

B Domestic Support in the European Union

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B.1 Overview

This text documents the EU domestic support component of the GTAP database version 11, with 2017 as reference year. As for the versions 9 and 10 (Aguiar, et al., 2016, 2019), the Clearance Audit Trail System (CATS) database of the European Commission (EC) is used for cataloguing EU domestic support payments exclusively managed by the EC. To maintain consistency over years 2004, 2007, 2011, 2014, and 2017, data follows the conventions adopted in previous releases (Boulanger, Philippidis, and Jensen, 2016, 2019). More specifically, the EU component gathers approximately 68 billion euros of public support. It relies on the combination of the strengths of two datasets, i.e., the Producer Support Estimate (PSE) and the aforementioned CATS database. Section 2 discusses the key features of both datasets. Section 3 explains how both CATS and PSE data are combined to calculate domestic support by Member State for the year 2017, prior to the calibration into the GTAP database. Section 4 provides some concluding remarks.

B.2 Domestic support data: PSE and CATS

In the GTAP database domestic support traditionally relies on PSE, an indicator developed by the OECD to evaluate and monitor agricultural policies. Initially calculated as a transparent basis of comparison between OECD countries (including the EU as a single bloc), this measure has also been computed for a growing number of non-OECD countries.

The PSE measure is further disaggregated into four groups of support, namely Single Commodity Transfers (SCT); Group Commodity Transfers (GCT); All Commodity Transfers (ACT); and Other Transfers to Producers (OTP) (see Box 1). In addition, policy measures (budgetary transfers) are classified into seven broad categories linked to the transfer basis of the policy, i.e., whether the basis is current or non-current (i.e., the amount is explicitly linked—or not—to per unit current output, input, area, animal number, etc.) and whether production is a requisite for receiving the payment (OECD, 2016). It should be mentioned that in reconciling domestic support payments within the structure of the GTAP database, market price support (A1) is excluded in order to avoid double counting with tariffs in the GTAP database:

- A2. Payments based on output
- B. Payments based on input use (B.1. Variable input use – B.2. Fixed capital formation – B.3. On-farm services)
- C. Payments based on current Area (A), Animal Numbers (AN), Receipts (R) or Income (I), production required
- D. Payments based on non-current A/AN/R/I, production required

- E. Payments based on non-current A/AN/R/I, production not required
- F. Payments based on non-commodity criteria
- G. Miscellaneous payments

Using a standard formula applied to all regions in the GTAP database, the above PSE categories are linked to the GTAP support categories as follows:

- Output payments: A2
- Intermediate input payments: B1, B3
- Land-based payments: C, D
- Capital-based payments: B2, C, D
- Labour-based payments: C, D
- All factors E
- Not allocated in GTAP database A1, F, G

As the EU is treated as a single region in the PSE, additional data are required to disaggregate agricultural support payments to each of the 28 individual Member States.² Fortunately, the OECD secretariat provides such a disaggregation for national payments upon request.

Since the GTAP database version 9, the EU domestic support relies on the combination of the strengths of the PSE and the CATS database. The CATS database is an internal EC dataset gathering details of all CAP payments made to the recipients of the European Agricultural Guarantee Fund (EAGF) and European Agricultural Fund for Rural Development (EAFRD). These data are provided by the EU Member States to the EC on an annual basis for the purposes of carrying out the clearance of accounts, monitoring developments and providing forecasts in the agricultural sector (EC, 2013). The CATS database has been used by the EC to assess the 2013 CAP reform proposals known as CAP towards 2020 (EC, 2011), the 2014-2020 CAP financial agreement (Boulangier and Philippidis, 2014, 2015) or stylised CAP scenarios for the period post-2020 (M'barek et al., 2017). Outside EU institutions, the World Bank used the CATS data to scrutinise the contribution of the CAP in fostering inclusive growth across the EU (Van Den Brink et al., 2018).

²Note that in 2011 (benchmark year for version 9 of the GTAP database) the EU was composed of 27 Member States. On July 2013, Croatia became the 28th member of the EU, and therefore is integrated to EU domestic support since version 10 of the GTAP database. In version 11 of the GTAP database, the UK maintains EU Member State status (2017 reference year).

Box 1. OECD indicators of agricultural support to Producers and General Services for Agriculture

Producer Support Estimate (PSE): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income.

Producer Single Commodity Transfers (producer SCT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures directly linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the transfer.

Group Commodity Transfers (GCT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures whose payments are made on the basis that one or more of a designated list of commodities is produced, i.e., a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision.

All Commodity Transfers (ACT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice.

Other Transfers to Producers (OTP): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that do not require any commodity production at all.

