

Income from agricultural activity 1998

Data 1980-98



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THEME 5
Agriculture
and fisheries



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Directeur général



1999 EDITION

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5

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Signs and abbreviations employed

EU	European Union	AWU	Annual Work Unit
EU-12	The twelve Member States of the European Union excluding Austria, Finland and Sweden	BSE	Bovine Spongiform Encephalopathy
EU-15	The fifteen Member States of the European Union	CAP	Common Agricultural Policy
Eurostat	Statistical Office of the European Communities	EAA	Economic Accounts for Agriculture
B	Belgium	ECU	European Currency Unit
DK	Denmark	EMS	European Monetary System
D	Germany	ESA	European System of integrated economic Accounts
EL	Greece	GDPmp	Gross Domestic Product at market prices
E	Spain	GVAfc	Gross Value Added at factor cost
F	France	GVAmP	Gross Value Added at market prices
IRL	Ireland	mio	million
I	Italy	NVAfc	Net Value Added at factor cost
L	Luxembourg	PPS	Purchasing Power Standard
NL	Netherlands	VAT	Value-Added Tax
A	Austria		
P	Portugal		
FIN	Finland	"1990"	[1989+1990+1991]/3
S	Sweden	-	not produced
UK	United Kingdom	:	not available
		...	part of series not shown
DE	German		
EN	English		
FR	French		

1. Introduction

The present report, *Income from Agricultural Activity 1998*, is the latest in the Eurostat series giving estimates of recent changes in income from agricultural activity in the Member States and in the European Union as a whole (EU-15). The calculations are based on data provided by the appropriate national authorities. Users of this publication will find information on, and analyses of, the income situation in agriculture and how this has changed over time. Compared to the reports of the previous two years, there is more long-term analysis. In particular, readers of this report will once again find (for the first time since the 1995 report) a separate chapter analysing the long-term income development in the Member States.

This publication focuses on the changes in income from agricultural activity in the Member States and in the European Union as a whole for 1998 compared to 1997, with analyses and comments on these changes. These analyses chart the effect of the different factors on changes in incomes in 1998 (Chapters 2 and 3), place recent results in the context of changes in agriculture within the European Union and in the Member States since 1980 (Chapters 4 and 5), and allow comparisons of absolute levels of income from agricultural activity between Member States (Chapter 6).

The figures are based on the last available estimates (**January/February 1999**) from the appropriate national authorities regarding the probable changes in prices, quantities and values for the variables that determine the income of the agricultural branch of the economy. The methodology applied is that of the Economic Accounts for Agriculture (EAA) ⁽¹⁾.

Three indicators are derived from the EAA to show unit income trends in agriculture. These are currently the following:

Net value added at factor cost in agriculture, which is calculated by taking the value of final agricultural output and deducting intermediate consumption, depreciation and taxes linked to production, and then adding subsidies ⁽²⁾. By deflating this figure with the implicit price index of gross domestic product at market prices ⁽³⁾ and dividing by the volume of total labour in agriculture ⁽⁴⁾, **Indicator 1** is obtained.

Net income from the agricultural activity of total labour input, which is calculated by subtracting rents and interest payments from net value added at factor cost. This figure, when deflated with the same price index referred to above and divided by the volume of total labour in agriculture, gives **Indicator 2**.

Net income from the agricultural activity of family labour input, which is calculated by deducting the compensation of employees from the net income from the agricultural activity of total labour input. This figure is then deflated like the two previous ones and divided by the volume of family labour only (the holder and members of his family working on his holding) to give **Indicator 3**.

To calculate Indicators 2 and 3, more information is needed than for calculating Indicator 1: data on rents and interest for Indicator 2, and on the compensation of employees together with the breakdown of the volume of agricultural labour into family and non-family (salaried) labour input for Indicator 3. Full harmonisation of these variables has yet to be achieved between the Member States. For this reason, the analysis centres on Indicator 1, which offers greater comparability than the other two.

The development of income from agricultural activity in 1998 for the European Union as a whole is presented and analysed in Chapter 2 of this report. It is then examined for each Member State in Chapter 3. The **development of income from agricultural activity over the longer term** is the subject of Chapter 4 (for the European Union as a whole) and of Chapter 5 (on a per Member States level). The analysis of the trends in income from agricultural activity and the factors determining these developments refer to rates of change that are calculated on the basis of "years". These "years" correspond to the averages of three years, in order to reduce the impact of strong short-term fluctuations. With the Economic Accounts for Agriculture

⁽¹⁾ cf. Eurostat: *Manual on Economic Accounts for Agriculture and Forestry*, Theme 5, Series E, Luxembourg 1989 (and Addendum, 1992).

⁽²⁾ cf. *Methodological Note A.1* on the calculation of agricultural aggregates.

⁽³⁾ cf. *Methodological Note A.4* on the calculation of the deflated series, especially for the European Union as a whole.

⁽⁴⁾ cf. *Methodological Note A.2* on the definition and measurement of agricultural labour input.

only being available since 1990 for Germany in its territorial situation after 3 October 1990, the analysis of the long-term development of agricultural income for the European Union is presented firstly according to the territorial situation before 3 October 1990 for the period "1981"/ "1991" and then immediately according to the territorial situation after 3 October 1990 for the period "1991"/ "1997". The extension of Portugal's Economic Accounts for Agriculture to include the islands of Madeira and the Azores was established in the report a couple of years ago. New data sources were used for the new series of accounts, which were taken back to 1986. The tables in the Annex to this publication mark the appropriate break in the long-term series for Portugal and EU-15. However, the impact of this break for the European Union as a whole is very limited and, therefore, the analysis of long-term EU-15 trends in Chapter 4 does not draw attention to it.

The analyses of and comments on the development of income from agricultural activity presented in Chapters 2 and 3 (short-term changes) and 4 to 5 (long-term developments) of this report are mainly related to changes in real (i.e. deflated) terms. In effect, while studying nominal changes can be of some interest in a national context, it is much less relevant when calculating European Union aggregates or when establishing comparisons between countries with very different inflation rates.

Although annual changes in income remain the central element for analysis, **absolute income from agricultural activity levels** per annual work unit in each Member State are compared in Chapter 6, in spite of considerable methodological and statistical reservations. With a view to improving the comparability of incomes, figures are converted on the basis of both the ECU and purchasing power standards (PPS) ⁽⁵⁾. A comparison is also made of the development in the absolute levels of agricultural incomes per annual work unit between the Member States.

It should be noted that the income from agricultural activity concerned in the Chapters mentioned above is based on **macro-economic and national data**. The figures, therefore, reflect the average development of agricultural incomes, without any possibility of differentiation according to regions or types of holdings. Actual levels of income may, in some cases, deviate substantially from the averages given in this report.

The income analysis presented in the report relates only to the agricultural **branch**. A clearer distinction was sought between these data and those referring to the disposable income of persons working in agriculture, where income from non-agricultural sources (other activities, remuneration, welfare payments, property income) should be added and current taxes and social payments deducted ⁽⁶⁾ (previously mentioned in the report under the name *Total Income of Agricultural Households (TIAH) statistics*). The name of TIAH statistics has also been changed to *Income of the Agricultural Households Sector (IAHS) statistics* to more accurately reflect its coverage and its origins in National Accounts. It is hoped that these changes clarify the differences between the two sets of data.

⁽⁵⁾ For a definition see Eurostat: *Purchasing power standards and gross domestic product in real terms, results 1985*, Theme 2, Series C, Luxembourg, 1988.

⁽⁶⁾ For an introduction to the concepts of statistics on Income of the Agricultural Households Sector (IAHS, formerly Total Income of Agricultural Households, or TIAH), see Eurostat: *Manual of Total Income of Agricultural Households (Rev. 1)*, 1995. The latest results of IAHS statistics can be found in Eurostat's report on *Income of the Agricultural Households Sector 1997*, published in 1998.

2. Changes in income from agricultural activity in the European Union as a whole in 1998 over 1997

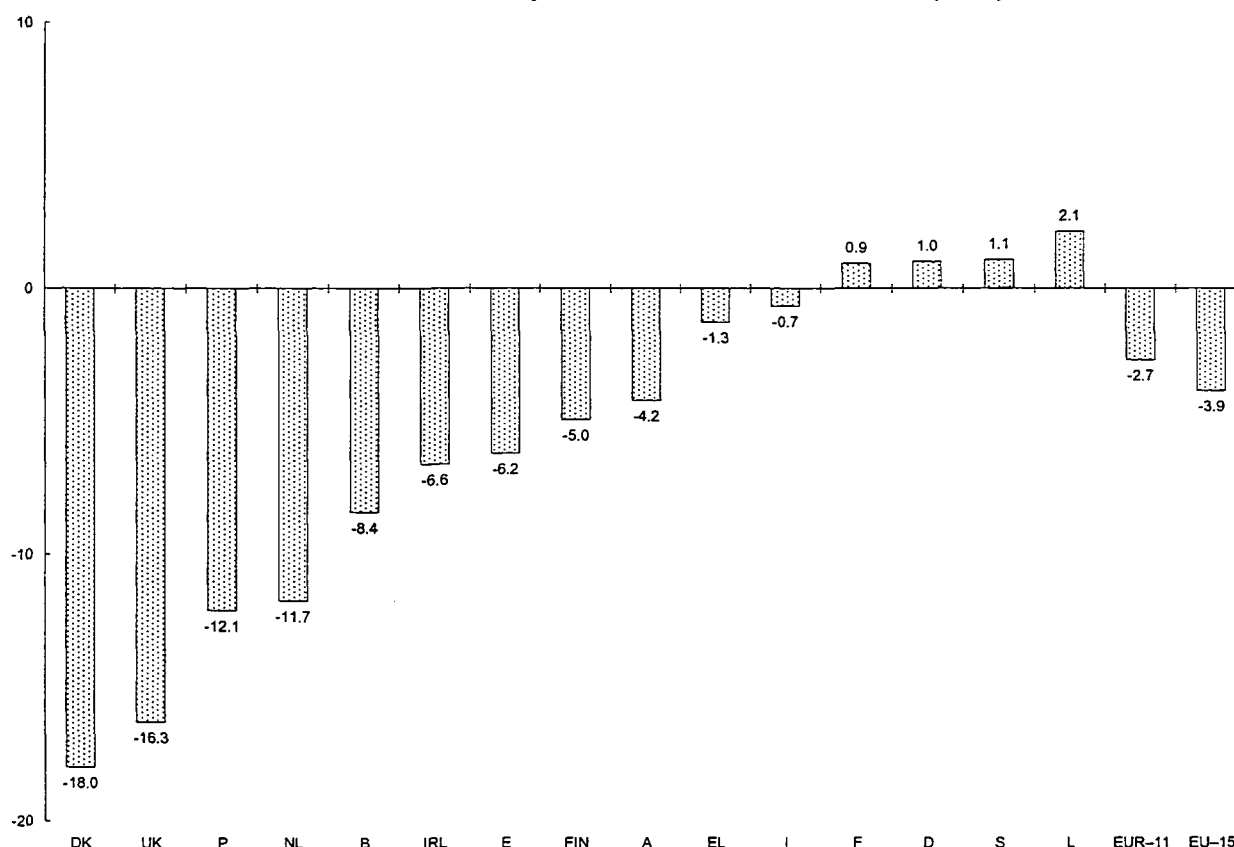
2.1. An overview of the main results

After three years of strong growth between 1994 and 1996, agricultural income once again down for EU-15 in 1998

According to the provisional results of the 1998 Economic Accounts for Agriculture, submitted by the Member States in January/February 1999, income from agricultural activity as measured by real (i.e. deflated) net value added at factor cost per annual work unit (**Indicator 1**) is estimated to have fallen moderately (-3.9%, see Table 2.1) for the European Union as a whole (EU-15) ⁽⁷⁾. This decrease for 1998, together with that for 1997, however, came after three years of appreciable income growth (reaching the highest level for 20 years in 1996); the level of income from agricultural activity for EU-15 in 1998 is estimated to have been around 12% higher than the level of the reference base year ("1990") ⁽⁸⁾. For EUR-11 as a whole, the member countries of the euro zone ⁽⁹⁾, the level of Indicator 1 declined by 2.7% but remained some 16% above the "1990" level.

This agricultural income development for the European Union as a whole in 1998 masks some widely differing developments in the individual Member States (see Graph 2.1.) and in the various sectors of production (see Chapter 2.2.).

Graph 2.1. Changes in income from agricultural activity, as measured by Indicator 1, in the Member States and the European Union as a whole in 1998 (in %)



⁽⁷⁾ Cf. *Notes on Methodology A.3* on the method of calculating short-term changes for the European Union.

⁽⁸⁾ In the case of EU-15 and of Germany in its territorial situation since 03.10.1990, "1990" means the average of the years 1990 and 1991. However, it has to be noted that, in the framework of this report, years in inverted commas usually refer to three-year averages.

⁽⁹⁾ Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland (i.e. EU-15 excluding Denmark, Greece, Sweden and the United Kingdom).

The downward development in agricultural income was confirmed by another income measure; real net income from the agricultural activity of total labour input per AWU (**Indicator 2**) is also estimated to have fallen in 1998 (-4.4%, EUR-11: -2.8%). It was not possible to calculate the third measure of income - real net income per AWU of family labour input (**Indicator 3**) - for EU-15, because the item "compensation of employees" could not be estimated for Germany on a basis comparable with that in the other Member States, due to the particular structure of agricultural holdings in the five new German *Länder* (see Annex, "Notes on Methodology" for further details).

Table 2.1. Changes in the three agricultural activity income indicators for the European Union as a whole and Member States, 1996/95, 1997/96 and 1998/97 (%)

Member States	Indicator 1			Indicator 2			Indicator 3		
	1996	1997	1998	1996	1997	1998	1996	1997	1998
B	2.2	4.6	-8.4	4.6	6.1	-11.3	5.6	6.8	-14.2
DK	4.0	-2.7	-18.0	6.9	-6.1	-30.5	9.6	-7.5	-43.0
D	12.2	3.1	1.0	15.7	3.2	-0.3	:	:	:
EL	-4.3	-2.9	-1.3	-1.9	-2.7	-1.4	-0.6	-5.1	-0.7
E	20.9	-4.4	-6.2	24.0	-2.7	-6.1	27.7	-1.5	-7.2
F	3.2	-0.3	0.9	3.8	-0.1	0.6	4.8	0.0	0.2
IRL	-0.5	0.6	-6.6	-0.5	-0.6	-7.5	-1.6	-1.3	-8.2
I	5.2	-3.9	-0.7	6.5	-2.2	0.4	11.6	-3.1	0.4
L	4.0	-4.5	2.1	6.5	-5.5	3.5	7.0	-5.4	4.1
NL	-0.1	12.8	-11.7	0.4	19.1	-12.4	0.8	29.2	-17.4
A	-11.3	-7.6	-4.2	-11.8	-7.8	-4.6	-15.0	-10.4	-7.1
P	8.0	-13.6	-12.1	9.9	-14.4	-12.6	12.6	-19.8	-18.5
FIN	-0.9	-7.4	-5.0	1.6	-7.5	-5.7	3.6	-7.1	-7.7
S	-22.2	6.3	1.1	-40.9	32.3	8.6	-74.4	106.2	12.4
UK	-7.7	-23.1	-16.3	-7.9	-27.1	-21.4	-11.6	-39.3	-37.3
EUR-11	6.9	-0.9	-2.7	8.3	-0.1	-2.8	:	:	:
EU-15	4.8	-2.6	-3.9	6.1	-2.3	-4.4	:	:	:

Appreciable fall in real net value added at factor cost, further slow-down in the rate of decline in labour input

The decline in the level of Indicator 1 for the European Union as a whole in 1998 can largely be attributed to a combination of the following factors:

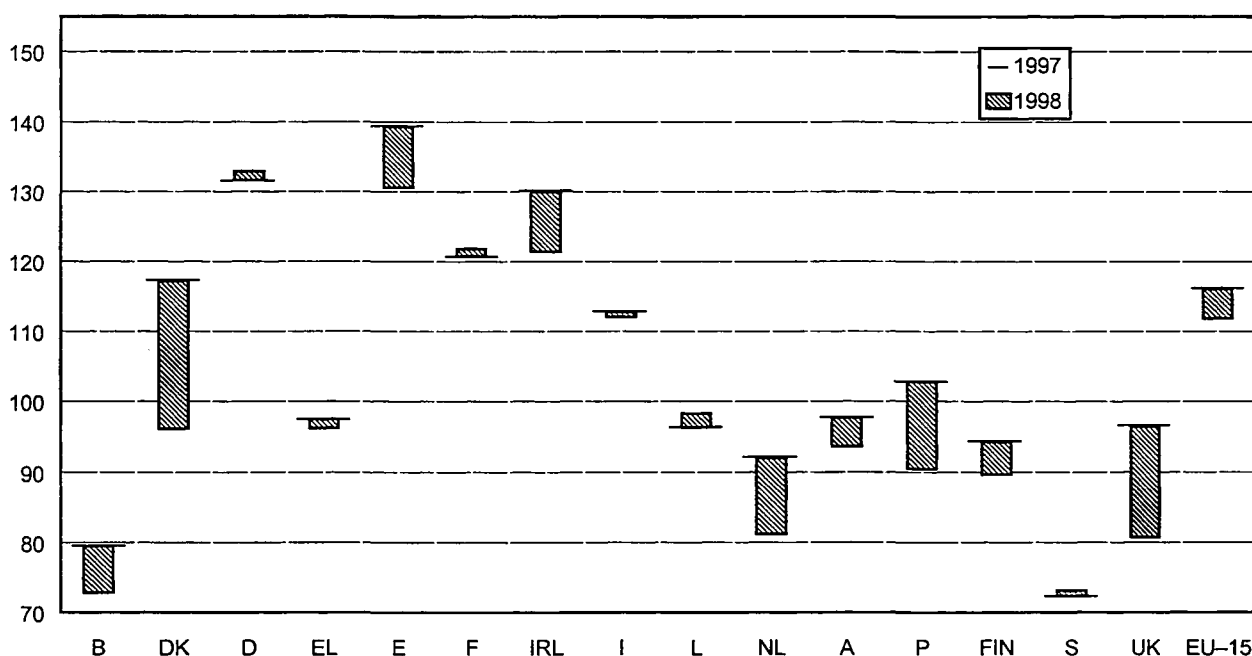
- **a sharp fall in producer prices:** the average price level for final agricultural output fell by -5.3% in real terms, mainly as a result of much lower real-terms prices for animals (down by an average of -13.2%, with pig prices plummeting by -27.1%);
- **a rise in the volume of final output:** final agricultural output rose (+1.5%) on the back of small increases in the volume of final crop (+1.6%) and final animal (+1.4%) output;
- **a lower value of intermediate consumption goods:** the real-terms value of intermediate consumption fell significantly in 1998 compared with the level in 1997 (-4.3%), reflecting a strong fall (-5.2%) in real-terms prices (the biggest decrease being for animal feedingstuffs) and a slightly higher volume purchased (+1.0%);
- **a sharp decline in subsidies:** the real value of total subsidies paid out in 1998 decreased strongly (-6.4%);
- **a slightly lower (real) level of depreciation** than in 1997 (-0.4%);
- **confirmation of a slow-down in the rate of decline in the volume of total agricultural labour** (-1.7%, as in 1997, compared with an average of -3.8% for the period 1990 to 1996).

Income from agricultural activity developed in different ways in the **Member States** in 1998, partly because of differing situations at the outset carried over from previous years and partly because of the diversity of the agro-economic structures and cycles in the European Union. In greater detail, the changes in income from agricultural activity for 1998 compared with 1997 ranged between an increase in Luxembourg (+2.1%) and a sharp decline in Denmark (-18.0%). As can be seen from Graph 2.1, declines in income from agricultural activity as measured by Indicator 1 were recorded for 11 of the Member States. The developments from agricultural activity in 1998 for each Member State are analysed in Chapter 3 of this report.

Graph 2.2 puts the changes in income from agricultural activity in 1998 for the various Member States in a **medium-term** perspective. The index of real net value added at factor cost per annual work unit (Indicator 1) is calculated using a base equal to 100 for the average of the three years 1989 to 1991 ⁽¹⁰⁾ ("1990"). The graph takes the value of the index in 1997 as the starting point, and shows the changes in 1998 as well as the new level of the index for 1998 in each of the Member States. When interpreting the values of the index shown in Graph 2.2, it should be remembered that they do not allow a comparison of the income levels between Member States, but only a comparison of their trends since the start of the 1990s.

In terms of Graph 2.2, Member States essentially fall into two broad categories. The first group comprises those countries where income has risen markedly: Germany, Spain, France and Ireland in particular, but also Italy - though to a lesser extent. The second group consists of those countries where real income from agricultural activity has fallen below the "1990" level. Luxembourg stands apart from the other Member States in that the income level recorded in 1998 was relatively close to the "1990" value. Some countries in the second group, however, experienced considerable declines in income relative to the base "year" (with the greatest rates of decline having been in Belgium and Sweden). Such were the rates of decline in the level of Income Indicator 1 in Denmark and Portugal for 1998, that both countries moved from the first category into the second.

Graph. 2.2. Indicator 1 in the Member States, indices for 1997 (base: 1989-1991 = 100, with the exception of Germany and EU-15, 1990-1991 = 100) and changes in 1998



⁽¹⁰⁾ Except for Germany ((1990+1991)/2) = 100.

2.2. Final agricultural output

Marked decrease in output value

The real-terms value of final agricultural output in the European Union as a whole is estimated to have declined distinctly in 1998 (-3.9%), as a combined result of sharply falling prices (averaging -5.3% in real terms) and a slight rise in output volume (+1.5%). The fall in the average level of real prices was mainly the result of appreciably lower real prices for animals (-13.2% on average, with pig prices plummeting by -27.1%), although average prices for animal products (milk, etc.) and final crop output also fell short of the previous year's level. The rise in the volume of final agricultural output for EU-15 reflects similar rates of increase in the volumes of final crop and final animal output. In this context, it should be noted that the share of final crop output in the value of final agricultural output amounted to 49.0% in "1997", while that of animal output stood at 50.7% ⁽¹¹⁾ (in real ECU at a constant 1990 rate of exchange).

Developments in the Member States varied considerably (see Table 2.2). While all countries except Luxembourg recorded an overall fall in the real-terms value of final agricultural output in 1998, the extent of the decreases differed significantly. The biggest falls (of more than -10%) were experienced in Portugal, the United Kingdom and Denmark; the other Member States posted decreases ranging from -1.0% to -7.7%.

For most of the Member States, the changes in the volume of final agricultural output for 1998 over 1997 lay within a range from -1.0% to +3.2%. Each of the four biggest (in terms of their share in the value of EU-15 final output) producer countries (Germany, Spain, France and Italy) recorded growth in final output volumes, although in the case of France this was slight. Luxembourg, Austria and the Netherlands posted distinctly above-average rates of increase in 1998, which principally resulted from the output volumes of a particular type of production recovering from poor levels in 1997. In the case of Luxembourg and Austria, the sector concerned was grape must and wine production, whereas in the Netherlands it was pig production. At the other end of the scale were Portugal and Finland, where inclement weather caused a considerable reduction in crop output levels.

Table 2.2. Changes in the volumes, prices and values of final agricultural output for the European Union as a whole and Member States, in 1998 as compared to 1997 (in %)

	Volume	Nominal price	Nominal value	Price index GDPmp	Real price	Real value	Share in % of EU-15 final output in "1997"
B	-0.3	-4.6	-4.9	1.5	-6.0	-6.3	3.0
DK	3.1	-12.1	-9.3	2.1	-13.9	-11.2	3.1
D	3.2	-5.2	-2.2	0.9	-6.0	-3.0	15.1
EL	1.2	-0.6	0.6	5.5	-5.8	-4.7	4.0
E	3.2	-3.6	-0.5	2.4	-5.9	-2.8	12.5
F	0.3	-1.6	-1.3	1.0	-2.6	-2.3	21.6
IRL	-0.5	-1.2	-1.7	3.4	-4.5	-4.9	2.0
I	1.8	-0.4	1.4	2.4	-2.7	-1.0	16.3
L	6.8	-2.6	4.0	2.1	-4.6	1.9	0.1
NL	4.6	-3.7	0.7	1.9	-5.5	-1.2	7.6
A	5.8	-6.5	-1.1	1.1	-7.5	-2.1	1.7
P	-9.1	0.1	-8.9	3.7	-3.4	-12.2	2.0
FIN	-6.1	-0.2	-6.3	1.5	-1.7	-7.7	1.0
S	-0.9	-2.5	-3.4	1.5	-3.9	-4.8	1.5
UK	-1.0	-8.5	-9.4	2.8	-11.0	-11.9	8.5
EUR-11	1.7	-2.7	-1.0	:	-4.3	-2.7	82.9
EU-15	1.5	-3.4	-2.0	:	-5.3	-3.9	100.0

⁽¹¹⁾ The difference (0.3% of final output) corresponds to "contract work at the agricultural production stage" (normally net new plantings, which means that the figure can be negative for certain Member States) and to a very small adjustment item for Italy.

As regards the development of average real-terms prices, all the Member States had one thing in common: more or less pronounced decreases. The sharpest falls occurred in Denmark and the United Kingdom. In both countries, it was mainly animal producers who were affected, but the United Kingdom also saw prices for animal products (e.g. milk) fall sharply. The decreases in the other Member States ranged between -1.7% and -6.0% in real terms.

2.2.1. Crop output

Opposing volume and price trends leave output value virtually unchanged

The small rise in the volume of crop output was almost fully offset by falling prices. The provisional net result is that the real value of final crop output for EU-15 will have remained virtually unchanged in 1998 (+0.1%, see Table 2.3).

These developments at European Union level were mainly shaped by the situations in France, Italy, Spain and Germany, as the value of crop output in these Member States alone accounted for about 70% of the EU-15 total in 1998. In France, the real value of crop output remained virtually unchanged compared with 1997, whereas there some growth was recorded for Spain, Italy and, above all, Germany (between 0.6% and 3.7% respectively in 1998).

Table 2.3. Changes in the volumes, prices and values of final crop output for the European Union as a whole and Member States, in 1998 as compared to 1997 (in %)

	Volume	Nominal price	Nominal value	Real price	Real value	Share in % of EU-15 final output in "1997"
B	-2.8	9.3	6.3	7.7	4.7	1.1
DK	-0.4	0.2	-0.1	-1.8	-2.2	0.9
D	6.2	-1.5	4.6	-2.4	3.7	6.1
EL	2.2	-2.3	-0.2	-7.4	-5.4	2.8
E	3.7	-0.7	3.0	-3.0	0.6	7.3
F	0.8	0.3	1.1	-0.7	0.1	11.3
IRL	-5.4	7.9	2.2	4.4	-1.2	0.3
I	3.1	0.4	3.5	-1.9	1.1	9.8
L	42.5	-10.1	28.1	-11.9	25.5	0.0
NL	-0.7	3.0	2.3	1.1	0.4	3.7
A	11.2	-3.9	6.8	-5.0	5.6	0.6
P	-20.0	16.1	-7.1	12.0	-10.4	1.0
FIN	-22.4	2.3	-20.6	0.8	-21.8	0.3
S	-1.6	0.3	-1.3	-1.2	-2.8	0.5
UK	-1.7	2.4	0.7	-0.3	-2.1	3.3
EUR-11	1.9	0.6	2.5	-1.1	0.8	41.5
EU-15	1.6	0.6	2.2	-1.4	0.1	49.0

In four other Member States (B, L, NL and A) the real value of final crop output in 1998 was also higher than in the previous year. Luxembourg and Austria recorded the biggest rises of the four - thanks mainly to the already mentioned recovery in the volume of grape must and wine output. In the remaining seven Member States (DK, EL, IRL, P, FIN, S and UK), on the other hand, the real value of final crop output declined, with Finland experiencing the sharpest fall (-21.8%, owing to unfavourable weather conditions).

Almost half of the Member States (D, EL, E, F, I, L, A) recorded a rise in the volume of final crop output, with the main producer countries (F, I, E and D) achieving increases of between 0.8% and 6.2%; the biggest rises occurred in Luxembourg (+42.5%, with the volume of grape must and wine output increasing by +112.9%) and Austria (+11.2%, grape must and wine: +60.6%). The biggest falls (resulting from adverse weather conditions, see above) were suffered by Portuguese and Finnish producers.

In ten Member States (DK, D, EL, E, F, I, L, A, S, UK), average real-terms prices for crop products fell below the level of the previous year (with the sharpest rate of decline occurring in Luxembourg). Portugal recorded the highest rate of increase, which at least partly offset the exceptional decline in volume.

The developments in volumes, prices and hence values within the crop sector differed from one product to another and between the individual Member States, particularly on account of the varying sensitivity of crops to climatic conditions, but also because of the various market situations. In addition, the changes in 1998 are measured against the volumes and price levels attained in 1997 and therefore have to be assessed in the light of the previous year's results. Against this background, the most notable developments for certain crop products in 1998 are examined in some detail below (see Table 2.4).

Table 2.4. Changes in the volumes, prices and values of the main crop products for the European Union as a whole, in 1998 as compared to 1997 (in %)

	Volume	Nominal price	Nominal value	Real price	Real value	Share in % of EU-15 final output in "1997"
Cereals	4.9	-7.6	-3.0	-9.2	-4.7	9.5
Potatoes	-6.5	41.3	32.2	38.6	29.6	2.2
Sugarbeet	-5.2	-0.9	-6.0	-2.6	-7.6	2.5
Oilseeds	2.1	2.7	4.9	1.2	3.3	1.4
Fresh vegetables	1.7	1.7	3.3	-0.6	1.1	9.1
Fruit (*)	0.8	4.2	5.0	1.9	2.7	6.3
Grape must and wine	4.9	3.3	8.4	1.7	6.7	6.3
Olive oil	-2.2	-16.1	-18.0	-18.7	-20.6	2.0
Flowers and ornamental plants	-0.1	2.9	2.8	1.1	1.0	3.9
Crop output	1.6	0.6	2.2	-1.4	0.1	49.0

* fresh fruit, including citrus fruit, tropical fruit and table grapes.

Cereals: another record harvest

The volume of final cereals output in EU-15 once again reached a record level in 1998 by virtue of strong volume growth (+4.9%). This came about as a result of higher yields, since - despite the rate of set-aside being unchanged on the previous year ⁽¹²⁾ - the area under cereals decreased by around 2% over the same period (particularly on account of difficult sowing conditions for winter sown cereals in the Iberian peninsula and an increase in the area planted with oilseeds and protein crops). The reduction in the area sown was particularly noticeable in the case of barley and maize.

The growth recorded at EU-15 level is, above all, a reflection of sharp increases in France (+8.8%), Italy (+8.1%) and Spain (+20.8%, the reduction in the cultivated area being more than offset by a sharp rise in yields); Belgium, Greece and the Netherlands also recorded higher volumes in 1998 (see Annex, Table A.4).

One of the factors underlying the increase in EU-15 cereals output was a sharp (yield-related) rise in the volume of soft wheat, the output of which in 1998 even exceeded the record level of 1996 (when the set-aside rate was still 10%). It is worthy of note that the 1998 record for cereals as a whole was achieved in spite of a marked decline in maize output (compared with 1997), yields of this crop having been severely depleted

⁽¹²⁾ The obligatory rate of land set-aside for cereals, oilseeds and protein crops for the 1998/99 marketing year remained unchanged at 5%. Except in the case of small producers, this set-aside is the prerequisite for claiming direct compensatory payments for the lowering of institutional prices under the 1992 CAP reform.

by unfavourable weather conditions in the latter part of the growing season. The volume of maize output is therefore estimated to have decreased by more than 10% compared with 1997.

Cereal prices in the European Union fell sharply over the course of 1998 (by -9.2% in real terms). On the one hand, this took place against the background of rising intervention stocks and what turned out in the first few months of the 1998/99 marketing year to be a record Community harvest. On the other hand, world market prices fell to their lowest level for five years in the wake of two successive bumper harvests (and on account of a slow-down in world market demand due to the economic crisis in Southeast Asia). At times during 1998, prices for barley and feeding wheat in particular even fell short of intervention prices.

At Member State level, the biggest decline in prices occurred in the United Kingdom (where they fell by an average of -18.2% in real terms). Austria was the only Member State in which cereal prices rose in real terms in 1998 (+1.8%). The real value of final cereals output decreased by an average of 4.7% for EU-15; only Spain (+10.8%) and Italy (+3.0%) recorded an increase.

Potatoes: massive price increase as output continues to fall

Following on from the decline in volume in the previous year, potato output for EU-15 showed a further sharp fall (-6.5%) in 1998 as a result of a smaller production area in several potato producing countries and widespread inclement weather. The four main producer countries - France, Germany, the United Kingdom and the Netherlands (which in 1998 together accounted for around 60% of EU output) - all recorded a distinctly poorer harvest than in the previous year. In the Netherlands, which posted the biggest fall, the volume was one-fifth down on the previous year's level. Only Italy and Portugal - and, to a lesser extent, Denmark - recorded a higher volume in 1998 than in the previous year (see Annex, Table A.4).

Owing to the reduction in market supply (and against the backdrop of a very low price level in the two previous years) real potato prices soared in 1998: by an average of +38.6% for EU-15. The biggest rate of increase occurred in Belgium, where prices more than doubled in real terms (+126.6%), followed by the United Kingdom (+80.2%), where potato prices had fallen in the previous year to a ten-year low. Denmark and Luxembourg were the only Member States to experience - albeit moderate - price falls in real terms.

Sugarbeet: sharp falls in average volumes and prices for EU-15

Following an excellent harvest in 1997, the volume of final sugarbeet output fell significantly in 1998: for EU-15 it was, on average, more than 5% down on the level of the previous year. This was attributable to a reduction in the area sown to the crop, but above all to a pronounced fall in sugar yields. The majority of Member States - including France and Italy, which rank alongside Germany as the main sugar producers in EU-15 - recorded volume decreases in 1998; only six Member States, including Germany, posted volume growth (see Annex, Table A.4).

Real-terms prices declined in for the EU-15 as a whole (by an average of -2.6%) and in most of the Member States. Despite an, on average, downward trend for volumes and prices in EU-15, sugarbeet producers in four countries (Spain, Ireland, Portugal and Sweden) recorded small value increases in real terms in 1998.

Oilseeds: previous year's record beaten

After a record output of oilseeds (mainly rapeseeds, sunflowers and soya) in the previous year, 1998 saw a further rise at EU-15 level. An increased oilseed production area and higher yields compared with the previous year led to volume growth of 2.1% for EU-15. A major contributory factor was vigorous growth (+17.6%) in Germany, the second biggest oilseed producer in the EU. A further seven Member States also had higher output levels, in some cases recording very high growth rates, whereas output in the remaining EU countries was in decline (see Annex, Table A.4). In France, by far the most important oilseed producer in the EU, the volume of final output was slightly down on the 1997 level.

In spite of the higher output volume, average prices for oilseeds in EU-15 continued to rise in real terms in 1998. Except in Italy, producers in all the main oilseed producing countries (France, Germany, the United Kingdom and Spain), but also those in Denmark and Sweden, recorded (in some cases very marked) price increases in real terms. At the level of EU-15, the net effect of the price and volume developments was a 3.3% increase in real-terms value.

Fresh vegetables: distinct volume growth, slightly lower prices

Volume increases in seven Member States, including Italy, Spain (highest growth in EU-15: +8.6%) and France, the principal producer countries in EU-15, and decreases in the other Member States, led to the volume of final vegetable output in EU-15 rising by 1.7% in 1998 (see Annex, Table A.4). The average real price of vegetables was slightly down on the previous year's level (-0.6% for EU-15), with the three main producer countries plus six other Member States recording a fall in prices.

Fruit ⁽¹³⁾: higher volume and rising real prices

The volume of final fruit output for EU-15 increased slightly in 1998 (+0.8%) as a net result of growth in six Member States (with particularly strong increases in Germany: +12.1%; Italy: +10.3%; and the United Kingdom: +25.2%) and a lower volume in Spain and France (see Annex, Table A.4). In spite of overall volume growth, the average real-terms price of fruit in the European Union rose by 1.9%, with the highest rate of increase being recorded in Portugal (+21.9%). A striking feature, however, was the pronounced fall in the price of citrus fruits, which are included under this heading: with volume growth for EU-15 being 1.9%, prices fell by almost 10% in real terms compared with the previous year.

Grape must and wine: marked increase in volume and higher prices in real terms

The volume of grape must and wine output for the EU-15 as a whole rose strongly (+4.9%), despite a lower volume of output (-1.1%) in France (the EU-15's biggest wine producing country, accounting for 50% of output value). This was mainly the result of high growth rates in Germany (+39.2%) and Italy (+12.6%); smaller producer-countries also recorded considerable increases, after failed harvests in the previous year (Luxembourg: +112.9%; Austria: +60.6%). In Spain and Greece, the volume of grape must and wine output declined in 1998 (see Annex, Table A.4); as in the previous year, Portugal experienced a very sharp fall (-39%). On average, real prices for grape must and wine rose in 1998 (+1.7% for EU-15), reflecting increases mainly in France (+7.0%) but also in Spain (+5.1%), Italy (+2.9%) and Portugal (+50.3%, which largely offset the volume decrease there). In Germany, Luxembourg and Austria, the significant increases in volume led to prices falling sharply in real terms (by more than 25% in Germany).

Olive oil: real prices still under severe pressure

Despite increases in Greece and above all in the EU-15's main olive oil producer-country, Spain (+13.2%), where the highest level for more than 20 years is thought to have been reached, the volume of final olive oil output for EU-15 decreased by an average of 2.2% in 1998 (see Annex, Table A.4). This was mainly the result of a sharp fall in Italy, where the volume was 20% down on the level of the previous year. Similarly, Portugal recorded a 25% drop in volume in 1998, although this did not have such an impact at EU-15 level owing to the relatively small level of production in comparison to the other Member States. In all four olive oil producing countries, prices in real terms decreased very sharply (by an average of -18.7%) in 1998 (as in the previous year after the very good harvest).

Flowers and ornamental plants: real prices slightly up, volume virtually unchanged

At the level of EU-15 as a whole as in most of the Member States, including the Netherlands and Germany (the main EU-15 producers alongside Italy), the output volume for flowers and ornamental plants barely changed, if at all, in 1998 compared with 1997 (see Annex, Table A.4). Prices in real terms rose slightly in 1998 (+1.1% for EU-15), reflecting increases in five countries (again including Germany and the Netherlands) and decreases in the rest.

2.2.2. Animal output

Real value of final animal output sharply down overall following some considerable price falls

The animal production sector in 1998 was characterised by sharply falling prices. On average, the 1998 price level for the final animal output of the EU-15 as a whole was 8.9% lower than in the previous year. The sharpest rates of decline in prices occurred in the pig production sector (-27.1% for EU-15) as a result of a market imbalance caused by a sharp rise in output, only a slight increase in internal demand and the loss of

⁽¹³⁾ In this report, the term "fruit" includes fresh fruit, citrus fruits, tropical fruits and table grapes.

the Russian export market. Prices for poultry and for sheep and goats were dragged down in the wake of falling pig prices (decreasing by 6.8% and 14.9% respectively). Cattle producers received a slightly higher average price (+1.6% in real terms) in 1998, although this was only due to the upward price trend in the first half of the year. Here too, however, the absence of demand from the Russian export market sent prices tumbling as from mid-August 1998. Real milk prices in 1998 fell just short of the previous year's level (-1.1%). EU-15 egg producers, on the other hand, had to contend with falls averaging almost 10%.

The overall volume of final animal output rose in 1998, the growth rate of 1.4% falling just short of that for crop output. The fastest rate of growth within the animal sector was for pigs (+7.6% in output volume for EU-15), triggered by sharp price increases following the outbreak of swine fever in the Netherlands at the beginning of 1997.

Table 2.5. Changes in the volumes, prices and values of final animal output for the European Union as a whole and Member States, in 1998 as compared to 1997 (%)

	Volume	Nominal price	Nominal value	Real price	Real value	Share in % of EU-15 final output in "1997"
B	1.5	-12.4	-11.1	-13.7	-12.4	1.9
DK	4.4	-16.5	-12.9	-18.2	-14.6	2.2
D	1.3	-7.8	-6.6	-8.6	-7.5	8.9
EL	-1.2	3.6	2.4	-1.8	-2.9	1.2
E	2.5	-7.8	-5.5	-9.9	-7.7	5.1
F	-0.2	-3.8	-4.0	-4.7	-4.9	10.3
IRL	0.2	-2.4	-2.2	-5.6	-5.4	1.8
I	-0.1	-2.0	-2.1	-4.3	-4.4	6.3
L	0.3	-0.7	-0.4	-2.7	-2.4	0.1
NL	9.7	-9.8	-1.0	-11.4	-2.8	3.9
A	3.1	-7.9	-5.1	-8.9	-6.2	1.1
P	0.1	-10.6	-10.5	-13.8	-13.7	1.0
FIN	1.0	-1.2	-0.2	-2.6	-1.6	0.7
S	-0.6	-3.7	-4.3	-5.1	-5.7	1.1
UK	-0.5	-14.6	-15.0	-16.9	-17.3	5.2
EUR-11	1.6	-6.1	-4.6	-7.6	-6.1	41.0
EU-15	1.4	-7.2	-5.9	-8.9	-7.7	50.7

The combination of price and output volume developments for animals and animal products in 1998 resulted in the real value of final animal output declining by an estimated 7.7% compared to the value of the previous year. In the individual Member States, the biggest single fall (-17.3%) occurred in the United Kingdom (where considerably lower values were suffered not only by producers of cattle, pigs, sheep, goats and poultry but also by milk producers in particular). This rate of decrease contrasted with that for Finland, where the rate of decline was least steep (-1.6% in real terms); Finnish farmers appeared to be somewhat less affected by the pig-market crisis than most of other Member States and there was a marked rise in the value of poultry output.

There follow short commentaries on the individual developments for the six items of animal output which each account for more than one percent of final output (see Table 2.6).

Cattle: a relatively small decrease in value despite the absence of the Russian export market

The volume of final cattle output in EU-15 fell by a further 3.5% in 1998. This decline was probably still mainly attributable to the aftermath of the BSE crisis ⁽¹⁴⁾ which had led to appreciable losses in the cattle sector in the two previous years. Eleven of the fifteen Member States (including France, Germany and Italy, the three main EU producer countries) recorded volume decreases in 1998, the rates of decline in Belgium and

⁽¹⁴⁾ Bovine Spongiform Encephalopathy (BSE) or "mad cow disease".

particularly Portugal being considerable (in the case of the latter output volume was 20% lower, see Annex, Table A.4). Only four Member States (E, IRL, L and A) recorded volume growth in 1998.

Until August 1998, beef prices had generally been higher than the level of the two previous years. From mid to late August onwards, however, Russia's financial crisis and the subsequent sharp devaluation of the rouble led to the evaporation of the Russian export market (which had previously absorbed around 40% of Community beef exports). The impact was particularly severe as it coincided with intervention stocks that had once again reached a considerable level. Within just a few weeks, average market prices had fallen by around 10% and at the end of the year were below the level of the previous year - in some Member States, they were even lower than at the height of the BSE crisis. Nevertheless, the positive trend that had preceded August's turning point meant that the real-terms price of final cattle output showed an average rise for the year both at EU-15 level (+1.6%) and in eleven Member States. Only in Denmark, Greece, Ireland and the United Kingdom did prices decline on average over the year (in the United Kingdom, however, they fell by almost 15%).

Because of their specific volume and price trends, six Member States (E, I, L, NL, A and S) recorded growth in the real value of final cattle output in 1998. However, for EU-15 as a whole there was an average decrease of 2.0% compared with the previous year.

