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Fernando Brito Soares

EUROPEAN UNION DIRECT PAYMENTS TO FARMERS REVISITED

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European Union Direct Payments to Farmers Revisited

Fernando Brito Soares*

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Abstract: A logistic function framework is used to allocate European Union Common Agricultural Policy (CAP) direct payments to farmers among the different member states. Total CAP expenditure is the starting point for the process, which contemplates two phases. In Phase 1 expenditure is allocated by taking into consideration the economic dimension of farms in each country. In Phase 2 the amount allocated to each member state is further modulated to accommodate both economic efficiency and green house gas emissions generated by the country

* Universidade Nova de Lisboa, Faculdade de Economia, Lisbon, Portugal and International Centre for Economic Research, Turin, Italy. I gratefully acknowledge the fellowship received from the International Centre for Economic Research, in Turin, Italy, that allowed me to carry on this research. The usual disclaimer applies.

1. Introduction

In a not very distant past, Soares (2005) proposed an alternative scheme for computing direct payments to farmers under the Common Agricultural Policy (CAP) Regulation 2237/2003. By then the idea was to find a substitute for the allocation of direct payments on an historical basis, which appeared as a very inefficient way of supporting farm income. Farmers do not get any incentive to modernise the technologies used or adapt to new market conditions if they receive the same amount of subsidy they got in the past, no matter the type of production decisions they choose to take. In addition it was pointed out that the growing environment concerns, namely in terms of green house gas (GHG) emissions, were not also taken into any consideration under the above mentioned Regulation.

The proposed solution was to "modulate" the historical payments by means of computing direct payments coefficients as a logistic function of deviations from European Union (EU) mean or mode values of economic and environment indicators. Each member state would receive a percentage of its historical allowance according to the economic performance, the farm income and the level of GHG emissions. Economic efficiency had a positive sign in the logistic relationship, while farm income and GHG emissions both carried a negative one. [1]

The results seemed interesting, given the fact that countries with more efficient and intensive input using agricultural sectors, with higher farm income but also higher level of GHG emissions ended up by receiving less than their historical value. This was for

[1] The negative sign in farm income is justified by the modulation of income support. The full text of the exercise can be find at http://www.icer.it/menu/f_papers.html under the year 2005

instance the case of the case of Belgium, Denmark, Germany, France, Luxemburg, the Netherlands and the United Kingdom. On the contrary, countries with less intensive agricultural sectors, generating smaller farm incomes but with much less negative environment impact, were assigned a higher subsidy level than in the past. This was the case with Austria, Greece, Portugal or Finland. These findings are in line with the view that the farm income support is mainly justifiable in terms of the internalisation of positive externalities.

One important question remained nevertheless unanswered. Why should the starting point to the entire exercise be the historical level of subsidies? Moreover, for the 12 new member countries that recently joined the EU there are no historic values.

The most recent resolutions coming out of the European Council of Ministers of Agriculture seem to indicate that, in the medium-long run, the so called Single Farm Payment (SFP) is the most important, if not the only CAP policy instrument left. This means that the political decision makers no longer view the support of farm income as linked to the production process, either through price support, market interventions, supply control or direct payments. It is the multifunctionality of agriculture that makes it eligible for support as provider of services that society is willing to pay for, namely landscape conservation and environment protection. The new questions are then:

- how much is society willing to pay?
- and how should it be allocated among member states?

The reminder of the paper is organised as follows. Section 2 describes the model used. In section 3 model implementation and the results obtained are discussed. The last section presents some concluding remarks.

2. The model

The basic structure of the model used is similar to that used in Soares (2005). The logistic function

$$y = \frac{g}{1 + b\,e^{-a\,\partial x}} \qquad (1)$$

where g , b , and a remain the key elements in computing the direct payments coefficients, the first two being positive, while a can be positive or negative .[2]

The coefficients y_i depend on the deviations

$$\partial x_i = \frac{x_i - x^*}{x^*} \qquad (2)$$

where x_i is the country i value for the indicator chosen (economic dimension, economic efficiency or GHG emissions) and x^* is the average of country values indicator.

How can this instrument be used to address the two questions formulated above?

The amount of funds society is wiling to allocate to the agricultural sector as payment for the internalization of the positive externalities created is clearly a political decision. Thus the model can only reflect the consequences of the different choices made. As a starting point we used the total CAP expenditure in 2005[3] as the total amount the EU is willing to pay. Its distribution among member states can then be handled within the model framework.

