

2. IMPACT OF THE CAP AMONG MEMBER STATES

The study of the redistributive effects of CAP among Member States is challenging. Given the incidence of agricultural expenditure in EU budget and because of the social and economic interests connected with farming, citizens, lobbies and EU national governments display a high sensitivity towards the distribution of the burdens and benefits of the CAP.

The CAP may exert its impact on Member States in various ways: our task is to classify the measures of public support in agriculture and assess their impact on EU Member States. We will take into account two different clusters of policy instruments:

- price support measures, which lead to "preferential trade effects" at Member State level;
- direct income support and other measures which are not aimed at sustaining the internal price.

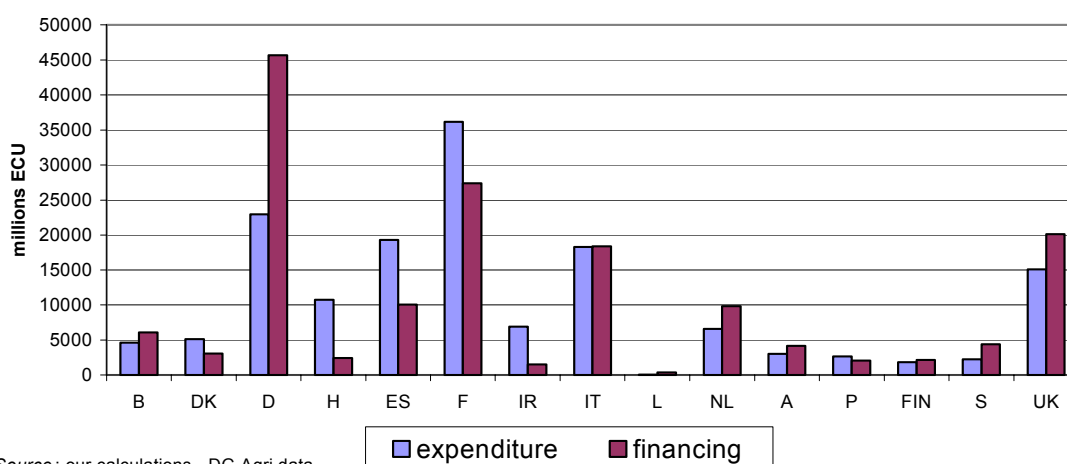
We define "preferential trade effects" as the benefits or the loss arising from trading at prices higher than world prices. The policy measures which create a difference between world and internal prices are administered prices, export subsidies, public and private storage, tariffs and so forth.

Direct income support and other no price support measures include production aids, compensatory payments based on historical yields and animal numbers, and rural development measures.

2.1. Budgetary information

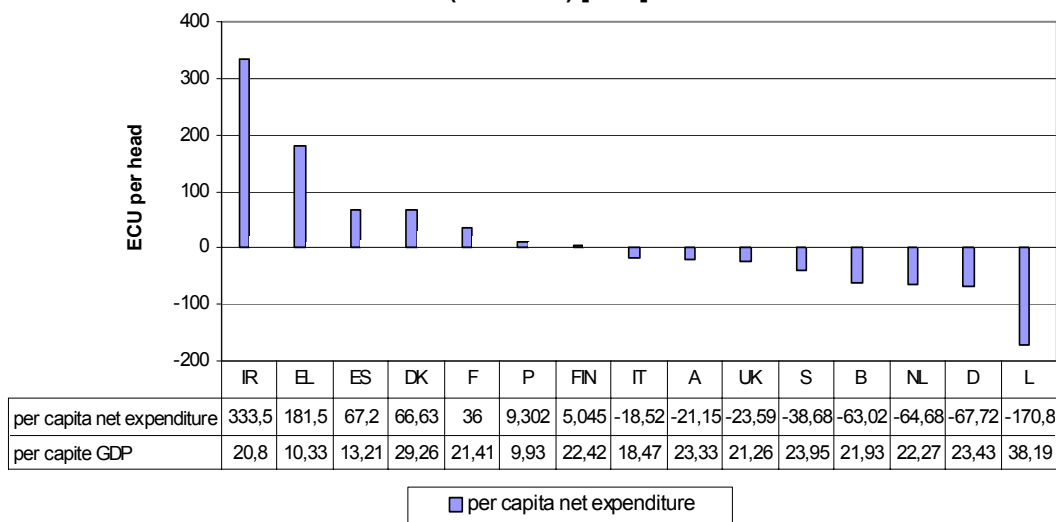
In budgetary terms, some countries are net contributors (graph 2.1): notably Germany, but also UK, Netherlands, Belgium; net beneficiaries are France, the four cohesion countries and Denmark, which is the second richest country in terms of GDP per capita in the European Union, only behind Luxembourg

Graph 2.1 Financing and expenditure by Member State in EAGGF Guarantee Section budget [average 1995-98]



By ranking the net budgetary gains expressed in per capita terms, it emerges that Ireland is by far the country which gains most, 333,5 ECU per head, followed by Greece, with 181,53 ECU per head, and Spain, 67,2 ECU per head; Denmark comes at the fourth place with 66,6 ECU per head. The poorest european country, Portugal does not gain much from the budget, only 9,3 ECU per head (graph 2.2). Out of Luxembourg, Germany has the biggest loss. It has been calculated that CAP costs 67,7 ECU to each german citizen. Belgium and Netherlands present also significant negative positions.

Graph 2.2 Net receipt per head (ECU) and GDP at Market Prices per head (1000 ECU) [1998]



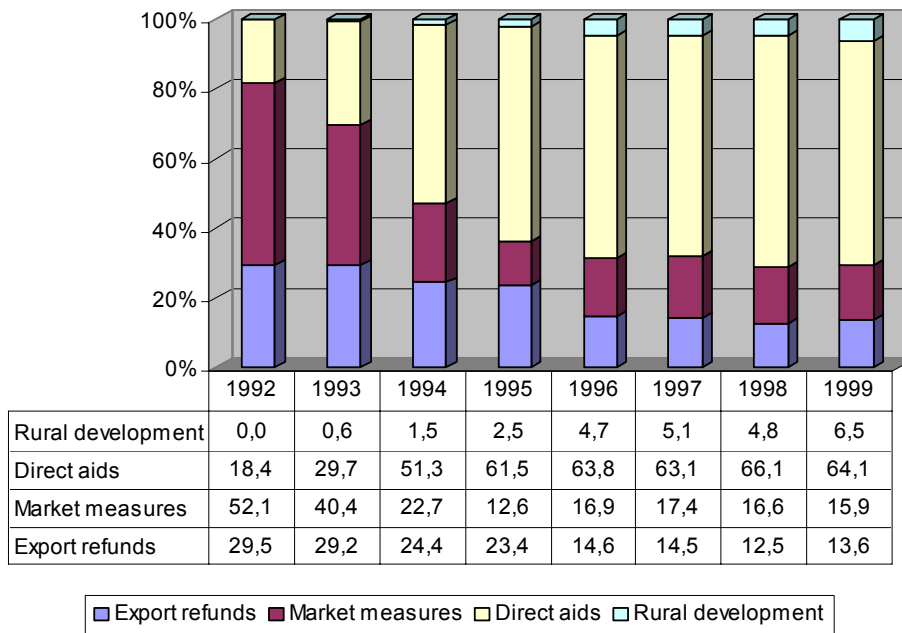
Source : our elaborations - Eurostat

2.1.1. Budgetary variations after the 1992 Mac Sharry reform

In 1992, a number of sectors underwent major reforms. These centre on a substantial reduction in the support prices for cereals, alongside a system of compensatory area payments tied to a set-aside scheme for professional producers. Lower cereal prices permit reduction in aid payments for oilseeds and protein crop, and lower support prices for milk and beef, with regional headage payments for male cattle and beef cows. Another main feature of the 1992 reform is a set of accompanying measures for environmental protection, afforestation of agricultural land and early retirement (rural development measures).