Table 2.6. Changes in the volumes, prices and values of the main items of animal output for the European Union as a whole, in 1998 as compared to 1997 (in %)

	Volume	Nominal price	Nominal value	Real price	Real value	Share in % of EU-15 final output in "1997"
Cattle (including calves)	-3.5	3.4	-0.2	1.6	-2.0	9.9
Pigs	7.6	-25.8	-20.1	-27.1	-21.5	11.5
Sheep and goats	-0.2	-12.5	-12.7	-14.9	-15.1	2.1
Poultry	1.6	-5.0	-3.5	-6.8	-5.3	5.4
Milk	-0.2	0.7	0.5	-1.1	-1.3	17.7
Eggs	0.9	-7.8	-7.0	-9.6	-8.8	2.5
Animal output	1.4	-7.2	-5.9	-8.9	-7.7	50.7

Pigs: prices hit an all-time low

The year 1998 was characterised by a spectacular decline in real-terms pig prices (by an average -27.1% for EU-15). This slump in price was the result of a sharp increase in pig output volumes (the volume of final output for EU-15 rose by 7.6% in 1998) against a backdrop of only limited growth in internal demand and increasing difficulties on the export markets. The loss of the Russian export market, which in the first quarter of 1998 had still absorbed over a third of Community exports, had a major impact. The downward trend in pig prices which had already begun in 1997 continued over the course of 1998 and gathered pace from mid-June onwards when the first difficulties were encountered on the Russian market. Despite a series of support measures decided upon in November 1998, the average pig price at year's end was around 40% below the level in the same period of 1996 and 1997. Among the Member States, it was the Netherlands which recorded the fastest rate of average price fall (-37.2% in real terms). The least steep, but nevertheless still sharp, rate of decline in pig prices was recorded for Italy (a fall of slightly more than 10% (see Annex, Table A.6)).

The increase in pig output in 1998 was pronounced in most Member States. Eleven countries recorded growth, with the Netherlands expectedly seeing a particularly marked rise as output picked up again after the end of the swine fever epidemic (+40.0%). Only three Member States - Greece, Italy and Luxembourg - recorded significant decreases; in the United Kingdom, the level of output remained virtually unchanged compared with the previous year. Underlying the general rise in output was the sharp rise in pig prices which

occurred in the Spring of 1997 following the outbreak of swine fever in the Netherlands and which was a major factor in raising the sector's profitability level.

Taking into account the opposing trends in volumes and prices, the real value of final pig output declined by an average of more than 20% for EU-15 in 1998. The fall in value in the individual Member States ranged, in real terms, between 8.8% (Finland) and 32% (Luxembourg).

Sheep and goats: also affected by a slump in real prices

In 1998, the volume of final sheep and goat output in EU-15 fell just short of the previous year's level. This reflected, in particular, declines in three of the four main producer countries (Spain, Greece and France) and a distinct increase in the fourth, the United Kingdom (for the other Member States, see Annex, Table A4).

This market was likewise severely affected by a slump in real prices in 1998. Prices for sheep and goats, which in 1996 and 1997 in particular had reached a relatively high level compared with the early 90s, fell sharply - especially in the second half of 1998 - and in late November were more than 20% down on the same period of the previous year. A major factor that certainly contributed to the decline in prices for sheep and goat meat in 1998 was the competitive pressure emanating from the other meat markets (with strongly rising supply and falling prices).

Poultry: further increase in output, but prices likewise in sharp decline

Against a background of (albeit sluggish) growth in internal demand and increased demand on the export side (in spite of the Russian crisis), the volume of poultry output in EU-15 rose again (+1.6%) in 1998, continuing the upward trend prevailing since the mid-80s. Ten Member States, including France and Italy (which accounted for virtually half of EU poultry output in 1998), recorded in some cases appreciable increases (see Annex, Table A.4).

While prices were well up on the previous year's level for most of the year, they went into free fall from mid-September onwards on account of the difficulties on the Russian market and growing competition from pigmeat. Average real prices declined in thirteen Member States, in most cases sharply so, and at EU-15 level (in the latter case by -6.8%).

Milk: lower real prices, hardly any change in volume

The volume of EU-15 milk output in 1998 is estimated to have fallen just short of the previous year's level (volume of final output down by -0.2%), with the continued reduction of the dairy herd being largely offset by higher yields. At Member State level, the largest rate of decline was -2.3% (Ireland); Greece recorded the highest growth rate, at +2.9%.

For the European Union as a whole the average milk price in real terms was slightly below the previous year's level (-1.1% for EU-15), although the United Kingdom recorded a very sharp price fall (-14.1%, followed by Italy with -5.9%).

Eggs: continuing sharp fall in prices, slight growth in volume

There was a small rise in the volume of egg output in the European Union in 1998 (+0.9% for EU-15). Seven Member States (including France and the United Kingdom) recorded significant growth. Italy's output showed little change, while the remaining seven Member States (including Germany and Spain) experienced a fall in volume levels (see Annex, Table A.4).

Having already fallen sharply in the previous year, egg prices in real terms declined by an average of almost 10% for EU-15 in 1998 as a result of cheaper feedingstuffs and over-supply. Belgium saw the biggest price decrease (-24.1%), but also registered the highest rise in volume (+22.6%).

2.3. Intermediate consumption and gross value added at market prices

Sharp decline in the real value of intermediate consumption in EU-15

A sharp decline in the average level of real-terms prices of intermediate consumption as a whole in EU agriculture (and in particular for animal feedingstuffs, energy and fertilizers), accompanied by a slight rise in volume, is estimated to have led to a strong decline in the real value of inputs in 1998 (cf. Table 2.7).

The situation in the individual Member States, however, was highly varied. Although prices and values were lower in real terms in all the Member States except Ireland (where there was a real rise in value), the development in volumes and the scale of the decline in prices varied so much that the decreases in value ranged from -0.6% (in Spain) to -10.3% (in the United Kingdom). The volume of intermediate consumption purchased increased in nine of the Member States by comparison with 1997.

If the annual development in intermediate consumption is compared with that of final output, the level of change in the productivity of intermediate consumption (volume ratio) and "terms of trade" of agriculture (nominal price ratio or "price scissors") is obtained.

The **productivity of intermediate consumption** in the European Union as a whole rose by +0.5% in 1998, but there were clear differences between the various Member States ⁽¹⁵⁾. However, figures for individual years should be treated with caution because the volume of final agricultural output, for example, may be substantially affected by weather conditions. This was the case in 1998, especially in Luxembourg and Austria, where a good grape harvest followed a poor one in the previous year (which had a considerable influence on the average volume of crop output in general), but also in Portugal and Finland, where the unfavourable weather conditions of 1998 led to sharp declines in the volume of crop output. In the Netherlands, however, the recovery of pig output after the sharp decline in the previous year caused by swine fever had a positive effect on the productivity of intermediate consumption. Apart from in Luxembourg, Austria and the Netherlands, there were increases in the productivity of intermediate consumption in four other Member States (Denmark, Germany, Spain and Italy). The other Member States recorded declines; the main reason for the particularly steep decline in Ireland was a clear rise in the use of inputs (especially animal feedingstuffs). The changes for 1998 are shown in Table 2.7.

Table 2.7. Changes in the volumes, prices and values of intermediate consumption, as well as changes in the productivity of intermediate consumption and the "terms of trade" for the European Union as a whole and Member States, in 1998 compared with 1997 (in %)

	Volume	Nominal price	Nominal value	Real price	Real value	"Productivity"	"Terms of trade"	Share in % of EU-15 Total I. C. in "1997"
B	2.0	-5.1	-3.2	-6.5	-4.6	-2.3	0.5	4.1
DK	0.0	-3.8	-3.8	-5.8	-5.8	3.0	-8.6	3.4
D	-0.1	-3.9	-3.9	-4.7	-4.8	3.3	-1.4	17.3
EL	2.0	1.0	3.0	-4.3	-2.4	-0.8	-1.5	2.5
E	2.0	-0.2	1.8	-2.6	-0.6	1.2	-3.4	11.1
F	2.2	-4.3	-2.2	-5.3	-3.2	-1.9	2.8	22.6
IRL	11.7	-4.5	6.7	-7.6	3.2	-10.9	3.4	2.2
I	-0.4	-0.8	-1.2	-3.2	-3.5	2.2	0.4	9.5
L	0.2	0.2	0.4	-1.9	-1.7	6.6	-2.8	0.1
NL	-1.9	-1.6	-3.5	-3.4	-5.3	6.6	-2.2	7.9
A	-0.9	-2.2	-3.0	-3.2	-4.1	6.8	-4.4	1.8
P	-0.9	-2.8	-3.7	-6.2	-7.1	-8.2	3.0	2.1
FIN	0.8	-2.3	-1.5	-3.8	-3.0	-6.8	2.1	1.5
S	1.1	-2.2	-1.1	-3.6	-2.6	-2.0	-0.3	2.3
UK	0.6	-8.3	-7.7	-10.8	-10.3	-1.5	-0.3	11.4
EUR-11	1.0	-2.9	-1.9	-4.4	-3.5	0.7	0.2	80.4
EU-15	1.0	-3.5	-2.5	-5.2	-4.3	0.5	0.1	100.0

The "terms of trade" generally remained almost unchanged in the European Union as a whole in 1998 (+0.1%), although six Member States recorded increases (see also Table 2.7).

⁽¹⁵⁾ See Annex Table A.39 for the changes in the productivity of intermediate consumption over the long term.

Intermediate consumption is made up of different input items. The proportional share of four of the main items is indicated in Table 2.8, together with the changes in their volumes, prices and values. The following analysis is restricted to these four items.

Animal feedingstuffs: a sharp fall in real prices and slight increase in volume

The group of (purchased) animal feedingstuffs represents the most costly individual input in most Member States, the exceptions being in Greece (where most cost is spent on energy and lubricants) and Austria (materials and small tools). In eleven Member States and on average for EU-15, the volume of inputs purchased in 1998 was greater than in the previous year, the sharpest rate of increase being recorded in Ireland (+14.8%, because poor weather conditions led to a much lower output of own-produced feedingstuffs). Only in three Member States was the use of purchased feedingstuffs lower in volume terms than in the previous year (the sharpest decline of -13% was recorded in Austria). In all Member States, the real-terms price of purchased feedingstuffs declined and in most cases strongly so. This was clearly associated with the sharp fall in cereal prices. The real value of animal feedingstuffs purchased by farmers in EU-15 in 1998 was thus 7.5% below the value of the previous year.

Table 2.8. Changes in the volumes, prices and values of the main components of intermediate consumption for the European Union in 1998 compared with 1997 (in %)

	Volume	Nominal price	Nominal value	Real price	Real value	Share in % of EU-15 final output in "1997"
Energy and lubricants	-0.8	-5.8	-6.5	-7.6	-8.3	5.3
Fertilizers and soil improvers	0.4	-5.0	-4.6	-6.7	-6.3	4.3
Feedingstuffs	1.5	-7.1	-5.7	-8.8	-7.5	16.8
Material, tools and repairs	0.9	1.2	2.2	-0.5	0.4	5.9
Intermediate consumption	1.0	-3.5	-2.5	-5.2	-4.3	47.5

Materials and small tools, maintenance and repairs: real value only slightly changed

The volume of materials and small tools, and maintenance and repair costs rose slightly in 1998 in the European Union (seven of the 15 Member States recorded increases in 1998). Real prices fell slightly in seven Member States, as did the average for EU-15, compared with the previous year. The real value of this component of intermediate consumption thus changed only slightly in 1998.

Energy and lubricants: sharp fall in real prices and slightly lower volumes

Real-terms prices of energy and lubricants, which in the previous two years (especially 1996) had risen sharply on average in EU-15, declined substantially in 1998. There were lower purchase prices in all the Member States, most of the declines being considerable. The steepest rate of decline was recorded for France (-13.4%) and the least severe in Austria (-1.2%). Despite the general fall in prices, the volumes purchased in the EU-15 were slightly lower than the corresponding level of 1997, decreases occurring in eight of the Member States. The declines in volume and prices led to an 8.3% reduction in real-terms value.

Fertilizers and soil improvers: real prices much lower and only slight changes in volumes used

The use of fertilizers and soil improvers grew slightly over 1997 in volume terms. Real prices in all Member States and on average for EU-15 were much lower than in the previous year (the sharpest rate of decline was in the United Kingdom: -21.7%), so that for this component of intermediate consumption, too, there was a sharp decline in real value in 1998.

Gross value added at market prices: a further sharp decline

The decline in the real value of final agricultural output in the EU-15 together with intermediate consumption in 1998 led to a fall in the average real-terms gross value added at market prices within the EU of 3.5% (see Table 2.9).

Table 2.9. Changes in gross value added at market prices and its volume and price indices for the European Union as a whole and Member States in 1998 as compared with 1997 (in %)

	Volume	Nominal price	Nominal GVAmP	Real price	Real GVAmP	Share in % of GVAmP in "1997"
B	-4.5	-3.7	-8.0	-5.1	-9.4	2.0
DK	6.5	-20.7	-15.6	-22.4	-17.3	2.7
D	7.3	-6.7	0.1	-7.5	-0.8	13.1
EL	0.8	-1.2	-0.4	-6.4	-5.6	5.4
E	4.1	-6.0	-2.2	-8.2	-4.5	13.7
F	-1.6	1.2	-0.5	0.2	-1.5	20.6
IRL	-12.5	2.9	-10.0	-0.4	-12.9	1.9
I	2.7	-0.3	2.4	-2.6	0.0	22.4
L	12.8	-4.9	7.4	-6.8	5.2	0.1
NL	11.1	-5.6	4.9	-7.4	2.9	7.3
A	13.1	-10.6	1.1	-11.6	0.0	1.5
P	-17.3	3.6	-14.3	-0.1	-17.3	1.9
FIN	-20.3	5.2	-16.2	3.7	-17.4	0.6
S	-6.1	-3.3	-9.2	-4.7	-10.6	0.8
UK	-3.8	-9.0	-12.5	-11.5	-14.8	5.9
EUR-11	2.3	-2.5	-0.3	-4.2	-2.0	85.2
EU-15	1.9	-3.4	-1.5	-5.3	-3.5	100.0

In most Member States - as for EU-15 overall - the development in real gross value added at market prices was downward. Only in the Netherlands and in Luxembourg were there recorded increases. The steepest rates of decline were in Finland, Belgium and Portugal; but in Ireland, Sweden and the United Kingdom there were also declines of over 10%.

The development of gross value added at market prices mainly depends on changes in final output and intermediate consumption, but also on the relative scale of these components. In actual fact, the proportion of intermediate consumption differs substantially from country to country depending on the predominant type of production and degree of intensity. Further details on this are given in Chapter 3 and the tables in the Annex.

2.4 Distributive transactions

Subsidies: much lower in real terms

The real value of the subsidies ⁽¹⁶⁾ received by the agricultural production branch of the European Union fell in 1998 by an average of 6.4%. However, there were wide variations between the Member States. There were increases in the real value of subsidies paid out in only four Member States; in Ireland, Portugal and Sweden these increases were relatively pronounced but far less so in Greece. In Denmark the value of paid subsidies remained unchanged in real terms. In the other ten Member States, on the other hand, there were more or less sharp declines.

The sharpest decline, of just under three-quarters, was recorded by the Netherlands, almost exclusively due to the discontinuation of the support payments made in 1997 to pig producers affected by the outbreak of swine fever. Real declines of about 10% or more, however, were also recorded in Italy, Luxembourg, Austria and the United Kingdom. In Luxembourg, this decline is primarily explained by the discontinuation of the subsidies paid in 1997 to wine producers affected by crop failure. In Austria it is due to the scheduled phasing-out of temporary compensatory payments provided for farmers in the period following this country's

⁽¹⁶⁾ For the purposes of the Economic Accounts for Agriculture, subsidies include only direct current transfers to agriculture, and therefore exclude price support (the effect of which appears in producer prices themselves), investment aid and aid to the agri-foodstuffs industries (even if used for supporting agricultural production) and transfers to households. The development of subsidies is therefore not fully representative of the overall support for European Union agriculture. The data on subsidies published in this report include estimates of over-compensation of VAT for the countries that operate a flat-rate VAT scheme.

accession to the EU to ease the implementation of the CAP. In the United Kingdom, the value of subsidies paid for fattening cattle and calves, wheat and barley fell in particular; also, for crop products, the fall in the value of the green pound is estimated to have had an effect on compensatory payments.

In view of their, in some cases, relatively large share of agricultural income, subsidies in many Member States had a considerable impact on the agricultural income indicators (see Chapter 3).

Recording subsidies and measuring agricultural income

In any analysis of the trend in agricultural incomes, the procedure used for recording subsidies needs to be defined because of their increasing importance in the composition of agricultural income (some 30% of gross value added at market prices) and the need to ensure comparability with the agricultural income statistics for previous years.

The recording of subsidies in the Economic Accounts for Agriculture published by Eurostat is based on a payment criterion. Aid is included in the estimate of agricultural income for the calendar year in which it is actually paid, which does not necessarily correspond to the period in which the entitlement comes about.

In practical terms this means that the value of subsidies that appears for a given calendar year will tend to consist of payments relating to two different marketing years. On average, it is expected that about 90% of aid (whether new or upgraded) in the European Union linked to the CAP reform and due for the 1998/99 marketing year will have been paid out in 1998. This proportion does, however, vary between the Member States. A small proportion of subsidies paid in 1998 is likely to have come from the amounts due for the 1997/98 marketing year.

It should equally be underlined that the amount of subsidies recorded for 1998 is not readily comparable with that in the years prior to 1993, when the far-reaching CAP reform came into effect. The big increase in the amount of subsidies recorded in the years after 1993 mainly reflects the replacement of some price and market support by direct aid. The implementation of the CAP reform has entailed the payment of direct aid to compensate for the reduction in price support and the upgrading of existing aid.

Taxes linked to production: unchanged in real terms

Following on from the increases recorded in the previous two years, taxes linked to production in 1998 remained unchanged in real terms on average for EU-15 (see Table 2.10). The balance of "**net subsidies**" (subsidies less taxes linked to production) was positive both for the European Union as a whole and for most of the Member States individually (the exception was the Netherlands). The size of this positive balance, however, declined in 1998 in most Member States (and on average for EU-15). The Netherlands, which in 1997 had recorded a positive balance in net subsidies for the first time since 1973 as a result of the compensatory payments to pig producers mentioned above, recorded a clear negative balance again in 1998.

The combined effect of the trends in subsidies and taxes linked to production was a decrease in **gross value added at factor cost** of 4.3% in real terms (compared to a -3.5% decline in real-terms gross value added at market prices).

Depreciation: hardly any change in real terms

The level of depreciation in the European Union in 1998 (as in 1997) was almost unchanged compared with the previous year (-0.4%). This was the overall result of declines in ten Member States (the biggest decline being -3.6% in Portugal) and increases in four others (the highest rate of increase, +7.2% in Spain, was due to new equipment purchases).

Table 2.10. Nominal and real changes in subsidies, taxes linked to production and depreciation in the European Union as a whole and the Member States in 1998 as compared to 1997 (in %)

	Subsidies		Taxes		Depreciation	
	Nominal	Real	Nominal	Real	Nominal	Real
B	-5.8	-7.2	-8.8	-10.2	-2.0	-3.4
DK	2.1	0.0	8.1	5.9	2.5	0.4
D	-4.5	-5.4	4.9	4.0	0.2	-0.7
EL	6.7	1.1	7.7	2.1	9.4	3.7
E	1.8	-0.6	5.6	3.1	9.7	7.2
F	0.0	-1.0	-1.0	-1.9	1.0	0.0
IRL	10.4	6.7	7.7	4.2	5.7	2.2
I	-8.4	-10.6	6.8	4.3	1.1	-1.3
L	-8.5	-10.4	12.9	10.6	0.1	-1.9
NL	-72.2	-72.7	-4.2	-6.0	0.0	-1.9
A	-8.2	-9.2	-10.3	-11.3	0.4	-0.6
P	10.3	6.4	-8.9	-12.2	0.0	-3.6
FIN	0.0	-1.4	-9.1	-10.4	-1.0	-2.5
S	10.4	8.7	-0.3	-1.7	0.0	-1.5
UK	-7.4	-10.0	16.8	13.6	0.5	-2.3
EUR-11	-5.4	-7.0	0.3	-1.1	1.4	-0.3
EU-15	-4.5	-6.4	1.8	0.0	1.4	-0.4

Real net value added at factor cost for the European Union in 1998 declined by -5.5% on average. This accentuated rate of decline, *vis-à-vis* the fall in real gross value added at factor cost in 1998 (-4.3%), reflects the important impact of the development in depreciation (whose share of real gross value added at market prices in the European Union was 29.9% in "1997").

In individual Member States, where the share of depreciation varied between just under 7% of gross value added at market prices in Portugal to about 80% in Austria, Finland and Sweden, changes in depreciation in 1998 were often a decisive factor determining the trend in income.

Rental payments: unchanged in real terms

Average rental payments in EU-15 in 1998 were unchanged compared with the previous year in real terms (see Table 2.11). This was the result of declines in ten Member States (including Spain, which accounts for over 10% of the total value of rental payments in EU-15) and increases in the other five (including France, which contributes over a quarter to the value of rental payments in EU-15). However, the impact of the value of rental payments on the income from agricultural activity in the EU is relatively small (in "1997", their share of gross value added at market prices was 4.7%).

Interest payments: down sharply once again

The new sharp decline in interest payments in the European Union as a whole was principally due to lower interest rates. Double-digit rates of decline in the level of interest payments were recorded in three Member States, and declines were common to all the Member States except Ireland and the United Kingdom. Despite the decline in real-terms expenditure on interest payments (in "1997" it accounted for nearly 10% of real gross value added at market prices in EU-15), the **real net income of total agricultural labour** fell by 5.9% in 1998 (compared with a 5.5% decline in net value added at factor cost).

Compensation of employees: higher costs in real terms

Data on the compensation of employees have not been available for Germany on a basis comparable to that of other Member States since reunification. This means that Eurostat has been unable to derive an average change in this item or indeed the ensuing net income of family labour for EU-15. For EU-15 without Germany, the cost of compensation of employees in 1998 rose by an average of 1.6% in real terms. Accordingly, the **net income of family labour** (again for EU-15 excluding Germany) fell sharply (-6.5% in real terms).

Table 2.11. Nominal and real changes in rents, interest and compensation of employees for the European Union as a whole and the Member States, in 1998 as compared to 1997 (in %)

	Rents		Interest		Compensation	
	Nominal	Real	Nominal	Real	Nominal	Real
B	0.0	-1.5	-3.0	-4.4	2.0	0.5
DK	0.0	-2.1	0.0	-2.1	0.0	-2.1
D	1.4	0.5	0.7	-0.2	:	:
EL	2.0	-3.3	2.0	-3.3	1.0	-4.3
E	-3.4	-5.7	-5.6	-7.8	10.9	8.3
F	3.4	2.4	0.4	-0.6	3.3	2.3
IRL	0.0	-3.3	4.5	1.1	1.3	-2.0
I	3.9	1.5	-18.2	-20.1	2.2	-0.2
L	0.7	-1.4	-6.3	-8.3	4.6	2.5
NL	1.2	-0.7	-7.6	-9.3	7.5	5.5
A	-2.2	-3.3	-3.8	-4.8	2.9	1.8
P	-1.0	-4.5	-8.3	-11.6	3.9	0.2
FIN	0.0	-1.5	-2.1	-3.5	6.8	5.2
S	2.9	1.4	-11.6	-12.9	3.1	1.5
UK	10.3	7.3	16.0	12.8	1.5	-1.2
EUR-11	1.3	-0.1	-4.2	-5.7	:	:
EU-15	1.7	0.0	-2.1	-4.0	:	:

3. Changes in income from agricultural activity in the Member States in 1998 over 1997

3.1. Belgium

In 1998, after two years of growth, it is estimated that income from agricultural activity fell strongly (–8.4% in real terms as measured by Indicator 1). This decline can be explained by the drop in the real value of final agricultural output. Also of note were the only slightly less strong fall in the real value of intermediate consumption and the marked decline in the real value of net subsidies. The reduction in the volume of total agricultural labour continued at much the same pace as in previous years (–2.5%).

The year 1998 was a difficult one, marked by adverse weather conditions. This situation affected potato production in particular, as the cold and damp April weather reduced yields. The heavy rain caused problems with lifting the potatoes, resulting in a –13% reduction in the volume of output. Supplies in France and the Netherlands fell for the same reasons. As a result, the real prices for potato output more than doubled in Belgium. Sugarbeet production was also affected by the bad weather, the volume of output falling by –15%. The volume of cereal output, on the other hand, rose by +7.4% in 1998. Real prices fell by –13.6% due to the increase in supply. The output value of fresh vegetables, which account for around one-third of all crop products, remained relatively stable in real terms, as the increase in real prices offset a lower output volume. As a whole, the value of final crop output was up in real terms due to the increase in real prices.

In 1998, the real value of final animal output fell sharply due to the decline in real prices. Pig output recorded the largest fall in real terms. As in many other countries, the volume of pig output in Belgium rose in 1998 following the relative profitability in the sector during 1997 caused by the then high prices in the wake of the swine fever epidemic in the Netherlands. However, with higher EU output volumes in 1998, a production capacity in the Netherlands gradually returning to its level of early 1997, together with lower demand from Russia and the Far East as a result of their economic crises, the considerable imbalance between supply and demand caused prices to tumble. On average, the real price of pig output fell by –30% in Belgium, whilst the volume of output was +5% higher. In contrast, real prices for cattle output continued to recover from their lows during the crisis experienced by this market in 1996. However, the substantial rise in real-terms prices was accompanied by an even sharper rate of decline in the volume of output.

Table 3.1 Changes in the main components of the income calculation for agriculture in Belgium, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	-2.8	9.3	7.7	6.3	4.7	39.9
Cereals	7.4	-12.3	-13.6	-5.7	-7.1	3.3
Potatoes	-13.0	130.0	126.6	100.1	97.1	5.9
Sugarbeet	-15.0	1.0	-0.5	-14.2	-15.4	4.4
Fresh vegetables	-4.0	5.0	3.5	0.8	-0.6	12.5
Fruit	6.9	-4.4	-5.8	2.2	0.7	4.9
Final animal output	1.5	-12.4	-13.7	-11.1	-12.4	59.8
Cattle	-12.0	12.5	10.8	-1.0	-2.5	13.6
Pigs	5.0	-29.0	-30.0	-25.4	-26.6	21.1
Poultry	9.4	-14.0	-15.3	-5.9	-7.3	5.4
Milk	0.0	2.3	0.8	2.3	0.8	15.3
Final output	-0.3	-4.6	-6.0	-4.9	-6.3	100.0
Intermediate consumption	2.0	-5.1	-6.5	-3.2	-4.6	65.7
Gross value added at m.p.	-4.5	-3.7	-5.1	-8.0	-9.4	34.3
Subsidies				-5.8	-7.2	17.5
Taxes linked to production				-8.8	-10.2	3.1
Depreciation				-2.0	-3.4	28.0
Net value added at f.c.				-9.4	-10.7	86.4
Rent				0.0	-1.5	6.6
Interest				-3.0	-4.4	19.9
Net income of total labour				-12.2	-13.5	59.9
Compensation of employees				2.0	0.5	11.7
Net income of family labour				-15.1	-16.3	48.2

(*) The deflator is the implicit price index of GDP at market prices, +1.5%.

On the back of lower real-terms prices, particularly for animal feedingstuffs (-10.3%), the real value of intermediate consumption declined. Given the fall in the real value of net subsidies, and the less dramatic fall in depreciation, real net value added at factor cost fell significantly (-10.1%). The real values of rents and interest payments also fell in 1998, but not to the same degree. As a result, the -11.3% fall in the real net agricultural income of total labour input per unit of labour input (Indicator 2), was greater than that for Indicator 1. Finally, the real value of the compensation of employees rose very slightly, the level of Indicator 3 thereby falling by -14.2% in real terms.

3.2. Denmark

Of all the Member States, Denmark recorded the steepest rate of decline in average income from agricultural activity (Indicator 1: -18.0%) in 1998 compared with 1997. This clear fall in the level of income, which had grown steadily from 1992 to 1996, left the measurement of Indicator 1 more than 5% below the level of the base-year "1990" (following a slight decline in 1997). The main reason for the loss of income in 1998 was the sharp fall in the average level of prices for final animal output, and within this particularly the collapse of pig prices.

Table 3.2. Changes in the main components of the income calculation for agriculture in Denmark, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	-0.4	0.2	-1.8	-0.1	-2.2	30.4
Cereals	-2.3	-6.9	-8.8	-9.1	-11.0	11.5
Flowers	2.9	7.1	4.9	10.2	7.9	6.4
Final animal output	4.4	-16.5	-18.2	-12.9	-14.6	69.6
Cattle	-7.9	1.3	-0.8	-6.7	-8.6	5.8
Pigs	8.0	-27.6	-29.0	-21.8	-23.4	31.6
Milk	0.8	0.0	-2.1	0.8	-1.3	24.2
Final output	3.1	-12.1	-13.9	-9.3	-11.2	100.0
Intermediate consumption	0.0	-3.8	-5.8	-3.8	-5.8	56.1
Gross value added at m.p.	6.5	-20.7	-22.4	-15.6	-17.3	43.9
Subsidies				2.1	0.0	29.1
Taxes linked to production				8.1	5.9	4.0
Depreciation				2.5	0.4	37.8
Net value added at f.c.				-17.9	-19.6	87.3
Rent				0.0	-2.1	6.5
Interest				0.0	-2.1	37.3
Net income of total labour				-30.5	-31.9	43.5
Compensation of employees				0.0	-2.1	18.1
Net income of family labour				-42.9	-44.1	25.4

(*) The deflator used is the implicit price index of GDP at market prices, +2.1%.

The value of final pig output accounts for about a third of that of final agricultural output as a whole. The volume of pig output increased at an unusually high rate in 1998 (cf. Table 3.2), with the Danish pig population reaching a record level towards the end of 1998. As in most other Member States, however, pig prices collapsed, leaving the value of output a little over a quarter below the previous year's level. Cattle prices stabilised in 1998, but the output volume fell again sharply. By contrast, the output volume of poultry and of the group "other livestock" (mainly fur animals) increased considerably, with the corresponding average real-terms price for either category falling more sharply. The average real-terms price for animals as whole reflected the strength of the declines, being about a quarter below the level of 1997.

Milk's share in the value of final output makes it the second most important product in Danish agriculture. Its output volume rose slightly in 1998 but this was more than offset by a fall in real prices, equivalent to the rate of inflation.

The total area under cereals and the average yield in 1998 were slightly below the level of the previous year, and this was reflected in a lower average output volume. With cereal prices also falling sharply compared with the previous year, the value of final cereal output was a tenth lower in real terms. By contrast the real-terms values of flowers and of oilseeds increased from both greater volumes and higher prices. Overall, however, the real value of final crop output was below the previous year's level.

The increase in final animal output resulted in a sharp rise in the volume of feedingstuffs used, the most important component of intermediate consumption in value terms. However, the use of intermediate consumption goods remained generally unchanged in volume terms as a result of declines in other components. Real intermediate consumption prices were on average much lower; substantial declines were recorded especially for materials and small tools as well as feedingstuffs. Nevertheless, despite the decline in the real-terms value of intermediate consumption, it was at insufficient a rate to prevent a steepening of the decline in real-terms gross value added at market prices compared with the trend in final agricultural output.

After the further consideration of the developments in net subsidies (down slightly in real terms) and depreciation (slightly up in real terms), it was calculated that real net value added at factor cost, the basis for the calculation of income Indicator 1, fell considerably (-19.6%). The sharpness of the decline in income Indicator 1 was only slightly softened by the 2% decline in the volume of total agricultural labour (and family labour).

Rents, interest payments and the compensation of employees remained unchanged in nominal terms, but the relatively small residual income Indicators 2 and 3 suffered over-proportional reductions in 1998 (down -30.5% and -43.0% respectively).

3.3. Germany

The measurement of income from agricultural activity that is Indicator 1 (real net value added at factor cost per unit of agricultural labour) is estimated to have risen slightly (+1.0%) in Germany in 1998. It was, however, only after taking into account the continued decline in the volume of agricultural labour (at -4.1%, the sharpest rate of decline in the EU-15) that this measure of income per unit of labour rose.

The real value of final animal output in Germany, as in the other EU Member States, fell sharply in 1998 mainly as a result of the downward development on pig markets, greatly influencing the overall value of agricultural production in 1998. Pan-European expansion of pig production and a recovery of levels in the Netherlands, led to a decline in prices, the rate of which in Germany was among the very strongest in the EU. The volume of cattle output declined once more, with the result that prices continued to firm. The volume of milk output in 1998 was slightly below the level of the preceding year and this was accompanied by a sharp rise in the average real-terms price for milk, thereby raising the production value.

For crop production as a whole, there was a substantial rise in output volume in 1998. Although prevailing prices were lower than in 1997 on average, the value of final crop output rose. The higher volume of crop output resulted from the combination of sharp increases for grape must and wine, fresh fruit and oilseeds and, on the other hand, a decline in cereal production.

The cereals harvest in 1998 was a little lower than the record level of the previous year, with only slight changes in production areas and lower average yields. Within the cereals sector, output volumes of wheat, rye and barley increased, but there were relatively sharp declines for barley, grain maize and oats. Real-terms prices for the various cereals all declined but at varying rates. The fruit harvest in 1998 was well above the level of the previous year, although it should be borne in mind that the previous year's result was well below the long-term average because of frost damage during the flowering period. Higher output levels though were accompanied by a sharp rise in the real price level for fruit, contributing also therefore to the higher value of fruit output. The area of potatoes planted declined once more, which together with a lower average yield and poor weather conditions in some regions during harvesting led to a much lower output volume. The real price level, however, almost doubled, with the result that the output value in real terms was more than a third higher than in the previous year. The output volume of oilseeds rose sharply in 1998 as a result of both a greater area sown and slightly higher yields. Despite the rise in output volume, the real price of oilseeds was also a little above the previous year's level. The above-mentioned sharp increase in the volume of wine output was largely reflected by the offsetting decline in real-terms price.

The volume of the individual input goods and services, and thus total intermediate consumption, used in agriculture in 1998 remained almost unchanged with the levels recorded for 1997. However, real-terms prices and therefore value did fall sharply, especially for feedingstuffs, energy and fertilizers. Such was the decline in the value of intermediate consumption that it almost offset the lower real value of final agricultural output, real gross value added at market prices being only slightly down on the level of the previous year. The level of

subsidies paid out in 1998 was, on the other hand, much lower than the level in 1997. This was mainly due to the ending of BSE-related subsidies to cattle producers. Furthermore, much lower compensatory amounts were paid out to naturally disadvantaged areas. After further taking in account the sharp rise in production-linked taxes and slight decline in the real value of depreciation, real net value added at factor cost, the basis for Indicator 1, declined by 3.1%.

Real terms rental payments were slightly up on the corresponding figure for 1997 but interest payments remained almost unchanged. The real net income of total labour in agriculture (the basis for Indicator 2) declined slightly more strongly than the basis for Indicator 1. As a result, Indicator 2 was slightly below the previous year's level in 1998. Because of the special structural situation in the new Länder (cf the methodological notes in the annex) the heading "compensation of employees" cannot be established on a comparable basis with that of other Member States and therefore neither the net income of family labour nor Indicator 3 can be indicated.

Table 3.3. Change in the main components of the income calculation for agriculture in Germany, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	6.2	-1.5	-2.4	4.6	3.7	42.7	
Cereals	-3.0	-6.3	-7.1	-9.1	-9.9	10.1	
Potatoes	-7.6	47.6	46.3	36.3	35.1	2.8	
Fruit	12.1	6.0	5.1	18.9	17.8	5.4	
Wine	39.2	-25.0	-25.7	4.4	3.5	4.2	
Final animal output	1.3	-7.8	-8.6	-6.6	-7.5	57.3	
Cattle	-3.5	3.1	2.2	-0.5	-1.4	10.7	
Pigs	6.3	-31.0	-31.6	-26.7	-27.3	13.2	
Milk	-0.6	4.8	3.9	4.2	3.3	26.4	
Final output	3.2	-5.2	-6.0	-2.2	-3.0	100.0	
Intermediate consumption	-0.1	-3.9	-4.7	-3.9	-4.8	54.1	
Gross value added at m.p.	7.3	-6.7	-7.5	0.1	-0.8	45.9	100.0
Subsidies				-4.5	-5.4		35.4
Taxes linked to production				4.9	4.0		4.1
Depreciation				0.2	-0.7		48.3
Net value added at f.c.				-2.3	-3.1		83.0
Rent				1.4	0.5		9.7
Interest				0.7	-0.2		14.5
Net income of total labour				-3.5	-4.4		58.8
Compensation of employees				:	:		:
Net income of family labour				:	:		:

(*) The deflator used is the implicit price index of GDP at market prices, +0.9%.

3.4. Greece

Average agricultural income per unit of labour in Greece is estimated to have declined slightly in 1998 (provisional Indicator 1 figures suggesting -1.3%). The downward pressure on income has come from lower real-terms (i.e. deflated) prices for some of the most valuable agricultural products.

About 70% of the value of agricultural products in Greece are accounted for by crops, the principal types of which are fibre plants, fresh vegetables, fresh fruit and olive oil. For each of these principal crop products, real-terms prices declined in 1998 because of supply-side effects. In the case of olive oil, prices were driven lower by the excess supply on world markets. For fibre plants and fresh fruit, greater output volumes in 1998 were balanced by lower prices. Output volumes of fibre plants continued to rise due to the expansion in area cultivated. Output volumes of fresh fruit rebounded somewhat from the low level recorded for 1997. Nevertheless, heavy frost during blossoming affected yields (particularly of peaches and citrus fruit), preventing output volumes from being even higher than they were. There was one other crop product that had a considerable downward effect (second only to that of olive oil) on the value of final agricultural output. The value of sugarbeet was only about a fifth of the value of each of the four principal crop products in 1997. However, the combination of lower prices and a substantial fall in output volume in 1998 resulted in a near halving of real-terms value. The decline in sugarbeet output volume (provisionally estimated at -36%) is mostly explained by the reduction in cultivated areas, as farmers switched away their production in anticipation of low incomes, together with low yields caused by the adverse Summer weather (prolonged

periods of high temperatures). Despite the lower output volume, prices also declined (-13.7%) as the sugar industry tried to squeeze production costs by offering less to producers.

As with final crop output, so the value of final animal output was also lower in 1998. One exception to this downward development for animal output was the principal product, milk. The output volume of milk rose once more in 1998 (slightly for cow's, mostly for sheep and goat's milk) and was accompanied by higher prices offered by the dairy industry for sheep and goats' milk. Nevertheless, the value of final animal output declined mainly because of the developments for pigs (over-supply of markets forcing prices down sharply), sheep (output volumes and real-terms prices down) and poultry (the closure of bird-breeding units impacting on output volumes).

The value of intermediate consumption goods and services also declined but this was not enough to prevent a strong fall in gross value added at market prices. Nominal-terms prices for most intermediate consumption goods rose (the exception being energy prices for which the fall in oil prices was a factor), but prices in real terms declined. Volumes of inputs were generally higher with that for feedingstuffs being particularly strong (+4.5%). The small rise in the value of net subsidies (+0.9%) paid out in Greece during 1998 and the rise in the value of depreciation did little to change the downward pressure on income as measured by net value added at factor cost. Furthermore, the lower rental and interest payments and compensation of employees barely altered the fall in the other two measures of income.

The declines in the measurements of income per unit of labour were relatively slight rather than moderate due to the continued decline in the volume of agricultural labour. The rate of decline in the volume of family labour (-4.1%) was similar to that of the trend during the last decade. It was also stronger than the rate for total agricultural labour (-3.3%), because the volume of non-family agricultural labour was estimated to have risen in 1998 (+1.9%).

Table 3.4 Changes in the main components of the income calculation for agriculture in the Greece, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	2.2	-2.3	-7.4	-0.2	-5.4	70.2	
Cereals	3.6	0.6	-4.7	4.2	-1.3	6.2	
Sugarbeet	-36.4	-9.0	-13.8	-42.1	-45.1	1.3	
Fibre plants	11.4	-5.1	-10.0	5.7	0.2	12.3	
Fresh vegetables	2.9	-2.0	-7.1	0.8	-4.4	12.8	
Fruit	3.9	1.7	-3.6	5.6	0.1	11.8	
Olive oil	2.2	-9.2	-13.9	-7.2	-12.0	11.5	
Final animal output	-1.2	3.6	-1.8	2.4	-2.9	29.8	
Pigs	-1.7	-10.1	-14.8	-11.6	-16.2	2.9	
Sheep and goats	-1.6	1.3	-4.0	-0.3	-5.5	6.9	
Poultry	-14.3	2.8	-2.6	-11.9	-16.5	2.5	
Milk	2.9	8.7	3.0	11.9	6.0	11.4	
Final output	1.2	-0.6	-5.8	0.6	-4.7	100.0	
Intermediate consumption	2.0	1.0	-4.3	3.0	-2.4	29.7	
Gross value added at m.p.	0.8	-1.2	-6.4	-0.4	-5.6	70.3	100.0
Subsidies				6.7	1.1		36.0
Taxes linked to production				7.7	2.1		5.0
Depreciation				9.4	3.7		8.1
Net value added at f.c.				0.7	-4.6		122.9
Rent				2.0	-3.3		4.6
Interest				2.0	-3.3		6.6
Net income of total labour				0.5	-4.7		111.7
Compensation of employees				1.0	-4.3		7.9
Net income of family labour				0.5	-4.7		103.8

(*) The deflator is the implicit price index of gross domestic product, +5.5%.

3.5. Spain

For the second year running, income from agricultural activity as measured by Indicator 1 is estimated to have fallen in Spain (−6.2% in real terms for 1998). This decline was based on the real-terms value of final agricultural output falling at a faster rate than the value of intermediate consumption.

Crop output as a whole (except for fruit and wine) was not too much affected by the prevailing weather conditions. As a whole, the volume of final crop output increased in 1998. The heavy rain recorded in the third quarter of 1997 disrupted sowing with the result that the area sown with winter cereals and pulses was very much reduced. However, the surge in cereal yields more than offset the reduction in area, leading to a sharp increase in the volume of cereal output. As a result of the higher volume of cereals output, real-terms prices declined. In the case of pulses, despite the increase in yields, the volume of output fell a little (−1.8%). Areas of cereals that could not be sown in Autumn, were generally replaced by sunflowers, leading to an increase in the area sown to this crop. However, yields of sunflowers were lower than in 1997, as was also the case for cotton. As a result, the output volume for industrial crops fell strongly (−12.2%), with the increase in real-terms prices (+7.7%) partly reflecting this shortfall. There was a small expansion (+1.4%) in the area under irrigated crops (fresh vegetables and fruit in particular) with greater use made of the abundant water resources. There was a strong rise in the volume of fresh vegetable output, which was accompanied by higher real-terms prices. There was also a strong increase in the volume of citrus fruit output (+8.3%) but for this product real-terms prices fell sharply (averaging −17.6%). By contrast to other crop products, volumes of fresh fruit (except citrus species) and grape output were affected by adverse weather conditions, the Spring frosts and Summer storms reducing yields. The lower level of supplies was reflected in higher prices. The volume of olive oil output surged once more, the impact of which in terms of value was more than offset by the stronger rate of decline in prices.

Table 3.5 Changes in the main components of the income calculation for agriculture in Spain, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	3.7	-0.7	-3.0	3.0	0.6	59.8	
Cereals	20.8	-6.1	-8.3	13.4	10.8	9.1	
Fresh vegetables	8.6	2.3	-0.1	11.1	8.5	14.5	
Fruit	-3.8	4.6	2.1	0.6	-1.7	13.3	
Wine	-12.6	7.6	5.1	-6.0	-8.2	4.9	
Olive oil	13.2	-22.5	-24.3	-12.3	-14.3	6.2	
Final animal output	2.5	-7.8	-9.9	-5.5	-7.7	39.5	
Cattle	3.2	4.6	2.2	8.0	5.4	6.9	
Pigs	7.6	-20.7	-22.6	-14.7	-16.7	12.1	
Milk	-1.2	4.8	2.3	3.5	1.1	7.8	
Final output	3.2	-3.6	-5.9	-0.5	-2.8	100.0	
Intermediate consumption	2.0	-0.2	-2.6	1.8	-0.6	43.5	
Gross value added at m.p.	4.1	-6.0	-8.2	-2.2	-4.5	56.5	100.0
Subsidies				1.8	-0.6		28.1
Taxes linked to production				5.6	3.1		0.8
Depreciation				9.7	7.2		16.2
Net value added at f.c.				-2.8	-5.1		111.1
Rent				-3.4	-5.7		4.6
Interest				-5.6	-7.8		5.5
Net income of total labour				-2.6	-4.9		101.0
Compensation of employees				10.9	8.3		19.1
Net income of family labour				-5.3	-7.6		81.9

(*) The deflator is the implicit price index of GDP at market prices, +2.4%.