If the future of CAP is to fully implement the SFP, then the simplest the solution adopted the better. Paying farmers a given amount of money per cultivated hectare looks like a straightforward way of doing it.

A per hectare payment is however easily criticisable on the grounds that agricultural land is very heterogeneous both within countries and among countries and thus the payment would not reward the level of economic activity. This problem can however be mitigated in our model by computing appropriate y_i coefficients.

Total payments can be written as a weighted sum of the n country receipts, e.g.

$$TP = \sum_{i=1}^{n} \frac{g}{1 + b\, e^{-a d x_i}} \times D_i \times AP \qquad (3)$$

where D_i represents country dimension (in hectares), AP is the average payment in the EU (euros / ha) and the country weights are the y_i coefficients.

[2] For a more complete description of the logistic function and its properties in this context see Soares(2005)

[3] 2005 is the most recent year for which there is data on CAP expenditure and simultaneously on GHG emissions for the 25 EU member states included in the model. For Bulgaria and Romania the required data is not entirely available.

The y_i weights are then used to modulate country payments. It suffices to take x_i as the average economic dimension of farms (total ESU / no. of holdings) and a positive a. Thus, countries with above the average (x^*) economic dimension of farms will have a y_i weight which is greater than one, and those with economic dimension below the average will get a smaller than one y_i.[4]

To compute the y_i one needs to know the values of a, b and g. If we take ∂x_i as the deviations from the average, then $1+b=g$ and only a and b remain unknown. From the logistic curve we know that b is the value of the upper asymptote, e. g., the highest value the function can reach. In our context b is then the maximum percentage the modulation coefficient is allowed to reach. For example if $b=0.1$ it means that no country can be paid more than 10% above its non weighted payment. Several simulations for the value of b can be performed, and for each of them the solution of equation (3) gives the value of a.

It is worth noting that, in this way, a represents the steepness of the logistic function that is compatible with the chosen value of b and, moreover, guarantees that total payments to countries are equal to the desired TP level.

Once known the value of a it is possible to compute each of the terms in equation (3) summation corresponding to the n country payments corresponding to the chosen value of b.

Up to this point the economic dimension was the only indicator affecting the allocation of direct payments to member states. The other two indicators – economic efficiency and GHG emissions – may now be used to modulate the individual country payments. Adopting the already used values of a and b modulation coefficients can be obtained for each country payment by computing new y_i as

$$y_i = \frac{g_1}{1+b e^{-a_1 du_i}} + \frac{g_2}{1+b e^{-a_2 dv_i}} \qquad (4)$$

with $1+b=g_1+g_2$, $a_1>0$, $a_2<0$

[4] The higher economic dimension in terms of ESU/no. of holdings reflects the higher intensity of production and consequently the different production capacity of land.

and du_i being the deviation from average economic efficiency

dv_i being the deviation from average GHG emissions.

Multiplying each country payment previously obtained by this new y_i one gets the total amount of single farm payments each member state is allowed, taking into account the economic dimension of its farms, its economic efficiency and the level of GHG emissions the agricultural sector is responsible for.

3. Model implementation and results

The data used in the model was entirely taken from the EUROSTAT database. As already mentioned, 2005 is the most recent year for which data on all the indicators used is available. In addition, Bulgaria and Romania were not included in the study for the lack of required data.

For the other 25 EU member states the three indicators and its deviations from the mean were computed and can be found in the Appendix.

As also mentioned the total 2005 CAP expenditure – 52,659.6 Mio EUR – is assumed as the total amount EU society is willing to pay to compensate the agricultural sector for the positive externalities generated. From Table 1 below the last row of column 6 shows that if the entire CAP expenditure was to be divided by total area each hectare would receive about 339 EUR. And if this rule was applied to each and every country they would receive the amounts shown in column 7. Percentages in the last column of the table clearly indicate that there would be a sizable redistribution of funds among member states, which comes as no surprise given the well known land heterogeneity among and within countries. It also not surprising that the new member states from central and Eastern Europe would all be allocated considerably higher amounts than those effectively received in 2005. The explanation lies on the fact that these new entries were getting in 2005 much smaller per hectare amounts than the older members states. So the allocation on a 25 average basis does necessarily favour them. If we confine our analysis to the old 15 members the variations in potential receipts are much more limited. As expected countries with highest production intensity like Belgium and the Netherlands suffer higher cuts. Although not having highly intensive agricultural sectors Greece and Malta also suffer drastic reductions because these two countries had the highest level of per hectare funds received in 2005. To tackle this problem the first phase of model implementation is then to modulate the per hectare payment of 338.95 EUR using equation (3).