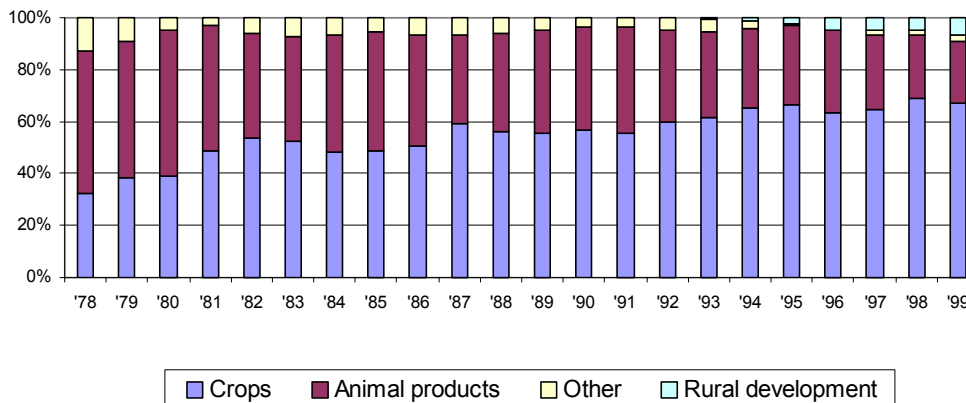
Since the implementation of 1992 Mac Sharry reform, direct payments have been absorbing an increasing share of agriculture expenditure. The positive trend concerns also rural development measures; whilst market interventions and export refunds are much less important than before 1992; put together these account for nearly 30% of agriculture expenditure in 1999 against a share of 80% in 1992 (graph 2.3).

Graph 2.3 Agricultural expenditure by measures - shares on total expenditure [1992-1999]



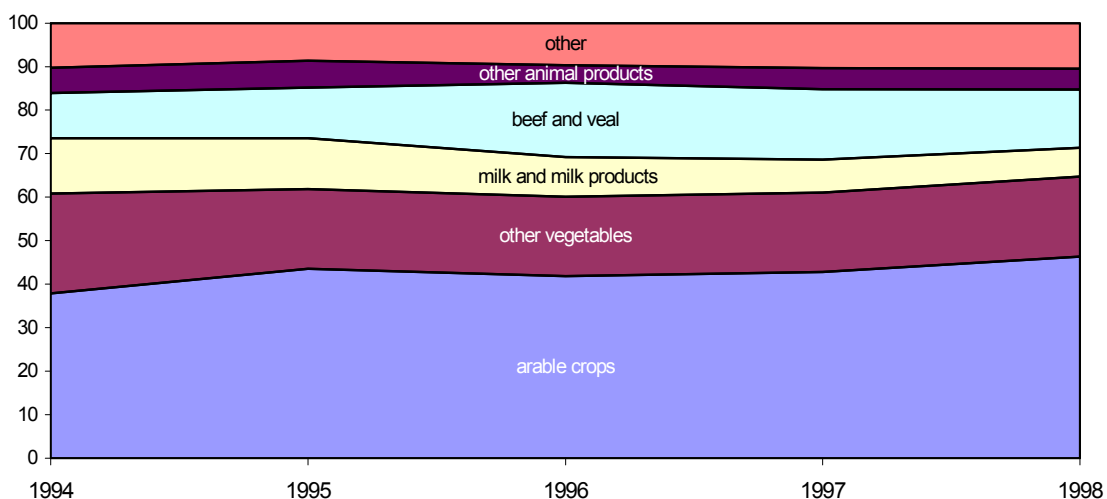
By splitting the agricultural expenditure in groups of commodities, we can note a long term trend in the reduction of expenditure for animal products, replaced by increases in crops expenditure and, in the last decade, by the financing of the accompanying measures (graph 2.4). Most of the expenditure for crops is captured by seminatives, whose share has been increasing with the 1992 reform, whilst animal products expenditure has decreased, mainly because of the contraction occurred in the dairy products sector (graph 2.5).

Graph 2.4 EU Agricultural expenditure by group of commodities - % on total expenditure [1978-1999]



Source: our elaborations - DG-Agri data

Graph 2.5 Sectors share in EAGGF Guarantee Section Expenditure [1994-1998]

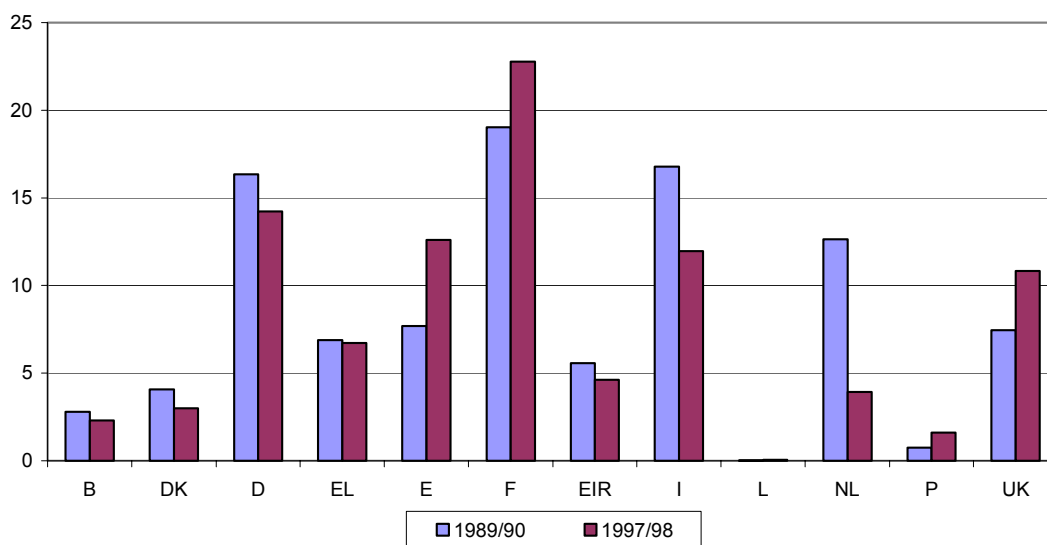


Source: our elaborations - DG Agri data

The 1992 changes in agricultural policy measures have had direct implications for the redistribution of budgetary gain and losses among EU member states.

France, as leading EU producer of cereals, is a great beneficiary of the reform, together with Spain and UK. The other countries lose weight in agricultural expenditure, except Portugal, which is the only cohesion country that has slightly improved its position in the EU agricultural budget (graph 2.6).

Graph 2.6 Member States shares in EAGGF Guarantee Section expenditure (%) [1989/90 - 1997/98]



Source: our calculations - DG Agri data

2.2. Preferential trade effects (PTE)

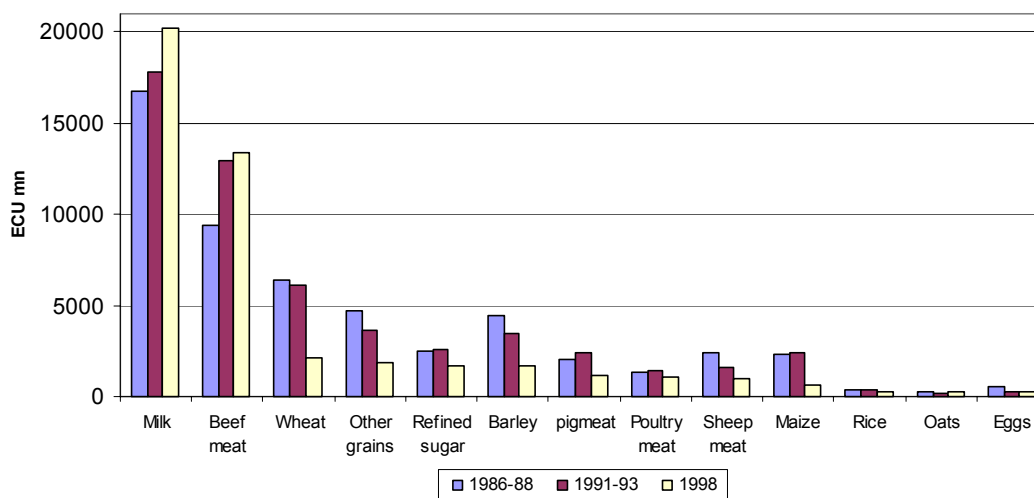
The bulk of the agricultural support is not expressed by the information provided by the budget. The budget tells us that the importance of direct payments has been growing following the 1992 reform; what the budget cannot sort out is the support deriving from those measures which create the difference between internal prices and world prices.