The real-terms value of final animal output declined strongly in 1998 because of the general decline in prices. Within this aggregate development it was only the real-terms value of cattle output that increased, the result of both higher output volumes and prices. More determinant was the steep decline in the real-terms value of pig output, resulting from the tumble in pig prices. In the wake of the 1997 swine fever epidemic in the Netherlands, other Member States including Spain raised their output levels. However, higher production levels in Member States, including the Netherlands where there was a strong recovery in the level of output, together with a dampening of export demand in Russia and the Far East because of their economic crises, led to a stark imbalance between pig supplies and demand that caused prices to tumble. There was also a steep fall in the real-terms value of sheep and goats' output (−14.9%), again principally through sharply lower prices (−14.2% in real terms) but also the slight fall in output volume (−1.0%). One of the few real-terms price

increases, albeit small, within the animal and animal products sector was that for milk, the output volume of which was a little below the level of 1997.

A greater volume of total intermediate consumption goods and services was purchased in 1998, with strong increases being for fertilizers (+5.1%, because of generally favourable weather conditions) and animal feedingstuffs (+3.5%, with the rising number of livestock) among others. However, the real-terms value of intermediate consumption declined a little, because of the development in prices. The slight fall in the real value of subsidies had no impact on the income trend. On the other hand, the real value of depreciation increased sharply as a result of new equipment purchases, accentuating the rate of decline in net value added at factor cost. Interestingly, the volume of total agricultural labour actually increased (+1.2%). In particular, the volume of non-family labour rose strongly (+4.4%) with requirements for labour intensive crop production (for fresh vegetables and citrus fruit), and confirmed the tendency for family labour to be replaced by that of hired workers.

Although the real value of interest and rental payments fell in 1998, they had only a slight impact on Indicator 2, which showed the same rate of decline as Indicator 1 (-6.1% in real terms). However, the decline in average income as measured by Indicator 3 was even steeper (-7.2%) because of the considerable increase in the compensation of employees.

3.6. France

After four years of growth, the value of final agricultural output is estimated to have fallen in real terms in 1998. The real value of intermediate consumption and of subsidies (net of taxes) decreased, while depreciation remained constant. As a result of these developments, the real net value added at factor cost of agriculture in 1998 was -1.6% lower than in 1997. However, after taking into account the continued reduction in the volume of total agricultural labour, at a rate similar to that of recent years (-2.5%), agricultural income as measured by Indicator 1 increased by +0.9% in real terms.

The value of final crop output was almost the same in 1998 as in 1997, the combination of a slight fall in real terms prices and a slight rise in output volume. However, trends for the various crops were contrasting. The output volume of most types of cereal rose sharply. This was the case, in particular, for wheat and barley (+20.8% and +5.6% respectively), with record yields being recorded. By contrast, the volume of maize output fell strongly (-13.5%). Producer prices for cereals fell sharply as a result of the marked rise in quantities available in France and in Europe as a whole, as carry-over stocks from the previous harvest were high and the summer of 1998 brought a particularly abundant harvest. Moreover, demand slowed down in the wake of the economic crises in Asia and Russia. The real-terms price of grape must and wine rose markedly, the market for quality wines being especially good. In particular, there was strong demand for Champagne and Bordeaux wines. The output volume, on the other hand, declined slightly as a result of the lower harvest level. The volume of fruit output fell sharply (-14.5%), the effect of Spring frosts. The lower supply led to an increase in real prices (+7.9%). Output volumes of potatoes decreased strongly in 1998 (-7.1%), partly due to the slightly lower production area for this crop but mainly due to the lower yields caused by cold and very wet weather in April. Harvesting difficulties due to the rain in a number of countries like France, Belgium and the Netherlands, meant that the EU supply of potatoes was lower in 1998. As a result, real prices rose strongly (+35.6%). The volume of sugarbeet production decreased by -7.5%, with late sowings leading to a decline in yields.

The real value of final animal output declined markedly in 1998 (-7.2%) owing to a fall in real prices (-7%). This development mainly reflects the collapse in the real value of pig output, with the pig market suffering from the aftermath of the 1997 swine fever epidemic in the Netherlands. There was strong expansion on the supply side not only in France but also in the other EU Member States, with the Netherlands gradually regaining the production capacity of early 1997. At the same time, the economic crisis in Russia slowed down demand against a backdrop of keen competition with the United States. The resultant severe imbalance between supply and demand sent prices tumbling. On average in France, the real price for pigs fell by -27%, while the volume of production rose by +6%. The market in cattle, by contrast, appeared to regain a degree of equilibrium after the crisis that had arisen in 1996. The real prices of cattle increased by an average of +4.8% in 1998, following on from the 1997 rise. At the same time, the volume of cattle output continued to decline (-5.5% in 1998 after -2% in 1997). The real value of milk output remained stable in 1998. After the slight fall recorded in 1997, prices kept constant in real terms in 1998, though there was a slight increase in nominal

terms. This recovery was brought about by the application of the interprofessional agreement of November 1997, under which the milk price paid to farmers was partly indexed to that of processed milk products (butter, cheese, etc.).

In 1998, the real value of intermediate consumption declined as a result of the fall in real prices. In particular, real prices for animal feedingstuffs decreased by an average of -9.4% in line with the general decline in prices for agricultural raw materials. Interest rates continued to fall in 1998. However, as the amount of deductible interest payments in 1998 was lower than in 1997 (during which year cattle breeders had benefited from specific measures) the real value of interest paid by the agricultural branch remained relatively stable. The real value of rents increased in 1998. As a result of these additional factors, net income from agricultural activity of total labour as measured by Indicator 2 showed a slightly lower increase (+0.6%) than that measured by Indicator 1. Finally, the compensation of employees rose in 1998, so that Indicator 3 showed an increase of only +0.2% in real terms.

Table 3.6 Changes in the main components of the income calculation for agriculture in France, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	0.8	0.3	-0.7	1.1	0.1	53.4	
Cereals	8.8	-8.7	-9.6	-0.6	-1.6	14.5	
Potatoes	-7.1	36.9	35.6	27.2	26.0	2.2	
Fresh vegetables	2.1	-0.8	-1.7	1.3	0.3	6.6	
Fruit	-14.5	9.0	7.9	-6.8	-7.7	3.5	
Wine	-1.1	8.1	7.0	6.9	5.9	15.1	
Final animal output	-0.2	-3.8	-4.7	-4.0	-4.9	46.8	
Cattle	-5.5	5.9	4.8	0.1	-0.9	12.4	
Pigs	6.0	-26.3	-27.0	-21.9	-22.7	6.2	
Poultry	2.3	-3.0	-4.0	-0.8	-1.7	7.9	
Final output	0.3	-1.6	-2.6	-1.3	-2.3	100.0	
Intermediate consumption	2.2	-4.3	-5.3	-2.2	-3.2	49.8	
Gross value added at m.p.	-1.6	1.2	0.2	-0.5	-1.5	50.2	100.0
Subsidies				0.0	-1.0		32.8
Taxes linked to production				-1.0	-1.9		5.3
Depreciation				1.0	0.0		21.5
Net value added at f.c.				-0.6	-1.6		106.0
Rent				3.4	2.4		6.5
Interest				0.4	-0.6		7.5
Net income of total labour				-0.9	-1.9		92.0
Compensation of employees				3.3	2.3		20.5
Net income of family labour				-2.1	-3.1		71.5

(*) The deflator is the implicit price index of GDP at market prices, +1.0%.

3.7. Ireland

Agricultural income is estimated to have declined in Ireland in 1998. Net value added at factor cost per unit of agricultural labour (termed Indicator 1), the income measurement that Eurostat most focuses on, is provisionally estimated to have fallen by -6.6% in 1998. Nevertheless, the level of Indicator 1 in 1998 was still some 23% above the figure for 1990 having been at a plateau during the three preceding years.

The downward pressure on incomes can be traced to lower real-terms values for principal animals and animal products, which together account for about 87% of the value of all agricultural production, and the greater use and therefore total cost of certain input items (particularly feedingstuffs).

The volume of sheep output in Ireland was estimated to have been almost unchanged in 1998 from the level in 1997, despite a strong increase in the number of head slaughtered (a higher level being partly explained by the sheep that had been held back from the abattoirs in 1997). There was a slightly smaller sheep herd than in 1997 with lower ewe numbers offsetting the rise in non-breeding sheep. However, prices for sheep declined particularly in the second half of the year. Increasing price competition from other meats on the market (particularly those that were oversupplied) prompted sheep prices to continue falling back from the relative highs of 1996 and 1997 when a consumer switch away from beef had led to high levels of demand for lamb and mutton. The cattle herd expanded in 1998, with numbers of cows other than heifers in calf and dairy

cows at record highs. The number of cattle slaughtered in 1998 was notably higher than in the preceding year and there was a strong increase in cattle export numbers, particularly for calves. However, the light weight of these cattle somewhat disguises the relatively moderate rise in the volume of cattle output. Cattle prices began to recover in the first half of the year but since July have tumbled back to the lows of the previous year as the economic crisis in Russia in particular impacted on important export markets. The partial re-routing of output to European markets has led to a supply level which has put heavy downward pressure on prices. The output volume of pigs rose strongly (from increased slaughtering and herd numbers) on the back of decisions taken in 1996 and 1997 when there was an improvement in profitability, firstly because of the switch away from beef and then as gains from the outbreak of swine fever in the Netherlands. However, as with other Member States, pig prices began to fall back strongly in 1998 as markets became too saturated. The volume of milk output declined with a reduction in dairy heifer numbers being only somewhat compensated by rising yields. Real-terms prices averaged out over the year remained little changed from the low level of 1997.

The real-terms value of crop output declined slightly in 1998, despite the effects of a strong rebound in potato prices and values. The main reason for the lower crop value in 1998 was the decline in the value of cereals, for which the production area was about 3% less than in 1997 and for which yields were also lower because of the inclement weather.

There was a considerable rise in the volume of some goods and services inputs used in agriculture in 1998 (for example, feedingstuffs +14.8%, fertilizers +6.8% and energy +8.8%), which in some cases may at least in part be linked to the fall in average prices and the expanding national livestock herd. In the case of feedingstuffs, however, the principal reason was that the poor weather caused a serious shortage of own-produced fodder. This rise in total input cost for 1998, together with the moderate fall in the value of final agricultural output, led to a strong fall in gross value added at market prices. Despite a strong rise in the level of subsidies paid out during the year, agricultural income was still lower than in 1997.

Table 3.7 Changes in the main components of the income calculation for agriculture in the Ireland, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	-5.4	7.9	4.4	2.2	-1.2	12.8
Final animal output	0.2	-2.4	-5.6	-2.2	-5.4	87.2
Cattle	1.7	-2.1	-5.3	-0.4	-3.7	33.4
Pigs	9.1	-20.1	-22.8	-12.9	-15.7	6.8
Sheep and goats	0.1	-17.1	-19.8	-17.0	-19.7	5.0
Milk	-2.3	3.7	0.3	1.4	-1.9	34.7
Final output	-0.5	-1.2	-4.5	-1.7	-4.9	100.0
Intermediate consumption	11.7	-4.5	-7.6	6.7	3.2	54.0
Gross value added at m.p.	-12.5	2.9	-0.4	-10.0	-12.9	46.0
Subsidies				10.4	6.7	69.2
Taxes linked to production				7.7	4.2	1.7
Depreciation				5.7	2.2	30.8
Net value added at f.c.				-4.4	-7.6	136.8
Rent				0.0	-3.3	0.1
Interest				4.5	1.1	12.7
Net income of total labour				-5.3	-8.4	124.0
Compensation of employees				1.3	-2.0	13.0
Net income of family labour				-6.0	-9.1	111.0

(*) The deflator is the implicit price index of gross domestic product, +3.4%.

3.8. Italy

Following consecutive increases recorded for the three previous years, income from agricultural activity (as measured by Indicator 1) fell moderately in 1997 (-4.5% in real terms). This decline is mainly explained by the widespread lower real-terms prices for both crop products and animals. The fall in the real value of intermediate consumption and the maintenance of subsidies at a level close to that of 1996, as well as the continued contraction of the volume of agricultural labour (-1.8%), could not stop average incomes from agricultural activity per unit of labour declining.

Lower real-terms prices were particularly strong for cereals, poultry and olive oil and to a lesser extent for cattle and grape must and wine. In contrast, there were small real price rises for fresh vegetables, and milk. The volume of final agricultural output remained more or less the same as in 1996. However, there were some notable differences between individual products within this overall relative stability, especially for crop products. For example, the poor 1997 harvest for grape must and wine following severe April frosts, led to a tumble in the volume of final output. The volume of final cereals output also declined in 1997, with the only rise being that recorded for maize (+2.2%). The volume of fresh fruit output was considerably lower (– 22.5%) in contrast to a sharp rise in the volume of citrus fruit output (+10.7%). The output volume of olive oil was also considerably higher, more than rebounding from the low of the previous year. Lastly, the output volume of fresh vegetables, the most valuable crop product, was fairly stable in volume terms.

The lower real value of total intermediate consumption in 1997 was largely influenced by the decline for animal feedingstuffs (– 6.3%), which was the combined result of both a lower volume (– 2.3%) and a lower average real price (– 4.1%). The total value of subsidies remained almost unchanged in real terms, despite an increase in the amount of subsidies linked to the reform of the CAP and paid out in the calendar year.

The decline in average income from agricultural activity per unit of agricultural labour as measured by Indicator 2 (– 2.8%) was less strong because of the substantial fall in interest payments as interest rates were steadily reduced, and despite a jump in rental payments. The fall in the volume of non-family labour (– 2.6%) helps explain the decline in the value of the compensation of employees. Despite this cost reduction, the fall in income from agricultural activity was also confirmed by the measure of Indicator 3 (– 3.8%).

Table 3.8. Changes in the main components of the income calculation for agriculture in Italy, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	3.1	0.4	-1.9	3.5	1.1	60.9
Cereals	8.1	-2.4	-4.7	5.5	3.0	7.2
Fresh vegetables	1.7	1.6	-0.8	3.3	0.9	15.1
Fruit	10.3	1.8	-0.6	12.3	9.7	11.2
Wine	12.6	5.4	2.9	18.7	15.9	10.3
Olive oil	-21.2	-11.8	-13.9	-30.5	-32.1	3.3
Final animal output	-0.1	-2.0	-4.3	-2.1	-4.4	37.6
Cattle	-1.7	5.4	2.9	3.6	1.2	9.0
Pigs	-2.2	-8.0	-10.1	-10.0	-12.1	6.1
Poultry	1.1	-2.8	-5.0	-1.7	-4.0	5.3
Milk	1.7	-3.6	-5.9	-2.0	-4.3	11.8
Final output	1.8	-0.4	-2.7	1.4	-1.0	100.0
Intermediate consumption	-0.4	-0.8	-3.2	-1.2	-3.5	27.4
Gross value added at m.p.	2.7	-0.3	-2.6	2.4	0.0	72.6
Subsidies				-8.4	-10.6	18.1
Taxes linked to production				6.8	4.3	2.0
Depreciation				1.1	-1.3	35.6
Net value added at f.c.				0.2	-2.1	80.4
Rent				3.9	1.5	1.1
Interest				-18.2	-20.1	3.6
Net income of total labour				1.3	-1.1	75.7
Compensation of employees				2.2	-0.2	26.6
Net income of family labour				0.8	-1.6	49.0

(*) The deflator is the implicit price index of GDP at market prices, +2.4%.

3.9. Luxembourg

The level of income from agricultural activity as measured by Indicator 1 is estimated to have risen moderately in 1998 (+2.1%, following a sharp decline for the previous year), a rate of increase that was, nevertheless, the highest among the Member States of the European Union. The higher level of income per unit of labour was principally founded on two factors. The first was the recovery of grape harvest levels after the major shortfall in 1997, which led to a doubling of the value of grape must and wine. The second was the fact that the volume of agricultural labour continued to decline (–1.5% for total labour), with the income generated by agricultural production thereby being shared among a smaller number of labour units.

Grape must and wine is the most important crop product in Luxembourg in terms of value. Despite some poor weather, the grape harvest level of 1998 returned to "normal" levels after that for 1997 had been some 60% lower than the preceding year. The volume of grape must and wine in 1998 was above the ten-year average. With a more regular supply on the market, the real-terms price did decline (by about a tenth). Nevertheless, the real-terms value of grape must and wine output in 1998 was not far short of double the value of 1997. Poor weather during harvesting also helped to reduce sharply the output volume of cereals (again by about a tenth). As with most other Member States, the real price of cereals also declined strongly.

The real terms value of final animal output in 1998 was a little lower than the level in 1997 and this downward development was due to the general imbalances on pig markets (although in Luxembourg the volume of pig output actually declined) that caused producer prices for pigs to tumble (just under 30%). However, the relatively small decline in final animal output value reflected the far greater importance of milk and cattle production in this sector. The recorded output volumes of both milk and cattle were a little higher in 1998 than the preceding year. Real-terms prices were also higher, in the case of cattle the strengthening of the price away from the long-term low of the previous year being the impetus for one of the highest rates of increase in real value inside the EU. With a relatively moderate decline in the value of final animal output, therefore, and a sharp rise in that of final crop output, the real-terms value of final agricultural output in Luxembourg actually rose a little (the only Member State to record an increase in 1998).

The values of intermediate consumption as a whole and most of the composite input goods and services declined in real terms. Of particular note were the declines in real-terms value for imports of live animals (a much lower volume and higher real prices, especially for fattening piglets) and for fertilisers (where the volumes used and real prices declined). By contrast, the real-terms value of animal feedingstuffs (the input for which most total cost is spent) increased on the basis of a higher volume offsetting the effect of slightly lower real-terms prices.

Table 3.9. Changes in the main components of the income calculation for agriculture in Luxembourg, % change in 1998 over 1997 (*)

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	42.5	-10.1	-11.9	28.1	25.5	19.4
Cereals	-9.2	-9.7	-11.6	-18.1	-19.8	4.2
Wine	112.9	-7.3	-9.2	97.2	93.2	10.3
Final animal output	0.3	-0.7	-2.7	-0.4	-2.4	80.0
Cattle	0.8	6.6	4.4	7.4	5.2	24.5
Pigs	-3.0	-28.4	-29.9	-30.6	-32.0	7.9
Milk	0.8	2.4	0.3	3.2	1.1	45.4
Final output	6.8	-2.6	-4.6	4.0	1.9	100.0
Intermediate consumption	0.2	0.2	-1.9	0.4	-1.7	46.1
Gross value added at m.p.	12.8	-4.9	-6.8	7.4	5.2	53.9
Subsidies				-8.5	-10.4	42.0
Taxes linked to production				12.9	10.6	2.0
Depreciation				0.1	-1.9	37.3
Net value added at f.c.				2.7	0.6	102.7
Rent				0.7	-1.4	10.2
Interest				-6.3	-8.3	9.0
Net income of total labour				4.0	1.9	83.5
Compensation of employees				4.6	2.5	6.9
Net income of family labour				4.0	1.8	76.6

(*) The deflator used is the implicit price index of GDP at market prices, +2.1%

The level of net subsidies paid out in 1998 (subsidies minus taxes) was much lower in 1998 than in the previous year, due to the removal of the compensatory payments to wine producers for the bad 1997 harvest. This decline in subsidies was the main reason that the strong rise in the level of gross value added at market prices (the value of final output minus the value of intermediate consumption) turned into an almost unchanged level of gross value added at factor cost. In terms of the account, the decline in the real-terms value of depreciation then helped net value added at factor cost (the basis for Indicator 1) to rise slightly. Real-terms payments on rents and in particular interest payments fell in 1998 and therefore the basis for Indicator 2, real net income from the agricultural activity of total labour, recorded a steeper increase this year than the basis for Indicator 1; for Indicator 2 there was an overall rise of 3.5%. After further taking into

account the rise in the real-terms compensation of employees and the decline in the volume of family labour (-2.2%), the rate of increase in agricultural income per unit of labour when measured by Indicator 3 (real net income of family labour per labour unit) was higher still (+4.1%).

Following the strong increases recorded in the previous two years, average income from agricultural activity per unit of labour in Luxembourg, as measured by Indicator 1, is estimated to have risen a little further (+0.8%) in 1997. It was after taking into consideration the continued decline in agricultural labour (-4.4%) that this measure of income increased.

The value of final agricultural output in 1997 was down a little on the previous year's level, mainly as a result of a marked fall in the volume of crop output: production of wine and fresh fruit, which together account for around half of crop output value, slumped drastically due to a prolonged spell of cold weather. The accompanying rises in real producer prices were insufficient to offset the impact of these lower volumes. By contrast, the volume of final cereals output rose strongly. Despite lower real terms prices for all cereals, the real value of final cereals output rose moderately. There was a very slight, price-led, rise in the real value of final animal output in 1997. On the one hand, there were higher prices for pigs, together with a strong increase in pig output volume. On the other, total cattle output volume fell away sharply from the previous year's record level, with cattle prices stabilising at the average 1996 level, and both the volume and real price of milk output were slightly down.

The average real-terms price for total intermediate consumption in 1997 fell a little, whilst the overall volume consumed rose. This general price and volume pattern was noted for many of the inputs used for crop production. In contrast there were moderate declines in both the average real-terms price and volume of animal feedingstuffs. As a consequence of the lower real value of final agricultural output and the very slightly higher real-terms expenditure on total intermediate consumption, real gross value added at market prices decreased considerably. The small rise in subsidies, the decrease in taxes linked to production and the marginally lower real value of depreciation could only partially offset the impact of this fall.

Despite the lower level of real rent and interest payments, the real net income of total agricultural labour fell just a little more sharply than net value added at factor cost (the basis of Indicator 1). This confirmed the marginal nature of the rise in income from agricultural activity per unit of labour as measured by Indicator 2 (+0.6%). The sharp fall in the real compensation of employees in 1997 reflected the steep cutback in non-family labour input (-10.3%). After taking account of the decline in family agricultural labour input (-3.5%), which slowed a little compared to the rate in the previous year, Indicator 3 was virtually unchanged (+0.1%).

3.10. The Netherlands

The level of income from agricultural activity is estimated to have fallen back sharply in 1998 (-11.7% according to Indicator 1) after the steep rise recorded for 1997 (+12.8%).

There were periods of particularly inclement weather in the Netherlands during 1998. Heavy rains and floods in the Autumn affected some crop output levels. In particular, the harvesting of potatoes and sugarbeet was interrupted to the extent that some produce was left in the ground and written off. The output volumes of potato and sugarbeet in 1998, therefore, declined strongly (-20% and -17% respectively). With the lower output volumes, real-terms prices rose (+42.3% for potatoes and +7% for sugarbeet). The real-terms value of fresh vegetables output declined, the result of a small decline in total volume (lower yields for outdoor vegetables in particular) and a steep fall in average prices. The volume of nursery plants output rose strongly in 1998 (+5%), with key factors being the latest rises in the area of nursery trees (about +10%) and potplants under glass (about +3.5%). There was also a slightly higher output volume of flowers, accompanied by moderately higher average real-terms prices.

The real-terms value of animals declined because of markedly lower prices (especially for pigs). There had been a comprehensive slaughter of pigs during 1997 when the Netherlands suffered a swine fever epidemic. Production levels in 1998 largely recovered (the volume of pig output rising by about 40%). However, strong expansion in output volumes in other Member States, coupled with weaker demand in Russian and Asian markets because of their economic crises, led to a considerable imbalance between supply and demand on European markets. This led to substantial falls in prices that in the Netherlands measured 37.2% in real-terms. A degree of stability continued to return to the market for cattle after the 1996 crisis; the real-terms

value of cattle output was almost unchanged with price rises over the year balancing lower volumes. As for milk, the value of output was estimated to have risen on the back of higher real-terms prices.

As a whole, the 1998 value of final agricultural output declined in real terms. To a degree, the impact was lessened by a steeper rate of fall in the real-terms value of intermediate consumption (declines in both total volume and average prices). Within this aggregate, there were contrasting developments for some input items; the volume of plant protection products purchased rose sharply (+9%) particularly after the wet weather but that of animal feedingstuffs declined (-3.5%). The real terms value of subsidies fell back sharply (-72.7%) from the high level in 1997 when special compensatory payments linked to the problems resulting from the swine fever outbreak were made to pig producers. Additionally, BSE compensation was removed. On the basis of the developments mention above, real net value added at factor cost fell steeply (-8.4%). Despite the strong decline in interest payments and the relative stable figure for rental payments, the measurement of Indicator 2 (-12.4%) fell even more strongly than that of Indicator 1. The decline in income from agricultural activity was even more accentuated when measured by Indicator 3 (-17.4%) because of the strong rise in the volume of non-family labour (+4%) and their associated recompense.

Table 3.10. Rates of change of the main components of the income calculation in the Netherlands, in %, in 1998 compared with 1997

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	3.6	0.2	-1.6	3.8	2.0	48.6	33.1
Fresh vegetables	3.0	0.2	-1.6	3.2	1.3	11.9	8.9
Nursery Plants	7.3	8.3	6.5	16.2	14.2	10.9	1.2
Flowers	5.6	-3.7	-5.4	1.7	-0.1	11.9	11.2
Final animal output	0.2	-0.5	-2.3	-0.3	-2.1	51.4	66.9
Cattle	0.3	-0.8	-2.6	-0.5	-2.3	8.6	11.5
Pigs	1.3	-1.8	-3.5	-0.5	-2.2	13.4	18.1
Milk	-0.8	0.6	-1.2	-0.3	-2.0	21.3	27.6
Final output	1.5	-0.2	-1.9	1.4	-0.4	100.0	100.0
Intermediate consumption	0.8	0.1	-1.7	0.9	-0.9	49.6	53.0
Gross value added at m.p.	2.2	-0.4	-2.2	1.8	0.0	50.4	100.0
Subsidies				12.1	10.1	8.9	1.9
Taxes linked to production				2.8	1.0	5.5	4.7
Depreciation				6.3	4.4	27.4	13.7
Net value added at f.c.				1.2	-0.6	76.1	83.5
Rent				2.1	0.3	2.8	2.7
Interest				0.5	-1.2	12.0	14.7
Net income of total labour				1.3	-0.5	61.2	66.2
Compensation of employees				4.8	2.9	18.8	11.8
Net income of family labour				0.2	-1.5	42.3	54.3

(*) The deflator is the implicit price index of gross domestic product, +1.9%.

3.11. Austria

There was a further decline in real agricultural net value added at factor cost per AWU (Indicator 1) in 1997 (an estimated -8.4%), the main reason being the considerable decline in direct payments to holdings (see below for more details). Also, whereas the real value of final output fell slightly, the real value of intermediate consumption remained at 1996 levels, resulting in real gross value added at market prices falling. After taking account of the continuing reduction in agricultural labour input (-3.0%), this being at half the rate noted for the period 1992 to 1995, income from agricultural activity expressed per unit of labour still declined sharply.

Both the volume and average real price of final crop output declined slightly in 1997. Of particular influence on the change in aggregate volume was the poor harvest of grape must and wine: affected by frost and hail damage and unfavourable flowering conditions, it failed to exceed even the fairly low volumes of the previous two years. In contrast, the volume of final cereals output increased strongly, thanks to a 5% increase in the production area (mostly due to the reduction in the compulsory set-aside rate) and higher (sometimes above-average) yields. However, rainfall in the run-up to and during harvest adversely affected the quality (in some

cases quite considerably), so contributing to a steep fall in cereal prices. The total fresh fruit harvest rose, on the back of an above-average apple harvest and despite declines for pears and nuts in particular. The real value of final animal output for 1997 was unchanged from that of 1996, with the slight rise in output volume being accompanied by a slightly lower average real-terms price. The number of cattle reached a record low in 1997 in the wake of low producer prices, the previous year's poor fodder harvest and reduced subsidies. Despite the continued decline in the size of the milk herd, the volume of milk output increased due to higher yields. Reduced supplies of pigs from countries suffering from swine fever led to higher prices and a slightly higher output volume. The real prices of milk and cattle, by contrast, fell.

With the absolute value of subsidies in 1996 being similar to the level of gross value added at market prices, the decline in the level of subsidies (in Austria recorded in the calendar year to which they relate) for 1997 had a considerable impact on average incomes. The latest fall reflected both the degressive nature of the compensatory payments paid to Austrian farmers on accession to the European Union and the reduced funding of the wide-ranging environmental programme. Attention is also drawn to the small decline in the value of real-terms depreciation because of its relative importance.

The real value of rents and interest payments continued to fall in 1997, albeit less steeply than in the previous year. Nevertheless, the level of Indicator 2 declined somewhat more steeply (-9.5%) than Indicator 1. The further rise in the volume of salaried labour was reflected, *inter alia*, in the higher real-terms compensation of employees. Against the background of a -3.5% decline (less than the previous year) in family AWUs, income from agricultural activity per unit of family labour as measured by Indicator 3 fell even more steeply (-13.0%).

Table 3.11. Changes in the main components of the income calculation for agriculture in Austria, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1997	
Final crop output	11.2	-3.9	-5.0	6.8	5.6	36.8	
Cereals	-5.6	2.9	1.8	-2.8	-3.9	5.3	
Potatoes	-1.9	10.3	9.1	8.2	7.1	1.3	
Sugarbeet	4.7	-15.4	-16.3	-11.4	-12.4	3.5	
Fruit	-1.9	1.3	0.2	-0.6	-1.7	6.3	
Wine	60.6	-10.7	-11.7	43.4	41.8	8.2	
Final animal output	3.1	-7.9	-8.9	-5.1	-6.2	63.2	
Cattle	2.4	3.6	2.5	6.1	5.0	15.6	
Pigs	6.5	-26.1	-26.9	-21.3	-22.1	17.2	
Milk	-0.4	2.4	1.2	2.0	0.8	21.6	
Final output	5.8	-6.5	-7.5	-1.1	-2.1	100.0	
Intermediate consumption	-0.9	-2.2	-3.2	-3.0	-4.1	51.1	
Gross value added at m.p.	13.1	-10.6	-11.6	1.1	0.0	48.9	100.0
Subsidies				-8.2	-9.2		77.2
Taxes linked to production				-10.3	-11.3		9.1
Depreciation				0.4	-0.6		78.1
Net value added at f.c.				-5.3	-6.4		90.0
Rent				-2.2	-3.3		5.7
Interest				-3.8	-4.8		7.8
Net income of total labour				-5.7	-6.7		76.6
Compensation of employees				2.9	1.8		20.0
Net income of family labour				-8.4	-9.4		56.6

Note: Unlike in the Austrian national accounts, where prices are weighted with the volumes of the reference period 1982/84, for Eurostat's purposes price changes are derived from changes in volumes and values.

(*) The deflator is the implicit price index of gross domestic product at market prices, +1.1%.

3.12. Portugal

In 1998, income from agricultural activity is estimated to have declined strongly once again (-12.1% in the level of Indicator 1), following a similar fall in 1997 (-13.6%). The latest decrease was based on the considerable reduction in value of final agricultural output (-12.2% in real terms).

For the second year running, crop output was affected by poor weather conditions, resulting in a 20% fall in the final volume figure for 1998. Sowing conditions for winter cereals were poor because of the heavy rainfall recorded in December 1997 and January 1998. As a result, the area sown to winter cereals and their resultant yields declined. In particular, the volume of wheat output tumbled (56.1%) in 1998. On the other hand, volumes of spring sown cereals rose as a result of higher yields, the sown area having remained stable. This was the case for (grain) maize and rice output (volumes being +7.2% and +4.1% higher

respectively). Nevertheless, the final volume of cereal output declined sharply in 1998. Fruit output (except that of citrus fruit) was badly affected by spring frosts, the volume almost declining by a half. The lower level of supply led to a rise in prices (averaging +21.9% in real terms). By contrast, the volume of citrus fruit output rose (+15.4%) whilst prices fell (-19.7%). For the second year running, a decline in the volume of wine output was recorded due to the adverse weather conditions and plant health problems. The volume of olive oil output also fell back strongly (-25.2%). The level of potato output recovered from the falls in 1997 when there had been particularly adverse weather conditions for potatoes. With the quality of the potatoes being good and pan-European supplies being lower in 1998, real-terms prices increased sharply. Additionally, the volume of sugarbeet output grew by 20%.

The real value of final animal output fell sharply in 1998, with a marked decline in average real-terms price. Within the aggregate, the real terms values of pig, cattle, sheep and goat output all fell sharply. As in many other countries, there was an expansion of pig output volumes in Portugal in 1998 following the swine fever epidemic in the Netherlands in 1997. At the same time, the Netherlands gradually recovered its output capacity of early 1997. Furthermore, demand was weakened by the economic crisis in Russia and the Far East. The very substantial imbalance between supply and demand thus caused a sharp fall in prices (-28% in real terms in Portugal). The rate of decline in the volume of cattle output in 1998 was fastest in Portugal within the EU. At the same time, average real-terms cattle prices continued their recovery following the crisis which affected this market in 1996. By contrast, the fall in the real value of sheep and goat output (-20%) was due to the combined fall in volumes (-6.4%) and real prices (-14.5%). The switch in consumption away from beef to poultry and eggs helps explain the strong rise in their output volumes.

The real value of intermediate consumption declined principally because of the general fall in real prices. After further taking into account, the increase in the real value of subsidies, the fall in taxes and more moderate decline in depreciation, the net value added at factor cost fell sharply (-13.9% in real terms). The level of Indicator 2 declined (-12.6%) at a faster rate than that of Indicator 1 despite the marked fall in the real value of interest payments (lower because of falling interest rates) and the decline in the real value of rents. With the compensation of employees remaining constant in real terms, the third measure of agricultural income, Indicator 3, declined even more strongly still (-18.5% in real terms).

Table 3.12. Rates of change of the main components of the income calculation in Portugal, in %, in 1998 compared with 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	-20.0	16.1	12.0	-7.1	-10.4	45.6	
Cereals	-15.6	-5.5	-8.9	-20.2	-23.1	3.0	
Potatoes	9.6	33.5	28.7	46.4	41.1	5.8	
Fresh vegetables	-8.2	1.3	-2.3	-6.9	-10.3	10.2	
Fruit	-37.6	26.4	21.9	-21.2	-24.0	9.7	
Wine	-39.0	55.9	50.3	-4.9	-8.3	8.3	
Final animal output	0.1	-10.6	-13.8	-10.5	-13.7	52.6	
Cattle	-22.9	6.5	2.7	-18.0	-20.9	6.5	
Pigs	7.3	-25.4	-28.0	-19.9	-22.8	16.2	
Poultry	11.0	-4.6	-8.0	5.9	2.2	5.0	
Milk	0.1	0.5	-3.0	0.6	-3.0	14.8	
Final output	-9.1	0.1	-3.4	-8.9	-12.2	100.0	
Intermediate consumption	-0.9	-2.8	-6.2	-3.7	-7.1	53.3	
Gross value added at m.p.	-17.3	3.6	-0.1	-14.3	-17.3	46.7	100.0
Subsidies				10.3	6.4		26.3
Taxes linked to production				-8.9	-12.2		1.6
Depreciation				0.0	-3.6		7.7
Net value added at f.c.				-10.7	-13.9		116.9
Rent				-1.0	-4.5		3.2
Interest				-8.3	-11.6		11.3
Net income of total labour				-11.3	-14.4		102.4
Compensation of employees				3.9	0.2		35.3
Net income of family labour				-17.6	-20.5		67.1

(*) The deflator is the implicit price index of GDP at market prices, +3.7%

3.13. Finland

After a sharp decline in the previous year, income from agricultural activity per unit of labour as measured by Indicator 1 would appear to have fallen sharply again in 1998 (-5.0%) and is now about one tenth below the level of "1990". The main reason for this development in 1998 was the declines in the volumes of crop products, which was caused by bad weather. Additionally, however, the real value of final animal output was also a little lower than in 1997 as was the real value of net subsidies paid in 1998.

In the wake of poor weather conditions, the volume of final crop output declined by almost a quarter. With the average real price level only being very slightly above the level of 1997, the rate of decline in the real-terms value of final crop output more or less corresponded with the rate for output volume. The sharpest decline in output volume and value terms was for cereals, since the unfavourable climatic conditions during growth and harvests not only resulted in sharp declines in quantities but also a distinct deterioration in quality, which in turn resulted in lower producer prices. A much lower volume was also recorded for root crops (especially potatoes and sugarbeet), but this was at least partly offset by higher prices. The real prices of fresh vegetables rose slightly in 1998 but the volume fell by over one tenth in this case too.

Although the real-terms value of final animal output also declined in Finland, the rate of decline was slight in comparison to the other Member States. This is mainly explained by the fact that, at least on the basis of the decline in the real-terms value of pig output, the EU pig market crisis appeared to have slightly less of an impact on the pig sector in Finland than in other Member States. Although poultry production is much less valuable to the agricultural branch of the economy than other types of animal production, the substantial rise in real-terms value (mostly resulting from much higher output volumes) was also an explanatory factor. The further strong decline in the volume of cattle output was largely offset by real-terms price increases. As regards the production of milk, the most valuable product in Finnish agriculture, both the output volume and average real-terms price fell slightly in 1998.

Table 3.13. Changes in the main components of the income calculation for agriculture in Finland, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	-22.4	2.3	0.8	-20.6	-21.8	25.5
Cereals	-33.5	-2.4	-3.9	-35.1	-36.1	7.5
Potatoes	-19.6	10.1	8.5	-11.5	-12.8	3.3
Sugarbeet	-34.2	10.3	8.6	-27.4	-28.5	2.2
Fresh vegetables	-13.4	3.6	2.1	-10.3	-11.6	4.4
Final animal output	1.0	-1.2	-2.6	-0.2	-1.6	74.5
Cattle	-5.7	6.8	5.2	0.7	-0.8	9.9
Pigs	2.8	-9.9	-11.3	-7.4	-8.8	11.0
Poultry	15.8	3.1	1.6	19.4	17.7	3.2
Milk	-0.4	0.7	-0.8	0.3	-1.2	38.1
Final output	-6.1	-0.2	-1.7	-6.3	-7.7	100.0
Intermediate consumption	0.8	-2.3	-3.8	-1.5	-3.0	70.8
Gross value added at m.p.	-20.3	5.2	3.7	-16.2	-17.4	29.2
Subsidies				0.0	-1.4	276.9
Taxes linked to production				-9.1	-10.4	1.3
Depreciation				-1.0	-2.5	91.9
Net value added at f.c.				-6.0	-7.4	283.6
Rent				0.0	-1.5	10.2
Interest				-2.1	-3.5	30.4
Net income of total labour				-6.7	-8.1	243.0
Compensation of employees				6.8	5.2	44.5
Net income of family labour				-9.3	-10.6	198.5

(*) The deflator used is the implicit price index of GDP at market prices, +1.5%.

The real-terms value of intermediate consumption declined in 1998 compared with the value of the previous year, and this is explained by the general development in prices. More specifically, there were noteworthy declines in real-terms prices for energy (as in other Member States), feedingstuffs (the most important input item, also in Finland) and fertilizers. The total volume of input goods and services used by the agricultural branch in 1998 declined a little, although within this aggregate there was a strong rise for feedingstuffs (the

rate of which offset the impact of a lower average price). The value of "net" subsidies remained stable in nominal terms, thereby declining by the rate of inflation when measured in real-terms.

In view of the above developments and a fall in real-terms depreciation, real net value added at factor cost fell by 7.4%. However, the decline in Indicator 1 was not quite as strong because of the continued reduction (-2.5%) in the volume of total agricultural labour (the Indicator's denominator). Despite lower real interest payments (due to a fall in interest rates) and rents, income from the agricultural activity of total labour input per unit of labour (the measure of Indicator 2) declined more sharply than Indicator 1: by - 5.7%. The volume of non-family labour used in agriculture during the year increased relatively strongly from a low level, and this is also reflected in sharp rise in the real-terms compensation of employees. Bearing this in mind, together with the decline in the volume of family labour used, the third income measure used (that of Indicator 3), net income from the agricultural activity of family labour input per unit of family labour, declined the most strongly (-7.7%).

3.14. Sweden

After a sharp increase in 1997, average income from agricultural activity per unit of labour appears to have risen moderately (Indicator 1 by +1.1%) in Sweden in 1998, although this means that the level still remains well beneath the base-year "1990" levels (Indicator 1 being about 25% down). Against the background of a clear decline in the real value of final agricultural output, the main factors combining to contribute to the increase in average income per unit of labour in 1998 were the sharp rise in net subsidies payments, a lower value of purchased inputs, lower depreciation costs in real terms and a steep decline in agricultural labour input (with Greece's, the steepest rate of decline in the EU after Germany's).

The lower real-terms value of final agricultural output in 1998, as in many other Member States, was mainly the result of the deterioration of the market for pigs. In Sweden, pigs represent the second most valuable product group. Therefore, the sharp decline in average price common across the EU had a considerable impact (particularly as the volume of pig output was almost unchanged from the level in 1997). As with most other Member States, there was a sharp fall in the volume of cattle output together with higher real-terms prices. In Sweden, this resulted in a slight increase in value in real terms compared with 1997. The real value of milk output, the most valuable agricultural product in Sweden, declined in 1998 as a result of lower real prices.

Sweden (as well as Finland) had to cope with a cold and rainy summer. However, this did not have as drastic an effect on the output volume of crops as in the case of Finland. In particular, although output volumes of cereals, root crops (potatoes and sugarbeet) and fresh vegetables declined, the rate was less than 4% and in the case of root crops was more than offset by higher real prices. In the case of cereals, however, the bad weather conditions also lowered quality beneath usual levels, and this was one of the main factors causing real prices to decline strongly.

The impact of the slight increase in the volume of total input goods and services purchased was offset by a strong rate of decline in average real-terms price, both developments largely influenced by the changes for animal feedingstuffs. Despite the resulting decline in the real-terms value of intermediate consumption, there was a sharpening of the rate of decline in gross value added at market prices. However, the marked rise in the value of net subsidies combined with lower depreciation costs in real terms meant that the decline in real-terms net value added at factor cost, the basis for income Indicator 1, slowed to -2.2%. With the volume of total agricultural labour shrinking (-3.3%) at a faster rate than net value added at factor cost, income from agricultural activity per unit of labour as measured by Indicator 1 actually increased.

As in 1997, the level of interest payments declined sharply, and although real-terms rental payments rose slightly, there was a resulting steep increase in the level of net income from the agricultural activity of total labour input. With this measure of income being shared among a smaller amount of labour, the level of Indicator 2 rose much more steeply (+8.6%) than the rate of increase in the level of Indicator 1 in 1998. Despite taking into account a slight rise in the value of the compensation of employees, the upward trend in income was confirmed by the measure of Indicator 3 (+ 12.4%).

Table 3.14. Changes in the main components of the income calculation for agriculture in Sweden, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998
Final crop output	-1.6	0.3	-1.2	-1.3	-2.8	31.2
Cereals	-2.3	-6.8	-8.2	-8.9	-10.3	10.0
Potatoes	-2.0	22.0	20.2	19.6	17.8	3.7
Sugarbeet	-1.5	3.4	1.9	1.9	0.4	4.1
Fresh vegetables	-3.4	0.0	-1.5	-3.4	-4.9	3.9
Final animal output	-0.6	-3.7	-5.1	-4.3	-5.7	68.8
Cattle	-5.1	7.3	5.7	1.8	0.3	10.0
Pigs	0.3	-21.8	-23.0	-21.6	-22.8	12.5
Milk	0.1	0.3	-1.2	0.4	-1.1	34.9
Final output	-0.9	-2.5	-3.9	-3.4	-4.8	100.0
Intermediate consumption	1.1	-2.2	-3.6	-1.1	-2.6	74.0
Gross value added at m.p.	-6.1	-3.3	-4.7	-9.2	-10.6	26.0
Subsidies				10.4	8.7	99.5
Taxes linked to production				-0.3	-1.7	5.2
Depreciation				0.0	-1.5	87.9
Net value added at f.c.				-0.7	-2.2	106.3
Rent				2.9	1.4	16.0
Interest				-11.6	-12.9	35.4
Net income of total labour				6.6	5.1	54.9
Compensation of employees				3.1	1.5	32.0
Net income of family labour				12.1	10.4	23.0

(*) The deflator used is the implicit price index of the GDP at market prices, +1.5%

3.15. United Kingdom

For the second successive year there has been a considerable decline in the level of income generated by the agricultural sector in the United Kingdom. This contrasts starkly with the upward trend of the first half of the 1990s (see long-term Chapter). There are various measures of agricultural income but all the three measures of income per unit of labour that Eurostat uses point to another year of sharply falling income in 1998 (from -16.3% by the measure of Indicator 1 to -37.3% by Indicator 3).