For that matter we computed three values of a by solving equation (3) for three different values of beta: $b = 0.05$, $b = 0.1$ and $b = 0.25$. This means that the maximum acceptable increase in direct payments (over the per hectare basis amount) is respectively 5, 10 and 25 percent.

Table 1 - CAP Expenditure 2005

	CAP Expenditure (Mio EUR)			Agricultural Area	Expenditure / ha	Expenditure on per ha basis	
	Guarantee	Guidance	Total	(ha)	(EUR / ha)	(Mio EUR)	% of 2005
AT Austria	1,265.7	20.6	1,286.3	3,266,240	393.82	1,107.1	86
BE Belgium	1,034.5	8.1	1,042.6	1,385,580	752.46	469.6	45
CY Cyprus	58.8	0.0	58.8	151,500	388.12	51.4	87
CZ Czech Republic	463.8	55.6	519.4	3,557,790	145.99	1,205.9	232
DE Germany	6,503.1	511.3	7,014.4	17,035,220	411.76	5,774.1	82
DK Denmark	1,224.9	3.1	1,228.0	2,707,690	453.52	917.8	75
EE Estonia	77.4	18.6	96.0	828,930	115.81	281.0	293
ES Spain	6,406.5	935.2	7,341.7	24,855,130	295.38	8,424.7	115
FI Finland	902.9	44.6	947.5	2,263,560	418.59	767.2	81
FR France	9,968.9	137.1	10,106.0	27,590,940	366.28	9,352.0	93
GR Greece	2,754.0	521.9	3,275.9	3,983,790	822.31	1,350.3	41
HU Hungary	716.8	104.4	821.2	4,266,550	192.47	1,446.2	176
IE Ireland	1,806.2	20.9	1,827.1	4,219,380	433.03	1,430.2	78
IT Italy	5,499.7	580.4	6,080.1	12,707,850	478.45	4,307.3	71
LT Lithuania	291.2	41.8	333.0	2,792,040	119.27	946.4	284
LU Luxembourg	45.0	0.4	45.4	129,130	351.58	43.8	96
LV Latvia	137.5	33.0	170.5	1,701,680	100.20	576.8	338
MT Malta	9.9	1.4	11.3	10,250	1,102.44	3.5	31
NL Netherlands	1,256.3	17.5	1,273.8	1,958,060	650.54	663.7	52
PL Poland	1,839.0	398.2	2,237.2	14,754,880	151.62	5,001.2	224
PT Portugal	891.9	341.4	1,233.3	3,679,590	335.17	1,247.2	101
SE Sweden	956.3	24.9	981.2	3,192,450	307.35	1,082.1	110
SI Slovenia	127.3	7.9	135.2	485,430	278.52	164.5	122
SK Slovakia	247.5	60.5	308.0	1,879,490	163.87	637.1	207
UK United Kingdom	4,215.0	70.7	4,285.7	15,956,960	268.58	5,408.6	126
EU 25	48,700.1	3,959.5	52,659.6	155,360,110	338.95	52,659.6	

Source: "The Agricultural Situation in the Community - Report 2006" and EUROSTAT, Agriculture

The resulting values for a are:

(i) $b = 0.05 \rightarrow a = 0.52639$

(ii) $b = 0.10 \rightarrow a = 0.57925$

(iii) $b = 0.25 \rightarrow a = 0.77374$

And the economic dimension modulated payments to the member states corresponding to the Phase 1 of model implementation are showing in Table 2. As expected the payments increase for those countries with economic dimension of farms above the EU average (Belgium, Czech Republic, Germany, Denmark, France, Luxembourg, Netherlands and United Kingdom) and decrease for the remaining ones. In addition, and in line with the assumptions made, there are no increments above 5, 10 and 25 percent respectively in situations (i) , (ii) and (iii).