This form of support is called Market Price Support and has been defined by the OECD as “the gross transfers to agricultural producers arising from policy measures creating a gap between domestic market prices and border prices of a specific agricultural commodity” (OECD, 1999)¹.

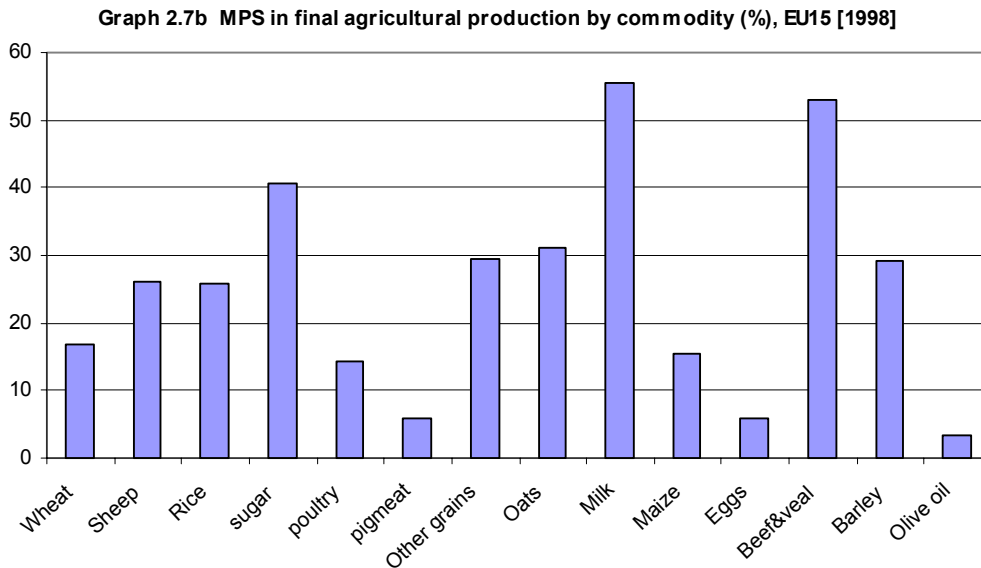
In the European Union, agricultural support is primarily based on Market Price Support, OECD estimates indicate that Market Price Support accounts for about 60 per cent of total support to European producers.

The MPS is set up through administered prices, storage intervention, export subsidies and tariffs. For the EU, the principal products, for which a mixture of these measures is used, are sugar, dairy products, beef, sheep meat and cereals.

Graph 2.7a Market Price Support in the European Union by commodity
[ECU mn]



¹ OECD, 1999, Agricultural Policies in OECD Countries - Monitoring and Evaluation 2000

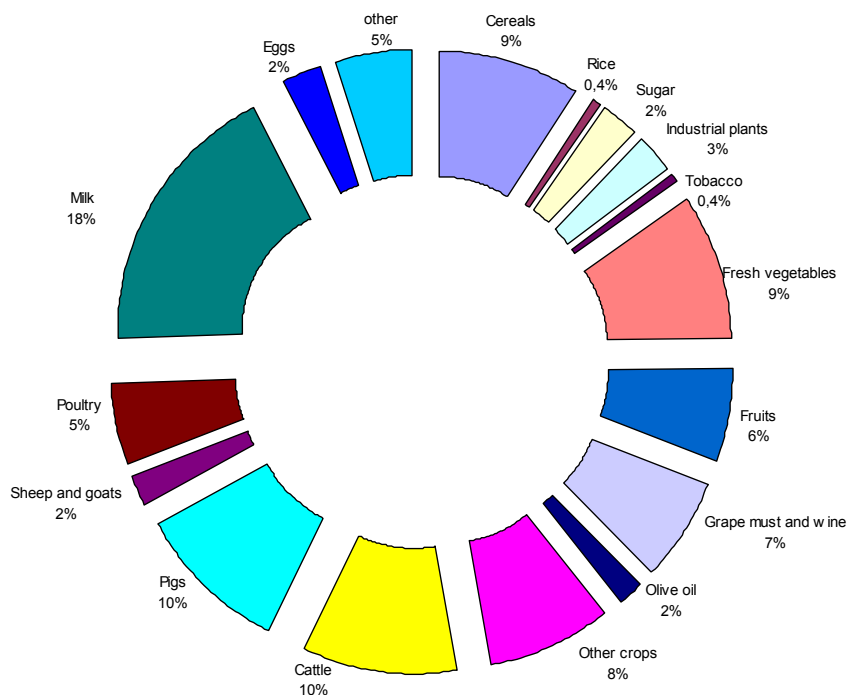


Source: our calculations - OECD data

Graphs 2.7a and 2.7b show respectively the absolute value of MPS by commodity, and the share of MPS in total final agricultural production by commodity. We can safely say that the core of the price support policy of the EU is placed in the sector of animal products.

We record high shares of MPS for beef and milk in both graphs; total MPS for these two products has been increasing from 1986 to 1998, whereas we observe a declining trend for the other products. Furthermore more than 50% of EU final production of milk and beef originates from the price support.

Table 2.8 Shares of the main products in EU-15 final agricultural production [1998]



We have not mentioned any price support measures for fruit and vegetables, olive oil and wine. Although these products cover a significant share of EU total agricultural production - 9% by vegetables, 6% by fruits, 7% by wine, 2% by olive oil (graph 2,8) - producers of these commodities have not got the advantages offered

by an organic set of measures of market price policy, as the producers of “continental products”. It is very problematic to calculate the MPS of these commodities, but provisional estimates show that price support is not as important as for continental products². Furthermore, the reform processes for fruit and vegetables, wine and olive oil are more “market oriented” than policy measures undertaken for sectors like milk and dairy products, beef and veal, and sugar.

Thus, within market policy, *we still have an imbalanced price support between commodities.*

The imbalance of market support between commodities affects inequity of support to agricultural operators between countries. Member States specialised in the production of highly protected commodities benefit to a greater extent from price support measures. Furthermore, the disparity in support within the agricultural sector generates discrepancies in the redistribution of overall benefits and losses operating through the CAP. In fact, trade in agricultural products is conducted at prices which are subject to the “preferential regime” imposed on the internal EC markets by the CAP, so that, in general, imports cost more and exports earn more than the equivalent flows would do at world market prices. Thus, preferential trade effects represent a gain for EU exporting countries and a loss for EU importing countries.

Let us suppose that a french producer sells his soft wheat at the EU internal price, higher than the corresponding world one. Firstly, let us assume that he sells this quantity of wheat to a french consumer. In this case, the french consumer is losing a sum of money equivalent to the unit Market Price Support (EU price minus World Price) multiplied by the quantity that he has bought; this happens because he could buy that wheat at prices equal to world levels.