Why have incomes declined so sharply again? The principal reason for the fall has been the further weakening of prices for livestock, milk and cereals after the decreases recorded in 1997. Price levels reflect the levels of supply and demand on the market and there have been many different factors affecting supply and demand in 1998.

Demand for UK livestock has been low both on domestic and export markets, which together with a build-up of supply has pushed prices further below the depressed levels of 1997. The relative strength of sterling (at least in comparison to levels immediately after ejection from the Exchange Rate Mechanism) has had the double-sworded effect of making Continental European products cheaper on UK markets and UK goods more expensive in export markets. Export markets for livestock continued to be hampered by the direct ban on British beef (a framework agreement for the conditions by which to lift this ban was reached at the end of November). Additionally though, supplies on EU markets for many agricultural commodities have been high not only because of over-production EU-wide (most particularly for pigs) but also the fact that export markets to Russia, Asia and South America have slumped due to their economic crises.

The value of milk produced in the UK is greater than any of other agricultural good. For this commodity too though, the value in 1998 was sharply lower than the preceding year. Although the volume of milk output was a little down on the level in 1997, mainly as a result of lower yields in the first half of the year when the weather reduced the production of grass, the main reason for the lower value was the sharp decline in average milk prices. The continued search for a competitive market balance in the wake of the dismantlement of the Milk Marketing Board may have been an additional factor affecting prices.

There were few increases in the value of crop products in 1998 either, for reasons already outlined. Of the exceptions, the considerable rise in the value of potatoes and the moderate rise in the value of fresh vegetables (in both cases due to prices rather than output volumes which declined) should be viewed against the sharp falls recorded for 1997.

The prices and values of almost all the input goods used in agricultural production also declined sharply in 1998, although not by enough to prevent a steep fall in agricultural gross value added for the year. Price falls for feedingstuffs and fertilizers were particular sharp.

Subsidies paid out in 1998 were also lower than the previous year, with the main falls being on fat cattle and calves, wheat and barley. In the case of the arable crops, the reduced agricultural conversion rate for arable aid payments is likely to have contributed to this decline. A rise in taxes linked to animal production from milk superlevies, although relatively small in absolute value, also contributed to the downward effect on agricultural income as measured by Indicator 1. The rise in interest payments (the impact of interest rate falls towards the end of the year not showing up in the annual figure) and rental payments only exacerbated the decline in the income measurements of Indicators 2 and 3. Despite the severe decrease in agricultural income over the past two years, provisional figures for agricultural labour input suggest that although there was a further decline in 1998 this was no more than the trend average of the past twenty-five years.

Table 3.15. Changes in the main components of the income calculation for agriculture in the United Kingdom, % change in 1998 over 1997

	Volume	Nominal price	Real price (*)	Nominal value	Real value (*)	Share of each item in % in 1998	
Final crop output	-1.7	2.4	-0.3	0.7	-2.1	39.8	
Cereals	-0.2	-15.9	-18.2	-16.1	-18.4	12.6	
Potatoes	-8.6	85.3	80.2	69.3	64.7	5.1	
Fresh vegetables	-3.7	9.1	6.2	5.1	2.2	9.1	
Final animal output	-0.5	-14.6	-16.9	-15.0	-17.3	60.2	
Cattle	-3.2	-12.4	-14.8	-15.1	-17.4	8.3	
Pigs	-0.1	-27.0	-29.0	-27.1	-29.1	7.2	
Sheep and goats	3.5	-23.2	-25.3	-20.5	-22.7	6.0	
Poultry	-0.2	-9.8	-12.2	-10.0	-12.4	11.1	
Milk	-1.5	-11.7	-14.1	-13.0	-15.3	22.8	
Final output	-1.0	-8.5	-11.0	-9.4	-11.9	100.0	
Intermediate consumption	0.6	-8.3	-10.8	-7.7	-10.3	65.9	
Gross value added at m.p.	-3.8	-9.0	-11.5	-12.5	-14.8	34.1	100.0
Subsidies				-7.4	-10.0		61.1
Taxes linked to production				16.8	13.6		3.2
Depreciation				0.5	-2.3		48.5
Net value added at f.c.				-15.3	-17.6		109.4
Rent				10.3	7.3		4.7
Interest				16.0	12.8		17.2
Net income of total labour				-20.5	-22.7		87.5
Compensation of employees				1.5	-1.2		47.0
Net income of family labour				-36.5	-38.3		40.6

(*) The deflator is the implicit price index of gross domestic product, +2.8%.

4. Long-term trends in income from agricultural activity in the European Union from 1980 to 1998

Introduction

As of next year, annual forecasts of income from agricultural activity will be generated on the basis of a revised methodology. Initially, Member States will not be able to provide historical series of their Economic Accounts for Agriculture (EAA) on this revised basis. Therefore, Eurostat has decided to extend this year's report by providing a more detailed analysis of the long-term trends for the European Union as a whole (in this Chapter) and for individual Member States (in Chapter 5).

The purpose of this chapter is to analyse the changes in income from agricultural activity throughout the European Union over the last eighteen years in order to identify the main trends and illustrate how the preliminary estimates for 1998 fit into this overall picture.

Due to the change in the territorial situation of Germany on 3 October 1990 and in view of the available data on the Economic Accounts for Agriculture of the reunified Germany, the analysis of the reference period "1981"/"1991"⁽¹⁷⁾ refers to Germany in its territorial situation before 3 October 1990. The recent changes that take Germany's new territorial situation into account are presented for the period "1991"/"1997". As it happens, this split almost corresponds to the time periods pre- and post- the 1992 reform of the Common Agricultural Policy. However, there is another change to which attention must be drawn. The results for Portugal up to 1985 relate exclusively to mainland Portugal. As from 1986, however, the Azores and Madeira are included and other data sources have been used to calculate the new series. As a result, there is a break in the long-term series for Portugal. While this break is also reflected at EU level, the impact is so minimal that it is not taken into account in the analysis that follows.

4.1. Presentation of trends in income from agricultural activity in the European Union

Average incomes from agricultural activity per unit of labour in the European Union have been on an upward trend during the period under review. Between "1981" and "1991", real (deflated) net value added at factor cost in agriculture per AWU (**Income Indicator 1**) in the European Union of fifteen Member States as a whole (EU-15) increased by an average of +1.4% per year. Between "1991" and "1997" the average rate of increase accelerated to +2.6% per year (see Table 4.1). Clearly though, annual changes in this income measure for the EU as a whole have not always developed in line with these trends and changes in the Member States have been varied. Significant increases at the level of the EU-15 occurred in only a very few years, with there being extended periods (1983 to 1988 and 1990 to 1993) in which incomes were relatively stable. Only in the three years immediately following the implementation of the 1992 reform of the CAP was there any consistent rise.

As can be seen from Graph 4.1, net value added at factor cost rose in nominal terms over the reference period. However, the rate of increase was generally below the level of inflation (measured by the average rate of inflation in the Member States, weighted according to the value of each product or aggregate, expressed in national currency and converted into ECU at 1990 rates⁽¹⁸⁾). In real terms, therefore, net value added at factor cost decreased (at an annual average -1.7% between "1981" and "1991" and then -1.1% between "1991" and "1997"). It is, therefore, only after taking account of the sharper and continuous decline (averaging -3.5% per year between "1981" and "1991" and then -3.0% between "1991" and "1997") in the volume of agricultural labour (expressed in AWUs), that the measure of Income Indicator 1 rose.

⁽¹⁷⁾ "1981" = (1980 + 1981 + 1982)/3; "1991" = (1990 + 1991 + 1992)/3

⁽¹⁸⁾ For more details, c.f. *Notes on Methodology A.4* in this publication.

Table 4.1. Development of Indicators 1, 2 and 3 of income from agricultural activity for the EU-15 between 1980 and 1998 ("1990" = 100 with the exception of ⁽²⁾)

YEAR	INDICATOR 1				INDICATOR 2				INDICATOR 3			
	Index		Annual variation (%)		Index		Annual variation (%)		Index		Annual variation (%)	
	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾
1980	82.6	:			84.3	:			83.4	:		
1981	82.4	:	-0.3	:	82.9	:	-1.7	:	81.5	:	-2.3	:
1982	91.4	:	10.9	:	93.3	:	12.5	:	95.4	:	17.1	:
1983	88.2	:	-3.4	:	89.2	:	-4.4	:	89.1	:	-6.7	:
1984	90.8	:	3.0	:	91.9	:	3.1	:	93.2	:	4.6	:
1985	87.6	:	-3.6	:	87.3	:	-5.0	:	86.3	:	-7.4	:
1986	88.6	:	1.2	:	88.6	:	1.6	:	88.0	:	2.0	:
1987	87.1	:	-1.7	:	86.9	:	-1.9	:	85.2	:	-3.2	:
1988	90.0	:	3.2	:	89.7	:	3.2	:	88.0	:	3.3	:
1989	100.5	:	11.8	:	100.8	:	12.4	:	101.5	:	15.4	:
1990	99.7	99.3	-0.8	:	99.6	99.5	-1.2	:	99.5	:	-2.0	:
1991	99.7	100.7	0.0	1.4	99.6	100.5	0.0	1.1	99.0	:	-0.5	:
1992	96.3	98.5	-3.4	-2.2	95.1	97.1	-4.5	-3.4	92.4	:	-6.6	:
1993	:	99.0	:	0.5	:	97.9	:	0.9	:	:	:	:
1994	:	108.8	:	9.9	:	111.0	:	13.3	:	:	:	:
1995	:	114.1	:	4.9	:	116.8	:	5.2	:	:	:	:
1996	:	119.7	:	4.9	:	124.0	:	6.2	:	:	:	:
1997	:	116.1	:	1.7	:	120.8	:	3.4	:	:	:	:
1998	:	111.8	:	-3.7	:	115.8	:	-4.1	:	:	:	:
"1981"/"1991"			1.4				1.2				1.1	
"1991"/"1997"				2.6				3.3				:

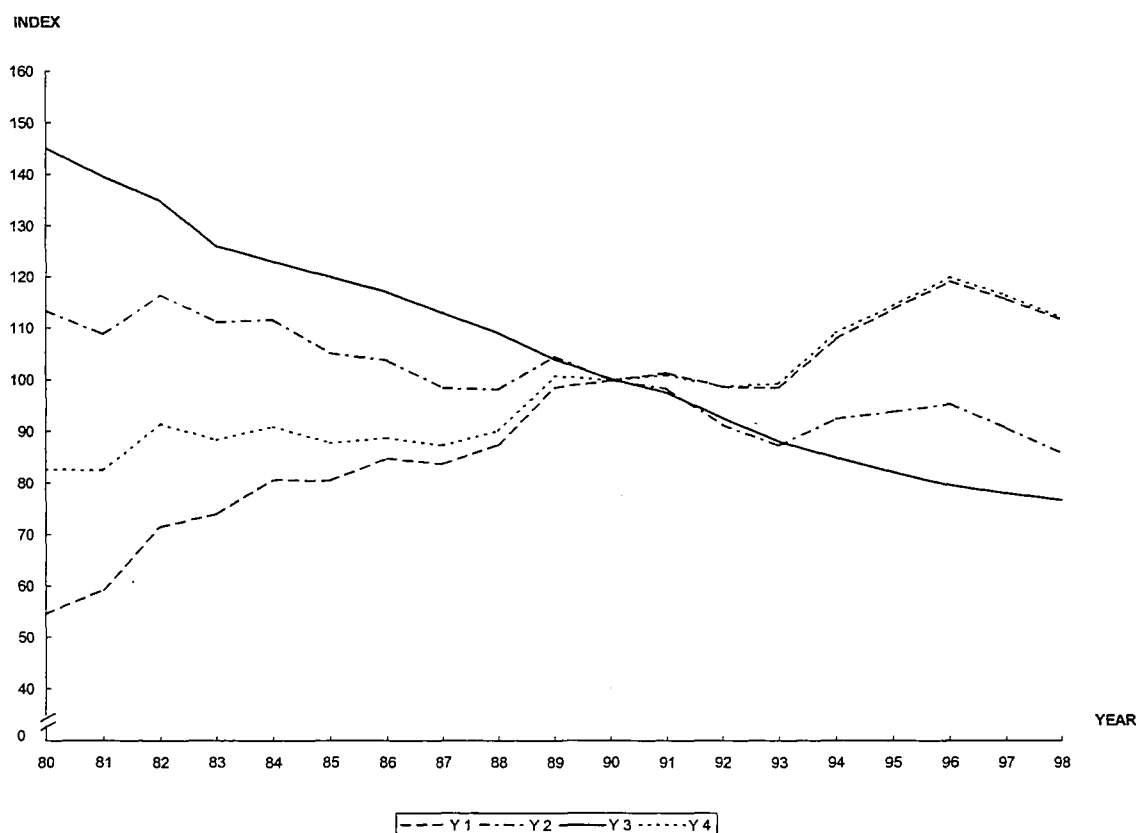
⁽¹⁾ With Germany in its territorial boundaries before 03 October 1990

⁽²⁾ With Germany in its territorial boundaries after 03 October 1990, with the Indices 1990 - 1991 = 100 applying from "1991" onwards.

The patterns of income development for EU-15 are confirmed by the two other measures of income from agricultural activity per unit of labour, despite wider annual fluctuations. These wider fluctuations for **Indicators 2** (net income from the agricultural activity of total labour input in real terms, per total AWU) and **3** (net income from the agricultural activity of family labour input in real terms, per family AWU) are inevitable as the costs deducted from net value added at factor cost in order to calculate these indicators change in a fairly steady manner. The numerators of these indicators thus vary to a greater extent than that of Indicator 1. Between "1981" and "1991", Indicators 2 and 3 increased by annual averages of +1.2% and +1.1% respectively. Indicator 2 subsequently rose by a faster average of +3.4% through to "1997". For reasons already given elsewhere in this publication it has not been possible to calculate a meaningful EU-15 figure for Indicator 3 since the re-unification of Germany.

The following analysis of the main factors determining changes in income concentrates on the measure of Indicator 1, since this is considered to be the most reliable indicator from a statistical point of view.

Graph. 4.1. Development of Net Value Added at factor cost, in nominal and real terms, of total labour input and of Indicator 1 for the EU-15 between 1980 and 1998 ("1990" = 100)



Y1 = nominal net value added at factor cost

Y2 = real net value added at factor cost

Y3 = total agricultural labour input

Y4 = real net value added at factor cost per AWU (Indicator 1)

Note: This comprises Germany, according to its territorial situation after 03.10.1990 with base index $(1990 + 1991) / 2 = 100$

4.2. Main factors determining changes in income

The income generated by agriculture in the European Union is the result of price and output volume levels for products and for the inputs used by agriculture in the production process, of taxes and subsidies as well as deductions for the wear and tear and obsolescence of fixed capital goods. Depending on the definition of income used, other charges like interest and rental payments and the compensation of employees are taken into account. When the income measures are related to trends in the volume of agricultural labour to provide the Income Indicator figures, labour input figures are also important. A number of different factors clearly, therefore, have an effect on the level of income from agricultural activity.

Two approaches are now taken to review the factors determining the changes in income. The first looks at the main income results in various sub-periods between 1980 and 1998. It highlights the principal factors influencing the income developments in those years. The second approach focuses on the main items of the account, summarising the main developments over the review period at the level of the EU as a whole.

4.2.1. Summary of the main results

The trends in income described above must be considered in the light of the evolving nature of the Common Agricultural Policy, the prevailing situations on the markets and productivity developments. To help with the analysis, the reference period has been subdivided into four roughly equal sub-periods, which have been chosen not only because of the changing nature of their income trends but also, in some cases, as markers for shifts in policy or statistical coverage (EU-15 data with the re-unified Germany existing from 1991).

After having fallen sharply in 1979 and 1980 to the lowest level since 1975, income from agricultural activity as measured by Indicator 1 rose by an average +1.3% per year between **"1981" and "1984"**, with a particularly marked increase of +10.9% being recorded in 1982. The period was characterised by a slight tailing-off in the fall in real prices and by the rapid expansion in output volumes, particularly for crop output. The rise in crop output volume was explained by both the strong growth in yields (for example, an average +3% per year for cereals as a whole) and by the fact that farmers had an incentive to produce more whilst enjoying guaranteed prices for several crop products. The rise in the volume of oilseed output was particularly noteworthy (an average of +17.6% per year between **"1981" and "1984"**). The sharp rise in cereals output (an average +5.6% per year), which saw the Community switch from being a net importer of cereals to a net exporter, set against stagnant demand, led to a steady rise in intervention stocks. On this basis, the real-terms price of cereals decreased steadily (an average of -3.3% per year between **"1981" and "1984"**). There was also a rise, albeit at a slower rate, in the volume of animal output over this period. There was sustained growth in the volume of cattle output (+1% per year on average), resulting in the Community becoming self-sufficient in cattle. As consumption stagnated, the growing imbalance between supply and demand weighed down prices (falling an average -2.6% per year in real terms). The common organisation of the milk market at the time, based on a price and intervention system like that for cereals, as well as an assortment of storage and production aids, set conditions that were conducive to an increase in milk output (an average +1.2% per year between **"1981" and "1984"**). With supply clearly outstripping demand, the Community faced a situation of production surpluses (rising to 10 million tonnes) which necessitated major budgetary reforms.

An initial reform of the CAP was therefore put in place in 1984, mainly aimed at addressing the problems in the milk sector. Production quotas were introduced in order to stabilise the market in milk products. Maximum Guaranteed Quantity (MGQ) stabilisers were introduced, whereby exceeding a predetermined quantity triggered lower support levels. There were unchanged or lower institutional prices, depending on the product (average annual decreases of -3.7% for agricultural products between 1984/85 and 1992/93 in real terms), designed to send clear signals to producers. Intervention mechanisms were made more flexible in order to make intervention less attractive as a "substitute market" and to reinstate its function as a safety net under short-term variations in output.

The period **"1984"/"1987"** was less favourable as regards income from agricultural activity, with Indicator 1 falling slightly (an average annual rate of -0.2%). This period was characterised by a situation of imbalances on numerous agricultural markets. The decline in real prices of final output gathered pace (-4.1% per year on average, compared with -2.0% between **"1981" and "1984"**). This decrease was more pronounced for cereals (-5.4%) and oilseeds (-5.9%). The introduction of milk production quotas led to a reduction in output volume (by an average of -1.6% between **"1984" and "1987"**), added to which was a fall in real prices (-1.7%). In the cattle sector, the deterioration of the markets was compounded by the large-scale slaughtering of milk cows which followed the introduction of milk quotas. The result was an even steeper fall in real cattle prices (-4.5% per year).

This deterioration in the agricultural situation was interrupted in 1988. The reorganisation of European agricultural markets, which took place against the background of a restrictive Community policy and a temporary upturn in the world markets (characterised by destocking and price rises), made for a recovery in agricultural income in 1988 and particularly 1989. Between **"1987" and "1991"**, income from agricultural activity rose by an average of +2.7% per year.

The stagnation of average incomes from agricultural activity between **1991 and 1993** was characterised by the structural imbalances in pigs and wine markets and the impending reforms of the cereals, oilseeds, protein crops and cattle markets.

The 1992 agreement to reform the CAP had the principal aim of adapting agricultural output to internal and external demand in order to improve the balance of the markets and enhance the competitiveness of EU agriculture. This reform was essentially characterised by a change from a policy of price support to one based more on direct income support for producers. The focus was on three measures:

- the substantial lowering of producer prices (cereals, oilseeds, protein plants and cattle);
- compensation for the effects of this decrease on incomes through direct compensatory payments to producers (new direct compensatory payments and the upgrading of existing aid);

- measures to control output, such as the set-aside of arable land.

In the period **1994 to 1996**, incomes grew strongly with the stabilization of certain markets (lower output and intervention stocks) in the wake of the CAP reform and other factors, combined with a substantial rise in subsidies (as part of the corresponding change in support to the agricultural branch). However, during the last couple of years (**1997 and 1998**), there has been a fallback in the income level as prices for many agricultural products have fallen, the most serious of which have been due to new imbalances on the markets.

4.2.2. Summary of the main developments in the components of income

A brief summary of the developments in key agricultural markets, in subsidies and taxes, in depreciation and in the volume of agricultural labour over the review period is given below by way of greater explanation of the changes that have occurred in the level of income generated by agriculture in the European Union as described above.

❖ Cereals⁽¹⁹⁾ : Output volumes finish the period at record highs, prices at new lows in real terms

The production of cereals among the current Member States of the European Union (EU-15) has risen sharply since a level of 157 million tonnes was recorded in 1980. In the year before the re-unification of Germany, the level of cereals output had reached 177 million tonnes. The introduction of land set-aside as part of the 1992 reform of the CAP was associated with a significant decline in output. However, subsequent reductions in the set-aside rate, the continued rise in yields and the return of more normal weather to the Iberian peninsula after four years of drought (and Spain is fifth biggest cereal producer in the EU) have resulted in cereal output volumes surpassing 200 million tonnes in each of the last three years of the review period. Underlying this growth has been a substantial increase in yields, the area sown to cereals having generally decreased (particularly for barley, oats and rye). Cereal yields appeared to break into new technical territory in 1984, 1991 and 1996. Within the cereals group, most of the rise in output volumes can be linked to growth in soft wheat output and maize.

Table 4.2. Crop products: average annual changes in volumes, prices and values for the EU as a whole, "1981" to "1997", in %

	Volume		Real price		Real value		Share of each item	
	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"1997"	"1981"
Final crop output	1.9	0.6	-2.9	-3.1	-1.0	-2.5	49.0	44.1
Cereals	2.3	2.1	-4.8	-7.2	-2.6	-5.3	9.5	12.0
Potatoes	0.6	-0.4	-3.1	-2.7	-2.5	-3.1	2.2	2.4
Sugarbeet	-0.2	0.2	-3.3	-2.1	-3.6	-1.9	2.5	2.8
Fibre plants	7.4	6.7	-4.0	-4.8	3.1	1.5	0.6	0.3
Oleaginous seeds	11.9	0.7	-6.2	-7.6	5.0	-7.0	1.4	0.9
Fresh vegetables	1.9	0.1	-1.9	-2.6	0.0	-2.5	9.1	7.4
Fresh fruit	1.0	-0.4	-2.3	-2.4	-1.2	-2.8	6.3	5.7
Wine	0.5	-0.5	-1.4	0.4	-1.0	0.0	6.3	4.9
Olive oil	0.0	1.7	-1.4	-0.5	-1.4	1.2	2.0	1.4
Flowers	4.2	1.3	-2.6	-4.0	1.5	-2.7	3.9	2.9

N.B. This comprises Germany according to its territorial situation prior to 03.10.1990 for the period "1981" to "1991" and after 03.10.1990 for the period "1991" to "1997".

The real-terms price of cereals has fallen sharply during the review period. As production increased in the early 1980s, the EU moved from being a net importer of cereals to being a net exporter. However, with demand for cereals remaining at best stagnant, intervention stocks built up putting pressure on prices. The decline in prices accelerated in the second half of the 1980s in the wake of a restrictive price and intervention policy (the lowering of support prices by an average -6.1% per year in real terms between 1984/85 and 1992/93 and the introduction in 1988 of the stabilizer mechanism, which limited the guaranteed price). The cereals regime underwent further changes with the 1992 reform of the CAP. One of the aims of this reform

⁽¹⁹⁾ For more details, Eurostat's (1998) "Economic Aspects of Cereal Production in the EU" is recommended reading.

was to move producer prices closer to world market prices, although farmers received direct compensatory payments. There was a phased three year reduction in the target price after CAP reform. With the recent rise in output volumes of cereals during the last three years of the period, intervention stocks have built back up to above 20 million tonnes. This has, together with the tumble in world cereal prices, led to further strong falls in cereal prices inside the EU.

❖ **Fresh vegetables and fresh fruit⁽²⁰⁾ : steady fall in real-terms prices the cause of lower values**

The common organization of the markets in fresh fruit and vegetables cover a wide range of products governed by a system of support prices. These two product groups are, however, sensitive to changes in the weather. Nevertheless, the output volumes of both have risen over the period as a whole, fresh vegetables on a steady basis and fresh fruit more erratically with output levels towards the end of the period some way down on the peak of 1992. The basis for the growth in fresh vegetable output volumes has been rising yields (particularly for tomatoes at an estimated +37% over the review period) since the production area has declined slightly. The area of fresh fruit has risen a little, with greater production areas of citrus fruit (particularly in Spain) being a key reason. During most of the period, there were steady real-terms price declines for both fresh vegetables and fresh fruit, although in the period since lows were reached around 1992 there appears to have been a slowdown.

❖ **Wine : considerable annual fluctuations, with the period finishing with relative stability**

The European Union is the world's biggest wine producer. Despite a market policy geared to reducing the structural imbalance between production and falling consumption, the volume of wine output was almost unchanged between both ends of the review period. The main instruments for supporting the wine market were private storage aid and subsidies favouring distillation. These interventions were later supplemented by structural measures designed to encourage wine growers to cease production (grubbing-up). Since the introduction of the grubbing-up policy in 1988 a little upwards of half a million hectares of vines have been taken out of production. The relative stability in the volume of wine output is therefore explained by higher yields. The real-terms price of wine has, as with output volumes, tended to vary sizeably from one year to the next. Relatively steady price falls through until about 1988 reflected the structural over-production in European wine-growing at a time of falling consumption, and triggered large-scale distilling (which regularly exceeded 20 million hectolitres for compulsory and optional distilling). The review period finished with three years when prices were stable at a level which was more or less the average for the decade since 1988.

❖ **Milk⁽²¹⁾ : Relatively steady fall in prices causing values to decline ; the introduction of milk quotas in 1984 halting growing production and imbalances on the markets**

Milk accounts for a larger share of the value of final agricultural output in the European Union than any other product (about 18%). The volume of milk output rose constantly between 1973 and 1983, despite measures to manage supply in the EU (such as the non-marketing schemes and the suckler cow premium). The imbalances on the EU's milk markets, with supply outstripping demand, led to surpluses of milk exceeding 10 million tonnes. To counter this situation, a system of milk production quotas was introduced in 1984, initially for a five year period but now currently extended through until the year 2000, which led to a reduction in output volumes and diversification into products with higher value added (cheese, fresh products) and away from butter and skim milk powder. The level of these milk quotas has been progressively reduced (there was a cumulative reduction of 10.5% in the original reference quantities). The volume of milk output peaked in 1983, but with a steep decline in the dairy cow population after the introduction of milk quotas and successive reductions in the level of these quotas, and despite the upward trend in yields, output volumes declined through until about 1991/92. Since then, output levels have been relatively stable. The state of the milk markets and for some of the period the corresponding punitive effect on producer prices from over-quota production, led to a steady fall in real-terms prices. Only in the immediate years after the introduction of milk quotas did prices stabilize.

⁽²⁰⁾ Including citrus fruit, tropical fruit and table grapes.

⁽²¹⁾ For more details, Eurostat's (1997) "Economic Aspects of Milk Production in the EU" (ISBN 92-828-2041-6) is recommended reading.

Table 4.3. Animal products: average annual changes in volumes, prices and values for the EU as a whole, "1981" to "1997", in %

	Volume		Real price		Real value		Share of each item	
	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"1997"	"1981"
Final animal output	0.5	0.5	-3.2	-3.1	-2.7	-2.7	50.7	55.8
Cattle	0.4	-1.3	-3.7	-4.1	-3.4	-5.4	9.9	14.1
Pigs	1.7	1.7	-3.9	-3.9	-2.2	-2.3	11.5	11.7
Sheep and goats	1.7	0.4	-4.5	-1.3	-2.9	-0.9	2.1	2.1
Poultry	2.8	3.5	-4.4	-2.8	-1.8	0.6	5.4	4.4
Milk	-0.5	0.0	-1.9	-2.4	-2.4	-2.4	17.7	18.4
Eggs	-0.8	-0.2	-3.7	-2.8	-4.5	-3.0	2.5	3.2

N.B. This comprises Germany according to its territorial situation prior to 03.10.1990 for the period "1981" to "1991" and after 03.10.1990 for the period "1991" to "1997".

❖ **Cattle (including calves) : strong price falls dominate the market**

In the early 1980s there was sustained growth in cattle output volumes as the European Community became self-sufficient. At a time of levelling consumption, this rise in output resulted in an imbalance between supply and demand which depressed prices. The introduction of quotas in the milk sector in 1984 led to large-scale slaughtering of milk cows, which in turn accentuated the deterioration in the cattle markets. With reduced cattle numbers, output declined slightly before picking up in 1990 owing to a cyclical rise that was subsequently prolonged by the in-depth restructuring of livestock breeding in Germany's new Länder following reunification. Market surpluses, combined with a decline in beef and veal consumption, had a continued adverse effect on prices.

For a while, the situation on EU cattle markets improved considerably with a marked cyclical fall in output and a sharp decrease in intervention stocks. With this decline in supply and despite the phased three-year lowering of institutional prices adopted in the context of CAP reform, the fall in market prices was relatively limited until 1996. However, the end of the period was characterized by the health scare surrounding a possible link between the progressively neurological disorder in cattle called Bovine Spongiform Encephalopathy (BSE) and a similar disorder in humans called Creutzfeld-Jacob Disease (CJD). The resulting loss of consumer confidence in beef products caused prices to tumble in 1996 to a level which has subsequently been maintained. Output volumes have also fallen sharply, partly as action taken to eradicate BSE in several Member States, but particularly the United Kingdom, has resulted in upwards of 1.75 million cattle being killed and removed from the food chain, partly as the cyclical downturn in production has begun particularly for male bovines, and also partly as reduced margins acted as a discouragement to cattle producers.

❖ **Pigs : Almost continuous expansion in production accompanied by sharply falling prices**

There has been widespread expansion of pig production in the Member States during the review period. Bolstered by rising consumption, there were almost continuous rises in output volumes. The notable exception was 1997 when an outbreak of swine fever in the Netherlands led to the mass removal of pigs from the food chain. The pig sector is assisted by price support and intervention measures, but not by guaranteed prices. For most of this period, the high supply levels led to sharply lower prices, which at times were considerable for individual years as production cycles led to mass over-production; so-called "pig crises" years in 1988/89, 1993 and 1998 experienced declines of about 20% in real-terms prices. The only notable respite in the downward trend in prices was from the second-quarter of 1996 to the Summer of 1997, during which time the BSE crisis led to greater demand for pigmeats and, when the effect of this was less marked, a shortage of supply due to the swine fever crisis in the Netherlands which boosted prices.

❖ **Animal feedingstuffs : Steady fall in real-terms prices, volumes purchased closely linked to rising animal production**

The growth in the volume of feedingstuffs purchased over the review period closely mirrored the expansion of animal production. Even when there was a decline in 1984 and 1985, this was mainly linked to the sharp

reduction in the dairy herd following the introduction of quotas. Real-terms prices for feedingstuffs have fallen sharply since 1984. In 1986 and 1987 the price falls were closely in line with the decline in world raw-material prices (particularly soya, manioc and other substitute animal feedingstuffs) and the weaker dollar. The downward trend has continued with the significant decline in the prices of agricultural raw materials (most particularly cereals) from 1992 onwards, following the reform of the CAP.

Table 4.4. Inputs : average annual changes in volumes, prices and values for intermediate consumption in the EU as a whole, "1981" to "1997", in %

	Volume		Real price		Real value		Share of each item	
	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"1997"	"1981"
Intermediate consumption	0.8	0.1	-2.8	-1.5	-2.0	-1.3	47.5	44.8
Energy	1.2	-0.4	-3.9	-0.7	-2.7	-1.1	5.3	5.2
Fertilizers	-0.8	-1.0	-4.3	-1.8	-5.1	-2.8	4.3	6.1
Plant protection products	3.4	0.8	-1.3	-1.5	2.0	-0.7	3.2	1.9
Feedingstuffs	0.5	0.3	-4.1	-2.5	-3.6	-2.1	16.8	19.7
Material and small tools	-0.5	-0.7	0.2	0.1	-0.3	-0.6	5.9	4.6
Services	1.6	0.7	-0.2	0.1	1.4	0.8	6.5	3.8

N.B. This comprises Germany according to its territorial situation prior to 03.10.1990 for the period "1981" to "1991" and after 03.10.1990 for the period "1991" to "1997".

❖ Fertilizers and additives : Falling volumes purchased and lower prices

The volume of fertilizers and soil additives bought each year declined over the review period. This reduction conceals fluctuations that included a slight rise until 1990 and then a sharp fall during more recent years (a restrictive agricultural policy, changes to production systems and environmental requirements). Fertilizer prices have decreased steeply since 1985. Prices have fallen for various reasons at different times, the main factors being falling energy prices (especially of crude oil), a weaker dollar and tougher competition on the European market.

❖ Net subsidies : strong rise in subsidies coupled with falling taxes linked to production

The subsidies that are recorded in the EAA only comprise direct transfers to agriculture, i.e. excluding price support, investment grants, aid to the buyers of agricultural products and transfers to agricultural households. As a result, neither the level nor the trend of subsidies within the meaning of the EAA reflects the overall aid received by the agricultural branch in the European Union.

The level of subsidies recorded in the EAA for the European Union doubled between the start of the 1980s and the start of the 1990s, before the 1992 reform of the CAP. The reform of the CAP changed the nature of support for certain sectors of agricultural production away from a system based around price support towards one more based on direct compensatory payments. Since the reform of the CAP, the level of subsidies has increased by another 75% (through to "1997"). However, this figure includes exceptional measures taken in 1996 and in 1997 to support those farmers most affected by the BSE crisis and then the swine fever crisis.

The growing importance of subsidies can now be measured in a more transparent way against the gross value added in agriculture. In "1981", subsidies paid out to the current EU-15 Member States accounted for 12.6% of gross value added at market prices (GVAmP). By "1997", this proportion had risen to 31.6%. The rising importance is even clearer when figures are removed for the three newest Member States (the value of subsidies in Austria and Sweden being about 80% of GVAmP and in Finland being more than double GVAmP). The importance of subsidies with regards to agricultural income is therefore considerable in some Member States. It should be pointed out that these items reflect widely varying conditions in different Member States. Indeed, the system and extent of agricultural support as well as disparate methodologies regarding their treatment may have caused considerable variations between Member States. Some care, therefore, has to be taken when examining the absolute value of these items, although the trend in their balance shows growing agricultural support in the form of direct transfers to agricultural producers.

The value of taxes linked to production, whose share in gross value added at market prices is fairly small, declined over the period as a whole, with increases in the first half of the 1980s having been more than offset by falls in recent years (principally due to the dismantling of the co-responsibility levies for milk and cereals).

Table 4.5. Components of the Income Indicators: average annual changes in values for the EU as a whole, "1981" to "1997", in %

	Nominal value		Real value		Share of each item			
	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"1997"		"1981"	
Final output	4.1	0.7	-1.9	-2.6	100.0		100.0	
Intermediate consumption	3.4	1.7	-2.0	-1.3	47.5		44.8	
Gross value added at m.p.	4.6	-0.1	-1.8	-3.6	52.5	100.0	56.5	100.0
Subsidies	13.9	14.9	6.8	11.2		31.6		12.6
Taxes linked to production	6.4	-2.5	1.2	-5.7		3.4		3.7
Depreciation	6.4	2.6	0.6	-0.6		29.9		24.9
Net value added at f.c.	5.0	2.5	-1.7	-1.2		98.4		84.1
Rent	4.5	2.7	-1.7	-0.5		4.7		3.7
Interest	5.4	-3.4	-0.4	-6.3		9.7		11.6
Net income of total labour	4.9	3.3	-1.9	-0.5		84.0		68.8
Compensation of employees	5.9	:	-1.2	:		:		19.0
Net income of family labour	4.6	:	-2.2	:		:		49.7

N.B. This comprises Germany according to its territorial situation prior to 03.10.1990 for the period "1981" to "1991" and after 03.10.1990 for the period "1991" to "1997".

❖ Depreciation : steady growth in the 1980s, mirrored by falls in the 1990s

During the 1990s, the real value of depreciation has declined back towards levels at the start of the 1990s. It appears that this is the result of the more restrictive agricultural policy depressing investment in agriculture. Nevertheless, the share of depreciation in gross value added at market prices has risen over the review period, which could be viewed as confirming a general intensity of the agricultural production process.

❖ Agricultural labour input⁽²²⁾ : strong and continuous fall in the volume of agricultural labour

During the review period, the volume of total agricultural labour for the present Member States of the European Union as a whole declined considerably and consistently. At the start of the review period, before Germany was re-unified, the equivalent number of full-time persons employed in agriculture (the unit of measurement being Annual Work Units) in the EU was about 11.7 million. The level fell to about 6.7 million AWUs in 1998, by which time figures for the re-unified Germany were included.

The reasons for this steady decline in the volume of agricultural labour can be linked to both push and pull factors. On the one hand, the number of farms has declined sharply over the years leading to the loss of agricultural labour, and technological changes have seen the substitution of manual labour with machinery. On the other, there may have been relatively brighter economic prospects for the agricultural workforce in other sectors of the economy as personal expectations, environments and requirements have changed.

In most Member States, the decline in the volume of family labour was greater than that of non-family labour input (Ireland, Italy and the United Kingdom being exceptions), or indeed where the volume of non-family labour increased or remained relatively unchanged (the Benelux countries). In this respect some general factors regarding the flexibility of the non-family labour force should be borne in mind. Non-family labour includes seasonal labour, an increasing number of contracted workers for specialist tasks and a growing number of workers from farms that have a legal basis.

⁽²²⁾ For more details, Eurostat's (1998) Statistics in Focus, N° 6 on "Volume of total agricultural labour"

5. Long-term trends (1980 to 1998) in income from agricultural activity in the Member States

Summary

The development of income from agricultural activity per unit of labour in individual Member States often differed significantly. Whereas some Member States recorded an upward trend in agricultural income during the eighteen-year review period (Germany, Spain, France and Ireland), others experienced a fall (Sweden) or relative stability (Italy, the Netherlands). There were also a number of countries (particularly Denmark and the United Kingdom) for whom developments at the end of the review period meant that no clear single trend could be established.

Introduction

Having reviewed in Chapter 4 the main trends in prices and output volumes for the various agricultural products in the European Union, this Chapter now looks at how these elements have affected the long-term trends in income from agricultural activity in the individual Member States. No direct comparison of the trends in income is made between the Member States in this Chapter because this would require a greater analysis of the structures (in terms of types of production, holding size, workforce etc.), climatic and topographical conditions, productivity and production techniques, as well as internal market conditions inherent to the supply and demand structure in each Member States, than such a short summary can deliver. Nonetheless, policies of support and intervention in agriculture, as well as the main trends of the agricultural markets in the European Union can be traced in all Member States across the review period as far their influence on income from agricultural activity is concerned.

As agricultural markets have become increasingly integrated, so the factors affecting movements in prices in each Member State have been increasingly similar. Whilst describing the price and volume trends for the main agricultural products on a individual Member State basis, there is a risk of analytical repetition for the reader. An attempt has been made to keep this to a minimum.

The annual data for changes in agricultural income have been averaged on a moving three-years basis. To some extent this smoothes annual fluctuations to reveal a clearer longer-term trend. However, for some Member States there are distinct short- and medium term trends within the review period. These phases of income trends are identified for the relevant Member States. They are also reviewed against the backdrop of the reform of the Common Agricultural Policy in 1992.

5.1. Belgium

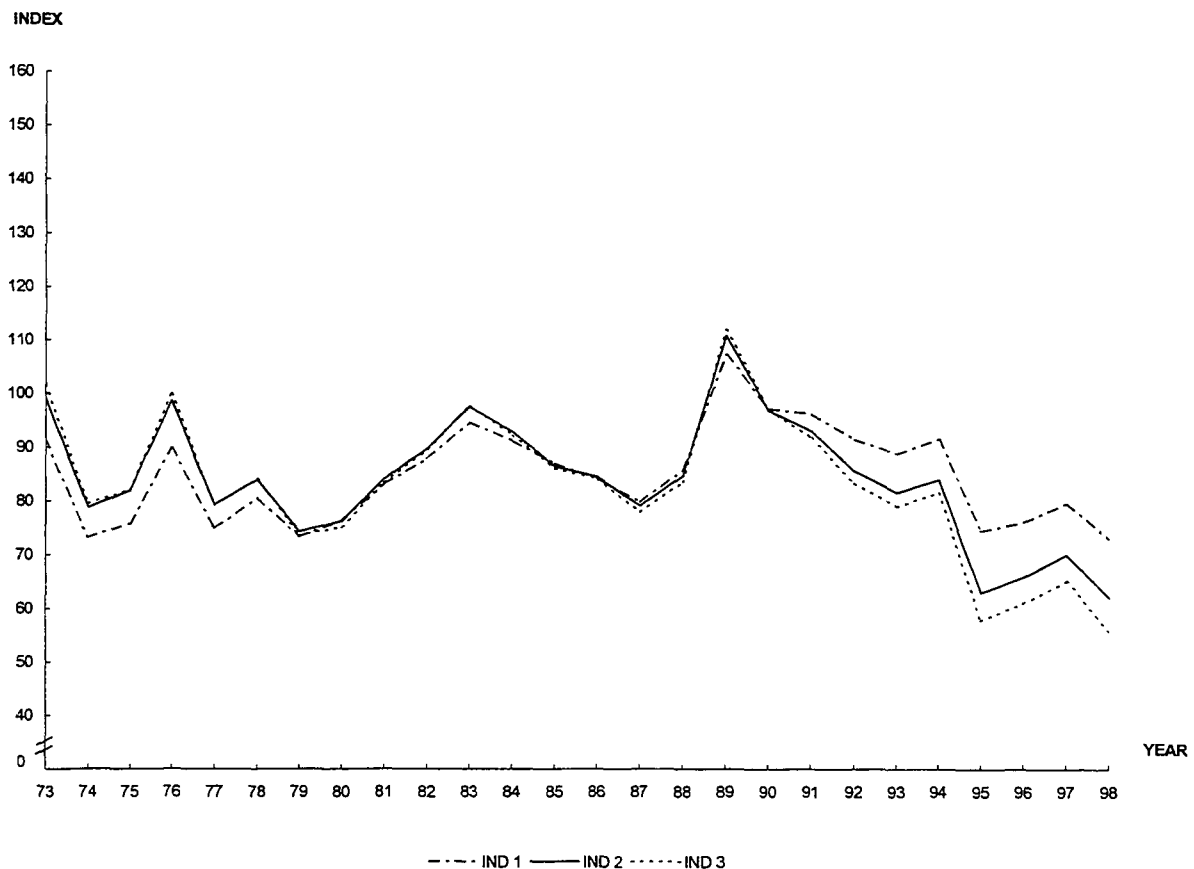
The level of agricultural income Indicator 1 in 1998 touched similar lows to those of 1995, 1979 and 1974. Over the long-term a clear trend is not easy to precise. In the review period, there have been two distinct cyclical patterns in income. The first from 1980 to 1987 and the second in the time since then. The pattern is one of steadily rising income levels during about two-to-four years, followed by a downward slide in income levels back to a low base. The figure for 1998 confirmed the downward trend in income from the peak in 1989, the level of Indicator 1 falling 35% in this time.

Throughout the period there have been steady increases in the volumes of final crop output and final animal output. This expansion in output volumes has been among the fastest in the European Union. However, over the whole of the review period this growth in output has been accompanied by faster falling real-terms prices.