Table 2 - Economic Dimension Modulated Payments (Phase 1)

		(i)		(ii)		(iii)	
	ß = a **=**	0.05 0.52639		0.10 0.57925		0.25 0.77374	
	Per ha basis	**Modulated payments**					
	(Mio EUR)	(Mio EUR)	Δ%	(Mio EUR)	Δ%	(Mio EUR)	Δ%
AT Austria	1,107.1	1,094.5	-1	1,080.8	-2	1,030.2	-7
BE Belgium	469.6	482.9	3	497.3	6	548.2	17
CY Cyprus	51.4	50.2	-2	49.0	-5	44.6	-13
CZ Czech Republic	1,205.9	1,218.4	1	1,232.1	2	1,282.7	6
DE Germany	5,774.1	5,888.9	2	6,014.5	4	6,471.4	12
DK Denmark	917.8	945.3	3	975.2	6	1,080.1	18
EE Estonia	281.0	274.1	-2	266.7	-5	239.9	-15
ES Spain	8,424.7	8,366.3	-1	8,302.0	-1	8,065.2	-4
FI Finland	767.2	767.1	0	766.8	0	766.1	0
FR France	9,352.0	9,531.7	2	9,747.2	4	10,498.1	12
GR Greece	1,350.3	1,320.8	-2	1,288.7	-5	1,172.3	-13
HU Hungary	1,446.2	1,406.1	-3	1,362.6	-6	1,206.9	-17
IE Ireland	1,430.2	1,421.5	-1	1,411.9	-1	1,376.5	-4
IT Italy	4,307.3	4,249.2	-1	4,185.4	-3	3,951.9	-8
LT Lithuania	946.4	919.5	-3	891.0	-6	785.8	-17
LU Luxembourg	43.8	44.5	2	45.4	4	48.5	11
LV Latvia	576.8	560.2	-3	542.1	-6	477.7	-17
MT Malta	3.5	3.4	-2	3.3	-5	3.0	-14
NL Netherlands	663.7	690.2	4	718.3	8	811.5	22
PL Poland	5,001.2	4,866.6	-3	4,720.0	-6	4,195.3	-16
PT Portugal	1,247.2	1,220.0	-2	1,190.3	-5	1,082.8	-13
SE Sweden	1,082.1	1,078.2	0	1,073.8	-1	1,057.9	-2
SI Slovenia	164.5	160.4	-3	155.9	-5	139.8	-15
SK Slovakia	637.1	632.8	-1	609.4	-4	557.0	-13
UK United Kingdom	5,408.6	5,466.8	1	5,530.1	2	5,766.5	7
TOTAL	52,659.6	52,659.6	0	52,659.6	0	52,659.6	0

Source: Phase 1 model results

In Phase 2 these results have to be further modulated to reflect both the economic efficiency and GHG emissions differences among countries. For that purpose equation (4) was used to compute the required modulations coefficients. Which were then multiplied by the modulated payments obtained in Phase 1 to compute the fully modulated payments showing in Table 3.

A first glance at the table reveals that the total modulated payments are no longer equal to the desired total expenditure. This is because the a values used in Phase 2 are the same as in Phase 1 and thus not necessarily compatible with that requirement. Nevertheless the deviations never exceed 1 percent. The second interesting result is that the increase in b does not cause steady increases or decreases in payments as it occurred in Phase 1. This is simply because in Phase 2 two contradictory effects are in action: a positive one from economic efficiency ($a_1 > 0$) and a negative one from GHG emissions ($a_2 < 0$).

Table 3 - Fully Modulated Payments (Phase 2)