On the other hand, the net gain of the french producer equals the loss of his compatriot; therefore, within a country, gains of producers are offset by losses for consumers.

Whether the french farmer has sold his wheat to a german citizen, we would have recorded a net gain for France and a loss for Germany. The gain (loss) equals the quantity exported (imported) multiplied by the difference between internal and world price.

It is now clear that the EU price support policy causes benefits when a Member State is net exporter and vice versa.

Returns are bred either from intra-EU trade or from extra-EU trade, since the basic assumption is that all the transaction are conducted at the same price.

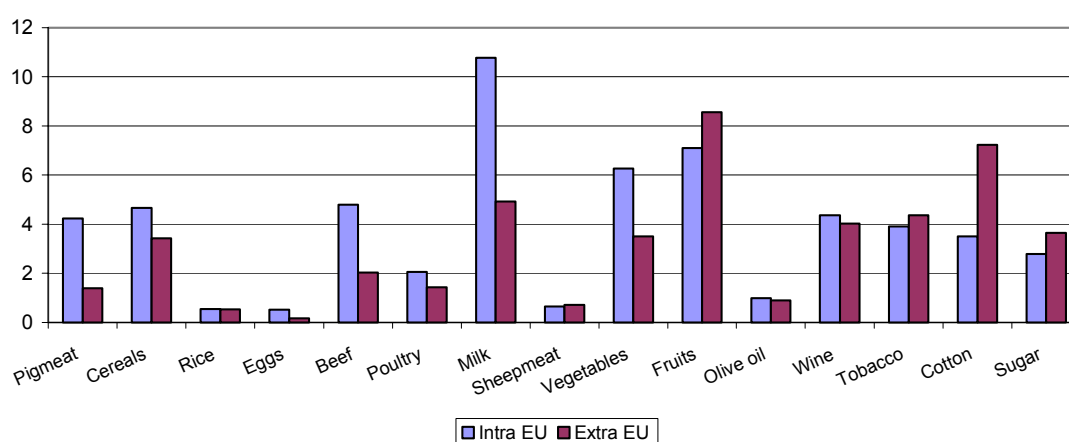
² We have put in place estimates of MPS for olive oil. Our appraisal indicates that in 1998 only 3% of the EU final production of olive oil, was originated by price support measures.

In the case of fresh vegetables and fruits, export subsidies commitments related to GATT are a binding constraints. The quantity of export subsidised equals the commitment in quantity, whereas the total export subsidised are only 40,3% of total export. If we consider that there is no other significant price support measure but export subsidies, we can deduce that the MPS for fruits and vegetables is very low.

Graph 2.9 and table 2.1 illustrate the importance of each product in EU trade, either at intra-EU or extra-EU level. We have to note that for some highly protected commodities – first of all, milk and beef – intra-EU trade is more important than extra-EU trade. As a result of price policy, intra-EU transactions in agriculture have increased, the degree of self-sufficiency in many sectors has augmented too. However, while some countries of the European Union have become net exporters of highly protected commodities, other EU countries, as net importers, have been damaged by the price support policy.

In general, some northern countries benefit from trade, notably France, Denmark, Ireland, whereas Italy, UK and the three southern cohesion countries present negative positions.

Graph 2.9 Products share in extra-EU and intra-EU total trade (%)
[annual average 1995-99]



Source: our calculations - Comext data

Table 2.1 Products with the highest shares (%) in intra-EU total trade and extra-EU total trade.
Net trade value for the most traded commodities in extra-EU trade
[annual average 1995/99; '000 ECU]

	Intra-EU		Extra-EU	Net trade extra-EU
Milk	10.8	Fruits	8.6	-6053488.9
Fruits	7.1	Cotton	7.2	-869749.6
Vegetables	6.3	Coffee, tea, spices	6.5	-5115477.9
Processed fruit&vegetables	5.4	Residues food industry	6.2	-3055594.1
Preparations of cereals	5.0	Oilseeds	6.1	-4638114.4
Beef	4.8	Milk	4.9	3562996.8
Cereals	4.7	Processed fruit &vegetables	4.4	-998763.9
Miscellaneous edible preparatio	4.5	Tobacco	4.4	-58466.4
Wine	4.4	Wine	4.0	2107266.2
Pigmeat	4.2	Sugar	3.7	822504.0

Source: our calculations - Comext data

2.3.Overall redistributive effects of the CAP among Member States

We have carried out estimates of the transfers generated through the CAP at national level for the period 1989-1998. We can see how these transfers have evolved under the CAP over time prior to the 1992 reforms and from 1992 onwards.

We have set up our calculations according to the formula applied for the First Cohesion Report by Zanas and Tarditi³.

This methodology takes into account budgetary information and preferential trade effects; specifically, we have implemented the following steps:

- we have calculated intra-EU and extra-EU trade effects by country by multiplying net trade in quantity by the unit MPS for each product (a)
- then we have selected all those CAP measures which are not price support measures (b) by Member State and we added this sum to the net trade effects (a+b)
- finally we subtracted from (a+b) the net budgetary contribution of each Member State (c). Thus, the final transfers for each Member State is (a+b-c)

Further explanation of the methodology and classifications that we used is given in the Appendix 2.B.

Since 1989, Germany is the major loser from the CAP, with Italy and UK together in second place. Belg.-Lux.⁴ is the fourth loser. It has to be noticed that losses of Germany, Italy and UK are declining over time. Interestingly, the Netherlands have become a loser in 1992; Portugal, the poorest EU country in 1996 is seen to lose overall from the CAP. On the other side, Denmark, France, Ireland, Greece and Spain are clearly beneficiaries from the CAP. It has to be remarked that France and Spain have seen reversed their positions after the 1992 Reform; these two countries benefit hugely from direct payments (table 2.2 and graph 2.11).

Table 2.2 Transfers in real terms (millions ECU in 1985 values)

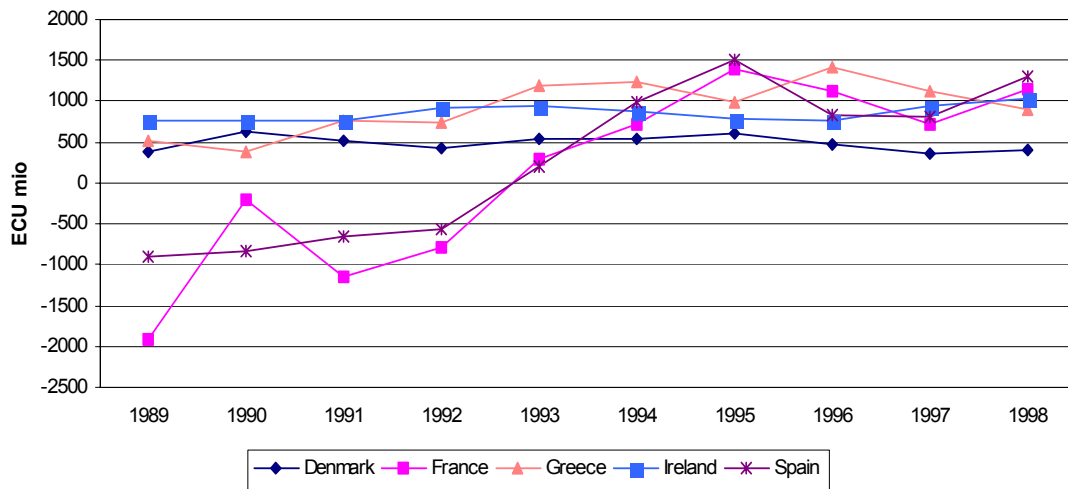
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Austria	0,0	0,0	0,0	0,0	0,0	0,0	-582,5	42,7	-207,8	-82,4
Belg-Lux	-864,4	-725,8	-932,5	-838,5	-789,6	-762,1	-722,8	-718,2	-785,6	-743,5
Denmark	378,0	627,3	508,1	422,1	548,4	534,7	614,0	470,8	357,7	395,7
Finland	0,0	0,0	0,0	0,0	0,0	0,0	-244,0	58,5	-37,6	-41,6
France	-1908,7	-205,4	-1159,1	-791,7	282,6	723,0	1396,1	1128,9	710,2	1133,8
Germany	-5027,5	-3950,9	-5420,0	-6221,0	-5912,1	-5412,9	-5135,9	-4659,9	-4583,4	-4031,7
Greece	525,7	377,1	755,0	737,2	1190,6	1230,3	996,2	1419,8	1112,4	892,2
Ireland	766,8	758,3	757,2	931,2	944,2	867,2	780,4	761,6	947,1	1041,0
Italy	-3345,5	-2562,0	-3613,1	-3036,9	-3036,7	-1655,8	-1117,0	-1392,9	-786,2	-1969,8
Netherlands	68,4	294,5	30,0	77,9	-42,6	-255,6	-318,9	-340,6	-397,7	-323,2
Portugal	-264,5	-331,6	-389,8	-461,8	-246,4	-143,3	12,3	34,7	-68,5	-107,2
Spain	-898,6	-826,2	-658,6	-555,7	196,2	992,9	1502,0	835,1	806,5	1311,1
Sweden	0,0	0,0	0,0	0,0	0,0	0,0	-586,6	-394,8	-428,1	-323,1
UK	-3548,3	-3247,8	-2118,5	-2844,3	-2370,6	-1284,1	-2068,6	-1669,0	-1525,7	-1812,2