Final animal production accounts for about two-thirds of the value of all agricultural output in Belgium and pig production is the single most valuable sector within agriculture. There has been a considerable and steady expansion in pig production in Belgium during the review period, the volume of output rising by about +60% to a new record high in 1998. The prevalence of structural imbalances on EU markets caused by expanding pig production in many Member States caused prices to tumble. Pig prices in Belgium were no exception to this phenomenon and reached a new record low in 1998. Annual fluctuations in the total value of pig output in

Belgium have been particularly strong but the review period finished with a value in 1998 that was particularly low and considerably down on that of 1997. Until the beginning of the 1990s, there was also a steady rise in cattle output volumes even though consumption of beef within the EU was at best stagnant and at times declining. The resulting decline in cattle prices has recently been sustained by the cut in intervention prices and the loss of demand following the EU-wide loss of consumer confidence in beef following the BSE scare. Since 1992, the volume of milk output has been almost unchanged under the quota system in place at a level some 10% below that of the early 1980s. In the review period through until 1990 and then since 1993, the average price of milk was relatively stable. However, the decline of nearly 25% in the intervening period was the basis for the decline over the whole review period.

Graph. 5.1. Development of the three indicators of income from agricultural activity in Belgium between 1973 and 1998, with "1990" = 100



Fresh vegetables are the most important crop product in Belgium. From the start of the review period through until the early to mid-1990s volumes of fresh vegetable output doubled, particularly with the expansion of greenhouse vegetables such as tomatoes. Since then, the volume of fresh vegetables has fallen back about 15% principally because of the lower volumes of leeks (production areas considerably lower) and cauliflowers and broccoli. As output volumes for fresh vegetables as a whole increased over the review period, prices in real terms have fallen in line, so that the value of fresh vegetables output is little different between the ends of the review period. The second most valuable crop product group is that of root crops (potatoes and sugarbeet). Harvest levels for these crops are particularly dependent on the climatic conditions and therefore there can be significant annual fluctuations in both output volumes and prices. However, there has been considerable growth in the volume of potato output through the late 1980s and particularly in the 1990s as production areas and yields have risen. In contrast, the volume of sugarbeet output has fallen steadily since highs in the early 1980s, as the production area has progressively shrunk. Potato prices are notoriously volatile and finished the review period on a relative high after very low levels in the preceding two years. On the basis of three year averages, however, prices in real terms have fallen significantly. There has been a less volatile and more consistent decline in the real price of sugarbeet. There has also been a relatively steady upward trend in cereals output volumes as yields of maize and soft wheat in particular have risen.

Total cereals production area declined regularly through until 1996 with the sharp falls in the production areas of barley and oats only partially taken over by the rising areas of soft wheat and maize production. With the cut-back in set-aside rates, there has been a sharp rise in production area in 1997 and 1998. Real-terms prices for cereals as a whole have fallen every year since 1983. The declines in prices following the 1992 reform of the CAP have continued rather than accelerated this trend decline.

Table 5.1. Changes in the main components of the income calculation for agriculture in Belgium, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	2.3	0.7	-2.8	2.9	-0.6	37.4	32.9
Cereals	2.3	-3.3	-6.5	-1.0	-4.4	3.6	5.8
Potatoes	4.5	-0.3	-3.7	4.2	0.6	3.6	2.6
Sugarbeet	-1.4	3.0	-0.5	1.6	-1.8	4.7	5.1
Fresh vegetables	3.2	0.5	-2.9	3.8	0.2	12.4	9.6
Final animal output	1.5	0.1	-3.3	1.6	-1.8	62.3	67.0
Cattle	0.6	-0.9	-4.3	-0.4	-3.8	13.3	19.8
Pigs	2.9	-0.2	-3.6	2.7	-0.8	24.6	22.4
Milk	-0.7	1.9	-1.6	1.2	-2.2	14.4	16.5
Final output	1.8	0.3	-3.1	2.1	-1.4	100.0	100.0
Intermediate consumption	2.1	0.8	-2.6	2.9	-0.6	65.0	57.2
Gross value added at m.p.	1.5	-0.7	-4.0	0.8	-2.6	35.0	42.8
Subsidies				6.6	3.0	17.3	7.1
Taxes linked to production				8.5	4.9	3.2	1.0
Depreciation				4.7	1.2	26.9	14.7
Net value added at f.c.				0.5	-2.9	87.3	91.5
Rent				1.9	-1.6	6.3	5.3
Interest				4.6	1.0	19.4	10.8
Net income of total labour				-0.4	-3.8	61.6	75.3
Compensation of employees				6.7	3.0	11.0	4.5
Net income of family labour				-1.3	-4.6	50.6	70.8

The volume of input goods and services used in agriculture has risen at one of the fastest rates in the EU during the review period. Expansion of livestock numbers (particularly pigs and poultry) has contributed to the rise in the volume of feedingstuffs consumed. Likewise the expansion in horticultural and greenhouse vegetable production, as well as livestock production, has contributed to the rise in energy requirements. Between the two ends of the review period, the volume of intermediate consumption rose at a slightly faster rate than that of final output, suggesting a slight decline in the productivity of intermediate consumption. As with agricultural products, so the price of inputs has fallen through the review period. Price falls for energy and feedingstuffs can be traced to the general development in oil prices and cereal prices respectively.

The combined developments in output and input values have formed the basis for the decline in the absolute level of income in Belgium. The level of subsidies has risen sharply, particularly since the reform of the CAP (although one off measures for swine fever should not be ignored). However, the value of subsidies still represents a relatively small proportion of gross value added compared to most other Member States. Income per unit of labour, however, was similar at both ends of the reference period (although as described at the beginning of this chapter, both ends of the review period represent lows). This was because of the steady and continual decline in the volume of agricultural labour.

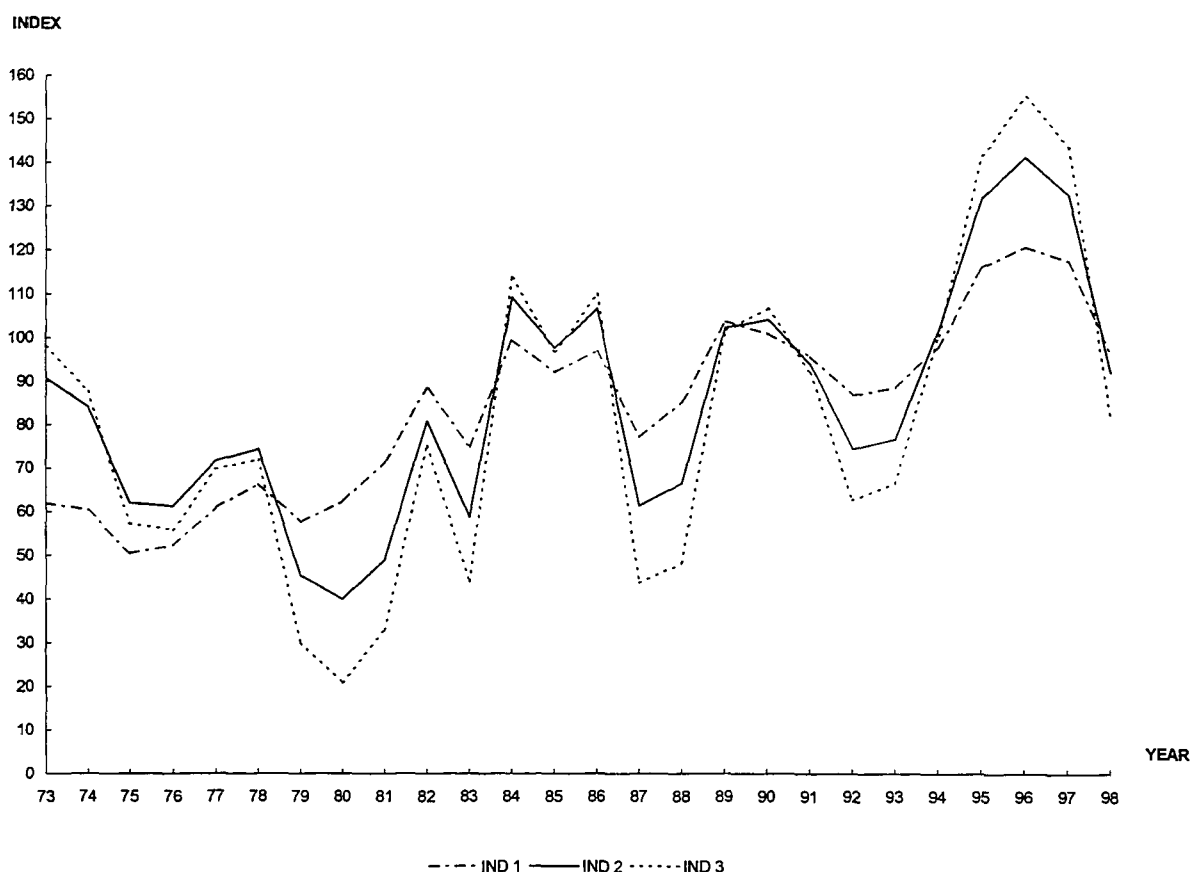
5.2. Denmark

During the review period there have been considerable annual fluctuations in the level of agricultural income in Denmark. The strong fall in agricultural income in 1998 from the highs of 1995 to 1997 make the long-term trend less clear depending on the length of the review period. At the start of the 1980s, the level of agricultural income was particularly low and even with the strong decrease for 1998, the trend is still upward.

However, when the review period is extended back to the start of the 1970s, the picture is less clear, particularly depending on the income measure being looked at. What is clear is that agricultural income was highest in the periods 1984 to 1986 and then more recently 1995 to 1997.

There were strong fluctuations in all three measures income from agricultural activity during the review period. For much of this time, income measures were highly sensitive to relatively small variations in volumes and prices because of the low proportion of final output accounted for by net income. With more than a seven fold increase in the level of subsidies since the reform of the CAP, this sensitivity has been reduced somewhat. Nevertheless, there have still been considerable fluctuations in agricultural income. Indicators 2 and 3 continue to vary much more than Indicator 1 because of the high level of interest payments in Denmark (during the review period accounting for between 30 and 40% of gross value added). The high level of interest payments mainly reflect two things. Firstly, farms are not generally inherited from the previous generation of the family but rather bought from the previous generation. Considerable loans must be taken out to buy these farms and these loans generate high levels of interest payments. Secondly, they reflect the relatively high level of farm intensification methods, which have necessitated major investments.

Graph. 5.2. Development of the three indicators of income from agricultural activity in Denmark between 1973 and 1998, with "1990" = 100



Agricultural production in Denmark is dominated by four main sectors; pigs, milk, cereals and cattle account for upwards of three-quarters of the value of all agricultural production. Changes in the volumes and prices of these products have tended to set the tone for the average income development for agriculture as a whole. In terms of the Indicator 1 measure, the other dominant factors have been the prices and volumes for key input goods and services as well as the level of subsidies. Therefore, the following analysis concentrates on these main factors.

Pig production tends to be highly concentrated in Denmark, with the number of animals per holding being much higher than the average for the EU as a whole (the Farm Structure Survey for 1995 suggesting the number per holding to be nearly six times the EU average). With the volume of pig output increasing steadily throughout the review period (up about 60%) this density per holding has increased. Denmark's self-

sufficiency in pigs has also risen to above 500% for 1998. The pan-EU expansion in pig output herd has often caused imbalances on the markets that have seen real-terms prices decline both sharply and steadily. The particularly acute problem on the markets in 1998, accelerated the downward value of the pig sector in Denmark to a new low for the review period. The volume of cattle output in Denmark has declined by about a quarter, with most of this fall occurring in the second halves of both the 1980s and 1990s. Despite the declining volume of cattle output, prices both in nominal and real terms have fallen sharply. As a result of these developments, the real terms value of cattle output shrank by two-thirds. Concerning milk production, output volumes that had grown slowly before 1983 fell back after the introduction of milk quotas in 1984. Milk production levels then declined slightly for the next decade but have since remained stable. The restructuring of European milk markets has not stopped the real price of milk slipping. Apart from a brief interlude in 1988, real prices have decreased steadily.

Table 5.2. Changes in the main components of the income calculation for agriculture in Denmark, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	2.3	-0.9	-4.2	1.4	-1.9	29.0	28.4
Cereals	2.6	-2.8	-6.0	-0.3	-3.5	11.8	15.0
Final animal output	1.1	0.1	-3.2	1.2	-2.2	71.0	71.6
Cattle	-1.8	-1.4	-4.6	-3.1	-6.3	5.9	11.9
Pigs	3.1	-0.8	-4.1	2.3	-1.1	34.4	29.2
Milk	-0.7	1.5	-1.8	0.8	-2.5	22.6	24.2
Final output	1.4	-0.2	-3.5	1.2	-2.1	100.0	100.0
Intermediate consumption	0.5	0.6	-2.8	1.1	-2.3	53.2	54.5
Gross value added at m.p.	2.4	-1.0	-4.2	1.4	-1.9	46.8	45.5
Subsidies				14.4	10.6	24.7	3.6
Taxes linked to production				-2.2	-5.5	3.2	5.7
Depreciation				3.3	-0.1	32.2	24.0
Net value added at f.c.				2.6	-0.7	89.3	73.9
Rent				4.9	1.4	5.7	3.3
Interest				0.0	-3.4	32.7	41.1
Net income of total labour				4.9	1.6	51.0	29.5
Compensation of employees				2.7	-0.7	15.9	13.0
Net income of family labour				6.3	3.0	35.1	16.4

Cereals accounted for between 40% and 55% of total crop output value during the review period and the development in prices and volumes for total crop output has closely mirrored that for cereals. The volume of cereals output increased strongly over the years although within the cereals sector there was a significant change in production structure. The area of barley production declined by 50% during the review period with particularly significant falls after the reform of the CAP in 1992. However, the production area of soft wheat rose four fold with the CAP reform having seemingly little impact on the upward trend. By the end of the review period the production areas of barley and soft wheat were similar. The key factor driving output volumes higher has been the rise in yields (about 40% for wheat and 36% for barley). Real-terms prices for cereals have on average declined two-thirds during the review period, the price falls post-1992 CAP reform confirming the sharp downward trend. The combination of these price and volume developments has been a halving of the real value of cereals output, although most of this has been during the 1990s.

Despite the steady expansion of the national pig herd, as well as rapidly rising sheep and poultry numbers, the volume of animal feedingstuffs declined for much of the review period. This contrasts with the general scenario for the 1970s when there was a period of marked intensification. It has only been since the 1992 reform of the CAP and the added spur of cereal price reductions that the volume of feedingstuffs has risen (the volume rising about 25% since 1992). This is reflected in the figures for total intermediate consumption but the recent upward trend has been softened by the continued decline in fertilizer and plant protection product consumption levels, which have been hit by ever strict environmental controls. The productivity of intermediate consumption has risen at one of the fastest rates in the EU (an average +1.1% per year). Real-

terms prices for energy, fertilizers and feedingstuffs have fallen sharply principally for reasons stated elsewhere in this report, resulting in a rate of decline in the value for total intermediate consumption that was almost identical to that of final output between the ends of the review period.

Changing policy instruments linked to the 1992 reform of the CAP have greatly altered the amount of subsidies and taxes linked to production in Denmark. There had been a national policy of reducing production subsidies before then. The changes in policy are reflected in the way that the proportion of gross value added accounted for by subsidies fell from 2.7% in 1981 to 1.8% in 1991 but has surged to 24.7% for "1997". Providing a double-edged impetus to incomes, taxes linked to production declined strongly.

Depending on the measure of absolute agricultural income, the end of the review period was slightly lower or higher than the start of the review period. With the absolute level of net value added at factor cost declining over the review period, what upward trend in Income Indicator 1 that there has been is ultimately explained by the continued decline in the number of farmers and therefore the amount of work in agriculture. The rate at which the volume of agricultural labour has been shrinking (about -3.4% per year on average) has been among the faster rates in the European Union. The clear upward trend in the measures of Income Indicators 2 and 3 is explained by the strong fall in interest payments and a decline in the value of the compensation of agricultural employees.

5.3. Germany

In the framework of the analysis of long-term trends in the income of agricultural activity in Germany, it has to be noted that data for the period "1981" to "1991" refer to Germany as before reunification and data for the period "1991" to "1997" to Germany since its reunification in October 1990. There is, therefore, only limited scope for comparison with the other Member States, since there was a statistical break in the series, caused by Germany's boundary changes resulting from reunification. It should also be borne in mind that the data for the reunified Germany encompass extremely different structures and trends for the old and new *Länder*.

Although there were relatively strong annual fluctuations in the income from agricultural activity between years, when averaged over the length of the period "1981" to "1991", the measurement of Indicator 1 for the old Federal Republic rose by 1.9% per year. This rate of growth in aggregate agricultural income accelerated in the period "1991" to "1997" when data refer to the reunified Germany (averaging +3.5% per year). In both cases, however, the rise in the level of Indicator 1 arose only after taking into account the considerable reduction in the volume of total agricultural labour, since the trend in real net value added at factor cost was sharply down. This holds particularly for the years after reunification when the decline in agricultural labour input accelerated enormously due to the restructuring of agriculture in the new *Länder*.

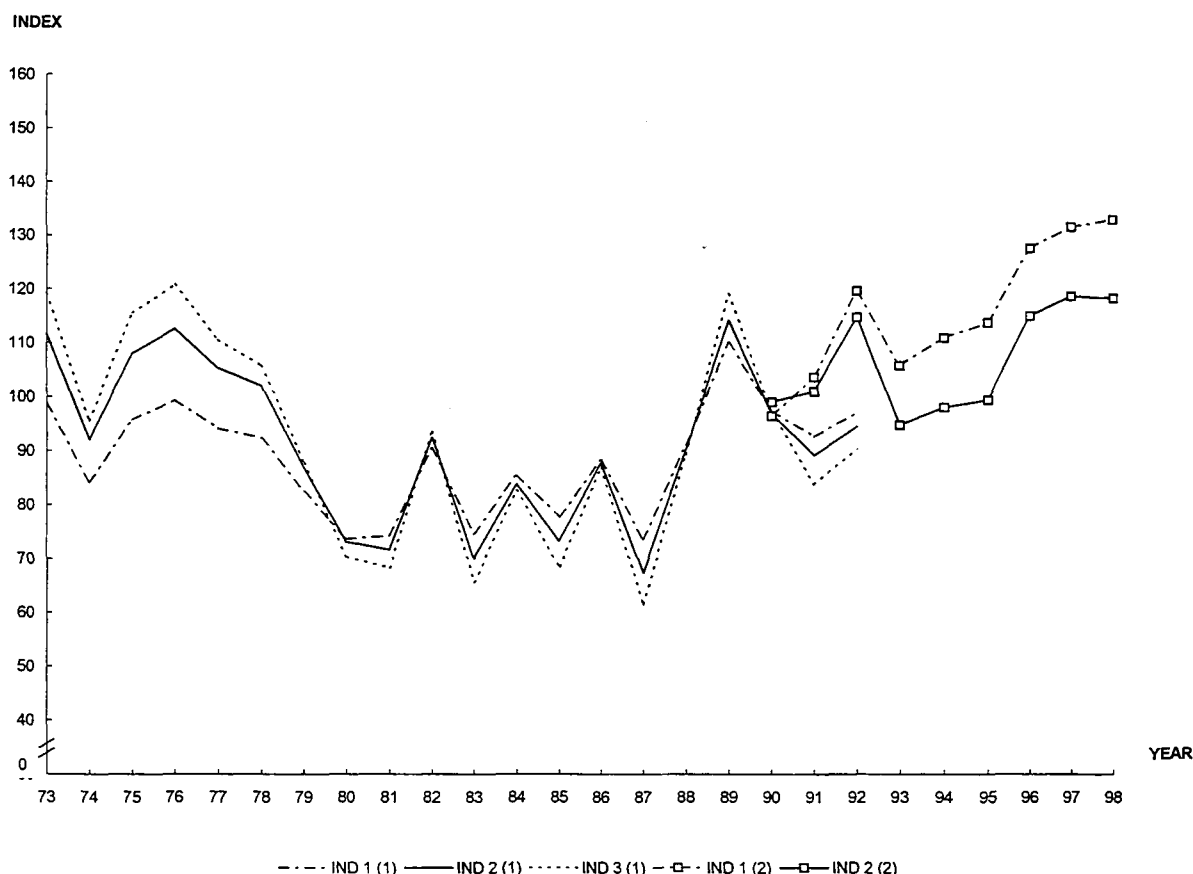
There was a reasonably steady and pronounced fall in the value of final agricultural output for Germany over the reference period, measuring an average -3.2% per year in the period from "1981" to "1991" and then a stronger average of -3.5% per year through to the end of the period. The principal reason for these declines in value was falling producer prices (averaging -3.5% and -3.7% per year in real terms respectively), since output volumes increased throughout the whole reference period (an average +0.3% per year between "1981" and "1991" and +0.2% per year between "1991" and "1997").

Measured in real values, the share of crop output in final agricultural output in Germany has increased in the course of the years. Its share rose from slightly less than one-third in "1981", through about 37% by the year "1991" (or 38% when data for the reunified Germany are considered), to stand at about 40% in "1997". This relative shift is mainly due to the fact that the aggregate volume of final crop output rose over the review period (an average +1.4% per year in both sub-periods) and that of final animal output did not (-0.3% per year between "1981" and "1991" and then -0.6% between "1991" and "1997"). Furthermore, the decline in the average real-terms price of final crop output between "1981" and "1991" was less than that final animal output (-3.2% per year compared to -3.7%).

Further analysis of the crop sector concentrates on cereals and fresh fruit, since they are the two most important crop product groups in Germany. As with the general trend for crop products, the decline in the average price for cereals was more pronounced in the period after "1991" than the period before it. The cuts in the single intervention price for cereals as part of the reform of the CAP provide some of the explanation

for the fall in cereal prices accelerating from an already sharp -5.5% per year on average in "1981"/"1991" to -8.0% in the period "1991"/"1997". In both sub-periods, the price cuts for cereals were partly offset by a growing volume of output (averaging +2.3% per year and +3.6% respectively). The net result of the volume and price developments was that the real value of cereals output declined markedly in both periods (averaging -3.4% per year and -4.8% per year respectively).

Graph. 5.3. Development of the three indicators of income from agricultural activity in Germany between 1973 and 1998, with "1990" = 100 (with the exception of (2))



In contrast to cereals, the real value of fresh fruit output actually increased over the years "1981" to "1991" (an average +1.6% per year). With the volume of output remaining unchanged ($\pm 0.0\%$) in "1991" from that in "1981", in spite of marked fluctuations, this rise in value can be attributed to higher producer prices. Declines in both volume and real prices of fresh fruit output (of -3.1% and -1.5% per year respectively) drove the real value of output down substantially in the period "1991" to "1997" (-4.5% per year).

The most important products of animal output are milk, pigs and cattle. For all three product groups there was a sharp decline in their output values, both in the years "1981" to "1991" and in the years "1991" to "1997". In the case of milk, the key development over the period was the introduction of the milk quota regime in 1984. The growth in the volume of milk output in the years before quotas (+1.5% per year on average between "1981" to "1984") was abruptly halted and then eroded by subsequent declines (an average -2.2% per year between "1984" and "1991"). Since the reunification output volumes of milk have stabilized (an average +0.2% per year). The average real-terms price of milk has declined strongly, with most of this being concentrated during the 1990s.

The volume of cattle output increased by an average of +0.5% per year between "1981" and "1991" as strong growth in the early 1980s gave way to a period of stagnation following the introduction of milk quotas. The immediate effect of the quotas was an increase in cow slaughtering and a decline in the size of the dairy herd and it was not until 1990 and 1991 that the volume of cattle output rose once more. In the years between "1991" and "1997", the volume of cattle output declined sharply (an average -3.0% per year) which is due mainly to two factors: a drastic reduction in the size of the cattle herd in the new *Länder* on the one hand, and

the impact of the BSE crisis on the other. Throughout the whole of the reference period, producer prices for beef in real terms have fallen (averaging -5.2% per year and then -4.3% per year respectively).

The volume of pig output remained almost unchanged between the start and ends of the two periods (averaging $\pm 0.0\%$ per year in "1981"/"1991" and -0.1% per year in "1991"/"1997"). However, real-terms prices declined sharply, with greater supplies on European markets from the expansion in a number of Member States.

Table 5.3. Changes in the major components of the income calculation for agriculture in Germany, average % change over the period "1981" to "1997"

	Volume		Nominal price		Real price		Nominal value		Real value		Share of each item in % "1997"	Share of each item in % "1981"
	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"	"81"/"91"	"91"/"97"		
Final crop output	1.4	1.4	-0.5	-1.4	-3.2	-3.8	0.9	0.0	-1.8	-2.5	40.7	32.2
Cereals	2.3	3.6	-2.9	-5.7	-5.5	-8.0	-0.7	-2.3	-3.4	-4.8	10.5	9.7
Fresh fruit (*)	0.0	-3.1	4.5	1.0	1.6	-1.5	4.5	-2.2	1.6	-4.5	5.1	3.5
Final animal output	-0.3	-0.6	-1.0	-1.1	-3.7	-3.5	-1.3	-1.6	-3.9	-4.1	59.2	67.7
Cattle	0.5	-3.0	-2.6	-1.8	-5.2	-4.3	-2.1	-4.8	-4.7	-7.2	10.7	17.3
Pigs	0.0	-0.1	-1.9	-1.8	-4.5	-4.2	-1.9	-1.8	-4.5	-4.3	15.9	19.7
Milk	-1.1	0.2	0.7	-0.7	-2.0	-3.2	-0.4	-0.6	-3.1	-3.1	25.4	24.3
Final output	0.3	0.2	-0.9	-1.2	-3.5	-3.7	-0.5	-1.0	-3.2	-3.5	100.0	100.0
Intermediate consumption	-0.4	-1.2	-0.6	1.0	-3.3	-1.5	-1.1	-0.2	-3.7	-2.7	54.6	55.3
Gross value added at m.p.	1.2	1.6	-1.1	-3.4	-3.7	-5.9	0.1	-1.9	-2.6	-4.3	45.4	100.0
Subsidies							14.9	2.8	11.7	0.2	36.8	5.8
Taxes linked to production							2.1	-4.0	-0.6	-6.5	4.0	3.6
Depreciation							2.4	1.0	-0.4	-1.5	50.1	34.6
Net value added at f.c.							1.2	-1.5	-1.5	-3.9	82.8	67.6
Rent							6.4	3.6	3.5	1.0	9.5	3.5
Interest							0.2	3.3	-2.5	0.8	14.6	13.1
Net income of total labour							1.0	-3.0	-1.7	-5.5	58.7	51.1
Compensation of employees							1.7	:	-1.1	:	:	10.0
Net income of family labour							0.9	:	-1.8	:	:	41.0

(*) Including table grapes

In stark contrast to developments in most Member States, the volume of intermediate consumption goods and services used in the agricultural branch declined (an average -0.4% per year between "1981" and "1991", and then a faster rate of -1.2% per year until "1997", following sharp falls in 1992 and 1993). Nevertheless, the share of intermediate consumption in final output is still relatively high (55% in Germany compared to 47.5% for EU-15). Real-terms prices for most input goods declined over the period, the average real price for intermediate consumption as a whole declining by -3.3% per year in the first sub-period and then by -1.5% per year in the second.

The fall in depreciation costs when expressed in real terms accelerated from an average of -0.4% per year between "1981" and "1991" to a subsequent -1.5% per year until "1997". The real value of subsidies rose appreciably in the period "1981" to "1991" (an average +11.7% per year), which was mainly attributable to payments given for the abolition of monetary compensatory amounts (MCAs) in 1984, subsidies to leave milk production and for set-aside in the second half of the 1980s. Despite the reform of the CAP, the real value of subsidies only increased by an average +0.2% per year in the years "1991" to "1997". Nevertheless, the share of subsidies in gross value added at market prices still rose from 23% in "1991" to about 37% in "1997", since real gross value added at market prices decreased sharply (an average -4.3% per year). Taxes linked to production declined only slightly in real terms in the years from "1981" to "1991" (an average -0.6% per year). In the subsequent years, however, there was a steeper decrease (-6.5% per year on average).

Rental payments increased an average +3.5% per year in real terms between "1981" and "1991" and then +1.0% per year until "1997". Interest payments decreased in the first sub-period (an average -2.5% per year in real terms) and increased slightly in the second sub-period (an average +0.8% per year in real terms). In the years immediately after reunification, the restructuring of farms in the new Länder accelerated the rate of decline in the volume of total labour (from an average -3.3% per year between "1981" to "1991" to -10.2% through to "1994", since when the rate whilst still being strong has fallen back to around -3.7% per year). Compensation for employees declined by an average -1.1% per year in "1981"/"1991" in Germany before reunification.

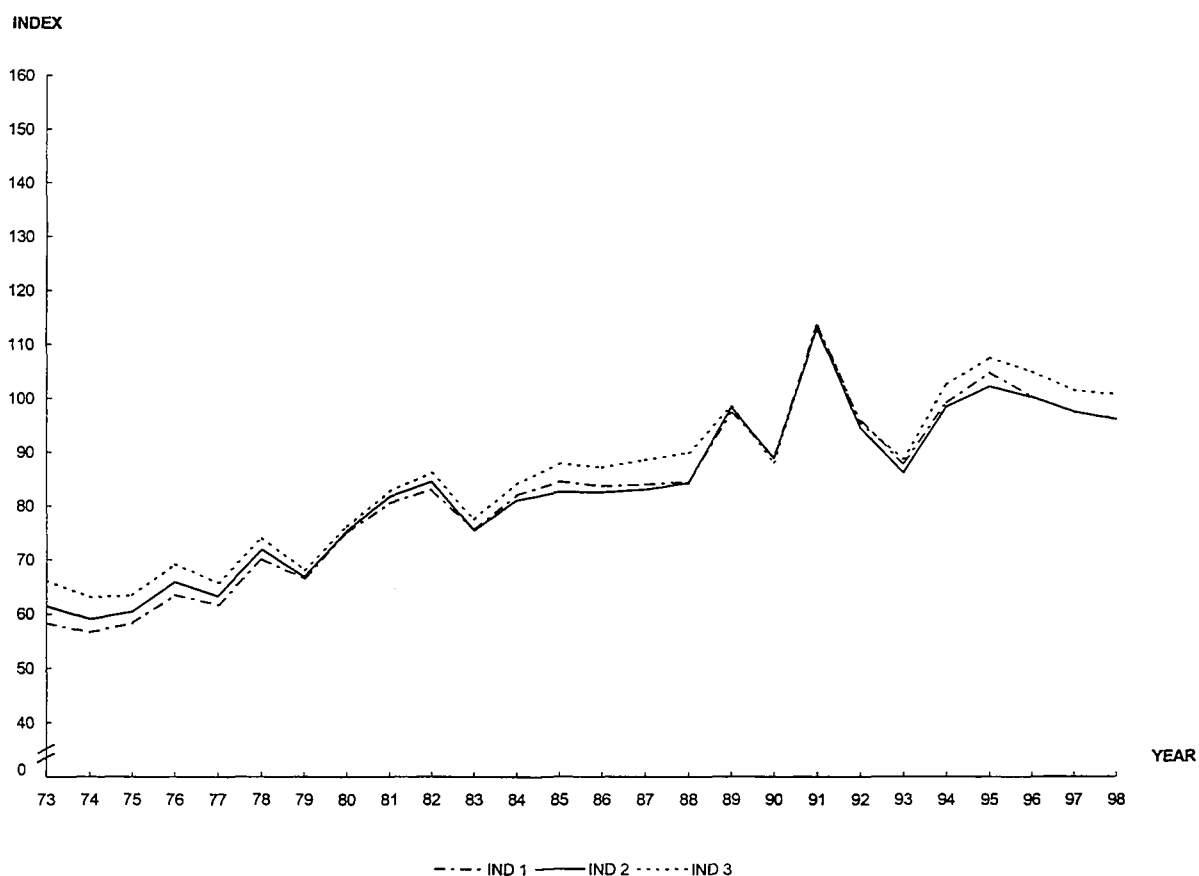
In the first sub-period, the development of Indicators 2 and 3 was similar to that of Indicator 1 (+1.7% per year on average and +1.6% per year on average, respectively). In the second sub-period, Indicator 2 rose by an average 1.9% per year, a rise which as in the case of Indicator 1 was principally due to the strong decline in the volume of total labour. No estimate was possible for Indicator 3 in the period "1991" to "1997" since the distinction between family workers and dependent employees in the new *Länder* was not particularly clear ⁽²³⁾

5.4. Greece

Whichever measure of the income generated by agriculture is taken, there has been a steady decline during the 1990s which has set the trend for the whole review period (all three measures that Eurostat uses averaging out at about -1.6% per year). However, with a faster falling number of farmers and more particularly a faster rate of decline in the volume of agricultural work carried out in Greece (total labour input falling an average -2.7% per year), agricultural income per unit of labour (whether measured by Indicators 1, 2 or 3) has actually risen. This somewhat paradoxical situation is analysed in more detail below.

During the review period there has been an upward trend in agricultural income per unit of labour in Greece, although much of this rise was limited to the 1980s (the 1970s also providing steady growth). During the 1990s, there has been a much greater fluctuation and with falls in this measure during the last three years of the review period, the steepness of the general upward trend has been reduced.

Graph. 5.4. Development of the three indicators of income from agricultural activity in Greece between 1973 and 1998, with "1990" = 100



With the value of crop production accounting for over two-thirds of the value of agriculture, the price and volume developments for key crop products like fibre plants, fresh vegetables, fresh fruit, olive oil and cereals had a significant bearing on the development of income generated by agricultural production in Greece. In

⁽²³⁾ Cf. Chapter 3.3

general, there was relatively steady growth in the volume of crop output which was accompanied by a decline in real-terms prices (the rate of decline for some products would have been greater but for the devaluation of the drachma).

The rise in the volume of final crop output was driven by the rapid expansion in production areas and therefore output volumes of fibre plants (averaging +7.3% per year) and particularly cotton. The aid scheme offered for cotton by the European Union involves an annual "guide price and aid equal to the difference between that price and the world price granted to ginneries which pay a minimum price to the producer. If the production of unginned cotton exceeds a maximum guaranteed quantity (MGQ), the guide price and aid are reduced proportionately"⁽²⁴⁾. The MGQ has been exceeded in every year since 1986/87, entailing reductions in the guide price (e.g. for 1997/98 a provisional -31%) and in aid. However, devaluations in the drachma have to a large degree cancelled out the negative impact of the price reductions resulting from the stabilizers (real prices only fell an annual -2.6% on average) and this has continued to make the returns from cotton comparatively favourable.

Table 5.4. Changes in the main components of the income calculation for agriculture in Greece, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	1.0	11.9	-2.9	13.0	-2.0	70.6	67.0
Cereals	-0.3	8.1	-6.3	7.8	-6.5	5.9	11.9
Fibre plants	7.3	12.2	-2.6	20.4	4.5	11.6	4.0
Fresh vegetables	0.5	13.7	-1.3	14.3	-0.8	12.6	9.9
Fresh fruit (*)	-0.3	11.6	-3.2	11.2	-3.5	12.0	14.6
Olive oil	1.8	13.8	-1.3	15.8	0.5	12.7	8.1
Tobacco	-0.3	5.4	-8.5	5.1	-8.7	1.2	0.6
Final animal output	0.2	11.6	-3.1	11.8	-3.0	29.4	32.8
Sheep and goats	0.8	10.2	-4.4	11.1	-3.6	6.9	8.6
Milk	0.9	13.0	-1.9	14.0	-1.0	10.6	8.6
Final output	0.7	11.8	-3.0	12.6	-2.3	100.0	100.0
Intermediate consumption	1.4	12.9	-2.0	14.5	-0.7	29.5	22.6
Gross value added at m.p.	0.5	11.4	-3.4	12.0	-2.9	70.5	77.4
Subsidies				25.0	8.7	36.2	6.2
Taxes linked to production				17.5	2.0	4.8	2.2
Depreciation				14.8	-0.4	7.5	5.0
Net value added at f.c.				13.5	-1.5	123.9	99.0
Rent				12.8	-2.1	4.6	4.0
Interest				16.1	0.6	6.7	3.8
Net income of total labour				13.4	-1.5	112.6	91.2
Compensation of employees				13.2	-1.8	7.8	6.5
Net income of family labour				13.5	-1.5	104.8	84.6

(*) Including citrus fruit and table grapes

The output volumes of fresh vegetables and fresh fruit fluctuated considerably from year to year reflecting their vulnerability to adverse weather conditions as well as natural production patterns. For fresh vegetables, there has been a small rise in the volume of output over the period, driven by expansion into asparagus and small growth in volumes of melons, onions and indeed tomatoes (the principal vegetable) to name but a few. Heavy frosts in 1997 and 1998, meant that the volume of fresh fruit output was little different from the start of the reference period. However, there has been a shift away from pears and apricot production towards oranges and nectarines (areas and yields being higher). Prices for fresh vegetables and fresh fruit have fallen particularly sharply during the 1990s.

Greece is one of the three main producers of olive oil in the European Union (after Spain and Italy). With such a small number of suppliers, prices have varied widely according to output volumes in the three Member

⁽²⁴⁾ "The Agricultural Situation in the European Union, 1997 Report", European Commission.

States. There has been an increase in olive oil output volumes over the period with much of this rise being achieved recently, with sustained new levels being recorded first in 1994 and then 1997. Some of this higher output volume can be explained by the gradual 15% rise in the area of production over the period. The rises in olive oil output volumes have occurred despite the introduction of a European Union level stabiliser mechanism for the 1987/88 marketing year. On the occasions where the MGQs have been exceeded, the level of aid and since 1990/91 the intervention price have been reduced. This helps explain the stronger fall in the real price of olive oil during the 1990s. Another market to have been heavily influenced by market regulations has been that for tobacco. The reform of the EU tobacco market with effect from the 1993 harvest onwards, has begun to curtail output levels that had risen particularly sharply during the 1970s to the mid-1980s; output volumes have fallen back about 10% since 1992 with production areas declining about 15%. The very high levels of intervention stocks from 1985 contributed to a slump in prices up until 1994 (an average decline of -8.5% per year over the period as whole). However, there has been a strong rebound in prices in recent years due to rising external demand and a perceived shortage of supply since quotas were imposed.

The impact of developments in the prices and volumes of cereals should not be ignored either. Briefly, the real value of cereals has declined strongly almost entirely due to price falls. The increase in the volume of cereal output during the mid-to-late 1980s explains the corresponding decline in prices during the same period. Subsequent price falls at a time when volumes have fallen back a little can be related to the reform of CAP and the move away from price support.

There was relatively little change in the total volume of animal output during the period. This stability resulted from sustained slow growth in the volumes of sheep output (encouraged by rising consumption and the system of ewe premiums) and cows' (additional quota being allocated from 1995/96), goat and sheep's milk being balanced by a steady decline in the volume of cattle output. Changing market regulations for many products and general imbalances on the EU markets helped drive down prices

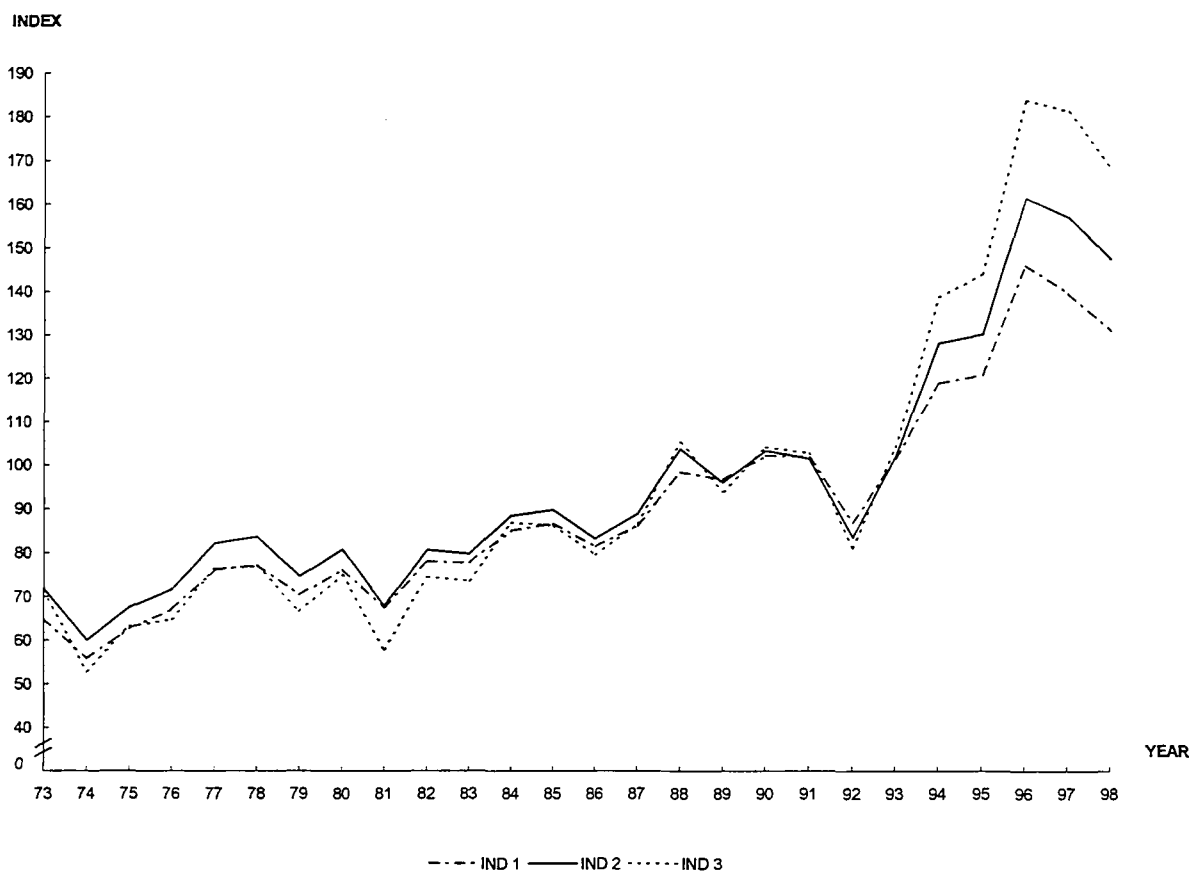
The requirements in quantities and types of input goods and services in Greece largely reflect a structure of agriculture based on types of crop production. The growth in the volume of intermediate consumption goods was driven by greater demand for energy and plant protection products (average annual rises of 4.4% and 5.6% per year respectively). Increases in nominal prices for intermediate consumption goods did not generally keep pace with the high level of inflation that was a feature in Greece for much of the review period. Therefore, deflated prices declined for all main categories of intermediate consumption goods. These price falls led to a decline in the value of input goods and services for agriculture, although this was much less than the rate for the value of final output. As such, gross value added at market prices for agriculture shrank.

The lower level of production intensiveness in comparison to other Member States is reflected in capital utilization. The level of depreciation is much lower than in the European Union as a whole (about 8% of gross value added at market prices, compared with 30% for the European Union) and remained little changed in the period under review. Subsidies, which started from a relatively high base continued to rise throughout the period from reforms of market organisations. Despite these favourable fundamentals, the basis for a decline in the level of income generated by agriculture was set by the fall in the value of final output.

5.5. Spain

Despite declines in the last couple of years in the review period, average incomes from agricultural activity per unit of labour input whether measured by Indicators 1, 2 or 3 have risen significantly. What separates the income developments in Spain from those in other Member States is explained by the combined effects of the accession of Spain to the European Union in 1986, the specific structure of agricultural production in Spain, the impact of the reform of the CAP in 1992, the fluctuation in the value of the peseta and importantly the reduction in Spain's considerable agricultural workforce.

Graph. 5.5. Development of the three indicators of income from agricultural activity in Spain between 1973 and 1998, with "1990" = 100



Fresh fruit and fresh vegetable production is particularly prominent in Spain because of the ideal climatic conditions. Together, these two sectors account for about 25% to 30% of the value of all agricultural production in Spain, a proportion that is considerably more than most of the Member States. Olive oil, wine and cereals are the other three important crop products accounting for another 20% of the value of final output. The analysis of the income developments in Spain therefore starts with price and volume changes for these key crop products.