General Services Support Estimate (GSSE): The annual monetary value of gross transfers arising from policy measures that create enabling conditions for the primary agricultural sector through development of private or public services, and through institutions and infrastructures regardless of their objectives and impacts on farm production and income, or consumption of farm products. It includes policies where primary agriculture is the main beneficiary, but does not include any payments to individual producers. GSSE transfers do not directly alter producer receipts, costs or consumption expenditures.

Source: OECD (2016)

A significant advantage of the PSE data is the comprehensive coverage of national agricultural payments in each of the EU Member States. It should be made clear that these national payments do not figure as part of the CAP budget framework (i.e., are not co-funded pillar 2 support), but rather reflect individual Member State decisions, e.g., on fiscal policy (mostly fuel tax rebates), extension, or pest and disease control. In 2017, these payments totalled about 6.7 billion euros. The advantage of the CATS database is that it catalogues centrally EU agricultural support payments by detailed budget lines and for each Member State (primary data), for the purpose of the clearance of the accounts of the EAGF and EAFRD. In other words, PSE data are the most appropriate figures for identifying and quantifying national payments measures (not co-funded by the EU budget), whilst CATS is preferred for EU budget related figures, i.e., pillar 1 and pillar 2 payments.

To maintain consistency with the previous GTAP database release, the EU domestic sup-

port component is based on CATS data for payments exclusively managed by the EC (pillar 1 payments or "market measures and direct payment" funded by the EAGF). On the other hand, for those payments under shared management (pillar 2 payments or "rural development measures" co-funded by the EAFRD) and those purely national expenditures, the PSE database is used.

B.3 Data treatment

In line with Jensen (2009, 2010), OECD (2020), Boulanger, Philippidis, and Jensen (2016, 2019), PSE and CATS expenditures are allocated to one of the four OECD indicators of agricultural support (i.e., SCT, GCT, ACT, OTP), then linked to the five GTAP support categories (i.e., output payments, intermediate input payments, land-based payments, capital-based payments, or labour-based payments).

In the case of SCT payments, support is allocated to one of the 12 GTAP primary agricultural sectors. For GCT payments, support is allocated to relevant groups of GTAP primary agricultural sectors (see Table A.1 in the appendix). Finally, ACT and OTP payments are allocated uniformly across GTAP primary agricultural sectors. Tables A.2, A.3 and A.4 in the appendix show the allocation of these support payments by Member State.

Pillar 1

These data are taken from the CATS database and are allocated as in former releases. Interestingly, the CATS database provides detailed information by Member State on the allocation of specific voluntary coupled support payments. These are allocated to relevant GTAP primary agricultural sector (payments classified as SCT) or to relevant GTAP groups of sectors (payments classified as GCT). In those cases where no specific sector or group of sectors are identified (i.e., for payments the denominated recipient is "all products", "environment", "quality", "specified disadvantages"), support is treated as an ACT to capital.³ When "animal welfare" is mentioned, support is allocated to GCT7 sector's usage of (reproductive) capital.

The bulk of pillar 1 support is denominated under the category of decoupled payments (37.6 billion euros, out of a total support amounting 67.9 billion euros). They mostly include basic payment schemes and payments for agricultural practices beneficial for the climate and the environment. It is assumed these payments fall within the OTP category and are exclusively allocated to the land factor. Clearly, if GTAP users wish to deviate from this assumption, they can employ data recalibration tools to adjust the data to their liking (e.g., Urban et al., 2014; Boulanger et al., 2021). Thus, these payments are uniformly allocated across sectors.

³ Allocating payments to ACT (land) cancel any distortive effect of these payments since they are treated as decoupled payments.

Pillar 2

Broadly defined as rural development measures from the CAP, these data are taken from the PSE database. In the PSE, the distribution of pillar 2 payments by Member State is only identified for the national co-funded part (based on notifications to the OECD secretariat by individual Member States). We then assume that payments that come from the EU budget follow the same distribution, despite differences in co-funding rates by measure and Member State area.

National payments

These support payments originating exclusively from national governments are taken from the PSE database. As mentioned above, these national payments do not figure as part of the CAP budget framework and reflect purely national support to the agricultural sector such as fuel tax rebates (about half of total national payments). In 2017, these payments totalled about 6.7 billion euros. Following the OECD's classification it includes payments based on farm income level (now an ACT payment on land) and a labour subsidy for annual leave, outside help, days-off (now a GCT7 payment on input).