Source : our calculations

³ This is the methodology suggested in part 3 – Annex IB, of the Invitation to Tender

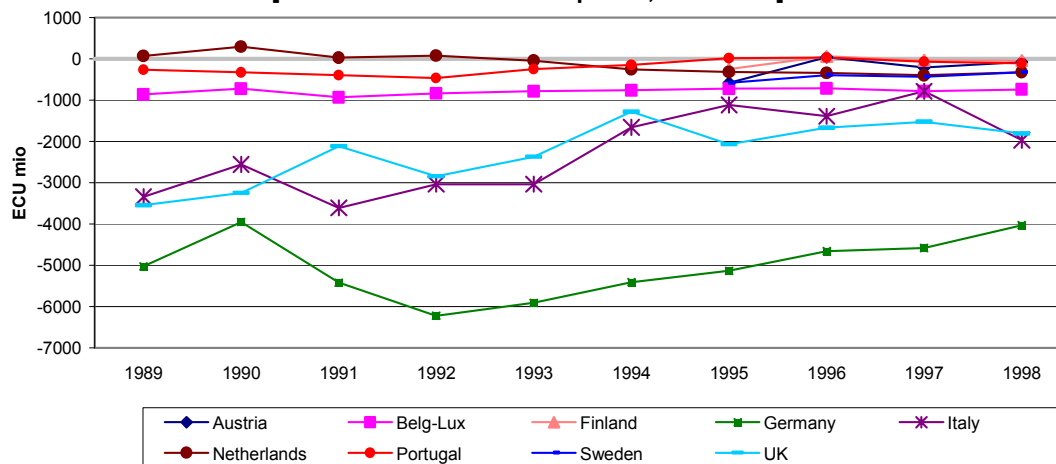
⁴ Trade data are not available separately for Belgium and Luxembourg, but only for the two countries put together; therefore, by adapting our further information to this major constraint, the CAP impact is calculated for the aggregate Belg.-Lux.

Graph 2.11a total transfers generated by CAP: beneficiaries
 [ECU at 1985 constant values; 1989/1998]



Source: our calculations

Graph 2.11b Total transfers generated by CAP: "losers"
 [ECU mn at 1985 constant prices; 1989/1998]



Source: our calculations

The results in ECU per capita show Ireland as the largest beneficiary by some considerable margin, with 445 ECU per head, followed by Greece, 134 ECU per head; once again, Denmark, ranks at the first positions as the third largest beneficiary, gaining 118 ECU per head. Another cohesion country, Spain comes at the fourth position, with 52,6 ECU per head. The highest losses are occurred for the group Belg.-Lux., Germany, Sweden, Italy and UK. Portugal has a loss of -17 ECU per head (tables 2.3 and 2.4).

Table 2.3 Transfers per inhabitant generated by CAP, in EURO. Per capita Gross Domestic Value Added at Market Prices, in thousands EURO [1998]

<i>ranking by transfers per head</i>		
	<i>transfers per head</i>	<i>per capita GVAmP</i>
Ireland	445.0	20.8
Greece	134.0	10.3
Denmark	118.0	29.3
Spain	52.6	13.2
France	30.5	21.4
Finland	-12.8	22.4
Austria	-16.1	23.3
Portugal	-17.0	9.9
Netherlands	-32.6	22.3
UK	-48.4	21.3
Italy	-54.0	18.5
Sweden	-57.7	24.0
Germany	-77.6	23.4
Belg-Lux	-110.6	30.1

Source: our calculations

Eurostat data for per capite GDP

Table 2.4 Total transfers per head (ECU)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Austria	0,0	0,0	0,0	0,0	0,0	0,0	-107,6	8,1	-40,0	-16,1
Belg-Lux	-97,6	-86,4	-116,1	-108,4	-104,9	-104,0	-101,9	-103,6	-115,2	-110,6
Denmark	85,7	150,1	127,5	110,0	147,1	147,4	174,8	136,5	105,3	118,0
Finland	0,0	0,0	0,0	0,0	0,0	0,0	-71,1	17,4	-11,4	-12,8
France	-39,5	-4,5	-26,3	-18,6	6,8	17,9	35,7	29,5	18,9	30,5
Germany	-94,8	-77,5	-109,8	-104,3	-101,5	-95,4	-93,5	-86,7	-86,8	-77,6
Greece	60,8	45,8	95,6	96,4	159,9	169,3	141,7	206,5	164,7	134,0
Ireland	253,8	265,7	277,6	353,2	367,7	346,8	322,1	320,2	402,8	445,0
Italy	-68,7	-55,5	-82,2	-72,0	-74,1	-41,5	-29,0	-37,0	-21,2	-54,0
Netherlands	5,4	24,3	2,6	6,9	-3,9	-23,9	-30,7	-33,5	-39,7	-32,6
Portugal	-30,9	-41,1	-50,9	-63,0	-34,7	-20,8	1,8	5,3	-10,7	-17,0
Spain	-27,0	-26,2	-21,9	-19,2	7,0	36,4	56,9	32,4	31,9	52,6
Sweden	0,0	0,0	0,0	0,0	0,0	0,0	-98,8	-68,0	-75,2	-57,7
UK	-72,1	-69,5	-47,4	-66,1	-56,7	-31,6	-52,5	-43,3	-40,2	-48,4