Fresh vegetables and fresh fruit are highly perishable commodities and they are particularly susceptible to changes in the weather. As such, there are considerable annual fluctuations in output volumes. Nevertheless, when viewed over the period as a whole, there have been relatively steady rises. Within the fresh vegetable group, there has been a particularly strong rise in the output volumes of tomatoes (rising about 40% over the period), lettuces (about 75%) and peppers (about 50%). These higher output volumes have mainly arisen because of rising yields (more extensive irrigation and biotechnical changes being important factors). Despite rising demand for vegetables across the EU, prices have fallen steadily in real terms as markets have become increasingly competitive. The rise in fresh fruit production has been driven by rising output volumes of citrus fruit and particularly clementines (a tripling over the period as a whole as a greater production area combined with higher yields), oranges (a rise of 50% in output volume due to rising yields) and an expansion into mandarin production since 1992. As with fresh vegetables, rising export demand has not prevented a fall in prices. It is interesting to note that the real-terms values of both types of products were similar at both ends of the review period.

The considerable rise in the volume of cereals output over the period needs to be put into perspective. There were two periods of severe drought, one at the start of the period (1981 to 1983) and one towards the end (between 1992 and 1995). These droughts decimated the quantity of cereals harvested. However, by the end of the review period as more normal weather patterns returned and as the rate of arable crop set-aside has been reduced, volumes of cereals output have leapt to record levels. Although output volumes have

fluctuated considerably, there has been a persistent and relatively steady fall in real-terms prices since Spain joined the European Community.

Spain has been the principal producer of olive oil in the European Union since its accession to the EC. Despite the nature of production where generally one good harvest is followed by a lesser one, there does appear to have been a significant rise in output volumes with particularly high levels being recorded for 1997 and 1998. With the overstepping of the maximum guaranteed quantity (MGQ) in these two years so the production aid has been reduced. The glut of olive oil on the market has sent prices tumbling from their highs between 1994 to 1997 to their lowest level over the period. Nevertheless, there has been a progressive and sharp rise in the real value of olive oil production. Attention has been paid to raising the quality rather than quantity of wines produced in Spain. The considerable increase of interest in export markets for Spanish wines (particularly the popular Rioja) has, together with the uncertainty of grape volumes caused by the changing weather patterns propelled prices higher, even in real terms.

Table 5.5. Changes in the main components of the income calculation for agriculture in Spain, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	1.5	2.7	-1.6	4.3	-0.1	58.8	53.8
Cereals	4.3	-0.2	-4.4	4.0	-0.3	8.6	8.0
Fresh vegetables	1.9	2.4	-1.7	4.3	0.1	13.8	12.3
Fresh fruit (*)	1.5	3.0	-1.3	4.6	0.2	13.2	11.6
Wine	-0.2	5.2	0.6	5.0	0.4	5.1	4.3
Olive oil	2.7	4.6	0.3	7.4	2.9	6.0	3.4
Final animal output	1.6	1.4	-2.9	3.1	-1.3	40.5	45.4
Cattle	1.8	1.1	-3.0	2.9	-1.2	6.6	7.3
Pigs	3.6	1.7	-2.7	5.4	0.8	13.1	10.4
Milk	0.4	1.8	-2.4	2.2	-1.9	7.5	9.2
Final output	1.5	2.2	-2.1	3.7	-0.6	100.0	100.0
Intermediate consumption	1.9	1.7	-2.5	3.6	-0.7	42.3	42.6
Gross value added at m.p.	1.3	2.5	-1.9	3.8	-0.6	57.7	57.4
Subsidies				22.0	17.2	26.8	2.0
Taxes linked to production				8.9	4.5	0.8	0.3
Depreciation				5.0	0.9	14.6	11.6
Net value added at f.c.				5.2	0.7	111.4	90.0
Rent				2.4	-2.0	4.7	5.9
Interest				1.7	-2.9	6.2	9.0
Net income of total labour				5.7	1.2	100.5	75.1
Compensation of employees				1.5	-2.4	16.5	21.9
Net income of family labour				6.9	2.3	83.9	53.2

(*) Including citrus fruit and table grapes

No less important a contributor than fresh fruit and vegetables to the income generated by agriculture is pig production. As with a number of other Member States, there has been considerable growth in the volume of pig production. In Spain, almost all of the 80% increase in pig output volumes over the period has occurred since accession. Despite such a rise, the decline in real-terms prices has been relatively small, particularly in view of the imbalances at the EU level. This is largely explained by a steep rise in the consumption of pigmeat in Spain (approximately +4% per annum between 1983 and 1992 on the basis of figures used in our 1995 publication) and the devaluation of the peseta which made imports more expensive and exports cheaper in foreign currency terms than they would otherwise have been. The imposition of milk production quotas as Spain joined the EC has led to a relatively constant supply volume (the sharp rise in 1990 being an exception). Real-terms prices have, however, declined steadily.

The quantity of goods and services used in agricultural production increased regularly over the review period. In particular, there was a strong rise in plant protection products (an average 5.1% per year) and animal feedingsuffs (an average +1.9% per year). The greater quantities consumed reflect in large measure the

growth in key areas of agricultural production. In contrast, the frequent and sometimes long droughts have meant that there has been little growth in the volume of fertilizers used. The price trends for intermediate consumption goods have followed the general pattern in the EU.

Since the accession of Spain to the European Community, the level of subsidies paid to Spanish agriculture have increased almost exactly six fold in real terms. The level of subsidies is now only less than that in France (albeit half of that level), Germany and Italy. These subsidies have been specific to certain types of production (like to sheep/goats and olive oil), to the more recent reforms of the CAP and to the programmes to aid agriculture in mountainous and other less-favoured areas. These subsidies have turned around a declining gross value added at market prices for Spanish agriculture into an rising gross value added at factor cost.

The on-going process of updating and modernising the agricultural sector in Spain was particularly evident during the years from the early 1970s to the start of the 1990s. The high rate of inflation during the period helps to obscure this fact, but nevertheless over the period there was a strong rise in depreciation costs. This process of modernization has also affected the amount of agricultural work carried out. The volume of agricultural labour, particularly that of family labour, has declined markedly (the average annual rate of -3.4% translating into the equivalent of 800 000 fewer full-time workers).

Therefore, if the large increase in the level of subsidies has been the catalyst for the moderately higher level of agricultural income, then the rapid and sustained reduction in the volume of work carried out is the reason why income measures per unit of labour (Indicators 1, 2 and 3) have risen strongly.

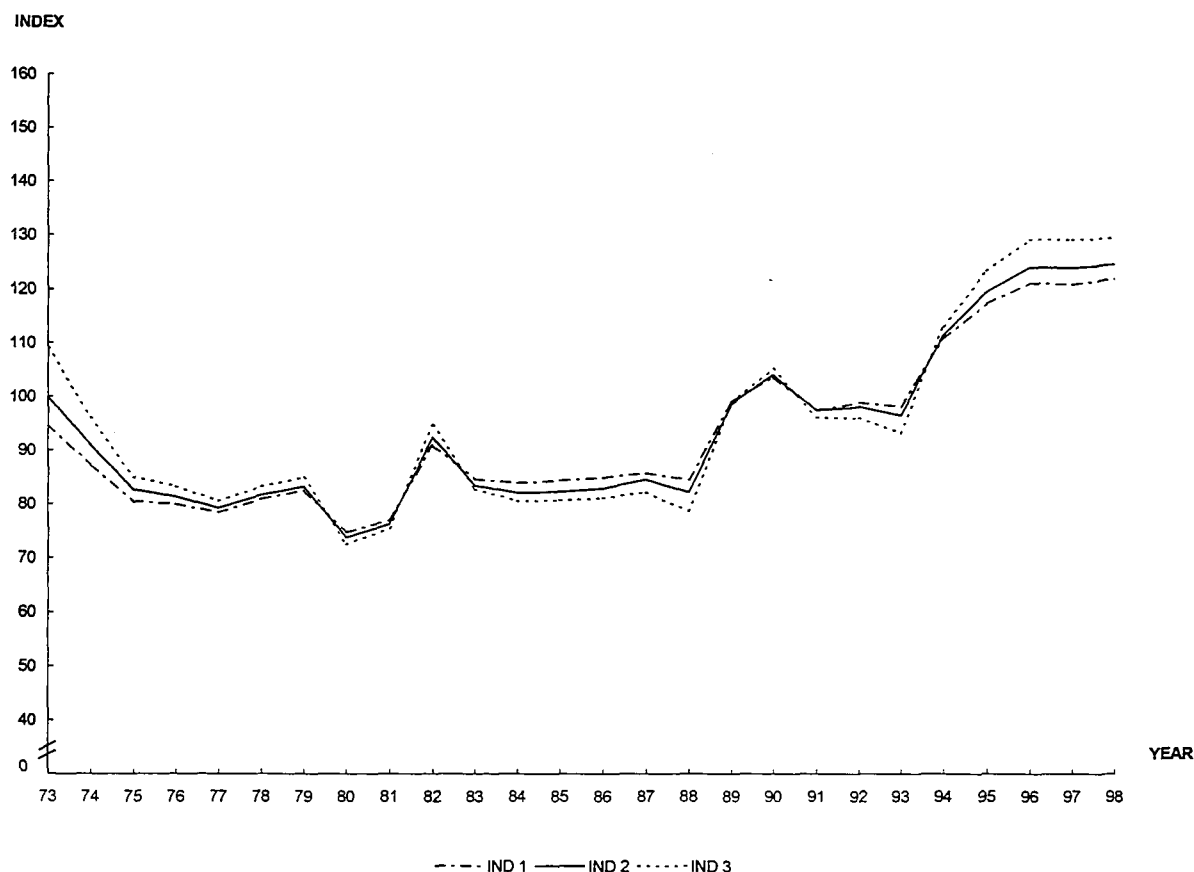
5.6. France

There was a persistent rise in the volume of final agricultural output between 1981 and 1998. Although the volume of output did decline strongly in 1993 after measures taken as part of the 1992 reform of the Common Agricultural Policy (CAP), final output volumes have recovered and for each of the last three years have surpassed even the then record level of 1992. As supplies have increased, real-terms prices have fallen considerably over the period. Between 1981 and 1988, there was relative stagnation in the level of income per unit of agricultural labour, despite a big fall in the size of the agricultural workforce, there being lower output prices and an increase in the real value of intermediate consumption. There was, however, a particularly strong upward trend in the Income Indicators after 1993; following the reform of the CAP, the real-terms value of subsidies rose markedly against a background of relative real-terms price stability for agricultural output as a whole and declining prices for intermediate consumption goods and services as a whole.

Agricultural production in France is diverse. The principal products are milk, cereals, wine, cattle and, to a lesser extent, poultry, pigs and fresh vegetables. During the review period, final crop output became more valuable than that of final animal output. This small structural shift was based on the strong increases in the volume of crop output over the review period as a whole. Despite a sharp fall in crop output levels in 1993 after the introduction of new CAP reform measures, the three successive record levels of crop output since 1996 have only confirmed the general upward trend. This pattern of output volume development closely mirrored that of cereals. Despite occasional declines, the volume of cereals output increased persistently until the reform of the CAP. Although the implementation of CAP reform measures initially led to a sharp decline in cereal output volumes, a strong increase in yields for some cereal types to successive record levels together with a reduction in the rate of land set-aside has led to much higher output volumes in recent years. Since the start of the review period there has been a decline in the real-terms price of cereals, the rate accelerating with the 1992 reform of the CAP. For a short while through until 1996, the fall in output volumes caused by land set-aside together with some strengthening of world market prices for cereals led to relative price stability for french cereal producers. The strong rise in output volumes at the end of the review period, however, led to renewed and sharp price falls. There was a considerable expansion in oilseeds production, particularly in the period through until 1987. For a period after 1987, output volumes of oilseeds declined, the reform the CAP triggering renewed falls. Like cereals, however, the change in set-aside rates together with good yields led to rising output volumes in the last few years. Weather conditions greatly affected the volume of grapes

harvested but despite the strong annual fluctuations, there appeared to be an upward trend in the volume of grape must and wine output over the review period. Real-terms prices for grape must and wine did decrease, but the rate of decline was less than most other crop products. This explains the growing importance of wine for the branch of agriculture.

Graph. 5.6. Changes in the three indicators of income from agricultural activity in France between 1973 and 1998 ("1990" = 100)



The value of final animal output represented just under half of the value of final agricultural output by the end of the reference period. This was a smaller share than at the start of the period as there was only weak growth in the volume of output together with declining prices. The increase in the volume of final animal output was attributable to the growth in pig and poultry production, output volumes of cattle and milk declining a little. In the case of cattle and milk, the declines in output volume were linked to the introduction of milk quotas. There were particularly strong declines in cattle output volumes in 1997 and 1998 with the declining profitability of the sector after the BSE scare. As with crop products, there were also considerable declines real-terms prices for animal output.

Agriculture makes use of numerous goods which are produced by other sectors of activity. Overall, purchases of animal feedingstuffs, fertilizers, plant protection products and other goods and services represent nearly half the value of final agricultural output. Over the period as a whole, changes in the volume of intermediate consumption purchased tracked those in the volume of agricultural output. Animal feedingstuffs represent about one-third of the value of intermediate consumption. This is below the EU average, and is probably due to the large share of animal feedingstuffs produced and used by the same holding. The volume of animal feedingstuffs purchased increased throughout the period in response to rising animal output (especially for pigs and poultry). The real-terms price for feed, though, declined as prices for various raw material components like cereals also fell. The upward trend through until 1990 in the volume of fertilizers purchased has since been reversed (the cumulative fall between 1990 and 1994 being 22%). There does not appear to be a causal link between these falls and the decline in cereal and oilseed areas under

cultivation which occurred at the time of the reform of the CAP, since most of the decline in consumption happened in the period 1991-92, i.e. before the CAP reform was implemented.

Despite the decline in the value of intermediate consumption, real-terms gross value added at market prices fell at a faster rate than that of final output. As the focus of agricultural support moved away from prices to direct compensatory payments, the importance of subsidies within the account increased. Over the period as a whole, costs fell significantly in real terms, with taxes, depreciation, rents and interest payments as part of agricultural production all lower. The real value of interest payments did not decline throughout the entire period, however; at the beginning of the 1980s higher interest rates led to higher payments. After that, farmers began paying off their debts in an effort to control costs. Recent declines in the level of interest payments is mainly explained by the falls in interest rates.

Table 5.6. Changes in the main components of the income calculation for agriculture in France, average % change from "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	1.9	0.7	-3.2	2.6	-1.4	52.4	49.4
Cereals	2.6	-1.8	-5.7	0.8	-3.2	14.6	18.4
Sugarbeet	-0.1	1.5	-2.5	1.4	-2.6	2.7	3.1
Fresh vegetables	0.4	2.5	-1.5	2.9	-1.1	6.6	5.9
Wine	1.5	2.8	-1.1	4.4	0.4	14.3	10.1
Final animal output	0.6	1.2	-2.8	1.8	-2.2	47.8	51.2
Cattle	-0.4	0.8	-3.1	0.4	-3.5	12.3	16.2
Pigs	2.7	-0.1	-4.0	2.6	-1.4	7.2	6.7
Poultry	4.5	0.6	-3.3	5.2	1.1	7.7	4.9
Milk	-0.4	2.4	-1.6	2.0	-2.0	16.5	17.1
Final output	1.3	0.9	-3.1	2.2	-1.8	100.0	100.0
Intermediate consumption	1.1	2.0	-2.0	3.1	-0.9	49.9	43.3
Gross value added at m.p.	1.5	-0.1	-4.0	1.4	-2.5	50.1	100.0
Subsidies				15.0	10.6	33.4	4.4
Taxes linked to production				0.3	-3.6	5.3	6.3
Depreciation				3.5	-0.5	21.3	15.3
Net value added at f.c.				3.0	-1.0	106.8	82.8
Rent				1.4	-2.6	6.3	6.3
Interest				2.8	-1.3	7.6	6.1
Net income of total labour				3.2	-0.8	92.9	70.3
Compensation of employees				3.9	-0.2	19.9	13.5
Net income of family labour				3.0	-1.0	73.0	56.8

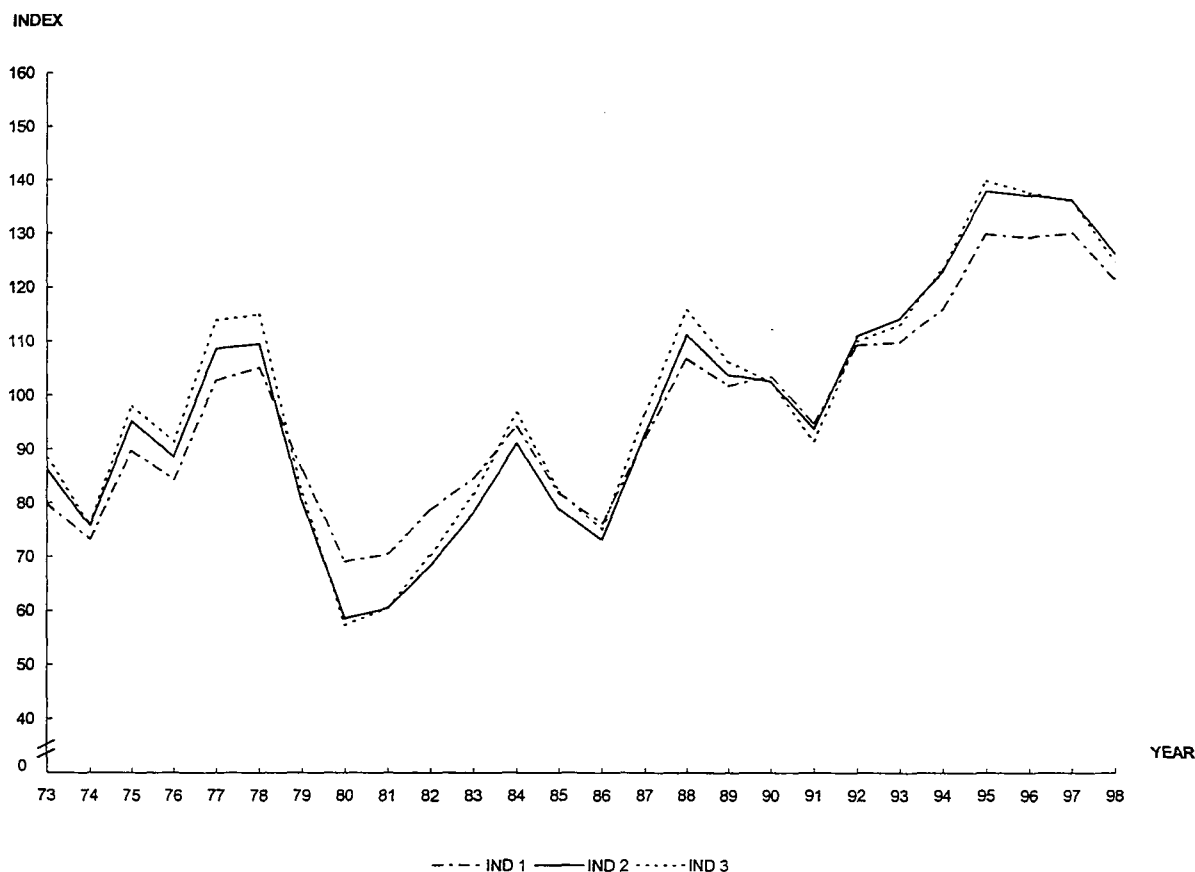
5.7. Ireland

During the review period, income from agricultural activity in Ireland as measured by Indicator 1 increased considerably. Indeed, when averaged out over the review period, the rise was among the fastest in the European Union as a whole (an average +3.4% per year). However, it should be borne in mind that incomes at the start of the 1980s were much lower than those in the 1970s. Although the rise during the review period was substantial it was also uneven. It was only after back to back increases in the years immediately after the 1992 reform of the CAP and the coincidental timing of a devaluation in the Irish punt that the level of Indicator 1 surpassed levels reached in the mid-1970s after accession to the then European Community.

In those post-CAP reform years, it is interesting to note that although the level of Income Indicator 1 rose, gross value added at market prices (the difference between the value of agricultural output and the value of input goods and services used) declined. The main reason, therefore, for the trend-setting rise in Indicator 1 over the period was the substantial growth in the level of subsidies since the 1992 CAP reform. Part of this increase can be linked to the devaluation of the agricultural conversion rate ("green rate"). Additionally, the

income generated by agriculture has been shared among a shrinking number of farmers. The rise in Indicator 1, a measure of real-terms income from agricultural activity per unit of labour, has also therefore been supported by the continued reduction in the volume of agricultural labour (an average -2.2% for total labour).

Graph. 5.7. Development of the three indicators of income from agricultural activity in Ireland between 1973 and 1998, with “1990” = 100



The trends in final output have largely followed that of final animal output, since the combined values of cattle and milk production have alone accounted for about two-thirds of the value of agricultural production in Ireland. Throughout the 1960, 1970s and into the early 1980s the expanding national dairy herd and rising yields led to growth in the volume of milk output. The introduction of milk quotas initially led to some cut-backs before a period of greater stability. Nevertheless, the volume of cattle output has continued to grow throughout the period and this can be partly linked to the slaughters associated with a 17% reduction in the dairy herd between 1985 and 1995 as well as the rising carcass weight of adult cattle. The introduction of milk quotas halted the slide in prices, which have subsequently been relatively stable, albeit for the jump in price in 1989 when output volumes were particularly low. For most of the period, the development in the average price of cattle was a reflection of the changes in output volumes. However, since 1996 the accelerated fall in the real price has been linked to the pan-European loss of consumer confidence in beef following the alleged link between BSE in cattle and CJD in humans.

There was strong growth in the output volumes of other livestock. Poultry output volumes have more than doubled during the review period, although figures for the last four years suggest that at least a temporary plateau has been reached after fairly consistent expansion. There was even faster growth in sheep production, although this was limited to the period before 1989 and heavily influenced by the considerable rise in output levels between 1988 and 1989. There have also been substantial rises in the output volumes of pigs although the expansion has all been limited to the 1990s (+60% since “1990”). Despite declining prices, the real-terms value of poultry production and particularly sheep production rose over the review period. Even in the case of pigs, where current structural imbalances have led to a particularly sharp decline in prices, the real value was still notably higher at the end of the 1990s than in mid- to late 1980s.

Table 5.7. Changes in the main components of the income calculation for agriculture in Ireland, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	0.7	1.3	-2.8	2.0	-2.2	12.7	15.7
Final animal output	2.1	1.4	-2.7	3.6	-0.6	87.3	84.3
Cattle	2.5	0.3	-3.8	2.8	-1.4	32.9	35.8
Pigs	3.7	-0.2	-4.3	3.5	-0.7	7.6	7.5
Sheep and goats	5.6	0.6	-3.5	6.2	1.9	5.6	3.6
Poultry	5.5	-0.4	-4.4	5.0	0.8	3.7	2.9
Milk	0.6	3.2	-1.0	3.9	-0.3	34.2	31.5
Final output	1.9	1.4	-2.7	3.3	-0.9	100.0	100.0
Intermediate consumption	2.4	1.7	-2.4	4.1	-0.1	50.9	45.0
Gross value added at m.p.	1.5	1.1	-3.0	2.6	-1.6	49.1	55.0
Subsidies				18.0	13.3	58.3	6.2
Taxes linked to production				-3.7	-7.8	1.6	4.6
Depreciation				4.6	0.4	26.5	19.3
Net value added at f.c.				5.6	1.3	130.2	82.3
Rent				-10.2	-13.9	0.1	0.5
Interest				-1.3	-5.3	10.9	20.1
Net income of total labour				6.9	2.6	119.2	61.7
Compensation of employees				5.3	1.0	11.6	7.6
Net income of family labour				7.1	2.8	107.7	54.1

With agriculture in Ireland so firmly focused on livestock farming, it is no coincidence that rising animal output volumes were mirrored by greater purchases of animal feedingstuffs (+2.7% a year on average). Likewise, the rise in the volumes of fertilizers and soil improvers (+1.2% per year) can be linked in large part to the desire to improve grazing conditions for the dairy herd and cattle in general. With cereals being a key component of animal feed, the decline in the real price of cereals across the EU triggered a fall in the price of feedingstuffs (an annual -3.3% on average in Ireland). Together with price declines for other inputs (e.g. fertilizers decreasing an average -2.9% per year and energy -2.2%) the overall cost of intermediate consumption goods and services in agriculture was unchanged at both ends of the review period.

Subsidies to Irish agriculture have leapt more than seven fold since the country joined the European Community. The regular increase in the level of total subsidies accelerated in 1994, the combined effect of new young male bovine animal premiums, suckler cow premiums and ewe premiums introduced as part of the 1992 reform of the CAP. With subsidies being paid out in Irish punt, the devaluation of this currency against the ECU around 1993 had the effect of raising subsidy levels in punt terms by more than the level intended for as compensation for cuts in support prices (which themselves were not as apparent because of the devaluation).

With substantial falls in the level of real-terms rental and interest payments over the period, the upward trend in agricultural income as measured by Indicators 2 and 3 was even more pronounced than that for the Indicator 1 measure.

5.8. Italy

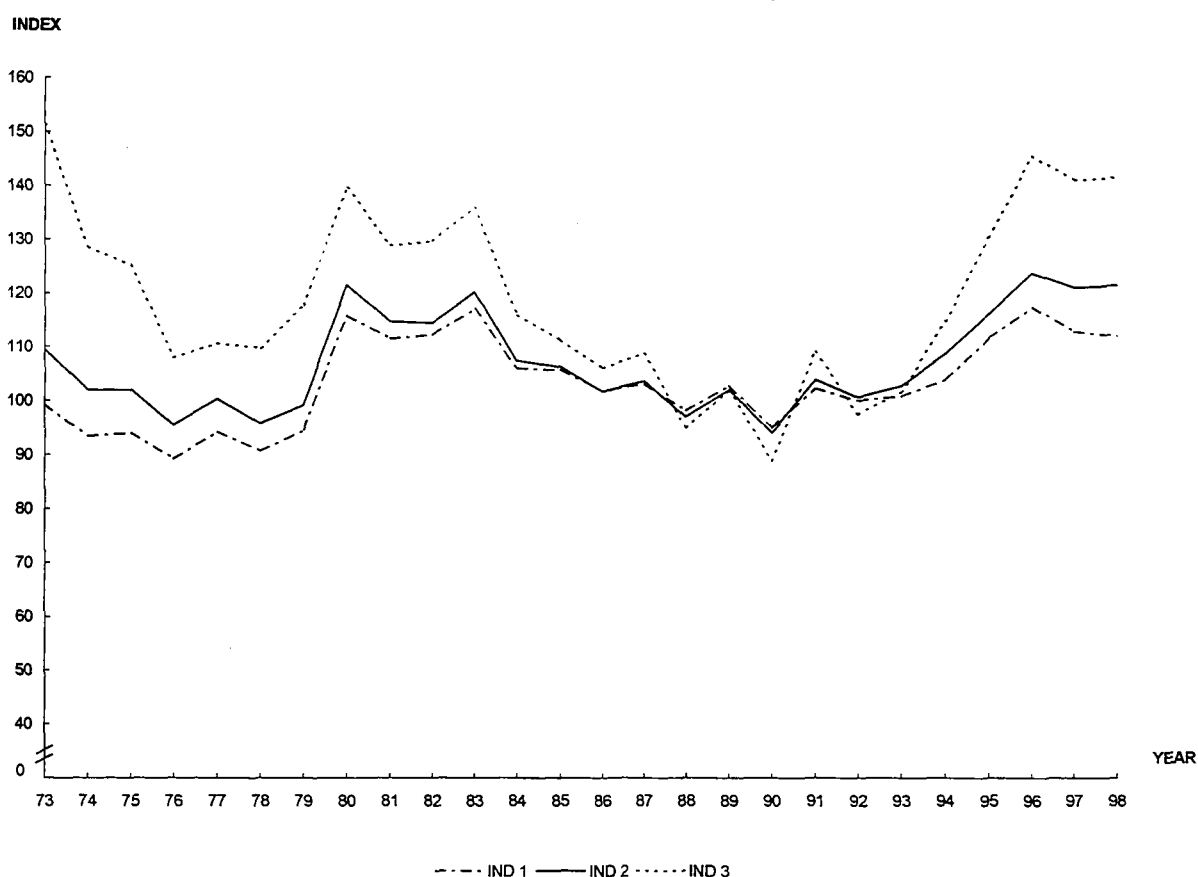
The level of real-terms income from agricultural activity as measured by Indicator 1 in "1997" was at more or less the same level as that recorded in "1981". Behind this relative stability, however, lay widely differing trends over the period as a whole. The level of Indicator 1 declined by an average of -1.4% per year between "1981" and "1990", subsequently registering an average annual growth of +2.3% through to 1996. In 1997 and 1998, the level of Indicator 1 declined again.

Italy is predominantly a crop-growing country, livestock breeding being relatively small. The real-terms value of final crop output represents about 60% of that of final agricultural output. The value of final agricultural

output decreased between "1981" and "1997" because of falling real-terms prices. This downward trend in prices should be seen in the context of the high inflation which prevailed over the reference period as a whole. Towards the end of the period, however, there was a greater degree of control over the rate of inflation, arising from Italy's successful efforts to meet the convergence criteria for participation in Economic and Monetary Union.

The volume of final crop output fluctuated widely on an annual basis throughout the period, reflecting the sensitivity of crops, particularly permanent crops (vines and fruit trees), to the vagaries of the weather. The main crop products are fresh vegetables, fruit, wine and cereals. The output volumes of fresh vegetables and fruit at the end of the review period were little different from those at the start, despite some major fluctuations over the period as a whole. The volume of wine production fell between "1981" and "1997", mainly as a result of the reduced area under vines, whereas real-term prices increased. Although the volume of cereal output increased, the fall in real-terms prices meant that the value of output declined in real terms.

Graph. 5.8. Development of the three indicators of income from agricultural activity in Italy between 1973 and 1998 ("1990" = 100)



The main animal products are milk and cattle. The volume of milk output increased a little over the reference period, but real-terms milk prices decreased. The real-terms value of final cattle output declined due to the downward development of prices. This decrease in value was particularly marked between "1981" and "1991", over which period prices fell by an annual average of 4.8%. The rate of decline in the real-terms price for cattle subsequently slowed down (-2.8% per year up to "1997").

The value of intermediate consumption goods and services represent only about 28% of the value of final output. This low proportion reflects the structure of agriculture – the importance of certain crop sectors and the relatively small animal production sector. Nevertheless, expenditure on animal feedingstuffs by farmers still makes it by far the most costly input among the list of goods and services in the account. The volume of intermediate consumption items purchased in years towards the end of the reference period was similar to the levels at the start of the period. Although the level of input goods and services was unchanged as a whole

at the two ends of the reference period, there was a small increase in the volume of agricultural output, which means that there was an average rise in the productivity of intermediate consumption of 0.4% per year.

Table 5.8. Changes in the main components of the income calculation for agriculture in Italy, average % change from "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	0.5	4.1	-3.1	4.6	-2.6	60.2	58.8
Cereals	2.0	0.7	-6.2	2.7	-4.4	7.4	9.7
Fresh vegetables	0.3	4.3	-2.9	4.7	-2.6	14.5	14.1
Fresh fruit (*)	0.3	3.4	-3.8	3.7	-3.4	10.8	12.1
Wine	-2.0	8.2	0.7	6.1	-1.3	9.7	7.6
Olive oil	-1.4	5.8	-1.7	4.2	-3.1	4.0	4.2
Final animal output	0.6	3.5	-3.7	4.1	-3.1	38.4	40.7
Cattle	-0.1	3.0	-4.1	3.0	-4.2	8.9	11.3
Pigs	1.6	2.8	-4.3	4.4	-2.8	6.5	6.6
Poultry	0.8	3.0	-4.1	3.8	-3.4	5.4	6.0
Milk	0.5	4.6	-2.7	5.1	-2.2	11.9	10.9
Final output	0.5	3.9	-3.3	4.5	-2.8	100.0	100.0
Intermediate consumption	0.1	4.0	-3.2	4.1	-3.1	27.8	29.5
Gross value added at m.p.	0.7	3.9	-3.3	4.6	-2.6	72.2	100.0
Subsidies				11.4	3.7	18.9	6.9
Taxes linked to production				11.7	4.0	1.8	0.6
Depreciation				8.7	1.3	35.4	19.1
Net value added at f.c.				4.2	-3.0	81.6	87.2
Rent				2.6	-4.5	1.0	1.4
Interest				1.6	-5.4	4.8	7.7
Net income of total labour				4.4	-2.8	75.8	78.2
Compensation of employees				4.3	-2.9	26.4	27.7
Net income of family labour				4.5	-2.8	49.4	50.4

(*) Including citrus fruit and table grapes

The share of subsidies in gross value added at market prices increased sharply with the change in the system of support to the agricultural sector that came about with the 1992 reform of the CAP. By contrast, taxes linked to production account only for a negligible share of gross value added at market prices, in spite of an average annual increase of 4% in real terms. Over the period as a whole, net value added at factor cost decreased in real terms. Therefore, it was only after taking into account the relatively marked decrease in the volume of total labour (by an annual average of -3%) that Indicator 1 (a measure of income per unit of labour) remained relatively constant. Of the other costs incurred, the real-terms payments of rent and interest decreased over the course of the period.

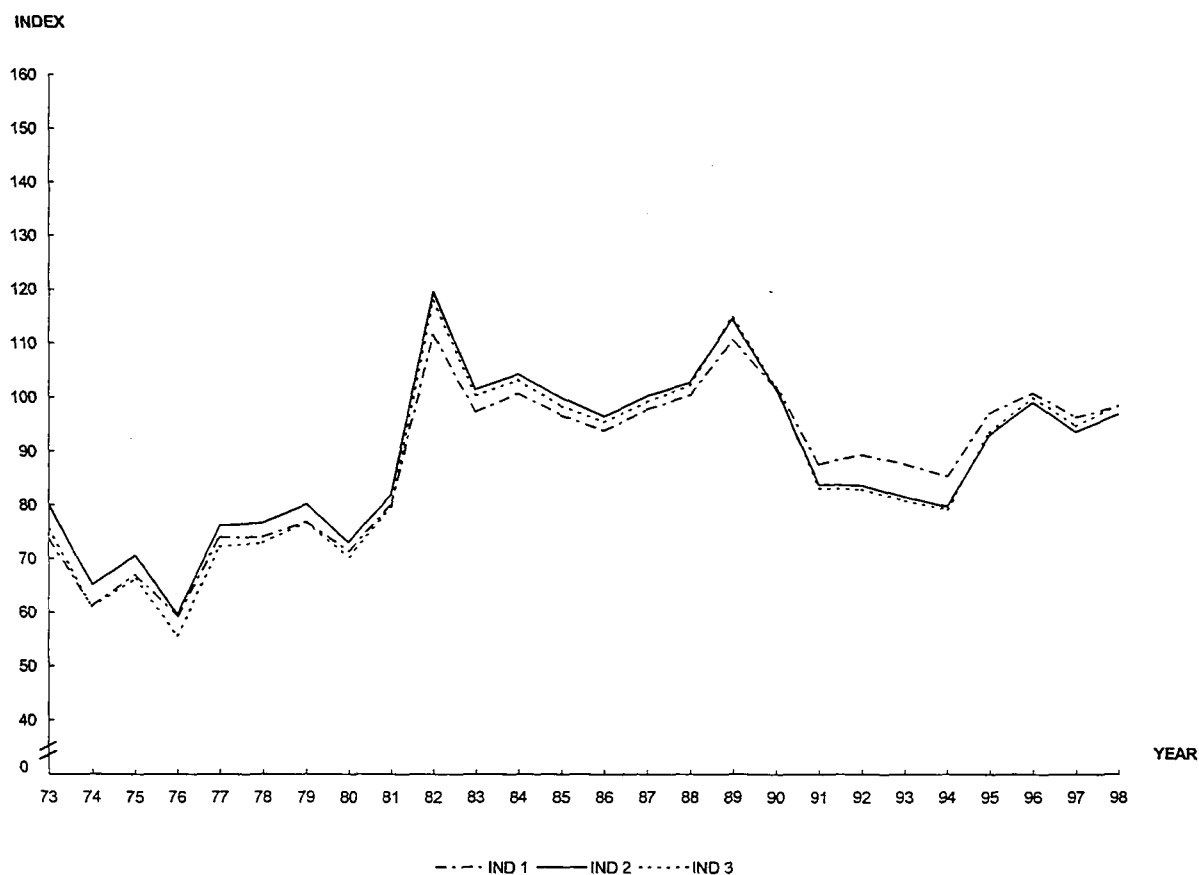
5.9. Luxembourg

Average income from agricultural activity per unit of labour as defined by the Income Indicators has risen over the review period. However, almost all of this rise occurred during the 1980s. Since a peak average agricultural income level for the country was reached in 1989, most of the 1990s has been characterised by declines.

The Income Indicators measure different definitions of the income generated by agriculture against trends in the volume of work actually performed in agriculture. It is important to note from the start that although the Income Indicator levels were on an upward trend during the review period, the level of income generated by agriculture has been declining strongly; the reason for the rise in average income per unit of full-time labour has, therefore, been due to the steep fall in the volume of agricultural labour (just under -4.0% a year on average).

Agriculture in Luxembourg is based around four types of production. The combined values of milk and cattle production account for about 70% of all agricultural products in Luxembourg, with pig and wine production contributing another 17%. Developments in the prices and volumes of animals and animal products are therefore indicative of the state of agriculture as a whole in the country.

Graph. 5.9. Development of the three indicators of income from agricultural activity in Luxembourg between 1973 and 1998, with “1990” = 100



During the 1960s, 1970s and through to the mid-1980s there was a steady rise in the volume of milk output in Luxembourg. Since the introduction of milk quotas, however, output volumes of milk have been declining. By the end of the review period the level of milk output was almost exactly back to the level at the start of the 1980s. There was a relatively high and sustained real-terms price for milk during the 1980s but there has been about a 30% fall during the 1990s. There has been a sharp rise in the volume of cattle output over the review period, with particularly high levels being recorded in the second half of the 1990s. This general upward trend in cattle output volume has been accompanied by sharply declining prices in real terms. As with other Member States, there has been a steady expansion in pig production in Luxembourg, particularly during the second half of the 1990s. Real-terms prices have fallen steadily and sharply throughout the period although the figure for 1998 (nearly -30%) was particularly severe with the structural imbalance of markets.

Luxembourg has a relatively small area of vineyards, concentrated on the slopes down to the river Mosel. With production being confined to such a localised area the level of the national grape harvest is susceptible to changes in the weather. There have been considerable annual fluctuations in the quantity of grapes harvested (the substantial 1992 harvest being triple the national volume of 1991) which render any long-term analysis of output volumes difficult. However, production areas have been less volatile. The vineyard area of Luxembourg was almost identical at both ends of the review period. There has been one clear trend concerning wine in Luxembourg; the price of wine declined strongly in real-terms, particularly so during the period 1981 to 1986 (about -40%).

The volume of goods and services used as inputs in agricultural production grew steadily during the review period, although within the various types of goods and services there were some distinct differences. Despite

the rising number of livestock (both cattle and pigs), the volume of animal feedingstuffs purchased was declining for much of the period, particularly the decade between 1983 and 1993. However, with the reform of the CAP in 1992 and cheaper cereal ingredients in feed, the volume of animal feedingstuffs has since risen strongly. The amount of fertilizers and soil improvers purchased grew regularly and steadily through until 1992. After some years of decline the volumes of fertilizers purchased are now back up to levels at the start of the 1990s. Real-terms prices of all the main categories of intermediate consumption have fallen strongly during the period but the falls for fertilizers and animal feedingstuffs have been particularly sharp (annual averages of -5.8% and -5.2% respectively).

Table 5.9. Changes in the main components of the income calculation for agriculture in Luxembourg, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	0.2	0.2	-4.5	0.4	-4.3	17.7	20.8
Wine	-1.0	0.6	-4.0	-0.4	-5.0	7.7	10.2
Final animal output	0.6	1.1	-3.7	1.7	-3.1	81.7	78.4
Cattle	1.5	-0.8	-5.5	0.7	-4.1	24.7	27.8
Pigs	2.0	-0.1	-4.8	2.0	-2.9	9.8	9.1
Milk	-0.1	2.4	-2.5	2.4	-2.5	45.1	39.3
Final output	0.5	0.9	-3.9	1.5	-3.4	100.0	100.0
Intermediate consumption	1.9	0.8	-4.0	2.7	-2.2	46.6	38.4
Gross value added at m.p.	-0.2	0.7	-4.0	0.5	-4.2	53.4	100.0
Subsidies				11.4	6.1	45.0	8.8
Taxes linked to production				0.6	-4.2	1.9	1.9
Depreciation				4.9	-0.2	38.1	19.5
Net value added at f.c.				1.7	-3.1	105.0	87.3
Rent				3.4	-1.6	10.3	6.6
Interest				4.2	-0.7	9.7	5.5
Net income of total labour				1.3	-3.5	85.0	75.2
Compensation of employees				6.9	1.8	7.0	2.6
Net income of family labour				1.0	-3.8	77.9	72.6

Although the real-terms value of the various inputs declined significantly, the steeper rate of decline in the real-terms value of agricultural products led to a steep fall in gross value added at market prices. The value of subsidies did rise sharply during the period and depreciation finished the period relatively unchanged from the start but these factors were insufficient to prevent the income generated by agriculture from declining.

5.10. Netherlands

There was little difference in the level of Indicator 1 between the two ends of the review period. However, the relatively high levels of the Income Indicators between 1982 and 1986 and then 1989 and 1991 have largely been followed by declines (see Graph 5.10.).

Analysis concentrates on the key components of this income development in the Netherlands. Firstly, it looks at the developments for the most important products (milk, pigs, fresh vegetables, flowers, nursery plants and cattle), then intermediate consumption, subsidies and taxes, depreciation and lastly agricultural labour.

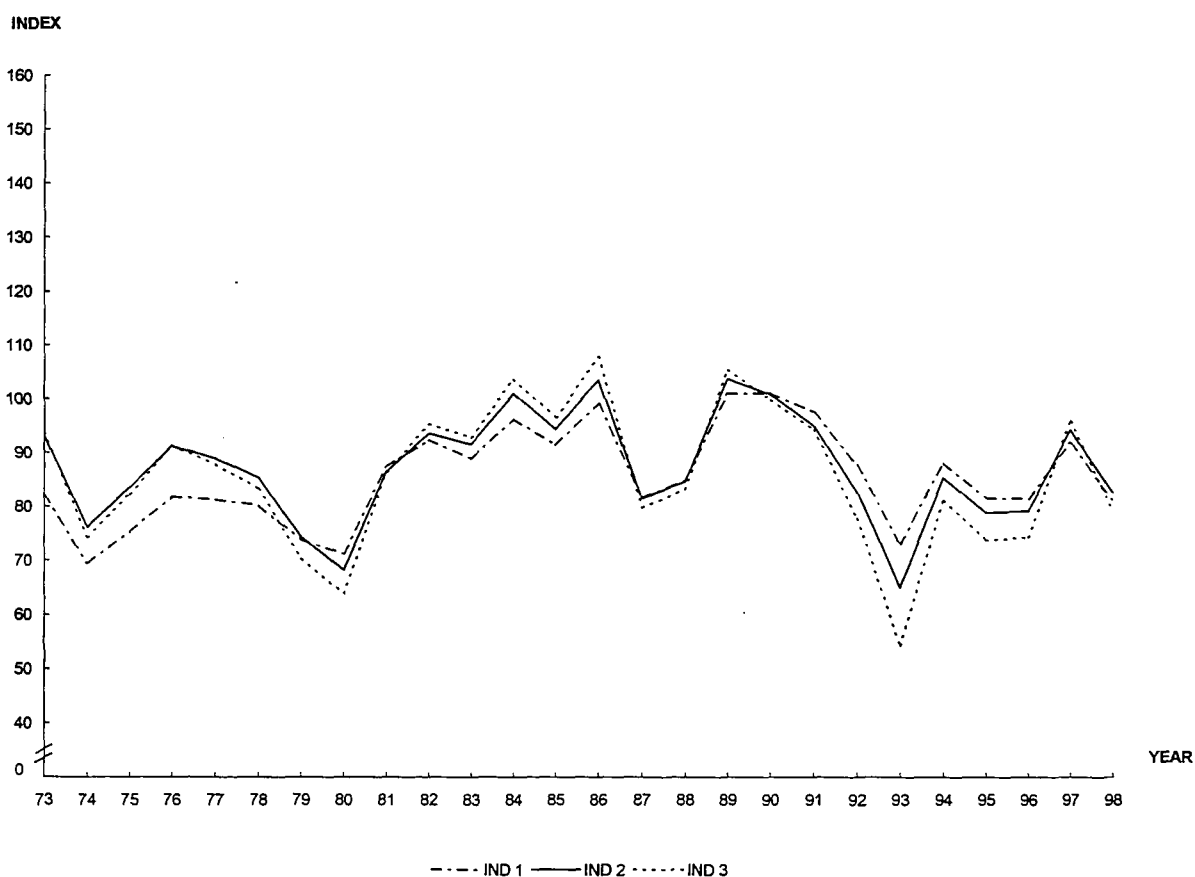
During the period under review, there has been a shift in the balance of agricultural production. At the start of the 1980s, the value of animal output represented about 67% of that of final output but by the end of the 1990s this proportion had shrunk to about 51%. The reasons for this development are twofold; the growth of the horticultural and fresh vegetable sectors and the steady decline in the value of all animals and animal products. These will be looked at in greater detail below.