	(i)		(ii)		(ii)	
	γ1 = 0.05 γ2 = 1.00	ß = 0.05 α1 = 0.52639 α2 = - 0.52639	γ1 = 0.1 γ2 = 1.00	ß = 0.10 α1 = 0.57925 α2 = - 0.57925	γ1 = 0.25 γ2 = 1.00	ß = 0.25 α1 = 0.77374 α2 = - 0.77374
	Modulation coefficients	**Fully modulated payments** (Mio EUR)	**Modulation coefficients**	**Fully modulated payments** (Mio EUR)	**Modulation coefficients**	**Fully modulated payments** (Mio EUR)
AT Austria	1.0053	1,100.3	1.0096	1,091.2	1.0179	1,110.8
BE Belgium	0.9575	462.4	0.9179	456.5	0.8152	372.1
CY Cyprus	1.0046	50.5	1.0106	49.5	1.0377	51.4
CZ Czech Republic	1.0085	1,228.8	1.0153	1,251.0	1.0261	1,283.6
DE Germany	0.9991	5,883.3	0.9980	6,002.5	0.9941	5,967.2
DK Denmark	0.9968	942.3	0.9938	969.2	0.9863	955.9
EE Estonia	1.0115	277.3	1.0205	272.1	1.0339	281.4
ES Spain	1.0095	8,446.1	1.0183	8,453.8	1.0408	8,798.5
FI Finland	1.0034	769.7	1.0060	771.4	1.0087	778.1
FR France	1.0021	9,552.2	1.0040	9,786.3	1.0079	9,863.9
GR Greece	1.0009	1,322.0	1.0022	1,291.5	1.0087	1,302.7
HU Hungary	1.0112	1,421.9	1.0208	1,390.9	1.0405	1,447.2
IE Ireland	0.9957	1,415.3	0.9900	1,397.8	0.9641	1,347.6
IT Italy	1.0051	4,270.9	1.0112	4,232.5	1.0369	4,388.8
LT Lithuania	1.0116	930.1	1.0209	909.5	1.0355	941.8
LU Luxembourg	0.9857	43.9	0.9708	44.1	0.9201	40.6
LV Latvia	1.0122	567.0	1.0218	553.9	1.0372	574.5
MT Malta	0.9723	3.3	0.9488	3.1	0.8985	2.8
NL Netherlands	0.8796	607.1	0.7776	558.5	0.5774	322.5
PL Poland	1.0057	4,894.1	1.0099	4,766.8	1.0147	4,837.0
PT Portugal	1.0079	1,229.7	1.0146	1,207.6	1.0272	1,240.5
SE Sweden	1.0027	1,081.1	1.0038	1,077.9	0.9980	1,075.8
SI Slovenia	0.9966	159.9	0.9922	154.7	0.9720	150.4
SK Slovakia	1.0105	639.5	1.0189	620.9	1.0323	640.9
UK United Kingdom	1.0050	5,493.9	1.0088	5,578.7	1.0138	5,655.4
TOTAL		52,792.4		52,892.0		53,431.5

Source: Phase 2 model results

But how do these fully modulated payments compare with CAP expenditure in 2005? Figures in Table 4 provide not only an answer to this question but also denounce the existence of a relationship between these payments and the farm income country levels.

Looking at the three first columns the values well over and above 100% may be surprising or even shocking. Let us not forget though that they refer to the central and Eastern Europe countries which, as already mentioned, were receiving relatively small per hectare amounts of CAP funds. With a scheme of payments designed on the basis of EU 25 average per hectare payments they turn out to be more favoured. This raises the question of the appropriateness of taking the 25 members all together instead of performing separate analysis for EU 15 and for the remaining 10 new members.

Table 4 - Fully Modulated Payments, CAP Expenditure and Factor Income

	Modulated Payments Deviations from 2005 CAP Expenditure (%)			Factor Income per Farm Deviations from EU 25 Average (%)	Factor Income per AWU Deviations from EU 25 Average (%)
	(i)	(ii)	(iii)		
AT Austria	-14	-15	-18	4	7
BE Belgium	-56	-56	-57	192	113
CY Cyprus	-14	-16	-21	-45	-14
CZ Czech Republic	137	141	153	103	-45
DE Germany	-16	-14	-8	181	131
DK Denmark	-23	-21	-13	127	52
EE Estonia	189	183	158	-33	-51
ES Spain	15	15	14	70	79
FI Finland	-19	-19	-18	108	53
FR France	-5	-3	5	185	72
GR Greece	-60	-61	-64	-29	-2
HU Hungary	73	69	53	-75	-67
IE Ireland	-23	-23	-27	81	62
IT Italy	-30	-30	-33	-18	14
LT Lithuania	179	173	144	-85	-74
LU Luxembourg	-3	-3	-2	218	96
LV Latvia	233	225	191	-80	-81
MT Malta	-71	-72	-76	-57	16
NL Netherlands	-52	-56	-63	425	115
PL Poland	119	113	90	-82	-81
PT Portugal	0	-2	-10	-45	-58
SE Sweden	10	10	8	40	-75
SI Slovenia	18	14	0	-57	-63
SK Slovakia	108	102	87	-53	-68
UK United Kingdom	28	30	36	168	126
TOTAL	0.25	0.44	0.69		

Source: Model results and computed from EUROSTAT, Agriculture

The same argument, but taken on the reverse side, explains the payment cuts for the vast majority of EU 15 countries, even if these results have still another explanatory reason: many of the EU 15 members have modulation coefficients that are inferior to one (see Table 3) due to the fact that their GHG emissions levels are higher. This is for instance the case for Belgium, Germany, Denmark, Ireland, Italy, Luxembourg and Netherlands.

Although the level of payments deviations may seem overestimated its relationship with farm income level appears to be evident[5]. The general rule that can be drawn from Table 4 is that to figures in red in the first 3 columns correspond figures in green in the last two ones. This means that, in general, countries receiving more than its 2005 share have below the average factor income levels, either per farm or per AWU (Annual Work Unit). There are however a few exceptions.

