2020 COMMON AGRICULTURAL POLICY IN SPAIN. GENERAL EQUILIBRIUM EFFECTS OF A EU28 BUDGET DEAL [1]

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ABSTRACT: This paper employs a Computable General Equilibrium (CGE) model to assess the effects of the agreed 2014-2020 Common Agricultural Policy (CAP) budget cuts. It illustrates modest impacts on Spanish, European and world agricultural markets, given the non-distortive representation of the CAP.

KEY WORDS: *CGE, CAP, EU, Spain.*

1. INTRODUCTION

The political agreement for the Common Agricultural Policy (CAP) budget over the financial period 2014-2020 was the result of dense negotiations representing a broad spectrum of vested interests across the European Union (EU). Ratified by the European Parliament and the Council, the deal contemplates nominal expenditure cuts of 13% in pillar 1 (market measures and direct payments) and 18% pillar 2 (rural development measures). Being a major recipient of CAP support (about one tenth of total spending), over the coming years Spain will face subsequent decreases in agricultural subsidies. This paper uses original Computable General Equilibrium (CGE) model and data on EU domestic support to evaluate agreed CAP spending limits in Spain, EU and key trade partners.

2. METHODOLOGY

The methodology follows the CGE model and data employed in Boulanger and Philippidis (2014; 2015). Time series data by member state are taken from the Clearance Audit Trail System (CATS) database of the European Commission which includes an inventory of all pillar 1 and 2 agricultural support payments and full coverage of pillar 2 co-financing rates by member state.

[1] The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission or the Aragonese Government.

These data are employed to recalibrate version 8.1 of the Global Trade Analysis Project (GTAP) dataset and implement a detailed 'CAP baseline'.

The Modular Agricultural GeNeral Equilibrium Tool (MAGNET) (Woltjer and Kuiper, 2014) is employed, incorporating state-of-the-art modelling for agricultural sectors. It modifies the accounting equations to differentiate between pillar 1 (i.e., 'decoupled'; 'coupled direct payments'; 'market measures'; 'additional direct transfers'; 'other EAGF payments'; 'agri-monetary transfers'); pillar 2 (Axis 1-2-3; leader; technical assistance) and an aggregate of EU policy (non-CAP) receipts. Furthermore, further modelling modifications are made to accommodate 'own resources', the UK rebate and the 'rebates on the rebate'.

The modelling strategy disaggregates Spain and nine EU member states which constitute 80% of CAP spending (France, Germany, Greece, Hungary, Ireland, Italy, Poland, Romania, and United Kingdom) whilst a further five EU member states are disaggregated (Austria, Denmark, Netherlands, Sweden and Croatia) to explicitly model the rebate mechanisms and Croatia's accession. Remaining EU28 member states are aggregated together, whilst the newest EU members states (EUN13) are separated from earlier EU15. Residual trade and production flows are captured within a rest of the world region. Neoclassical model closure equates withdrawals (savings and imports) with injections (investment and exports), whilst in the EU regions this accounting identity is modified to include payments to (i.e., withdrawals), and receipts from (i.e., injections), the EU budget.

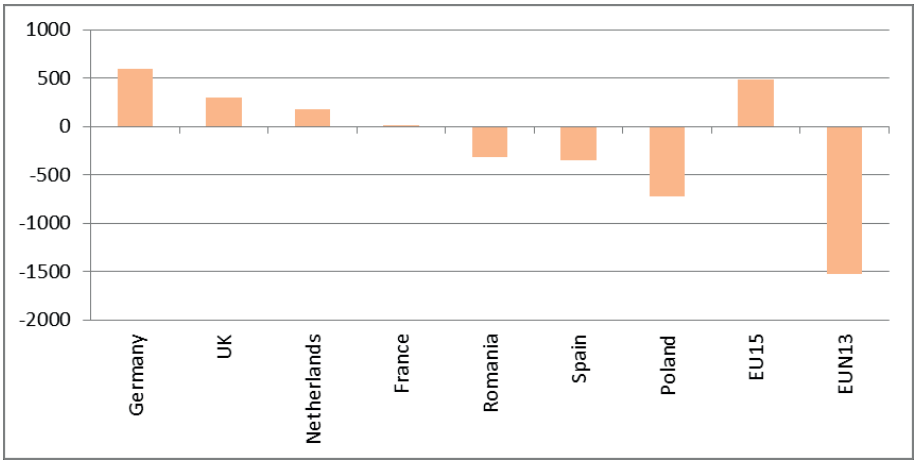
Our scenario covers two time periods (2007-2013; 2013-2020) which reconcile the multiannual financial framework with Croatia's accession to the EU. In the first period (2007-2013), historical data are employed to calculate shocks to capture changes in real GDP, population, land productivity, EU CAP and non-CAP related receipts, whilst EU tariffs are unilaterally removed under the Everything But Arms (EBA) agreement. The second period (2013-2020) employs projected data shocks for real GDP, population and land productivities, whilst in accordance with the 2013 political agreement (European Council, 2013), pillar 1 and 2 payment cuts of 13% and 18% are imposed in comparison to the 2020 baseline (*status quo*).