Throughout the period, the value of milk output has been higher than that of any other product in the Netherlands. Nevertheless, there has been a strong and relatively steady decline in real-terms value. As with

other Member States, the key development was the introduction of milk quotas in 1984. There had been a regular rise in the volume of milk output through the 1970s and into the 1980s, until these milk quotas. A sharp fall in milk output in 1987 has since been followed by a relatively consistent level. However, it is in this same sub-period that prices have fallen most sharply in real terms (a fall of about 25% between 1989 and "1997").

There was considerable expansion of pig production in the Netherlands for most of the review period and most particularly during the 1980s (output volumes +40% during the decade). This upward trend in output volume was continuing in the 1990s until an outbreak of swine fever in 1997 entailed the mass slaughter of pigs and their removal from the food chain (output volume decreased 35% in 1997). The level of output rebounded strongly in 1998 but was, nevertheless, about 8% down on the 1996 volume. Although the real price of pigs firmed during 1996 and 1997 at the height of the crisis, the recovery of output volumes together with considerable pan-European overproduction resulted in prices tumbling in 1998. Over the longer-term, this can be seen as an acceleration of the price declines that had been common since 1982. There has been a rather similar development in the output volumes and prices of cattle. Cattle output volumes rose, albeit more unevenly, until 1991 since when levels have declined by about 20% through until 1998. Real-terms prices have fallen away from their highs in 1982 and the rate of decline accelerated at the height of the EU-BSE crisis as consumer confidence in beef products waned. However, there has been a slight recovery in prices during the last couple of years.

Graph. 5.10. Development of the three indicators of income from agricultural activity in the Netherlands between 1973 and 1998, with "1990" = 100



The increasing importance of the crop sector has been brought about because of expanding production of fresh vegetables, flowers and ornamental plants, and nursery plants. During the review period, output volumes of fresh vegetables have risen by about 60%, that of flowers and ornamental plants have more than doubled (confirming the rate of growth during the 1970s) and that of nursery plants has tripled. Whilst output growth for the former two products has reached a plateau since about 1992, the expansion of nursery plants

production continues. Despite the considerable rise in nursery plant production, real-terms prices also appear to have risen strongly ⁽²⁵⁾. In the case of both fresh vegetables and flowers, the expansion in output volumes has been accompanied by falling real-terms prices. Of particular note is the halving of the real price of flowers and ornamental plants during the 1990s.

Table 5.10. Changes in the main components of the income calculation for agriculture in the Netherlands, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	3.6	0.2	-1.6	3.8	2.0	48.6	33.1
Fresh vegetables	3.0	0.2	-1.6	3.2	1.3	11.9	8.9
Nursery Plants	7.3	8.3	6.5	16.2	14.2	10.9	1.2
Flowers	5.6	-3.7	-5.4	1.7	-0.1	11.9	11.2
Final animal output	0.2	-0.5	-2.3	-0.3	-2.1	51.4	66.9
Cattle	0.3	-0.8	-2.6	-0.5	-2.3	8.6	11.5
Pigs	1.3	-1.8	-3.5	-0.5	-2.2	13.4	18.1
Milk	-0.8	0.6	-1.2	-0.3	-2.0	21.3	27.6
Final output	1.5	-0.2	-1.9	1.4	-0.4	100.0	100.0
Intermediate consumption	0.8	0.1	-1.7	0.9	-0.9	49.6	53.0
Gross value added at m.p.	2.2	-0.4	-2.2	1.8	0.0	50.4	100.0
Subsidies				12.1	10.1	8.9	1.9
Taxes linked to production				2.8	1.0	5.5	4.7
Depreciation				6.3	4.4	27.4	13.7
Net value added at f.c.				1.2	-0.6	76.1	83.5
Rent				2.1	0.3	2.8	2.7
Interest				0.5	-1.2	12.0	14.7
Net income of total labour				1.3	-0.5	61.2	66.2
Compensation of employees				4.8	2.9	18.8	11.8
Net income of family labour				0.2	-1.5	42.3	54.3

Developments in the dairy sector and in the horticultural sector as well as new environmental concerns help explain a number of patterns in the purchases of intermediate consumption goods. The volume of feedingstuffs purchased reached a peak in 1983, just before the introduction of milk production quotas and the subsequent fall in herd numbers. The growth in the horticultural trade has been matched by rising demand for energy (+1.4% per year on average), although the rise in the price of oil at the turn of the 1980s dented demand for a while. Increasingly tight environmental controls have been introduced regarding production techniques, especially since the mid-1980s, which helps explain a halving in fertilizer use since 1986. Increasingly specialized production has required ever more contract work from third parties, the amount of services used by agriculture doubling over the period. Although real-terms prices for intermediate consumption goods as a whole have fallen the rate has been less than most other Member States.

Although gross value added at market prices – the difference between the value of agricultural output and the value of the goods and services used to generate this output – in "1997" was almost 20% lower than in "1990" in real-terms, it was almost exactly the same as in "1981". In other Member States, this might have been the basis for strong rises in income from agricultural activity per unit of labour over the period as a whole. The reasons why this has not been the case in the Netherlands are linked to the specific nature of taxes on products, subsidies, depreciation and the volume of labour. For all the period with the exception of 1997, the value of subsidies to Dutch agriculture has been less than the taxes on production (the exception for 1997 was because of the support provided to pig farmers in the midst of the swine fever outbreak). The value of subsidies is relatively low, reflecting the fact that key products like flowers, nursery plants and fresh vegetables receive no direct payments. On the other side, taxes include some particular "pollution" taxes (pollution resulting from production activities like manure disposal). The level of net taxes has, however, been

⁽²⁵⁾ Eurostat has some reservations about the quality of the price data for nursery plants that have been provided by the relevant body in the Netherlands. A revision to the Dutch accounts was carried out in 1993 and subsequent price figures for nursery plants appear to be unusually high. This will be investigated in the coming months.

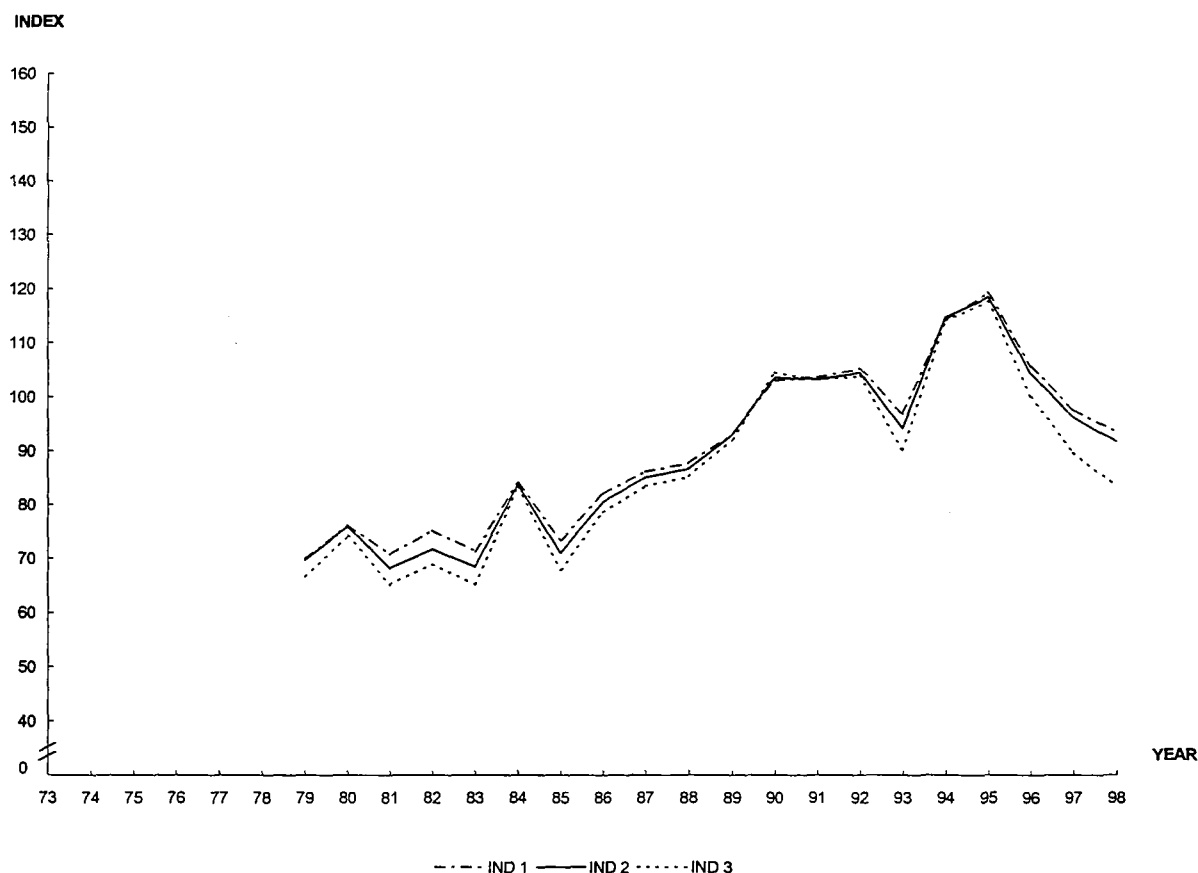
declining rapidly since the reform of the CAP in 1992 and the associated rise in subsidies. There has also been a substantial rise in the level of depreciation costs, particularly before the start of the 1990s. This reflects the surge in capital investment, much of which is linked to the growth of the horticultural sector. Lastly, although the volume of agricultural labour in the Netherlands has decreased over the period, the average rate of annual decline has been the slowest in the EU (-0.6% compared to about -4.0% for the EU as a whole). Indeed, there has been growth in the volume of non-family labour (+2.2% per year on average), confirming the point that increasingly specialized and contracted expertise are required in Dutch agriculture.

5.11. Austria

Austria joined the European Union along with Finland and Sweden in 1995. It has been, therefore, only for a small number of years that the EU's Common Agricultural Policy has been implemented. Much of the development in income from agricultural activity for the period under review took part outside this regime. The implementation of the EU's Common Agricultural Policy brought about sharp price reductions for Austrian farmers, for which degressive compensatory payments were established for a fixed period of time.

The level of income from agricultural activity per unit of labour has been on an upward trend during the review period as a whole (the measurement of Indicator 1 rising by an average +1.8% per year for example). However, since a peak in the year of accession, the level of the Income Indicators at the end of the review period had fallen back beneath the corresponding level of the base year ("1990"), largely due to the phased reduction in the level of subsidies paid out.

Graph. 5.11. Development in the three indicators of income from agricultural activity in Austria between 1979 and 1998 ("1990" = 100)



In terms of agricultural production as a whole, the volume of final agricultural output increased only very slightly between the two ends of the reference period (an average +0.2% per year). However, there was a clear downward trend in real-terms prices (averaging -3.6% per year), with the sharp fall in the year of

accession (a little over -20%) being particularly noteworthy. The development in prices therefore set the trend for the real-terms value of final agricultural output.

Fresh fruit, grape must and wine and cereals are the most important crop product groups in Austria. Together, they account for about half of the value of final crop output. The volumes of both fresh fruit and grape must and wine output in "1997" were lower than the corresponding levels at the start of the review period. In the case of fresh fruit the decline in output volume was relatively small. For grape must and wine, however, the decline was stronger although the considerable annual fluctuations (particularly during the 1980s) should be borne in mind. Real-terms prices for fresh fruit at the end of the review period touched similar lows to some years in the mid-1980s but were quite lower than at the start of the review period, thereby being the reason for the fall in real-terms value (an average -1.9% per year). In the case of grape must and wine, there was a general inverse relationship between real prices and output volumes when volumes wildly fluctuated from one year to the next. Nevertheless, there did appear to be a small decline in real-terms prices over the period as a whole, which accentuated the fall in real value (averaging -2.9% per year). The output volume of cereals was little different at the end of the review period from the start, although the upward trend in the 1980s was largely cancelled out by the fall in the 1990s. The considerable decline in the real terms value of cereals over the review period (an average -6.4% per year) was therefore due to the persistent and steady fall (the faster rate upon accession notwithstanding) in real terms prices.

Table 5.11. Changes in the major components of the income calculation for agriculture in Austria, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	0.3	-0.2	-3.1	0.1	-2.8	34.7	31.4
Cereals	0.3	-3.8	-6.7	-3.6	-6.4	5.1	8.5
Fresh fruit (*)	-0.2	1.4	-1.6	1.1	-1.9	6.2	4.7
Wine	-2.5	2.5	-0.5	0.0	-2.9	6.8	6.3
Final animal output	0.1	-0.9	-3.9	-0.8	-3.7	65.3	68.6
Cattle	-0.3	-1.6	-4.5	-1.9	-4.8	15.3	19.1
Pigs	0.9	-1.3	-4.2	-0.4	-3.3	20.0	19.5
Milk	-0.5	0.0	-2.9	-0.5	-3.4	21.2	21.3
Final output	0.2	-0.7	-3.6	-0.5	-3.4	100.0	100.0
Intermediate consumption	0.1	0.9	-2.1	1.1	-1.9	51.7	40.3
Gross value added at m.p.	0.3	-2.1	-5.0	-1.8	-4.7	48.3	59.7
Subsidies				17.5	14.1	86.0	4.9
Taxes linked to production				6.5	3.4	9.7	2.6
Depreciation				2.7	-0.3	78.7	38.6
Net value added at f.c.				0.8	-2.1	97.6	63.7
Rent				4.0	0.9	5.8	2.3
Interest				-1.3	-4.2	8.4	7.8
Net income of total labour				0.9	-2.0	83.3	53.6
Compensation of employees				3.0	0.0	19.7	9.2
Net income of family labour				0.4	-2.6	63.6	44.4

(*) Including table grapes

The share of the value of animal output in the value of final output is about two-thirds, with the most important product groups being milk, pigs and cattle. There was a decline in the volume of milk output over the period as a whole, although since the declines through until 1988 there has been a relatively stable output volume. By contrast, there has been an upward trend in pig output volume over the review period. With particularly strong declines since the middle of the nineties, the volume of cattle output fell below that at the start of the review period. For all three product-types, real-terms prices declined sharply during the period, with the downward trend being accentuated by the fall in prices recorded for 1995 following accession to the European Union and the necessary application of the CAP. The average price for cattle tumbled by an -4.5% per year in real terms, that of pigs by -4.2% and that of milk by -2.9%. As a result of the price declines the real values of all three products dropped substantially over the whole period.

The volume of intermediate consumption used in Austria was very slightly higher in "1997" than at the start of the review period. Real-terms prices for input goods and services as a whole, on the other hand, declined relatively steadily. Before accession to the EU, intermediate consumption accounted for more or less 40% of the value of final agricultural output. Due to the strong reductions in prices and values of final output, in 1995, this share increased to about 50%.

The real value of subsidies to the agricultural branch in Austria rocketed over the period under review (at an estimated average of +14.1% per year). Of greatest influence were the payments made in 1995, which were partly comprised of subsidies to compensate for the sharp price falls following the application of the CAP in Austria. The share of subsidies in gross value added, which had stood at about 25% in the year prior to Austria's accession to the EU, increased to about 100% in 1995 and still accounted for more than 80% in "1997". In comparison, rising taxes linked to production (averaging +3.4% per year) had much less of an impact on agricultural branch income. Real depreciation costs declined slightly over the period. Of the other charges, rental payments increased, interest payments fell and the compensation of employees remained unchanged between the two ends of the period as a whole.

Despite the decrease in real net value added at factor cost (-2.1% per annum on average), income from agricultural activity per unit of full-time labour equivalent (i.e. per Annual Work Unit) rose distinctly because of the sharp reduction in the volume of total agricultural labour (an average of -3.9% over the period as a whole, with particular strong declines in the years 1992 to 1996). Indicators 2 and then 3, which take interest and rents and then the compensation of employees into account, showed a similar trend to that of Indicator 1 (averaging +1.9% and +1.7% per year between "1981" and "1997" respectively).

5.12. Portugal

Analysis of the long-term developments in Portugal has been shortened to the period since 1986. This is because earlier data for Portugal, up to and including the year 1985, relate exclusively to the mainland. Figures provided from 1986 onwards, however, include the Azores and Madeira, and are based on additional data sources. As it happens, such a break means that analysis can concentrate on the period since Portugal's accession to the then European Community.

Developments in Portugal mean that it is necessary to distinguish between two distinct trends. Firstly, the income generated by agriculture has been declining strongly over the period since 1986; the measure of net value added at factor cost declined by an average -2.6% per year in real terms during the decade "1987" to "1997". There has been an even sharper rate of decline in the volume of agricultural labour (total input falling an average -5.0% per year). Secondly, therefore, the measures of agricultural income per unit of labour (the three Income Indicators) have risen.

Since Portugal's accession, the fluctuations in the annual Income Indicator measures have become increasingly exaggerated either side of a slightly rising trend. The review period did, however, finish with strong falls in these income measures after highs in the period 1994 to 1996 (see graph below).

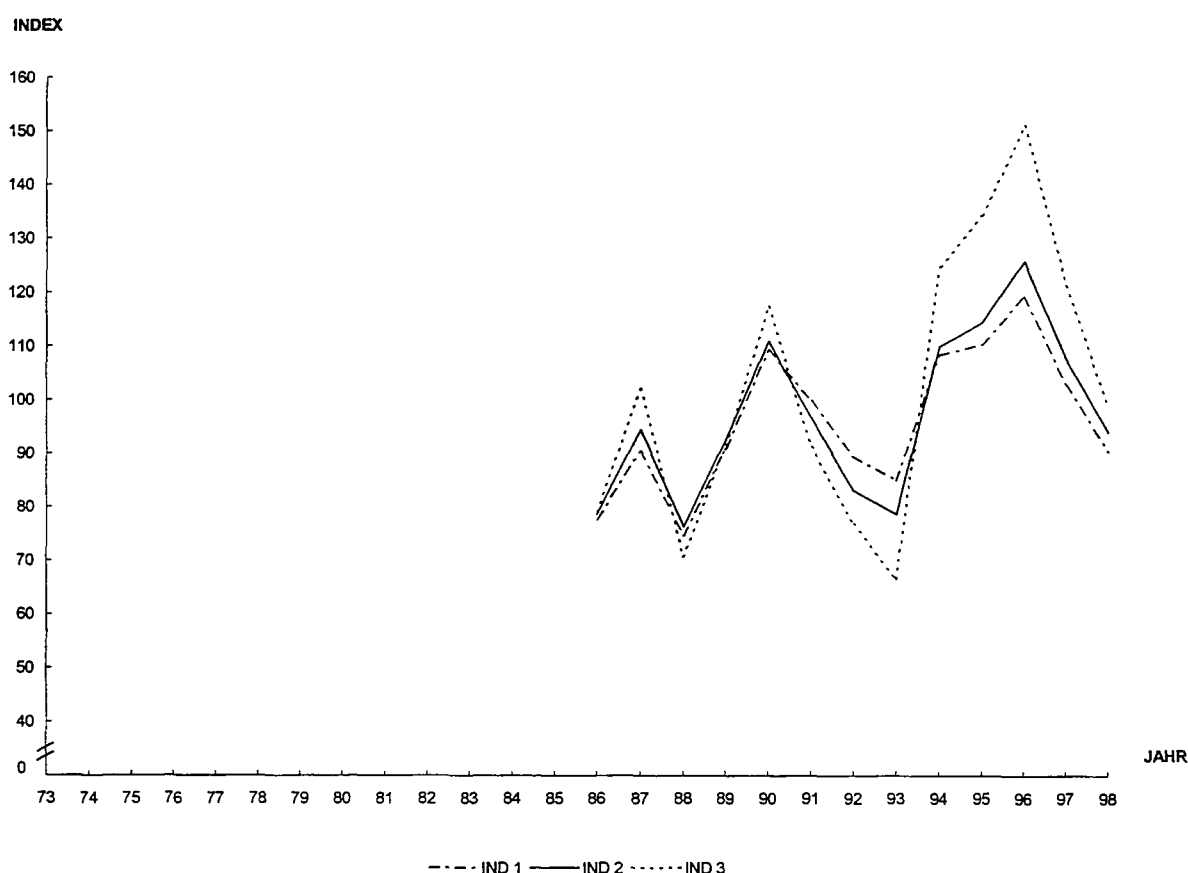
The main factors behind the steady fall in net value added at factor cost are now reviewed. Analysis is therefore focused on the price and volume developments for the key agricultural products, input goods and services, and the value of subsidies and depreciation.

Sharply falling prices for both animal and crop products (among the steepest rates in the European Union) have been the principal reason for the decrease in real net value added at factor cost. The price falls were particularly strong in the period 1988 to 1992. Devaluations of the Portuguese escudo then had the effect of lessening the severity of the CAP reform-based price cuts for a number of products. In the last couple of years, though, there have once again been considerable price declines. In interpreting real-terms figures for prices and values, readers should bear in mind that double digit rates of inflation for the vast majority of the period have been taken into account.

Wine, fresh fruit and fresh vegetables are the three most important crop products, accounting for a little under a third of the total value of agricultural production in Portugal. These are also the three types of crop products that are most affected by inclement weather. As a result, there have been considerable annual fluctuations in

output volumes which make any long-term trend unclear. Volumes of wine output have been particularly erratic. The period finished with two very poor harvests, the 1998 harvest being almost a third of that in 1996. The volume of fresh fruit in 1998 was also extremely poor after Spring frosts. Within fresh fruit, however, there has been a notable upward trend in the volume of citrus fruit, particularly for mandarins and sweet oranges. The volume of fresh vegetables output was also hit by the poor weather in 1998. However, output volumes for fresh vegetables as a whole have been much lower than the level for 1990 in all subsequent years. Nevertheless, within the fresh vegetables group, output volumes of tomatoes and cauliflowers were the same if not a little higher at the end of the review period than in 1990. For fresh vegetables and for fresh fruit there are, however, clearer price trends. Real-terms prices for both product groups have declined steadily and sharply since peaking in 1990. In the case of wine, there have also been considerable annual changes in the real price of wine. However, the decline in the price of wine in 1996 at the same time as a severely reduced harvest meant that output values finished the period at new lows.

Graph. 5.12. Development of the three indicators of income from agricultural activity in Portugal between 1986 and 1998, with "1990" = 100



Away from crop products, the most important types of agricultural production are milk, pigs and cattle. Despite the imposition of dairy milk quotas across the European Union, and given that Portugal has not been one of the countries to receive recently an increase in the total guaranteed quantity, it is interesting to note that there has been a steady rise in milk output. Figures from the accounts, which do include figures from sheep and goats milk, show an annual average rise over 2% per year between 1986 and 1998, with figures in the most recent years confirming this upward trend. During the same period, there has also been strong growth in pig production (an average 3.9% per year). Accompanying these higher output volumes, real-terms prices have declined strongly to new lows in 1998. Real-terms prices for cattle have also declined steadily and strongly, before and immediately after the BSE scare. However, this decline is not linked to greater output volumes, for there has been a distinct shift away from cattle production since 1992. The volume of cattle output in 1998 was less than half the amount in 1992 and 30% down on the level of "1987".

The shift away from cattle production in Portugal has also affected the volume of animal feedingstuffs purchased. Despite the steep decline in the price of feedingstuffs and the rapid expansion of pig and poultry

production, volumes of feed purchased have fallen back by about 10% since 1993 through to the end of the reference period, having risen strongly in the period from 1986. There is no separate distinction between fertilizers, plant protection products and soil improvers in the figures provided by Portugal, but for the group as a whole, there has been a steady decline in the volumes purchased during the 1990s. Indeed, the only growth areas in inputs have been in the services and maintenance and small tools sector.

Since the run-up to accession, the level of subsidies paid out to farmers in Portugal has multiplied, albeit from a low level. The changes to the CAP with the reform of 1992 confirmed the increasing role of subsidies in Portugal. The current importance of subsidies can be gleaned from their share of gross value added at market prices. Figures for mainland Portugal at the beginning of the 1980s show this proportion to have been about 1%. The latest figures for the whole of Portugal show that this proportion has risen to 22% and was as high as 30% in 1995. As a result of these changes and a decline in taxes linked to production since accession, net taxes at the start of the 1980s have also been transformed into large net subsidies.

Table 5.12. Changes in the main components of the income calculation for agriculture in Portugal, average % change over the period "1987" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1987"
Final crop output	-0.7	4.9	-3.1	4.1	-3.8	47.3	45.7
Fresh vegetables	-0.1	5.5	-2.4	5.4	-2.5	9.9	8.4
Fresh fruit (*)	0.3	5.4	-2.6	5.7	-2.3	10.2	8.5
Wine	-2.5	10.5	2.1	7.7	-0.5	11.4	7.9
Final animal output	1.8	1.5	-6.2	3.4	-4.5	51.0	53.0
Cattle	-1.9	-0.9	-8.5	-2.8	-10.2	6.5	12.6
Pigs	3.9	2.3	-5.5	6.3	-1.8	17.1	13.5
Poultry	4.7	-2.1	-9.6	2.5	-5.3	4.4	4.9
Milk	2.5	1.8	-5.9	4.4	-3.5	13.4	12.5
Final output	0.6	3.2	-4.7	3.8	-4.1	100.0	100.0
Intermediate consumption	1.6	2.5	-5.3	4.1	-3.8	50.5	48.8
Gross value added at m.p.	-0.3	3.8	-4.1	3.4	-4.4	49.5	51.2
Subsidies				19.6	10.7	22.0	5.1
Taxes linked to production				4.6	-3.2	1.5	1.4
Depreciation				3.5	-4.3	6.7	6.6
Net value added at f.c.				5.1	-2.9	113.8	97.1
Rent				2.0	-5.7	2.8	3.2
Interest				4.1	-3.9	10.6	10.0
Net income of total labour				5.3	-2.7	100.4	84.0
Compensation of employees				3.2	-4.6	29.1	29.6
Net income of family labour				6.2	-1.8	71.3	54.5

(*) Including citrus fruit and table grapes

In the period around accession, there was also a jump in depreciation costs, suggesting a quick boost in capital investments. During the 1990s, however, depreciation costs have fallen steadily. Despite these rising subsidies and lower depreciation costs, there was still a strong fall in agriculture's value added.

5.13. Finland

Income from agricultural activity in Finland, as measured by Indicator 1, increased by an average of 3.7% per year between "1981" and "1997". Within the time period there were two distinct phases. From the start of the period through until "1990", the level of Indicator 1 increased strongly (by an annual average of +5.8%) despite a major fall in 1987. The latter part of the period saw a decline in the level of Indicator 1 (an average fall of 0.5% per year) against a background of marked fluctuations.

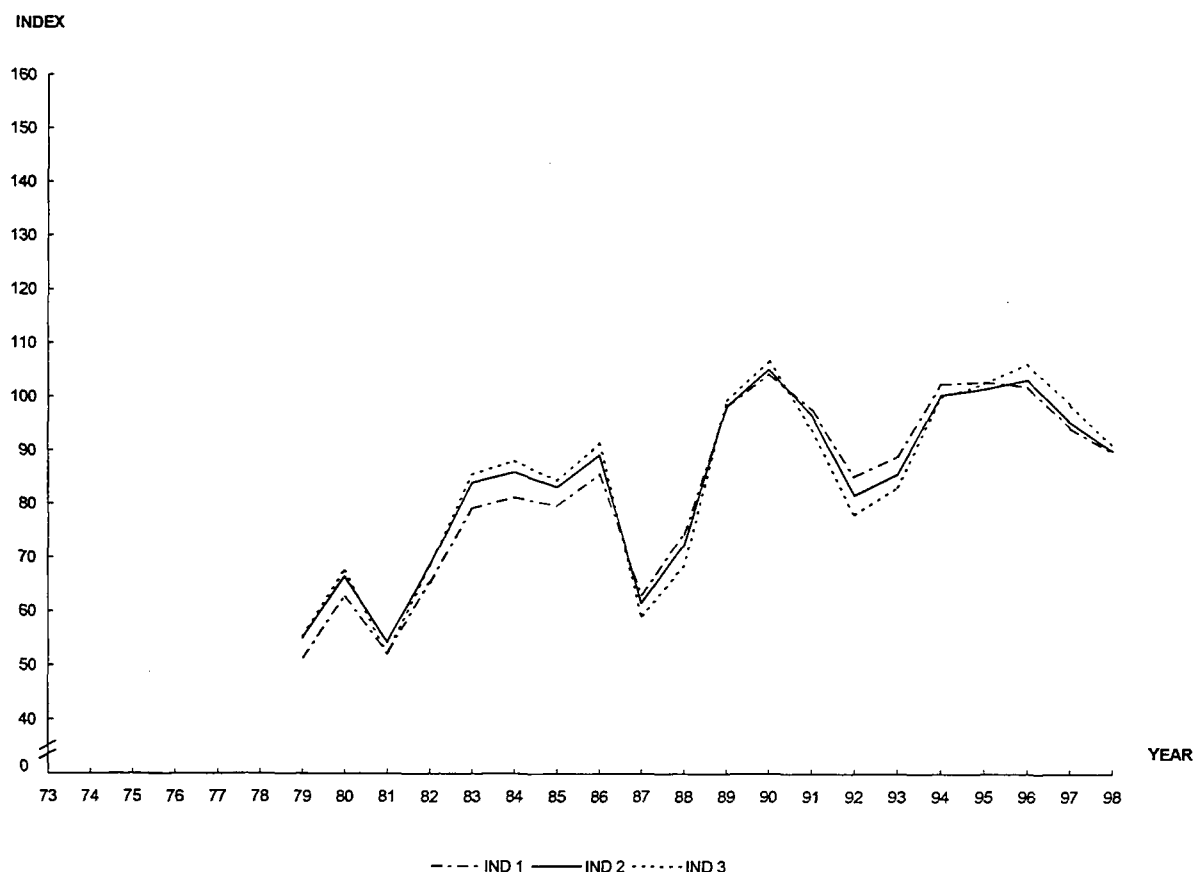
Over the reference period as a whole, the real value of final agricultural output declined. This was due to the combination of a slight fall in the volume of output and an appreciable fall in real-terms prices. However, this price fall should be reviewed against the accession of the country to the European Union in 1995. Agricultural

producer price levels had to adjust sharply lower to the levels within the European Union (a -41.1% decline in real terms in 1995 with respect to the levels in 1994).

The real-terms value of animal output represents slightly more than 70% of the value of final agricultural output. The principal types of animal and animal products are milk, pigs and cattle. During the review period, the real-terms value of final animal output decreased under the combined effect of lower volumes and falling real-terms prices. It was the volume of milk output, subject to milk quotas, that declined at the fastest rate over the whole of the review period in this animal production sector. By contrast, there was a slight upward trend in the volume of pig output, despite strong annual fluctuations; the end of the period finished with strong increases (an average +3.6% a year) in output volume from a low in 1995 that was equal to that in 1980.

Finland's main crop products are cereals, flowers/ornamental plants and fresh vegetables. Over the reference period, the real-terms value of final crop output declined because of falling real-terms prices, the volume of output increasing slightly. Within the crop products aggregate, the decline in the real-terms value of both cereals and fresh vegetables output also stemmed from the tumble in real-terms prices, which accelerated following Finland's accession to the European Union in 1995. There was a rise in the volumes actually produced, however. By contrast, there was a sharp fall in the output volumes of flowers with real-terms prices increasing slightly.

Graph. 5.13. Development of the three indicators of income from agricultural activity in Finland between 1979 and 1998 ("1990" = 100)



The value of intermediate consumption accounted for more than two-thirds of final agricultural output in "1997", a much higher proportion than the average for EU-15. Nevertheless, the real-terms value of intermediate consumption also declined during the review period, with downward trends in both the overall volume purchased and prices. The decrease in real-terms purchase prices was particularly marked in 1995 (-26.2%), the year in which a standard VAT system was introduced in the agricultural sector to replace the turnover tax system. Prior to 1995, tax paid by the agricultural branch on purchases of goods and services was non-deductible. As from 1995, farmers have been able to deduct any deductible VAT on their purchases, which explains the marked fall in the real price for intermediate consumption. Moreover, as the rate of decline

in the volume of intermediate consumption items over the review period exceeded that in the volume of output, there was a small rise in the productivity of intermediate consumption (an average +0.4% per year). By contrast, there was a deterioration in the price scissors with a rise in the nominal price of intermediate consumption together with a decline in the nominal price of final output.

The level of aid to Finnish agriculture was already very high in 1994, with subsidies accounting for almost 60% of gross value added at market prices. The real value of subsidies rose sharply in 1995 (+90% in real terms) by way of compensation for the lower prices upon accession. Under the Accession Treaty, the European Union and the Finnish government agreed to an agro-environmental support package on the basis of a fifty-fifty finance arrangement. In 1995, this support accounted for almost one-quarter of the increase in subsidies, with a further quarter being provided under joint Less-Favoured-Area schemes, another quarter under CAP-reform subsidies and the rest coming from a special Finnish government agricultural support package. As from 1996, the real value of subsidies paid to the agricultural branch decreased. Over the period as a whole, the value of subsidies increased by an average of 10.8% per year. With real gross value added at market prices having fallen due to lower real-terms prices, and the real value of subsidies having sharply increased, the latter value now amounts to more than twice the former. Taxes linked to production underwent marked fluctuations over the reference period; on average, they declined in real terms. The level of depreciation costs and interest payments declined over the review period, although rental payments increased.

Table 5.13. Changes in the main components of the income calculation for agriculture in Finland, average % change from "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	0.5	-1.0	-5.2	-0.5	-4.7	28.5	26.3
Cereals	0.9	-2.9	-7.0	-2.0	-6.2	9.7	11.4
Fresh vegetables	1.7	0.8	-3.5	2.4	-1.9	4.5	2.6
Flowers	-3.2	4.8	0.4	1.5	-2.8	4.1	2.8
Final animal output	-0.9	-0.3	-4.6	-1.2	-5.4	71.5	73.7
Cattle	-1.1	-2.1	-6.3	-3.2	-7.3	9.6	13.7
Pigs	0.2	-2.4	-6.5	-2.2	-6.3	10.8	13.0
Milk	-1.7	1.0	-3.4	-0.8	-5.0	36.2	34.9
Final output	-0.5	-0.5	-4.8	-1.0	-5.2	100.0	100.0
Intermediate consumption	-0.9	1.8	-2.5	1.0	-3.3	68.0	49.7
Gross value added at m.p.	-0.3	-3.5	-7.6	-3.8	-7.9	32.0	100.0
Subsidies				10.8	6.1	250.6	26.4
Taxes linked to production				-0.6	-4.8	1.1	0.6
Depreciation				1.4	-2.9	82.1	35.5
Net value added at f.c.				3.0	-1.4	267.4	90.2
Rent				9.3	4.6	9.0	1.2
Interest				3.9	-0.5	28.1	8.2
Net income of total labour				2.7	-1.7	230.3	80.8
Compensation of employees				2.5	-1.9	38.3	14.0
Net income of family labour				2.8	-1.6	192.0	66.8

With real-terms net value added at factor cost declining over the period, it was only after taking into account the sharp reduction in the volume of total labour (by -4.5% on average), that there was a rise in the per unit of labour Income Indicator levels.

5.14. Sweden

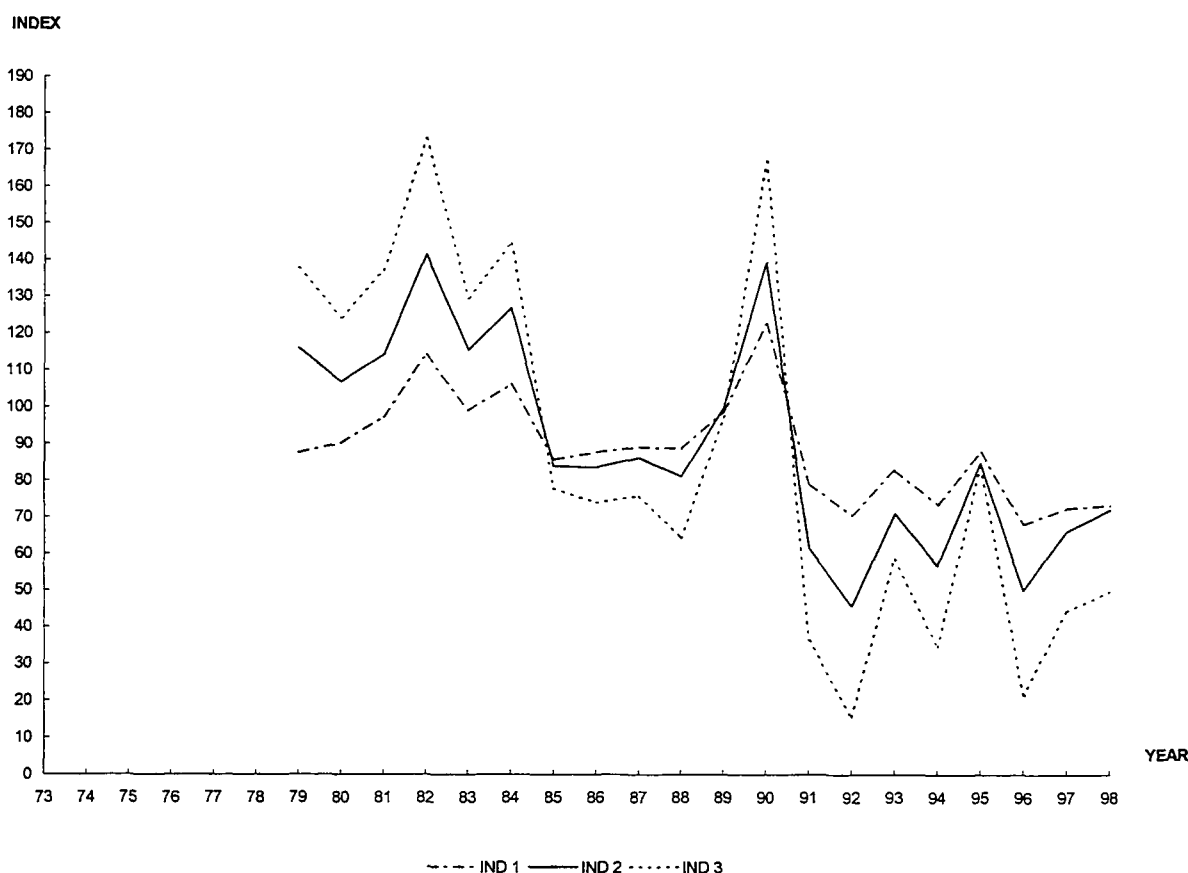
In reviewing the developments in income from agricultural activity in Sweden over the period since 1980, it should be borne in mind that Sweden did not join the European Union until 1995. For the majority of the period, therefore, developments in income and agricultural markets occurred outside the immediate influence of the EU's Common Agricultural Policy. One of the integral measures in the accessionary procedure, as

regarded agriculture, was the phased reduction of the high support price levels prevailing in the country. This was all the more pressing after the re-orientation of support inside the EU after the 1992 reform of the CAP. To a large extent though price levels were comparable with those in the EU upon accession.

Bearing these points in mind, the Income Indicator measures have fluctuated considerably around a downward trend (see the graph below). After the start of agricultural reforms in the early 1990s, the level of the Income Indicators fell particularly strongly.

The downward trend in the real-terms level of income generated by Swedish agriculture has been based on significant price declines for principal agricultural products and despite a considerable rise in the level of subsidies paid out during the 1990s. Milk, pigs, cereals and cattle together account for over two-thirds of the value of all agricultural products. Analysis of the causes of the income decline therefore start by concentrating on these key sectors.

Graph. 5.14. Development of the three indicators of income from agricultural activity in Sweden between 1979 and 1998, with "1990" = 100



To curb growth in milk output volumes, Sweden introduced a voluntary quota scheme in 1985. During this period output volumes of milk decreased. However, the scheme was abolished in 1989 and although this triggered an initial rise in volumes, output levels have since fallen back. The milk quota allocation to Sweden was set in line with the total milk sales (dairies and direct sales) around the time of accession. Since accession, the volume of milk output has remained relatively steady. Real-terms prices have fallen sharply since a high in 1982, with a particularly large fall in 1990 as agricultural reform started in Sweden. Since then, the real-terms price of milk has fallen steadily through the pre-accession period and since accession. There has been a marked cyclical pattern to pig production in Sweden. Volumes of pig output rose strongly at the start of the review period through until 1986 and from 1992 up until the end of the review period (the level in 1998 was still some 8.5% lower than the peak in 1986). From 1986 to 1992, there was a sharp and continuous decline in the output volume of pigs (a total reduction of 27%). In contrast, there has been a relatively regular and steep downward trend in the real price of pigs. Higher output volumes were associated with lower prices but in the period when there was a downturn in output volumes, the rise in prices in 1987 to

1989 was then undone in the reform process. Since 1985, the volume of cattle output has varied $\pm 6\%$, finishing the period at a level similar to that in 1985 and 1986. The high level of cattle output at the start of the review period declined steeply in 1983 and 1984. The fall in the real-terms price for cattle has been almost identical to that already described for pigs, both in annual movements and in rates of decline.

With more extreme weather common in this Nordic country than in most other Member States, there were considerable variations in the volumes of cereals output between years. However, there does appear to have been a decline over the whole of the review period with particularly big falls being recorded in 1987-88 and 1991-92. Underlying this decline has been a reduced production area of cereals (down about 30%), with sharply lower areas recorded for the main two cereal types, barley and oats (between -35 to -40%). The reforms of the national agricultural policy in the early 1990s and then the pre-accession requirements for the EU have been principal reasons for the particularly steep decline in the real terms price of cereals, although recent falls also have much to do with falling world market prices. Since the start of the second half of the 1980s there has been a marked rise in the volume of fresh vegetable output, with the specific programme aimed at strengthening competitiveness in this sector, running from July 1993 to December 1994, being a key factor taking output volumes to higher levels. However, higher output volumes have been accompanied by steep real-terms price declines since the mid-1980s.