Cyprus, Greece and Portugal receive less than its 2005 share despite their below the average farm income. Spain and the United Kingdom receive more, even having above the average farm income levels. One of the possible explanations for these situations is that these countries have a combination of economic dimension, economic efficiency and GHG emissions indicators that do not comply with the pattern shown by the remaining member states.

4. Concluding remarks

The results achieved seem to indicate that he use of a logistic function framework to allocate single farm payments within the EU appears to be a useful tool for backing policy decisions. Nevertheless a few qualifications have to be made.

First of all, and as pointed out in the previous section, CAP expenditure within EU 15 takes into account the implementation of CAP policy measures, both coupled and decoupled, for a long period of time. This is not the case for the new 10 member states for which the 2005 expenditure only reflects a very limited application of CAP policy measures both in terms of coverage and time horizon. As noticed before, this is certainly one main cause for the large payments deviations found for these new members and suggests the necessity for, in future work, considering two separate sets of countries. Alternatively one could assign the new member states the average payment

[5] Factor income at basic prices is taken as a proxy for farm income.

per hectare received by EU 15 members, to “neutralise the new member’s discrepancies”.

Secondly, a lot more simulations are in order if one wants to benchmark direct payments. Not only in terms of the values of the b parameter but also in what concerns the way a is obtained. Instead of using the economic dimension as a modulation factor in the computation of a, either economic efficiency or GHG emissions factors can be tried. Or even try to introduce the three factors in that computation.

Thirdly, CAP expenditure under the Guarantee and Guidance sections could be taken separately. This is because the rationale behind the use of the logistic function looks more appropriate to allocate farm support linked to the externalities imbedded in the production process, while rural development policy measures must accommodate a diversity of decision criteria.

Last, but not least, the results obtained cannot be viewed as precise policy recommendations but rather as a rational background for the political decision making process.

APPENDIX

EU 25 Economic and Environment Indicators (2005)

	Economic Dimension		Economic Efficiency		GHG Emissions	
	ESU / No. holdings	**Deviation from Average**	**ESU / ha**	**Deviation from Average**	**Mg CO2 / ha**	**Deviation from Average**
		dx_i		du_i		dv_i
AT Austria	14.78	-0.41	0.77	-0.35	2.957	-0.25
BE Belgium	65.58	1.63	2.44	1.06	9.201	1.32
CY Cyprus	6.61	-0.73	1.97	0.66	3.288	-0.17
CZ Czech Republic	36.28	0.46	0.43	-0.64	2.232	-0.44
DE Germany	49.74	1.00	1.14	-0.04	4.111	0.04
DK Denmark	69.81	1.80	1.33	0.12	4.504	0.14
EE Estonia	4.88	-0.80	0.16	-0.86	1.515	-0.62
ES Spain	18.53	-0.26	0.80	-0.32	2.121	-0.46
FI Finland	25.10	0.01	0.78	-0.34	3.297	-0.17
FR France	50.40	1.02	1.04	-0.13	3.572	-0.10
GR Greece	6.61	-0.73	1.38	0.17	3.845	-0.03
HU Hungary	2.72	-0.89	0.46	-0.62	1.670	-0.58
IE Ireland	19.20	-0.23	0.60	-0.49	4.552	0.15
IT Italy	12.84	-0.48	1.75	0.47	3.163	-0.20
LT Lithuania	2.18	-0.91	0.20	-0.83	1.499	-0.62
LU Luxembourg	46.45	0.87	0.88	-0.26	6.009	0.52
LV Latvia	2.10	-0.92	0.16	-0.87	1.363	-0.66
MT Malta	5.29	-0.79	5.72	3.82	7.855	0.98
NL Netherlands	102.60	3.12	4.29	2.62	14.570	2.68
PL Poland	3.34	-0.87	0.56	-0.53	2.831	-0.29
PT Portugal	6.69	-0.73	0.59	-0.50	2.393	-0.40
SE Sweden	21.53	-0.14	0.51	-0.57	3.368	-0.15
SI Slovenia	4.59	-0.82	0.73	-0.38	4.432	0.12
SK Slovakia	7.58	-0.70	0.28	-0.77	1.759	-0.56
UK United Kingdom	36.93	0.48	0.66	-0.44	2.987	-0.25
EU25 Average	24.89		1.19		3.964	

Source: Computed from EUROSTAT, Agriculture and EUROSTAT, Environment

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