Table 11.5: Distribution of total EU domestic support by OECD category (SCT, GCT, ACT, OTP) and policy framework, million euros, 2017

	SCT	GCT	ACT	OTP	Total
Pillar 1	4,844	0	440	36,287	41,571
Pillar 2	16	1,033	17,354	1,155	19,558
National	751	842	4,941	203	6,737
Total	5,611	1,875	22,735	37,645	67,866

Table 1 summarises the classification explained above by OECD category and policy framework.⁴ At Member State level, it provides interesting budgetary insights on type and origin of the payments, i.e., fully supported by the EU budget (pillar 1), co-funded by the EU budget (pillar 2) and entirely supported by national budgets (national measures).

B.4 Concluding remarks

The classification and quantification of EU domestic support payments in GTAP version 11 relies largely on the traditional approach developed by Jensen (2009) with minor improvements to the allocation of payments (Boulanger, Philippidis, and Jensen, 2016, 2019). For the year 2017, employing both OECD's PSE and EC's CATS data, total CAP and nationally sourced expenditures are

⁴PSE raw data for the aggregate EU28 and by individual EU Member States were kindly provided to the authors by the OECD secretariat. The classification and treatment of said payments are purely those of the authors based on their policy expertise and the OECD estimates of support to agriculture's definitions and sources (OECD, 2020). A full set of data is available upon request.

calculated as about 68 billion euros. It should be noted that the PSE does not capture all agricultural public support such as the one defined as General Services Support Estimate (GSSE) which amounted more than 10 billion euros the same year in the EU. This later includes information and promotion activities, cooperation for development of new products, processes and technologies, etc. Importantly, further research that aims at designing a more comprehensive inclusion of agricultural domestic support in the GTAP database, for the EU and beyond, is still needed (Boulanger, Philippidis, and Jensen, 2015).

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Online data file (GTAP website)

EU_domestic_support_data_2017.HAR

Disclaimer

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 any institutions.

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Table 11.6: Allocation of GTAP sectors to commodity groups

	GCT1	GCT2	GCT3	GCT4	GCT5	GCT6	GCT7	GCT8	GCT9	GCT10	GCT11	GCT12
pdr												
wht												
gro												
v_f												
osd												
c_b												
pfb												
ocr												
ctl												
oap												
rmk												
wol												

12 GTAP primary agricultural sectors	pdr	Rice: seed, paddy (not husked)
	wht	Wheat: seed, other
	gro	Other Grains: maize (corn), sorghum, barley, rye, oats, millets, other cereals
	v_f	Veg & Fruit: vegetables, fruit and nuts, edible roots and tubers, pulses
	osd	Oil Seeds: oil seeds and oleaginous fruit
	c_b	Cane & Beet: sugar crops
	pfb	Fibres crops
	ocr	Other Crops: stimulant; spice and aromatic crops; forage products; plants and parts of plants used primarily in perfumery, pharmacy, or for insecticidal, fungicidal or similar purposes; beet seeds (excluding sugar beet seeds) and seeds of forage plants; natural rubber in primary forms or in plates, sheets or strip, living plants; cut flowers and flower buds; flower seeds, unmanufactured tobacco; other raw vegetable materials nec
	ctl	Cattle: bovine animals, live, other ruminants, horses and other equines, bovine semen
	oap	Other Animal Products: swine; poultry; other live animals; eggs of hens or other birds in shell, fresh; reproductive materials of animals; natural honey; snails, fresh, chilled, frozen, dried, salted or in brine, except sea snails; edible products of animal origin n.e.c.; hides, skins and furskins, raw; insect waxes and spermaceti, whether or not refined or coloured
	rmk	Raw milk
	wol	Wool: wool, silk, and other raw animal materials used in textile
12 Group Commodity Transfers	GCT1	All crops
	GCT2	All arable crops
	GCT3	Grains
	GCT4	Oilseeds
	GCT5	Other crops
	GCT6	All fruits and vegetables
	GCT7	All livestock
	GCT8	Ruminants
	GCT9	Non-ruminants
	GCT10	Protein crops
	GCT11	Cereals, oilseeds and protein crops
	GCT12	Milk and beef

Source: Elaboration from Urban et al. (2014) and Aguiar et al. (2019).

Table 11.7: Distribution of EU domestic support by OECD category (SCT, GCT, ACT, OTP), by Member State, million euros, 2017