Flexibility given to member states in CAP implementation is considerable. It should be made clear that we do not account for member states' possibilities of some new provision implementation (e.g., redistributive payment, basic payment scheme). Nevertheless some *past* national choices are modelled (e.g., rural development programmes, voluntary coupled support) and assumed to remain during the 2014-2020 period. Also it is assumed that agreed ceiling are respected, i.e. no financial discipline mechanism is activated.

3. RESULTS

Estimates are presented in comparison with the 2020 baseline (*status quo*). The complexity of the CGE model framework renders a full discussion of all the model results as unwieldy. Consequently, the results focus exclusively on the real income and trade effects.

Figure 1. Real income changes in 2020 (€ millions, 2007 prices).



Measured in per capita income terms, the impacts on real income (equivalent variation (EV)) are small owing to the localised nature of the incremental shocks (i.e., restricted to EU agriculture). Presented in Figure 1, per capita real income gains accrue to the EU budget net contributors. Decomposing EV into money metric measures within the EU, the dominating driver is the CAP budget effect (CAP), resulting in EV gains for the UK, the Netherlands, Germany and France and concomitant losses in Spain, Poland and Romania (Table 1). Elsewhere, EU member states generally realise allocative efficiency (ALLOC) gains due to the contraction in agricultural activities; increased imports of tariffed manufactured goods; and output rises in domestic services sectors.[2]

Table 1. Income effects vs. baseline in 2020 (€millions, 2007 prices).

Budget agreement *vs.* baseline	UK	NL	DE	FR	ES	PL	RO	EU 15	EU N13	EFTA	USA	MERC	AUS NZ	CHN	IND	JAP	LDC
EV	299	182	593	14	-346	-723	-321	482	-1525	-11	103	141	26	-30	-4	-8	54
per cap U (%)	*0.01*	*0.03*	*0.02*	*0.00*	*-0.03*	*-0.15*	*-0.20*	*0.00*	*-0.12*	*0.00*	*0.00*	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Decomposition:																	
ALLOC	19	14	91	32	-11	-39	-34	241	-63	-9	1	23	2	-11	36	-3	6
TOT	24	41	53	20	-39	-77	-95	27	-218	-5	72	89	19	-19	-16	-6	27
ENDW	3	-7	-89	-61	-12	-65	-13	-323	-149	3	16	17	1	-25	-22	1	8
TECH	4	-4	-42	-28	-38	-194	-42	-213	-352	0	8	7	2	23	-3	0	8
POP	6	3	-4	1	-8	4	3	-4	11	0	6	5	1	2	1	0	4
CAP	243	135	585	49	-238	-353	-141	754	-753	0	0	0	0	0	0	0	0

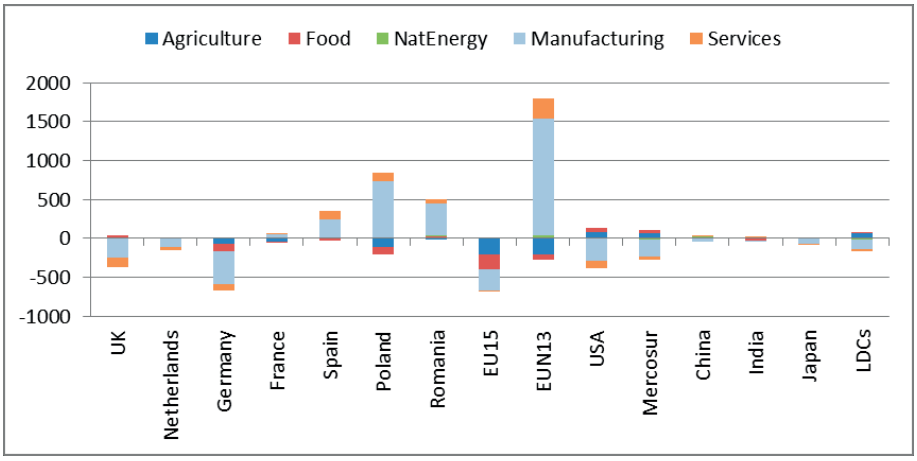
Notes: 'ALLOC' is allocative efficiency; 'TOT' is terms of trade; 'ENDW' is endowment effect; 'POP' is population effect; 'CAP' is CAP budget effect.