Source: our calculations

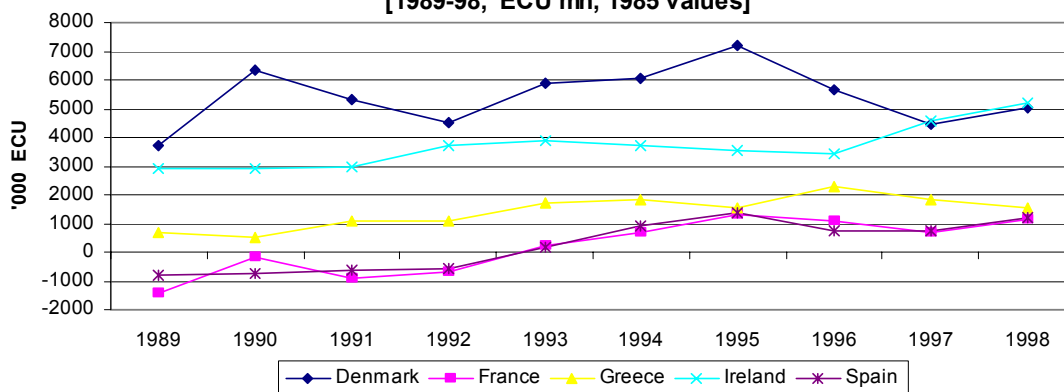
In terms of total transfers per AWU, the biggest benefits are gained from Ireland and Denmark, respectively with 5205 and 5009 thousands of ECU in 1998. In particular, we have to mention that Denmark ranks fifth in terms of total transfers but second in terms of transfers per AWU. The reason is that danish agriculture is not very labour intensive. Benefits per AWU for Greece, France and Spain are less than half of those recorded for Denmark and Ireland. Portugal loses 211 thousands of ECU per AWU; the highest losses are recorded for Belg.-Lux, Germany, Sweden and UK. Italy's loss per AWU is relatively small since the total loss is distributed upon a significant amount of working units (table 2.4 and graph 2.12).

Table 2.5 Transfers in real terms per AWU (thousands ECU - 1985 constant values)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Austria	0,0	0,0	0,0	0,0	0,0	0,0	-3990,0	307,4	-1539,4	-624,5
Belg-Lux	-8474,9	-7258,2	-9515,1	-8919,9	-8490,1	-8374,8	-8121,3	-8449,4	-9242,1	-9066,9
Denmark	3706,1	6336,4	5293,2	4490,3	5896,7	6076,1	7223,9	5672,6	4471,6	5009,4
Finland	0,0	0,0	0,0	0,0	0,0	0,0	-1862,4	453,3	-298,6	-338,6
France	-1420,1	-159,4	-938,6	-669,2	252,1	665,1	1319,6	1095,0	706,0	1155,7
Germany	-6388,2	-5198,5	-7548,8	-7200,2	-7362,5	-7217,2	-7223,5	-6822,7	-6944,5	-6349,1
Greece	658,0	510,9	1108,6	1066,9	1693,5	1836,3	1561,5	2293,7	1850,8	1535,6
Ireland	2938,0	2939,0	2981,2	3724,9	3885,8	3690,3	3515,4	3415,1	4597,8	5205,0
Italy	-1524,8	-1190,0	-1675,8	-1480,7	-1597,4	-913,3	-642,0	-825,7	-472,5	-1201,9
Netherlands	287,6	1280,5	127,3	327,5	-180,5	-1111,4	-1410,9	-1527,6	-1775,6	-1423,9
Portugal	-312,3	-421,3	-535,5	-690,3	-404,6	-240,0	21,0	62,8	-131,2	-211,0
Spain	-789,6	-750,4	-633,3	-548,1	176,5	902,6	1380,5	766,8	733,9	1179,0
Sweden	0,0	0,0	0,0	0,0	0,0	0,0	-6591,4	-4591,1	-5158,4	-4038,7
UK	-7955,7	-7431,9	-4996,4	-6804,6	-5712,4	-3155,1	-5145,8	-4246,8	-3922,2	-4731,7

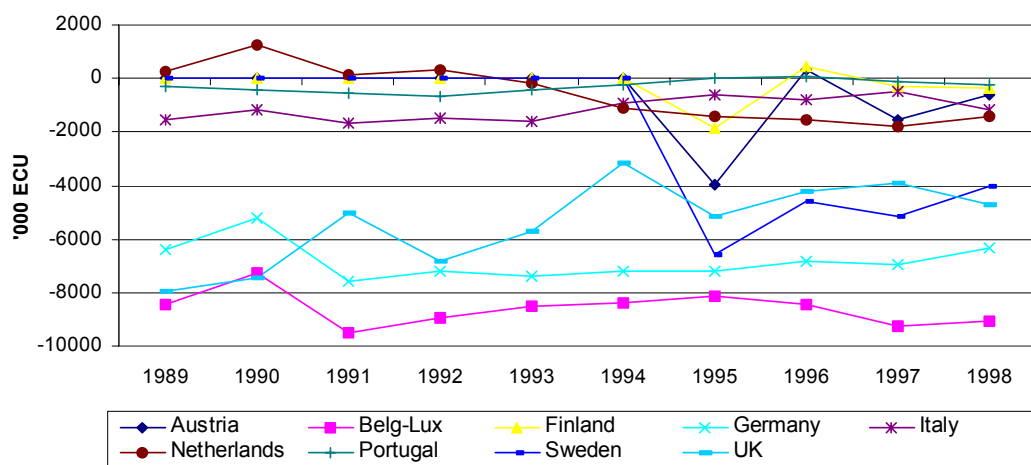
Source: our calculations

**Graph 2.12a Total transfers per AWU: beneficiaries
[1989-98; ECU mn, 1985 values]**



Source : our calculations

**Graph 2.12b Total transfers per AWU: losers
[1989-98; ECU mn, 1985 values]**



In evaluating transfers in terms of percentage in domestic agricultural output, the first point to remark is the value estimated for Ireland: benefits generated by CAP account for 80% of Irish Gross Value Added at Market Prices in 1998. For Denmark and Greece, the incidence of transfers in agricultural GVAMP is 23%, Spain comes at the fourth position with 13,7%. The most negative values are recorded for Sweden, -60,3%, Belg-Lux, -52,3%. Two big countries have also significant losses: UK and Germany, respectively with 47,1% and 45%. For Portugal, the value is -9,2%, lower than those of Austria, -7,5%, and Netherlands with -6% (table 2.6).

Table 2.6 Transfers as a percentage of agricultural Gross Value Added at Market Prices [1989-98]

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Austria	0.0	0.0	0.0	0.0	0.0	0.0	-45.6	3.7	-18.7	-7.5
Belg-Lux	-32.5	-31.4	-40.9	-38.8	-38.4	-38.0	-42.6	-44.4	-50.2	-52.3
Denmark	12.2	21.1	19.0	17.9	26.4	26.1	27.2	20.9	17.2	23.0
Finland	0.0	0.0	0.0	0.0	0.0	0.0	-45.1	11.5	-7.8	-10.5
France	-8.5	-0.9	-5.9	-4.3	1.8	4.5	8.9	7.2	4.7	7.7
Germany	-40.6	-36.8	-53.8	-52.8	-57.0	-55.2	-53.2	-46.6	-47.5	-44.9
Greece	9.7	8.2	13.7	15.8	28.2	27.1	23.2	36.0	27.6	22.7
Ireland	34.2	38.2	42.2	48.3	52.5	54.0	49.6	51.0	66.0	80.7
Italy	-15.0	-12.0	-15.8	-14.6	-17.9	-10.1	-7.3	-8.3	-4.8	-12.0
Netherlands	1.0	4.3	0.5	1.3	-0.8	-4.2	-5.5	-6.2	-7.6	-6.0
Portugal	-14.4	-15.7	-21.2	-28.7	-18.9	-9.6	0.8	2.1	-4.9	-9.2
Spain	-7.2	-6.5	-5.5	-5.7	2.3	10.8	17.1	7.7	8.1	13.7
Sweden	0.0	0.0	0.0	0.0	0.0	0.0	-77.4	-63.8	-72.0	-60.3
UK	-45.8	-46.3	-31.8	-44.7	-41.9	-22.4	-36.7	-35.0	-34.7	-47.1

Source: our calculations

Finally, some interesting findings emerge from looking at the constituent elements of these transfers, as they are presented in Appendix 2.A.

