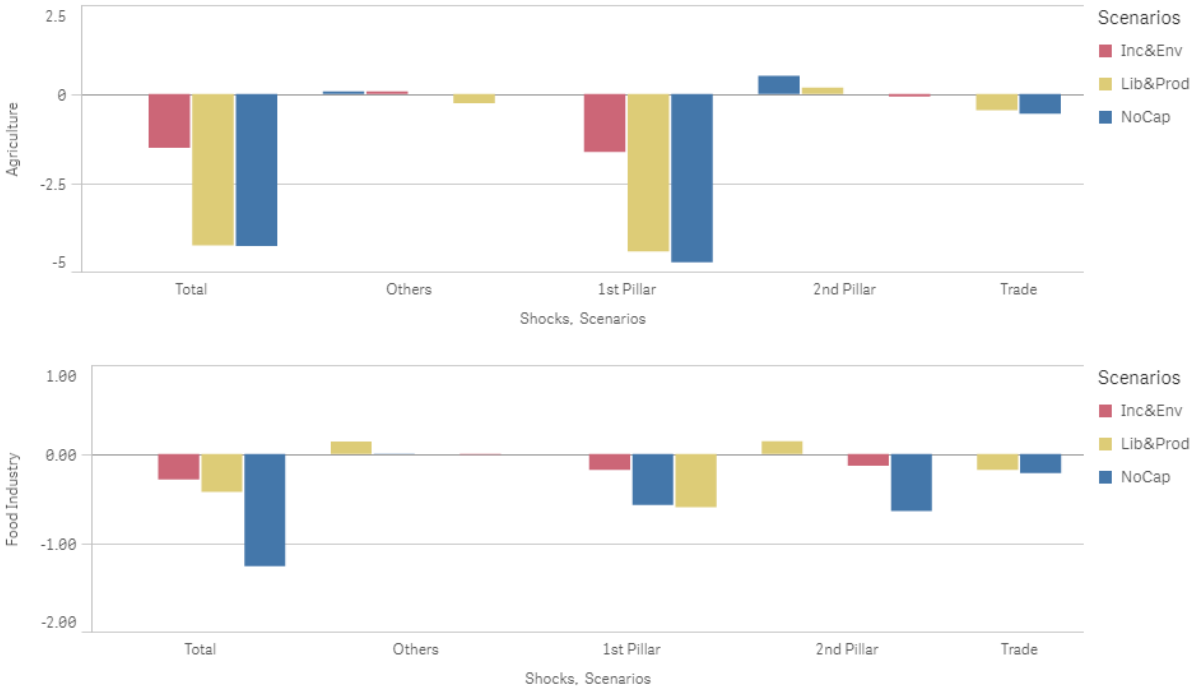


Figure 8: GHG emission by agricultural sector in world aggregates, 2030 (% change, scenarios vs. reference)