[2] Allocative efficiency gains arise from changing resource or product usage in the presence of market distortions (taxes, tariffs and subsidies). For example, a taxed activity leads to below pareto optimal purchases/employment of a product or factor, such that policies that encourage increased usage of that product or factor result in an allocative efficiency gain. This monetary gain is quantified by multiplying the real (quantity) usage of the product or factor by the tax/tariff or subsidy wedge.

As the unit price ratio of exchange between exports and imports, impact on the terms of trade (TOT) is the net outcome of two opposing factors: (i) increasing agri-food prices from partial elimination of agricultural support and (ii) falls in the real exchange rate (i.e., factor prices). Outside the EU, per capita real income impacts are negligible due to the largely non-distortionary nature of EU agricultural policy, Notwithstanding, the results clearly show that agricultural net exporters (e.g., USA, Mercosur, least developed countries[3]) gain, with concurrent reductions in net importers (e.g., China, India, Japan).

Figure 2 and Table 2 present changes in trade balances. In policy terms, for net CAP budget contributors, real income rises are accompanied by rises in the marginal propensity to import, resulting in trad e balance deteriorations. The opposite effect applies in the case of the net beneficiary EU member states, including Spain, with falling EV under the budget cuts. The EU28 agriculture and food trade balances deteriorate -€410 million and -€260 million, respectively. Since the EV loss for the EUN13 exceeds the EU15 gain, the EU28 trade balance consequently improves €850 million. Improvement of Spanish trade balance amounts about €330 million. Under the general closed system of global accounting equations, an improved EU28 net trade balance is accompanied by a corresponding deterioration in non-EU region trade balances.[4]

Figure 2. Net trade balances effects in 2020 (€millions, 2007 prices).



As expected the rise in agricultural market prices (not shown), which is driven in large part by marginal cost increases in land rents paid by the farmer, is positively related to the magnitude of the CAP support cuts.[5] Rising agricultural prices are transmitted to downstream processors,

[3] Although regional aggregate mask the heterogeneity of relative agricultural trade competitiveness within this group.

[4] Agricultural world price rises are no greater than 0.6% even under conditions of a 50% CAP budget cut. This muted price effect also, in part, reflects the relatively high armington elasticities employed within the GTAP database.

[5] Decoupled payments (i.e., land subsidy) are calibrated to the land factor and therefore drive a wedge between the rent that the landowner receives (who may, or may not be the farmer) and the lower rental price of land paid by the user (i.e., farmer). Removing *partially* this support (or land subsidy) implies that the seller's rental rate falls relative to the users rental rate – or in other words, there is a lost capitalization of the land rental price to the landowner.

whose prices are also positively related to the size of support cuts. Given this loss of competitiveness, agriculture and food production falls in the EU, although the relative impact is less than 1% for the EU28.

Table 2. Net trade balance effects vs. baseline in 2020 (€millions, 2007 prices).

	UK	NL	DE	FR	ES	PL	RO	EU 15	EU N13	EFTA	USA	MERC	AUS NZ	CHN	IND	JAP	LDC
Budget agreement *vs.* baseline																	
MACRO	-335	-146	-663	3	327	637	493	-681	1528	-24	-248	-165	-26	2	-13	-72	-79
Decomposition:																	
Agriculture	-3	5	-66	-35	1	-103	-10	-201	-210	-3	87	74	8	-3	12	-2	71
Food	34	6	-92	-20	-24	-107	28	-191	-69	12	45	37	28	10	-27	6	17
Nat. energy	-4	0	-6	2	3	15	10	0	36	-2	0	-17	-4	12	6	6	-9
Manufacture	-238	-104	-424	47	241	716	405	-278	1501	-23	-293	-211	-39	-32	-13	-71	-125
Service	-125	-53	-75	10	107	115	60	-12	269	-9	-87	-48	-18	15	8	-10	-33

In the EU28 land market, falls in aggregate demand result in (marginal) land abandonment of about -0.5%. Due to the inelastic nature of the land supply curves, EU28 landowner rents fall more sharply, averaging -4%. In policy terms, this represents the lost capitalisation of land rents from reductions in the single farm payment.

5. CONCLUDING REMARKS

Using original model and data on EU domestic support, this paper examines some potential implications arising from a change in the CAP budget. A main finding is that the cuts in the CAP budget have relatively limited impacts in Spain, EU and third countries. To a large extent, this is to be expected owing to the modelling representation of the decoupled payments (almost three quarters of the total CAP budget). Consequently, the main production effects arise from changes in pillar 2 expenditures and their associated productivity effects in EU member states. This observation sheds some light on the need to further investigate coupling channels of domestic support, and to undertake sensitivity analysis with respect to unlike allocations of support to factors of production.

6. REFERENCES

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