- The benefits for *Greece* arise from direct payments and from its low budget contribution. Otherwise, Greece loses in intra-EU trade, while modest gain are recorded in extra EU trade.
- *Ireland* gains because of positive trade transfers, and since its low contribution to the agricultural budget. the country is also a major recipient of direct payments in the beef sector.
- *Spain* benefits mostly from direct payments, whilst trade effects are not always positive.
- *Portugal* loses, despite low budgetary contributions, because of low direct payments and because it is not specialised in the production of highly protected agricultural product.
- *Denmark* gains mainly from positive trade transfers; trade effects as well as direct payments benefit *France*.
- The *Netherlands* have a positive trade effect but low direct payments in relation to the state contribution to the agricultural budget. The 1992 reform has partly damaged the country since its share in the CAP budget is significantly decreased.
- *Belg.-Lux., Italy, Germany* and *UK* bear a negative effect from preferential trade policy. However, for the first three countries we record a positive sign in extra EU net trade. The budgetary contributions of these countries are also responsible for the overall losses
- *Austria, Finland* and *Sweden* record losses that are mainly due to their large budgetary contributions.

It has to be remarked that the 1995 changes in EU membership have not produced great impacts on the distribution of gain and losses among the Member States. In fact, because of the relatively small size of the three countries, we have not recorded significant variations either for budgetary or trade effects. Austria and Finland gained in 1996 because of the big amount of CAP subsidies devoted to these countries after the accession in 1995. However, since these payments are degressive over time, both countries have turned to be "losers" in the following years.

In interpreting the relative changes of total transfers generated by the CAP, it should be borne in mind that the lowering of price support was particularly acute for the period 1995/96, because the gap between EU and world prices was decreasing. It was even negative (world prices higher than the EU ones) for cereals. However, in 1997 this gap has increased and in 1998 price support was re-established even for cereals.

As result; in 1995/96, we have recorded an improvement for many countries, in particular for Portugal. This is the only cohesion country which generally loses from the application of the CAP; though its budgetary contribution is low, the country is damaged by importing highly-protected commodities. In 1995 and 1996, internal EU prices were at world level for a number of products and Portugal gained from the CAP; in the following years, when the price gap increased, Portugal returned to lose.

In Appendix 2.A, we present in details the results of our calculations for all the years and all the variables of our analysis.

Appendix 2.A:**Composition of total transfers⁵ generated by the CAP by Member State [1989-98]****1989**

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-12.8	-47.9	243.4	1188.2	-1005.5
Denmark	350.9	486.9	152.4	550.5	439.7
Finland	0.0	0.0	0.0	0.0	0.0
France	801.7	1046.8	1380.9	5449.6	-2220.2
Germany	-298.8	630.2	842.4	7021.8	-5848.0
Greece	-194.1	2.0	1161.5	357.9	611.5
Ireland	644.2	304.3	146.2	234.4	860.3
Italy	-1550.3	74.8	2391.0	4806.9	-3891.4
Netherlands	532.7	990.8	262.8	1706.7	79.6
Portugal	-56.5	-93.9	132.4	289.6	-307.7
Spain	165.2	10.3	1038.7	2259.5	-1045.2
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-338.4	-479.2	841.3	4151.0	-4127.3

1990

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-170.1	58.5	315.1	1095.6	-892.0
Denmark	421.5	659.0	152.4	462.0	771.0
Finland	0.0	0.0	0.0	0.0	0.0
France	1431.5	1332.6	1804.7	4821.3	-252.5
Germany	-473.8	677.0	1114.2	6173.1	-4855.6
Greece	-281.7	-1.8	1082.8	335.9	463.4
Ireland	605.2	246.2	295.8	219.4	927.8
Italy	-1779.4	13.2	2251.6	3634.2	-3148.7
Netherlands	837.0	727.5	356.2	1558.7	362.0
Portugal	-90.1	-172.2	154.2	299.4	-407.5
Spain	94.3	-54.1	1132.6	2188.2	-1015.4
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-533.1	-378.6	814.6	3894.4	-3991.5

1991

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-328.5	218.7	306.4	1400.4	-1203.8
Denmark	437.8	678.7	161.7	622.2	656.0
Finland	0.0	0.0	0.0	0.0	0.0
France	1418.6	1795.7	1671.6	6382.4	-1496.4
Germany	-129.4	1363.3	1036.2	9267.3	-6997.3
Greece	-220.2	20.7	1633.0	458.8	974.7
Ireland	723.1	286.9	197.8	272.3	935.5
Italy	-2326.4	147.4	2751.8	5237.3	-4664.5
Netherlands	1158.0	703.1	307.3	2129.7	38.8
Portugal	-201.3	-48.9	175.5	428.6	-503.3
Spain	-20.7	-3.0	1930.6	2757.3	-850.3
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-295.5	-421.3	833.1	2851.3	-2734.9

⁵ Total transfers are equal to intra plus extra trade transfers plus "direct and other payments – Member States contributions to EAGGF Guarantee Chapter Financing. Direct and other payments contain those CAP measures which are not linked to the price support.

1992

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-332.1	292.5	255.4	1344.0	-1128.2
Denmark	415.9	607.9	132.8	588.7	567.9
Finland	0.0	0.0	0.0	0.0	0.0
France	1538.9	1817.0	1548.2	5969.3	-1065.2
Germany	-657.2	1082.6	873.5	9669.2	-8370.3
Greece	-258.2	15.8	1648.8	414.5	991.9
Ireland	919.4	284.6	279.9	263.0	1220.9
Italy	-1845.0	181.5	2287.4	4710.1	-4086.2
Netherlands	1137.7	712.5	265.0	2010.3	104.9
Portugal	-257.7	-50.1	163.2	476.8	-621.4
Spain	33.7	46.3	1918.7	2746.4	-747.7
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-524.6	-407.3	917.6	3812.7	-3827.0

1993

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-145.9	155.4	293.3	1400.2	-1097.4
Denmark	450.8	676.7	294.2	659.4	762.2
Finland	0.0	0.0	0.0	0.0	0.0
France	1588.8	1632.1	3482.1	6310.2	392.7
Germany	-427.2	875.6	1760.6	10426.1	-8217.2
Greece	-315.0	64.4	2458.1	552.6	1654.8
Ireland	901.4	224.5	496.7	310.1	1312.6
Italy	-1409.5	132.6	2666.5	5610.3	-4220.8
Netherlands	1107.8	600.3	435.7	2202.9	-59.2
Portugal	-211.3	-38.8	404.7	497.1	-342.5
Spain	-67.2	52.0	3125.9	2838.0	272.7
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-456.5	-215.6	1545.5	4168.3	-3295.0

1994

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	0.0	0.0	0.0	0.0	0.0
Belg-Lux	-177.5	247.0	399.5	1560.9	-1091.9
Denmark	448.1	545.3	449.9	677.2	766.1
Finland	0.0	0.0	0.0	0.0	0.0
France	1145.3	1049.3	5398.6	6557.4	1035.9
Germany	-495.9	653.8	3249.6	11163.1	-7755.6
Greece	-366.6	72.8	2575.1	518.4	1762.8
Ireland	661.2	291.7	608.9	333.8	1228.1
Italy	-1283.3	82.9	2882.2	4054.1	-2372.4
Netherlands	1173.7	353.0	325.3	2218.3	-366.3
Portugal	-188.2	-54.7	672.7	635.1	-205.3
Spain	-80.3	156.8	3811.1	2465.0	1422.6
Sweden	0.0	0.0	0.0	0.0	0.0
UK	-377.5	-237.9	2128.3	3352.9	-1839.9