	SCT	GCT	ACT	OTP	Total
Austria	23	237	700	1,062	2,022
Belgium	83	60	171	429	743
Bulgaria	233	1	168	661	1,063
Cyprus	6	0	31	46	83
Czech	134	141	315	767	1,357
Germany	18	140	2,440	4,890	7,488
Denmark	24	1	40	817	882
Estonia	16	10	66	131	222
Greece	367	13	351	1,661	2,392
Spain	697	5	1,136	4,401	6,239
Finland	282	306	2,021	445	3,054
France	1,163	203	2,852	5,926	10,144
Croatia	59	2	50	316	426
Hungary	321	377	218	1,076	1,992
Ireland	3	25	710	1,291	2,029
Italy	555	85	6,579	3,265	10,484
Lithuania	114	41	102	409	666
Luxembourg	0	3	88	44	135
Latvia	43	4	136	217	400
Malta	3	0	2	2	7
Netherlands	5	1	114	715	835
Poland	510	118	1,307	2,899	4,834
Portugal	169	8	354	465	996
Romania	526	47	607	1,533	2,713
Sweden	121	4	926	596	1,647
Slovenia	23	13	105	118	260
Slovakia	62	29	67	399	556
UK	53	0	1,079	3,063	4,195
Total	5,611	1,875	22,734	37,645	67,866

Table 11.8: Distribution of EU domestic support by GTAP primary agricultural sector, by Member State, million euros, 2017

	PDR	WHT	GRO	V_F	OSD	C_B	PFB	OCR	CTL	OAP	RMK	WOL	Total
Austria	0	44	97	131	32	16	0	172	126	167	174	0	959
Belgium	0	9	5	71	2	5	1	44	100	48	31	0	315
Bulgaria	1	37	21	110	36	0	3	13	55	18	109	0	402
Cyprus	0	0	0	13	1	0	0	3	6	8	7	0	37
Czech	0	53	32	62	40	27	0	66	60	81	169	0	590
Germany	0	167	142	345	73	43	0	438	202	582	605	0	2,598
Denmark	0	2	3	3	1	0	0	5	26	16	9	0	65
Estonia	0	11	8	7	7	0	0	6	6	11	35	0	91
Greece	11	23	15	236	14	6	197	48	119	26	36	0	732
Spain	18	23	47	517	74	20	62	115	497	297	167	1	1,838
Finland	0	70	215	384	22	13	1	202	280	552	870	0	2,609
France	3	300	209	727	138	52	12	462	1,205	467	643	0	4,218
Croatia	0	3	6	9	5	7	0	17	27	14	23	0	110
Hungary	2	42	70	149	65	10	0	40	105	230	204	0	916
Ireland	0	8	20	45	1	0	0	95	265	68	236	0	738
Italy	67	358	268	2,384	165	35	0	813	708	1,447	972	2	7,219
Lithuania	0	46	15	22	16	3	0	15	56	20	65	0	257
Luxembourg	0	3	2	3	1	0	0	24	17	8	33	0	91
Latvia	0	35	12	22	14	0	0	11	11	21	57	0	183
Malta	0	0	0	2	0	0	0	0	1	1	2	0	5
Netherlands	0	1	0	23	0	1	0	39	11	19	25	0	120
Poland	0	86	124	377	51	101	1	61	429	456	250	0	1,936
Portugal	8	2	9	189	16	0	0	49	129	81	50	0	532
Romania	5	55	99	236	91	28	0	60	183	104	317	2	1,180
Sweden	0	69	51	121	20	9	0	219	197	157	206	0	1,051
Slovenia	0	2	13	28	1	0	0	24	23	22	27	1	142
Slovakia	0	9	8	15	10	9	0	11	21	20	53	0	157
UK	0	89	44	173	35	10	0	92	292	201	195	1	1,131
Total	115	1,547	1,536	6,404	930	396	277	3,142	5,156	5,144	5,567	8	30,221

Table 11.9: Distribution of EU domestic support by GTAP support category, by Member State, million euros, 2017

	Input	Output	Capital	Land	Total
Austria	101	43	159	1,719	2,021
Belgium	25	0	126	593	744
Bulgaria	2	45	149	867	1,063
Cyprus	0	0	6	78	83
Czech	157	38	186	975	1,357
Germany	512	56	475	6,442	7,488
Denmark	15	0	50	817	882
Estonia	40	9	21	151	222
Greece	293	3	115	1,981	2,393
Spain	374	5	712	5,148	6,239
Finland	287	251	390	1,982	3,054
France	1,378	6	1,459	7,301	10,144
Croatia	7	8	56	355	426
Hungary	102	283	263	1,346	1,992
Ireland	328	0	167	1,534	2,029
Italy	3,066	56	1,395	5,967	10,484
Lithuania	13	19	138	495	666
Luxembourg	4	0	19	112	135
Latvia	40	8	76	275	400
Malta	0	0	2	5	7
Netherlands	1	0	71	762	835
Poland	440	9	673	3,713	4,835
Portugal	105	0	194	698	997
Romania	0	213	469	2,031	2,713
Sweden	134	31	218	1,263	1,647
Slovenia	30	4	27	198	260
Slovakia	0	15	78	463	556
UK	702	0	228	3,264	4,194
Total	8,158	1,104	7,919	50,538	67,866