1995

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	9.9	11.4	40.2	926.6	-865.0
Belg-Lux	-150.2	205.6	368.0	1496.7	-1073.3
Denmark	385.9	478.7	728.1	680.9	911.8
Finland	11.7	78.2	14.2	466.4	-362.3
France	953.1	731.3	6631.0	6242.3	2073.1
Germany	-629.2	562.1	3648.5	11207.7	-7626.4
Greece	-343.8	38.4	2302.5	517.8	1479.3
Ireland	613.6	295.7	593.3	349.4	1153.2
Italy	-1120.9	87.1	2746.1	3371.0	-1658.7
Netherlands	1029.1	446.7	336.8	2286.1	-473.5
Portugal	-132.8	-52.4	658.0	454.6	18.2
Spain	-77.3	3.0	4220.4	1915.9	2230.3
Sweden	-41.6	12.1	30.0	871.6	-871.1
UK	-236.9	-306.0	2333.8	4862.5	-3071.7

1996

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	8.0	19.4	1098.1	1060.4	65.0
Belg-Lux	-31.1	114.5	471.0	1647.5	-1093.1
Denmark	290.7	355.1	845.4	774.6	716.6
Finland	0.5	76.7	557.3	545.5	89.0
France	380.1	576.2	7791.6	7029.6	1718.2
Germany	-343.6	390.1	4598.0	11737.0	-7092.4
Greece	-29.5	30.6	2785.6	625.8	2160.9
Ireland	487.4	230.7	796.9	385.6	1129.3
Italy	-826.8	114.6	3687.4	5095.2	-2120.0
Netherlands	1178.0	318.5	494.9	2509.8	-518.5
Portugal	-46.6	-35.6	617.0	481.9	52.8
Spain	34.0	93.0	3716.9	2573.0	1271.0
Sweden	-67.2	4.3	576.2	1114.2	-600.9
UK	-516.4	-360.0	2986.6	4650.4	-2540.2

1997

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	52.2	24.6	757.8	1157.3	-322.7
Belg-Lux	-100.7	172.6	431.2	1723.1	-1220.0
Denmark	291.0	332.5	757.8	825.8	555.5
Finland	-13.0	98.6	438.3	582.3	-58.4
France	595.1	561.1	7177.8	7231.1	1103.0
Germany	-176.0	577.0	4116.5	11635.5	-7118.0
Greece	-316.8	33.0	2657.5	646.2	1727.5
Ireland	563.2	315.0	956.8	376.7	1458.2
Italy	-1078.4	147.0	4463.5	4753.0	-1220.9
Netherlands	966.0	331.7	737.6	2652.9	-617.7
Portugal	-87.7	-31.7	604.1	591.1	-106.4
Spain	32.5	66.3	4097.2	2943.6	1252.5
Sweden	-52.9	19.9	643.7	1275.6	-664.9
UK	-612.7	-258.2	3397.6	4896.1	-2369.4

1998

	<i>Intra trade</i>	<i>Extra trade</i>	<i>Direct and Other Payments</i>	<i>Contributions</i>	<i>Total</i>
Austria	123.4	31.4	728.3	1013.3	-130.2
Belg-Lux	-160.4	177.6	392.4	1583.6	-1174.0
Denmark	388.0	301.5	736.9	801.5	624.9
Finland	-27.1	79.0	432.3	549.9	-65.8
France	850.5	720.4	7112.3	6893.0	1790.2
Germany	200.4	470.1	4073.2	11109.8	-6366.0
Greece	-420.5	8.3	2469.9	648.9	1408.8
Ireland	629.4	375.8	1034.4	400.7	1638.9
Italy	-1477.3	90.8	3471.4	5195.3	-3110.4
Netherlands	1091.1	258.9	525.1	2385.4	-510.4
Portugal	-168.4	-39.4	583.7	545.1	-169.2
Spain	-133.9	31.2	4822.2	2649.3	2070.2
Sweden	-69.2	30.3	640.9	1112.2	-510.2
UK	-476.7	-318.5	3641.9	5708.2	-2861.5

Appendix 2.B

Notes on methodology

Total benefits/losses for each Member state are calculated on annual basis as the sum of: direct budgetary payments plus other payments plus benefits/losses from intra EU and extra EU trade minus national contributions to the EU budget.

In formula:

$$NW_i = \sum_h [(EXNT_{i,h} + INNT_{i,h}) (\text{unit MPS}_h)] + \sum_h DP_{i,h} + \sum_h OP_{i,h} - BC_i \quad (2.1)$$

Where NW_i is the i Member State benefits/losses variation

$EXNT_{i,h}$ is the output volume originated from the extra EU net trade of the Member State i for commodity h

$INNT_{i,h}$ is the output volume deriving from the intra EU net trade of the Member State i for commodity h

unit MPS_i is the difference of the internal EU price and the world , or «reference», price for commodity i

DP_i are the direct payments for the Member State i

OP_i are the other payments of the Member State i

BC_i is the financial contributions of the Member State i to the EAGGF Funds expenditure. It is obtained by assuming that the share of each Member State annual financing to EU budget equals the share of its contribution to EAGGF Guarantee annual budget.

As we can see the formula above presented is similar to that used by Zanias for the First Cohesion Report. The difference is that there did not appear the term *unit MPS*, but rather a term so defined: $t_h/(1+t_h)$, where t_h is the nominal rate of protection for commodity h . Moreover net trade data were expressed in value terms in Zanias methodology, whilst we employ quantity data.

We can show that both formulas lead to the same results, when the difference between internal and world prices is caused by the presence of a tariff:

PD_h and PR_h are respectively the Domestic Producer Price and the Reference or World Price of the commodity h .

Be $\text{Unit MPS}_h = PD_h - PR_h$

If our State is a small country, a tariff would have the following effect⁶:

$$PD_h = PR_h + t_h PR_h$$

where t_h is the ad valorem tariff on the imports of the commodity h

$$\text{Unit MPS}_h = PD_h - PR_h = PD_h - PD_h / (1+t) = PD_h [1 - 1/(1+t_h)] =$$

$$\text{Unit MPS}_h = PD_h [t_h / (1+t_h)]$$

As we suppose that all the transactions of EU producers of the commodity h take place at the price PD_h , the benefits/losses for the country i deriving from the trade of h is $(EXNT_h + INNT_h) * [t_h / (1+t_h)]$. In this formulation $EXNT_h$ and $INNT_h$ represent monetary values. In case we know directly PD_h and PR_h there is no need to consider the tariff.

Furthermore, t_h , that is the Nominal Rate of Protection, does not correspond to the real "actual tariff"; in other circumstances an appropriate indicator of the price gap is the Unit Export Subsidy which is the ratio of Value of Export Subsidies to the quantity exported.

Why including Intra EU trade in our calculations?

Significant transfers among EU member States are generated by their transactions with the EU budget and by intra EU trade of agricultural products at prices considerably above world levels. Local consumers subsidise local producers through purchases of domestically produced agricultural products, while they also subsidise other Member-States' producers through intra EU imports of agricultural products. Domestic producers are also subsidised by consumers in other Member States when they export agricultural products to them at prices considerably above world level.

Sources

- Data on Direct Payments, Other Payments, Export Subsidies are provided by the AGRI DG
- The calculation of each Member State financial contribution to EAGGF's Guarantee Chapter budget are based on EU data
- Data on Net Trade are provided by COMEXT
- OECD Data on prices of the following products: wheat, maize, other grains, rice, sugarbeet, oilseeds, milk, beef and veal, pigmeat, poultry, sheepmeat and goatmeat, eggs
- Data on unit export refunds for fruit and vegetables - REG 1937/98, REG 2805/95. DG Agri data for previous years
- unit MPS for wine calculated as unit export value in extra EU-trade

⁶ We have to point out that our estimates of the impact of CAP do not take into consideration the impact of the EU price policy on the international terms of trade. Since world market prices would be slightly higher in the absence of CAP, our measures of the EU price support are overestimated.