Table 5.14. Changes in the main components of the income calculation for agriculture in Sweden, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	-0.4	1.5	-3.7	1.2	-4.0	30.8	32.2
Cereals	-1.2	0.1	-5.0	-1.1	-6.1	10.6	15.8
Sugarbeet	0.2	4.5	-0.9	4.6	-0.7	4.0	2.4
Fresh vegetables	2.8	1.6	-3.6	4.5	-0.9	3.8	2.4
Flowers	0.9	2.0	-3.3	2.9	-2.4	4.4	3.5
Final animal output	-0.3	1.8	-3.4	1.6	-3.7	69.2	67.8
Cattle	-0.8	0.5	-4.7	-0.3	-5.5	9.8	13.0
Pigs	-0.2	1.4	-3.8	1.2	-4.0	14.0	14.5
Milk	-0.4	2.4	-2.8	2.1	-3.2	34.3	31.1
Final output	-0.3	1.7	-3.5	1.4	-3.8	100.0	100.0
Intermediate consumption	-1.1	4.5	-0.8	3.4	-1.9	72.8	53.3
Gross value added at m.p.	0.9	-2.8	-7.7	-1.9	-7.0	27.2	100.0
Subsidies				22.3	16.1	85.6	2.5
Taxes linked to production				13.9	8.2	4.9	0.4
Depreciation				4.6	-0.8	82.1	29.5
Net value added at f.c.				0.0	-5.1	98.7	72.6
Rent				3.9	-1.4	14.5	5.7
Interest				1.9	-3.3	38.6	21.0
Net income of total labour				-2.0	-7.0	45.5	45.8
Compensation of employees				2.9	-2.4	28.9	13.5
Net income of family labour				-5.9	-10.7	16.6	32.4

The volume of input goods and services purchased for agricultural production (intermediate consumption) declined steadily through until 1992 since when there has been a small upturn. Purchases of animal feedingstuffs have closely followed the cyclical trend in pig production. The period finished with relatively high purchases which were further boosted by lower purchase prices (linked to the price declines for cereals). The volume of fertilizers purchased declined strongly as increasingly tight environmental decisions were taken. Although the real value of intermediate consumption did fall over the period, such was the average rate of decline in the real value of final output that gross value added at market prices fell at an average rate among the very steepest in the current Member States.

Only slightly lessening the impact of this decline in gross value added at market prices was a surge in the value of subsidies paid out. Sweden's own agricultural reforms in 1990 led to the first wave of much higher subsidies and when these were being phased out, the second wave came with accession to the European Union. As well as direct compensatory payments for price cuts, national subsidies in Sweden also take the

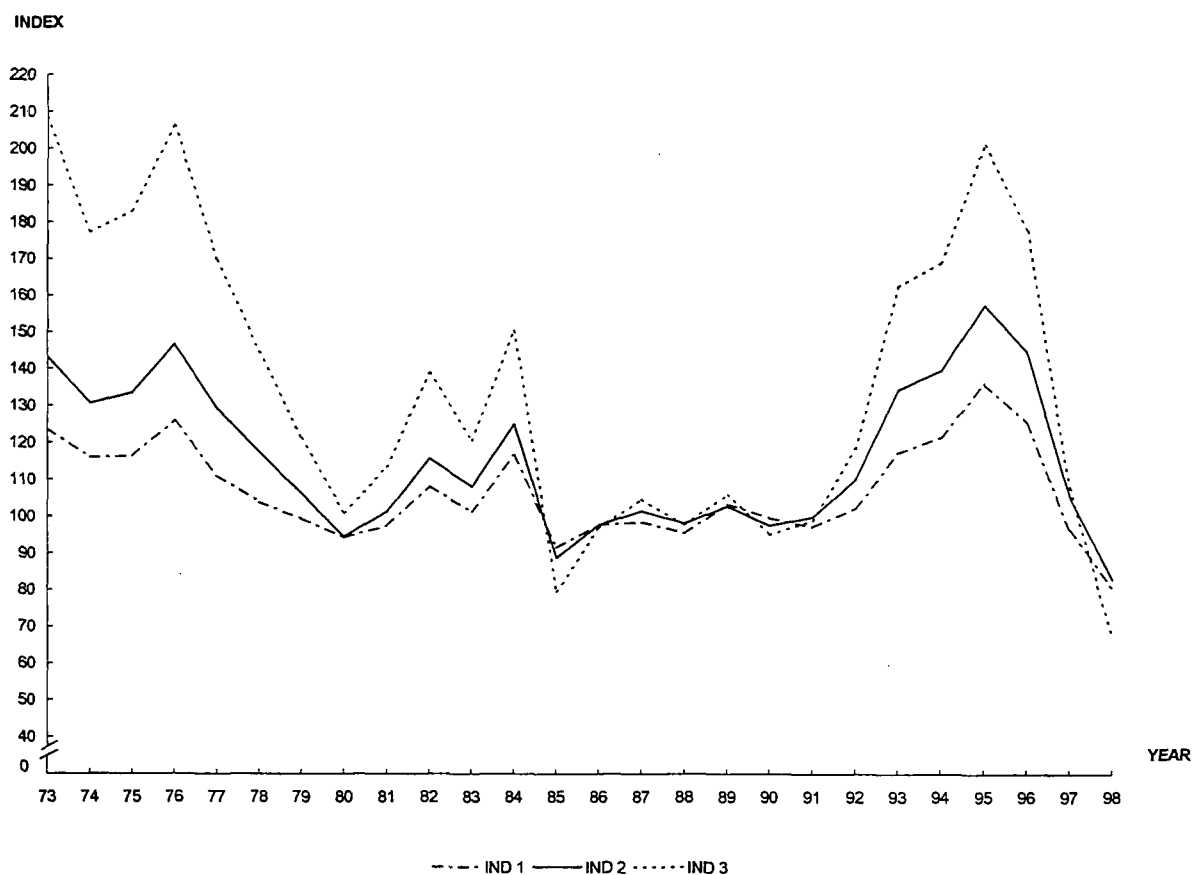
form of regional aid for those above the 62° latitude where climatic conditions are harsh, where there are increased costs, shorter growing seasons and reduced productivity. Taxes linked to production rose strongly during the 1980s but since reform have fallen back. Nevertheless, the level of taxes was still considerably higher in 1998 than at the start of the 1980s.

During the course of the review period the volume of agricultural labour has fallen by a little over 40%, continuing long-term trends. Despite the fact that the income generated by the agricultural branch of the economy was shared between a declining number of farmers, average incomes measured by Income Indicators 1, 2 and 3 have still been on a downward, if often highly fluctuating, trend.

5.15. United Kingdom

In its corresponding 1995 report, Eurostat wrote that “with the forecast of 1995 suggesting a fourth consecutive rise in...agricultural income, the increase since the base year “1990” is now calculated to be about 30%”. This upward trend has been reversed by the developments in the years since then. With the considerable declines recorded for 1997 and then 1998, the average income from agricultural activity for the United Kingdom is now lower than at any other time since Eurostat started collating the data in the early 1970s (see the graph below).

Graph. 5.15. Development of the three indicators of income from agricultural activity in the United Kingdom between 1973 and 1998, with “1990” = 100



This “boom and bust” development in the 1990s is the main feature of the review period for the United Kingdom. Much of the recent turbulence in agricultural incomes can be attributed to monetary factors and to how the timing of these factors has impacted on the reforms of the Common Agricultural Policy. The other important influence on this recent downward pressure on incomes was the revelation of a possible BSE/CJD

(26) link. An export ban on British beef was imposed, cattle prices crashed as demand for beef products collapsed and cattle over thirty months old were removed from the food chain.

One of the aims of the 1992 reform of the CAP was to make support for the agricultural sector more transparent by reducing prices for agricultural products and replacing this with direct compensatory payments. Following coincidental ejection from the Exchange Rate Mechanism, however, sterling devalued. As a result, prices for many agricultural products in the UK remained unchanged in sterling terms rather than declined because of the devaluation of the agricultural conversion rate ("green rate"). In addition, the compensatory subsidies planned as a direct counterbalance to price reductions were also higher in national currency terms. In the last two years, however, sterling has strengthened in value back towards its pre-ERM ejection level. As sterling strengthened against the then ECU, prices for UK agricultural products were forced lower in order to compete on markets and EU subsidy payments were not as high as they otherwise might have been.

Many other factors like changes in demand, technological advances and structural changes have also had an impact. To place them all in context it is necessary to conduct some analysis of the main features of the account and therefore the principal agricultural products.

Since the start of the 1980s, Gross Value Added at market prices for agriculture (the difference between the value of final output and the value of inputs) has halved. This persistent downward trend is explained by the fall in real-terms prices for many key agricultural products and not changes in output volumes; the output volume of final animal output has been remarkably consistent over the period and that of final crop output has increased.

Table 5.15. Changes in the main components of the income calculation for agriculture in the United Kingdom, average % change over the period "1981" to "1997"

	Volume	Nominal price	Real price	Nominal value	Real value	Share of each item in % in "1997"	Share of each item in % in "1981"
Final crop output	1.4	1.1	-3.5	2.5	-2.2	38.4	36.2
Cereals	1.2	-0.4	-4.9	0.8	-3.8	14.2	17.8
Fresh vegetables	0.2	3.7	-1.1	3.9	-0.8	8.2	6.1
Final animal output	0.1	1.8	-2.8	1.9	-2.8	61.6	63.8
Cattle	-2.6	0.4	-4.2	-2.1	-6.6	8.3	16.2
Pigs	0.6	1.0	-3.6	1.6	-3.0	8.4	9.1
Sheep and goats	2.9	1.6	-3.1	4.5	-0.3	6.0	4.1
Poultry	4.5	1.4	-3.2	5.9	1.1	10.8	5.9
Milk	-0.7	3.0	-1.7	2.3	-2.3	23.5	22.6
Final output	0.6	1.5	-3.1	2.1	-2.6	100.0	100.0
Intermediate consumption	-0.2	3.2	-1.5	3.0	-1.7	63.7	54.9
Gross value added at m.p.	1.4	-0.6	-5.1	0.8	-3.8	36.3	45.1
Subsidies				15.3	10.0	56.7	6.5
Taxes linked to production				3.8	-0.9	2.7	1.7
Depreciation				3.5	-1.2	40.9	26.2
Net value added at f.c.				3.1	-1.6	113.1	78.7
Rent				4.4	-0.4	3.6	2.0
Interest				0.6	-4.1	12.8	12.9
Net income of total labour				3.4	-1.2	96.6	63.8
Compensation of employees				3.3	-1.4	39.2	26.0
Net income of family labour				3.5	-1.1	57.4	37.8

Milk is the most valuable agricultural commodity in the United Kingdom. As with many other Member States, the volume of milk output peaked in 1983, the year before milk quotas were introduced. These controls on milk production curbed the progressive growth which had taken place from the mid-1970s. There was a subsequent downward trend in output volume (totalling about 16% through until 1998), resulting from a downsizing of the national dairy herd and despite rising yields per cow. One of the few increases in the

(26) Bovine Spongiform Encephalopathy (BSE) and Creutzfeldt-Jacob Disease (CJD)

volume of cattle output recorded over the period was in 1984 and this had much to do with the slaughter of cows to accommodate the new milk policy. Since the mid-1980s, however, there was a clear downward trend in the volume of cattle output which has accelerated with the aforementioned BSE limitation policy and the lack of profitability in the sector. So what has provided the stability in final animal output volume ? The answers are poultry, sheep and to smaller degree pig production. The volume of poultry output has doubled since the start of the 1980s, reflecting growing demand for white meat, that of sheep output has risen about 60% and that of pig output about 15%. However, there have been steep real-terms price falls during the same period. The real-terms price of cattle has halved, with particularly steep declines since the mid-1990s, the combined effect of the BSE scare and lower intervention prices. Whilst a switch in consumer demand away from beef to other meats during the height of the BSE scare did strengthened real-terms prices for pigs, sheep and poultry, this was only temporary. The surge in surplus production on EU markets has, together with the strengthening pound, since sent prices tumbling. The 1998 prices for cattle, pigs, sheep and poultry were only between 40% to 55% of the real-terms prices at the start of the reference period. For most of the period the decline in the real price of milk was less steep than for animals mainly due to the tight policy control on output quantities. However, there have been considerable price falls for milk during the last two years as the market has additionally been adjusting to greater competition following the dismantling of the Milk Marketing Board.

There has also been a steady decline in the real value of crop products since a peak in 1984. The declines in prices for crop products have generally outweighed higher crop output volumes. The volume of final crop output reached a high in 1984, with expansion in cereals output, oilseeds production and a good fruit harvest. Final crop output volumes then fell back principally due to the lower volume of cereals output. A new peak was reached in 1996, with the easing of the set-aside rate for arable crops helping cereal and oilseeds output volumes to new highs. This coincided with good harvests for root crops and a surge in horticultural production.

The volume of intermediate consumption goods and services during much of the 1990s was slightly below the levels at the start of 1980s. The principal reason for this is due to the relatively low level of feedingstuffs consumed since 1992. Between 1991 and 1992 there was a 35% fall in the volume of feedingstuffs to a level which has stayed similar in subsequent years. The volume of fertilizers and plant protection products used in agriculture in the United Kingdom rose particularly strongly during the period of expansion in cereal and oilseed production at the start of the 1980s. Although use of the latter continued to grow during following years, the annual amount of fertilizers used has fluctuated around a more or less similar level. The steady rise in the use of services and the cost of these services was also a feature of the times. Real-terms prices for most other input items, on the other hand, did decline. Only at the end of the review period has the decline in price for intermediate consumption goods been notably less steep than that for final output. This has resulted in a sharp deterioration in the "terms of trade".

Other key features of the account show that the value of depreciation has fallen relatively steadily in real-terms, that interest payments have declined steeply since the end of the 1980s and that whilst there has been a continued decline in the volume of agricultural labour, the rate of this decline has been among the least severe in the EU, particularly among family members.

Technical Notes

The data that are used for this analysis are taken from Eurostat's Economic Accounts for Agriculture (EAA) and from the Agricultural Income Index (All) for 1998. The two data sources are more like one data source, the only difference between the two being that the EAA has a more complete breakdown of some product groups. When provisional data are available at the more disaggregated level, normally in the Summer following the latest year for which data are available, then the All data become EAA data.

6. Comparison of income from agricultural activity levels in the Member States of the European Union

Previous chapters have concentrated on the annual changes in income from agricultural activity as measured by the agricultural income indicators and their components. This chapter deals with the differences in income levels between the Member States and the relative trends in these levels ⁽²⁷⁾.

For this purpose, the parameter chosen is **net value added at factor cost per annual work unit**. Three-year averages have been used ("1997" ⁽²⁸⁾ for the comparison of current levels with "1981" and "1989", to provide trends in income levels ⁽²⁹⁾) in order to attenuate the short-term effects on income (annual fluctuations in output volumes, agricultural prices and subsidies). The basic data are in nominal value and national currency terms and have been converted into ECU and PPS by applying each year's corresponding exchange rates ⁽³⁰⁾. The use of the PPS brings the purchasing power of the national currencies in the Member States more into line ⁽³¹⁾. To improve comparability, the values for each Member State have been compared with a European Union average.

The statistical and methodological reservations expressed below mean that, economically speaking, the data published in this chapter can only be regarded as indicative and limited in value.

- The data refer only to incomes from agricultural activity. It should not be forgotten that for numerous farmers, agricultural income represents only one part of the total or disposable income of their household (see references in Chapter 1 to the "Income of the Agricultural Households Sector" statistics). The relative size of this element can of course vary from one Member State to another.
- The use of other income indicators, such as net income from the agricultural activity of family labour input per AWU, might show significant changes in the relative position of certain Member States, since the share of rents, interest paid and compensation of employees differs from one country to another. As stated in the introduction, however, the corresponding series do not seem to be sufficiently harmonised as yet.
- Methodological and statistical checking of the Economic Accounts for Agriculture is in hand; this applies to all the items (production, intermediate consumption, distributive transactions, gross fixed capital formation and depreciation) and will probably lead more to amendments in the absolute levels than in annual changes. In particular, it will be seen that the various methods used to calculate depreciation could create systematic bias in income levels.
- The volume of agricultural labour is measured in annual work units (AWUs); this is justified by the importance of part-time work in agriculture. In spite of the advantages that this concept presents, it should not be forgotten that it does not allow any under-employment in agriculture to be taken into account. In addition, data on the volume of agricultural labour measured in AWUs are not yet harmonised at the European Union level.

With the above reservations in mind, it is clear that considerable differences in agricultural income per annual work unit exist between the Member States (see Graph 6.1 and Table 6.1). It is also evident that the relative levels and the income order of Member States change little according to whether the ECU or PPS is taken as the basis, and have changed only slightly over period "1981" to "1997".

⁽²⁷⁾ For Italy (depreciation) and Portugal, more detailed plausibility checks are in hand.

⁽²⁸⁾ "1997" = (1996 + 1997 + 1998)/3.

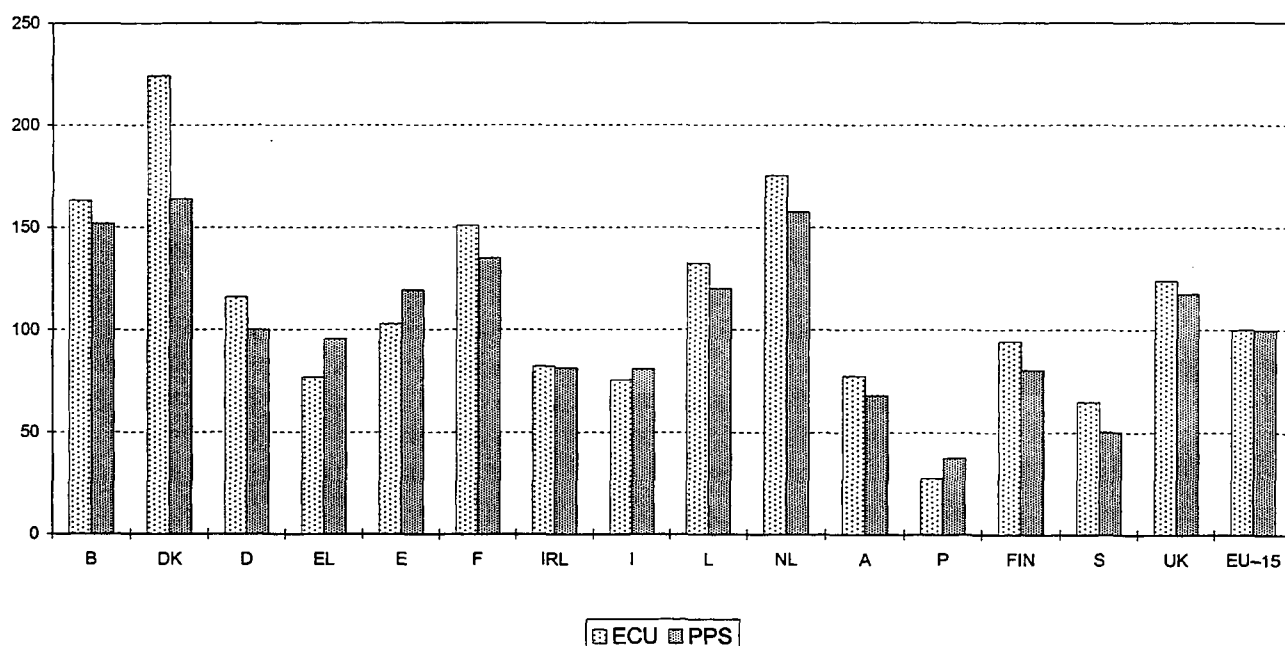
⁽²⁹⁾ In the averages for "1981" and "1989", the figures for Germany and EU-15 refer to Germany in its territorial boundaries prior to 3 October 1990. For "1997", the figures for Germany and EU-12 refer to Germany in its territorial boundaries after 3 October 1990 and therefore include the new "Länder". Figures for Portugal ignore a break in the series at 1985 as described in Chapter 1.

⁽³⁰⁾ The sole exception concerns the values for 1998, which are calculated on the basis of 1997 exchange rates.

⁽³¹⁾ PPS = purchasing power standard; for the definition, see Eurostat: **Purchasing power parities and real gross domestic product - results for 1985, Luxembourg 1988** (theme 2, series C). In the absence of specific purchasing power parities reflecting the expenditure patterns of the recipients of the incomes resulting from agriculture's net value added for the agricultural sector, the ones used are applicable to the whole economy and those reflecting the general structure of expenditure in each Member State.

Figures suggest that Denmark is clearly alone at the top of the income from agricultural activity scale measured by **net value added at factor cost per AWU for "1997" in ECU**, with levels more than twice as high as the European Union average. The Netherlands, Belgium, France, and Luxembourg also have income levels considerably above this EU average (about +30 to 75% higher). For the United Kingdom, the level of income is still higher than the average for the EU as a whole but the difference between the two has declined considerably during recent years. In Germany and in Spain, the respective averages were a little further behind but still above average. The remaining Member States recorded levels of income well-below the EU-15 average. Six Member States (A, IRL, EL, I, FIN and S) had averages some 5% to 35% below the EU-average, with Portugal further adrift at some 70% beneath the EU-average. Although direct comparisons between Member States, especially using ECU, should be treated with caution (see the reservations stated above), it can be concluded that the differences in average income received by a person (whether self-employed or employed) for activities in the agricultural branch over a one-year period (after adjustment for subsidies, taxes linked to production and depreciation) may be very substantial, especially in extreme cases (Denmark and Portugal).

Graph 6.1. Indices of net value added at factor cost per annual work unit in "1997", in ECU and PPS (EU-15 = 100)



The use of PPS for measuring **net value added at factor cost per AWU** slightly reduces differences in agricultural income between Member States. For three of the countries below the average in ECU terms (EL, I and P), conversion into PPS results in some improvement in the relative position of income. Although Portugal's relative position improves with the use of PPS (its difference with the countries who have a relatively high agricultural income is slightly reduced as a result), average income from agricultural activity in that country remains much lower than all the other Member States in the European Union. The three new Member States were the other countries who had agricultural incomes in ECU terms below the European Union average, and for these three, the measure in PPS terms worsened their relative income position. In "1997", Spain was the only country with an average income in ECU above the EU average, to improve its relative position when the income was expressed using PPS.

The order of classification of the Member States according to the level of income from agricultural activity is be noted. Under the PPS measure of income from agricultural activity, Spain moves up two places to sixth, overtaking the United Kingdom, Greece rises three places to ninth position and Finland falls three to twelfth.

For the purpose of reviewing the agricultural income trends of individual Member States relative to the European Union average trend, the relative positions of net value added at factor cost per AWU have been calculated in ECU and PPS for each Member State (see Table 6.1), taking as a reference the NVAfc per AWU of EU-15 for each of the years studied ("1981", "1989" and "1997").

Table 6.1. Indices of net value added at factor cost per annual work unit in "1981", "1989" and "1997", in ECU and PPS (EU-15 = 100)

	"1981" ECU	"1989" ECU	"1997" ECU		"1981" PPS	"1989" PPS	"1997" PPS
B	235.1	225.1	163.0		211.7	219.6	152.0
DK	193.6	218.2	224.3		148.9	163.7	163.9
D ⁽¹⁾	109.4	117.9	:		94.2	103.5	:
D ⁽²⁾	:	:	116.0		:	:	100.2
EL	80.4	68.2	76.8		88.6	89.7	95.8
E	72.9	91.1	102.7		86.0	101.7	119.3
F	143.8	140.9	150.8		127.0	132.7	134.9
IRL	67.5	83.3	82.3		63.0	80.8	81.3
I	92.3	83.3	75.7		107.6	82.5	81.0
L	130.2	146.1	132.5		119.5	141.9	120.2
NL	256.6	227.8	175.3		215.7	216.0	157.5
A	70.0	82.0	77.5		68.6	75.4	68.1
P ⁽³⁾	17.5	22.4	27.5		30.6	37.3	37.5
FIN	87.7	136.1	94.3		68.9	93.7	80.4
S	145.2	125.9	64.9		101.2	91.6	50.4
UK	181.2	135.0	123.9		160.5	139.1	117.6
EUR-11	:	:	99.6	:	:	:	99.1
EU-15 ⁽¹⁾	100.0	100.0	:		100.0	100.0	:
EU-15 ^(2,3)	:	:	100.0		:	:	100.0

(1) With Germany in its territorial boundaries before 03 October 1990.

(2) With Germany in its territorial boundaries after 03 October 1990 i.e. including the five new "Länder".

(3) From 1986 onwards there are revised data for Portugal which also include the Azores and Madeira.

When comparing the trends in ECU and PPS, it should be borne in mind that currency movements in the period under review can considerably affect the results shown. Additionally, results for a Member State are always relative to the average at the European Union level. Therefore, for example, even if net value added at factor cost per AWU increases in a given year for a given Member State, but does so at a slower rate than the European Union average, the result will be a decline in the PPS or ECU level for that year and that Member State. For these reasons, among others, the trends in Indicator 1 may be significantly different from those presented here.

Comparative analysis of these income developments are restricted here to the PPS measure. The widely disparate development of incomes for 1998 between some Member States has in some cases altered the long-term trends and in others accentuated it. However, it is clear that there have been substantial improvements in relative levels for Spain and Ireland, and significant declines in Sweden, the Netherlands, Belgium, the United Kingdom and Italy. The broad conclusion to be drawn from the long term picture is that differences in Member States relative incomes are reducing over time.

Among the Member States above the European Union average in "1997", the following, more precise, developments in their relative income levels have been noted:

- In **Denmark**, there was a sharp decline in relative income levels from a peak in "1985" through until "1993", since when the gap with the EU-15 average has once again widened;

- The difference between the level of income from agricultural activity in the **Netherlands** and the average for the European Union has shrunk steadily and markedly, from a peak in "1985" when it was 130% greater than the average to 60% greater in "1997";
- Like the Netherlands, in **Belgium** there has been a sharp narrowing of the income from agricultural activity differential with the EU-15 average over time. At the start of the reference period, agricultural income levels in Belgium were double the EU average. Now, they are an average 50% higher;
- There has been a small and progressive widening of the difference between the average income from agricultural activity in **France** and that of the European Union as a whole;
- The difference between average income from agricultural activity in **Luxembourg** and in the EU-15 was similar (at about 20% above) at both ends of the reference period, although there had been steady widening until "1989" (up to 40% difference);
- Average income from agricultural activity for **Spain** was about 15% lower than the European Union average in "1981", but a faster rate of increase in Spain over the period has resulted in income levels about 20% higher than the EU-15 average in "1997".
- The difference between average income from agricultural activity in the **United Kingdom** and in the EU-15 has narrowed over time. Although agricultural income grew faster than the EU-15 average in 1992, 1993 and 1995, the declines for 1996 and particularly 1997 and 1998 have reinforced the long-term trend of narrowing disparity;
- Average income from agricultural activity in **Germany** has remained between the European Union average and 10% lower than the average for the whole of the period.;

Among the Member States which are below the European Union average in "1997":

- The relative income situations of **Greece** and **Ireland** have improved considerably over the reference period. Agricultural income in Greece is now close to the European Union average having been around 10– 15% lower at the start of the review period, and in Ireland has narrowed from being about 40% lower to about 20% lower;
- There has been a sharp decline in average income from agricultural activity in **Italy** compared to the average for the European Union as a whole. Incomes that were above average in the early 1980s were about 20% below average in "1997";
- Although the three newest Member States were outside the European Union for all but the last four years of the reference period, and thus subject to separate national agricultural policies, it is clear that incomes from agricultural activity were generally lower than for most of the other countries in the European Union. In both **Austria** and **Finland**, agricultural incomes improved relative to the average in the European Union (although still below it) until the start of the 1990s. However, in "1997" incomes were back down to the relative levels of "1981" and "1983" respectively. In contrast, there has been a dramatic decline in relative income for **Sweden**; similar to the EU–15 average at the start of the period dropping to 50% below by the end of the period;
- Finally, the average income from agricultural activity in **Portugal** (including the islands of Madeira and Azores) has increased faster than the average for EU-15. Although there has been a narrowing of the difference, from 30% to 40% of the EU-15 average, levels of income from agricultural activity in Portugal remain low compared to all the other Member States.

ANNEXES

- I Notes on methodology**
- II Detailed tables**

I. Notes on methodology

A.1. Income indicators

The estimates of the agricultural income indicators are based on the Economic Accounts for Agriculture ⁽³²⁾ (EAA), which were established in the framework of the European System of Integrated Economic Accounts (ESA). The three Indicators are derived as follows:

Final output				
Intermediate consumption	Gross value added at market prices			Subsidies
	Taxes linked to production	Gross value added at factor cost		
		Depreciation	Net value added at factor cost	
			Rents Interest	Net income from the agricultural activity of total labour input
			Compensation of employees	Net income from the agricultural activity of family labour
				Deflated, divided by AWU (total labour input)
				Deflated, divided by AWU (total labour input)
				Deflated, divided by AWU (family labour input)
				INDICATOR 1
				INDICATOR 2
				INDICATOR 3

The data cover the **branch** "Products of Agriculture and Hunting" which includes all **agricultural output** (defined according to a list of products) resulting from a main or secondary activity, but excludes non-agricultural secondary activities of agricultural holdings. They therefore do not refer to the economic sector "Agriculture", which may be taken to be the total of economic activities of agricultural holdings. Nor are the aggregates and income indicators used in Chapters 2 to 6 of this publication indicative of the total income or disposable income of households engaged in agriculture, since these may receive income from sources other than agriculture (non-agricultural activities, wages or salaries, social benefits, property income). In other words, **income from agricultural activity** as described and analysed in this report must not be regarded as farmers' income ⁽³³⁾.

It should also be noted that the concept used for assessing production, on which value added and income aggregates naturally depend, is that of **final output**. This does not include, in particular, seeds and animal feedingstuffs produced by the agricultural branch and used directly by it. However, this does not affect the resulting measures of value added or the income indicators since the measurement of intermediate consumption likewise excludes the corresponding consumption of these items.

This concept of final output, and the income aggregates to which it leads, may differ in some cases from those used in the calculations and estimates made by the Member States for their own purposes. For example, some Member States use the concept of "deliveries", which implies inclusion of the output supplied in the course of the year (either sold or used for own consumption) even if it was produced in a previous year; the income indicator resulting from it therefore measures the income actually received during the year. The concept of final output, by contrast, is used for measuring **income generated by the year's output**, even if the corresponding payments are not received until later in some cases; this result is obtained by summing to sales and own-consumption additions to stocks and own-account produced fixed capital goods, and deducting from them withdrawals from stocks. It should also be noted that the income indicators in this report

⁽³²⁾ cf. Eurostat: "Manual on Economic Accounts for Agriculture and Forestry", Theme 5, Series E, Luxembourg 1989 (and Addendum, 1992), and "Economic Accounts for Agriculture and Forestry" 1992-1997, Theme 5, Series C, Luxembourg 1998.

⁽³³⁾ For further information on this, see footnote 6 in the Introduction.

relate to **calendar years**, which goes some way to explain the differences between these figures and those in a number of national publications, which are based on the farm year. Other variances may result from a different list of the deductions operated on the value of output in order to calculate income.

Finally, since harmonisation of the absolute values of income indicators is not yet completed between Member States, the data and analyses of this report are mainly expressions of **annual changes**.

For **Indicator 3** (net income from the agricultural activity of family labour input), this report (as in previous years) gives data only for 14 Member States of the European Union and EU-14 (EU-15 excluding Germany). This is because, since reunification, data on the compensation of employees in Germany have not been available on a basis that is comparable with the other Member States. Owing to the high proportion of holdings in the new *Länder* which are organised as co-operatives or in some other way in the form of a legal person, the distinction between family and non-family labour in Germany is of only limited informative value. In a co-operative, by contrast to a family-run holding, the item compensation of employees includes remuneration paid for the labour input of members, i.e. the owners. Similarly, managerial remuneration is often posted in the accounts of family holdings under profit, whereas co-operatives with hired managerial staff include this item in the compensation of employees.

A.2. Agricultural labour input

The volume of labour is calculated on the basis of **annual work units (AWUs)**, to reflect the role of part-time and seasonal work in agriculture. An AWU is equivalent to the time worked by one person employed full-time in agricultural activities on a holding over a whole year ⁽³⁴⁾. A distinction is made between family AWUs (the holder and members of his family working on the holding) and non-family AWUs (paid workers not belonging to the holder's family), the two added together constituting the total AWUs.

The data published and used in this report for calculating the agricultural income indicators are based on the absolute number of AWUs and annual rates of change in these series. Harmonisation of time series at European Union level is not yet quite complete, especially as far as the definition of an AWU in hours worked per year is concerned. Furthermore, for some Member States the results have been estimated partly or totally by Eurostat in the absence of complete national data ⁽³⁵⁾.

A.3. Aggregation of European Union data

Indices and rates of change for the European Union as a whole (EU-15, unless otherwise stated) can be calculated as weighted averages of national indices or rates of change, or calculated directly from European Union aggregates resulting from conversion of national data into ECUs (or PPSs). In both cases, a base year has to be chosen: the one used for establishing the different countries' share in the calculation of European Union averages, or the one taken for the exchange rates used for calculating aggregates.

In this report, the calculations for the short-term (changes in 1998 compared with 1997) and long-term (trends from 1980 to 1998) sections are based on slightly different methods and on different base years.

For the **short-term section** (Chapters 2 and 3, and Tables A.4. to A.8. of Annex II), the rates of change in the volumes and nominal or real values of the European Union for 1998 compared with 1997 have been calculated as **weighted averages** of the corresponding rates of change estimated in the Member States. The weighted coefficients have been calculated from **EAA data for 1997**, converted into ECUs at **1997 exchange rates**; clearly, these coefficients are specific to each item. Rates of change in nominal or real prices have been calculated from those of values and volumes. All in all, this method, which is based on 1997, appears the most logical for short-term analysis and the most consistent with that used in the Member States for calculating rates of change in volumes and prices in 1998 for mixed product groups.

⁽³⁴⁾ cf. Eurostat: *Structure of Agricultural Holdings - Community Survey Methodology*, Theme 5, Series E, Luxembourg 1986 (p. 21).

⁽³⁵⁾ The countries concerned are Denmark (1973-1980), Spain (1973-1997), Ireland (1973-1990), Portugal (1973-1978) and Finland (1979-1997).

For the **long-term section** (Chapters 4 and 5 and Tables A.9. et seq. of Annex II), income indices and rates of change in volumes and values for the European Union have been calculated from **European Union aggregates expressed in ECUs at constant 1990 exchange rates**; for real values, **the deflators are also based on 1990 = 100**. The indices and rates of change in prices are calculated from the corresponding values and volumes. This method based on 1990 appears the most logical one for describing and analysing trends for the whole of the period 1980-1998. For consistency, the EAA uses 1990 constant prices in the calculation of indices and changes in the volume and price for each Member State. It should also be noted that indices (especially the three agricultural income indicators) are expressed with reference to the base "1990" = 100 ⁽³⁶⁾.

A.4. Calculation of deflated series

For each Member State, **indices and changes in the prices and values in real terms** of different products, aggregates and indicators are obtained by deflating the corresponding nominal figures with the **implicit price index of gross domestic product at market prices**. For the long-term series, a GDP price index with the base 1990 = 100 is used. For short-term changes (1998 compared with 1997), forecasts of this index for 1998 were supplied by the Commission's Directorate-General for Economic and Financial Affairs (DG II).

There are a number of important points in favour of using this deflator, such as its reliability and comparability. The GDP implicit price index is an indicator of trends in the general level of prices of all goods produced and all services rendered in an economy. The price index of national final "uses" could also be used as a deflator. Unlike the GDP price index, it also directly takes account of the effect of external trade and thus reacts faster and less ambiguously to price changes for imports (e.g. energy price changes). However, to ensure comparability with other Commission publications, it was decided not to introduce a new deflator.

Real values for the European Union as a whole are calculated by deflating each Member State's nominal figures (at current prices) with the GDP implicit price index of the country concerned and converting the results into ECUs (at 1990 exchange rates for the long-term and 1997 exchange rates for the short-term as indicated above). The results are then added together to give real values for the European Union. These aggregates, in real terms, are used for calculating indices and rates of change for EU-15, and thus there is no need for a "European Union deflator". In particular, it is the European Union income aggregates in this deflated form expressed in 1990 ECUs, that are set against the number of annual work units in the European Union as a whole in order to calculate the trend in the income indicators since 1973 for EU-11 (EU-12 excluding Portugal) and since 1980 for EU-15 (and EUR-11). As an example, the following algorithm is used to calculate Indicator 1 for the European Union:

$$IND1_{EU,t} = \frac{\sum_i \frac{NVA_{i,t}}{PGDP_{i,t} \times ER_{i,90}}}{\sum_i TLI_{i,t}},$$

where: IND 1 = Indicator 1 (in ECUs per AWU);
 NVA = Net Value Added at factor cost for agriculture (in national currency);
 PGDP = Implicit Price index of Gross Domestic Product at market prices (1990=100);
 ER = Exchange Rate (1ECU = ...N.C.);
 TLI = Total Labour Input of agriculture (in AWU's);
 i = Member State (B...UK);
 t = Year (1973...1998).

This method renders unnecessary the calculation of a deflator for the European Union as a whole and therefore none is given in this publication. However, it should be noted that the "average rate of inflation for

⁽³⁶⁾ It should be recalled that "1990" throughout this report means (1989+1990+1991)/3. This base "year" corresponds to the averages of three years so that the impact of short-term fluctuations is reduced.

the European Union" which could be derived from the above-mentioned real values (a rate which would in fact differ according to the product or aggregate chosen for calculating it) would not correspond to the figures in the Commission's other publications for the average change in the implicit price index of gross domestic product in the European Union (as this rate of change is generally calculated from each Member State's share in the European Union's GDP expressed in PPS).

II. Detailed tables

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II DETAILED TABLES

Table A.1.

Agriculture in the economy : share of gross value added at market prices of agriculture in gross domestic product at market prices (in %) ⁽¹⁾ ⁽²⁾

	1973	1980	1985	1990	1994	1995	1996	1997
B	3.6	2.1	2.1	1.8	1.4	1.2	1.1	1.1
DK	5.6	4.1	4.2	3.7	2.4	2.6	2.5	2.3
D	2.5	1.6	1.4	1.1	0.8	0.8	0.8	0.8
EL	13.5	12.0	12.0	8.7	7.8	7.2	6.1	5.9
E	9.0	6.0	5.2	4.0	3.2	3.0	3.6	3.3
F	6.1	3.8	3.4	2.9	2.0	2.0	2.0	1.9
IRL	15.8	10.2	8.3	6.8	5.1	4.7	4.1	3.4
I	7.3	5.6	4.2	3.0	2.7	2.7	2.7	2.5
L	3.5	2.1	2.0	1.5	0.8	0.9	0.8	0.7
NL	4.8	3.3	3.9	3.8	3.1	2.9	2.7	2.6
A	:	3.1	2.6	2.4	1.8	1.1	1.0	0.9
P	:	6.3	5.1	4.8	2.9	2.8	2.9	2.4
FIN	:	3.8	3.5	2.6	2.3	0.8	0.8	0.7
S	:	1.7	1.5	1.1	0.7	0.6	0.5	0.5
UK	2.3	1.7	1.3	1.1	1.0	1.0	0.8	0.6
EUR-11	:	:	:	:	1.9	1.8	1.8	1.7
EU-15	:	3.3	2.9	2.4	1.8	1.7	1.7	1.6

⁽¹⁾ From 1991 onwards, with Germany in its boundaries after 3 October 1990.

⁽²⁾ For the then members of the EC, the phased reform of the Common Agricultural Policy in the early 1990s (comprising a change in the system of support away from prices towards direct compensatory payments) is one of the main reasons for the differences between the years 1990 and 1994.

Source: Eurostat B-2 (National Accounts), Eurostat F-1 (Economic Accounts for Agriculture)

Table A.2.

Agriculture in the economy : agricultural employment as share of total employment (in %) ⁽¹⁾

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
B	3.3	3.5	3.5	3.1	3.1	3.1	3.2	3.1	2.6	2.8	2.6	2.8	2.6	2.7	2.6
DK	6.6	6.0	6.0	5.3	5.2	5.2	5.0	5.1	5.1	4.8	4.7	4.6	4.0	3.5	3.5
D	5.6	5.1	4.9	4.8	4.5	4.3	3.7	3.6	4.0	3.5	3.3	3.1	3.0	2.7	2.8
EL	29.1	28.6	28.0	27.7	26.2	25.8	24.6	23.2	21.4	21.2	20.6	20.3	19.8	19.7	19.3
E	:	:	:	15.0	14.1	13.2	12.1	10.9	9.9	9.2	9.2	9.0	8.5	7.9	7.6
F	8.0	8.3	7.8	7.3	7.2	6.9	6.6	6.0	5.7	5.5	5.1	4.8	4.5	4.5	4.3
IRL	16.9	16.4	15.7	15.4	15.2	15.1	14.9	14.6	13.3	13.0	12.2	11.7	11.1	10.4	10.0
I	:	:	:	:	:	:	:	:	:	8.4	7.4	7.2	7.0	6.2	6.1
L	4.7	4.5	4.4	3.6	3.3	3.5	3.8	3.7	3.4	6.2	3.0	3.0	3.7	2.5	2.3
NL	5.4	:	5.1	:	4.9	4.7	4.6	4.6	4.2	3.6	3.9	3.8	3.7	3.5	3.4
A	:	:	:	:	:	:	:	:	:	:	:	:	7.0	7.2	6.6
P	:	:	:	20.2	21.0	20.0	18.1	17.0	16.5	10.9	10.9	11.2	10.9	11.5	12.6
FIN	:	:	:	:	:	:	:	:	:	:	:	:	6.7	6.7	6.3
S	:	:	:	:	:	:	:	:	:	:	:	:	2.5	2.4	2.4
UK	2.4	2.4	2.2	2.0	2.2	2.2	2.1	2.0	2.1	2.1	1.9	1.9	1.9	1.8	1.7
EUR-11	:	:	:	:	:	:	:	:	:	:	:	:	5.2	5.0	4.9
EU-15	:	:	:	:	:	:	:	:	:	:	:	:	4.9	4.7	4.6

⁽¹⁾ From 1991 onwards, with Germany in its boundaries after 3 October 1990.

Source: Eurostat E-1 (Labour force survey)

Table A.3.

Economic accounts for agriculture in 1997
at current prices and current exchange rates (mio Ecu)

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	2 352	1 891	13 102	6 237	15 509	24 450	548	20 930	28	8 060	1 232	1 942	693	1 019	6 935	88 847	104 929
	Cereals	222	787	3 573	529	2 150	6 752	168	2 428	9	155	194	147	249	354	2 637	16 049	20 356
	Potatoes	184	99	652	228	371	812	54	394	3	519	43	157	80	99	532	3 268	4 227
	Sugarbeet	323	151	1 299	203	415	1 291	75	713	-	356	139	62	66	130	433	4 739	5 657
	Industrial crops	45	70	719	1 254	714	1 471	:	699	1	7	65	27	21	29	384	3 768	5 506
	Oilseeds and oleaginous fruit (excluding olives)	4	53	585	7	300	1 304	:	371	:	3	57	8	21	29	353	2 654	3 096
	Fresh vegetables	780	130	1 231	1 121	3 486	3 023	170	5 182	1	2 034	124	434	107	131	1 512	16 571	19 466
	Fruit (fresh fruit, citrus fruit, tropical fruit and oranges)	303	29	1 473	991	3 520	1 747	10	3 561	3	348	226	489	32	37	256	11 711	13 024
	Grape must and wine	-	-	1 282	151	1 393	6 550	-	3 094	10	-	204	347	-	-	-	12 880	13 031
	Olive oil	-	-	-	1 103	1 903	-	-	1 676	-	-	-	112	-	-	-	3 690	4 794
	Flowers and ornamentals	232	359	1 675	105	500	964	:	1 888	:	1 792	106	:	90	151	468	7 248	8 330
+	Final animal output	4 222	4 962	19 723	2 577	11 156	22 584	3 887	13 671	147	8 172	2 379	2 326	1 611	2 317	12 434	89 879	112 169
	Animals	3 070	3 382	10 427	1 421	8 333	14 109	2 355	8 430	64	4 197	1 455	1 658	538	1 089	7 144	54 639	67 675
	Cattle (including calves)	861	387	3 441	232	1 718	5 732	1 462	3 103	42	1 422	525	313	212	318	1 723	18 831	21 491
	Pigs	1 776	2 510	5 795	295	3 800	3 651	340	2 410	21	1 958	782	802	255	513	1 723	21 591	26 633
	Sheep and goats	7	5	161	616	1 220	558	262	227	:	72	25	291	2	8	1 327	2 826	4 782
	Poultry	358	176	900	254	1 234	3 686	174	1 900	0	708	115	187	58	89	2 155	9 321	11 995
	Animal products	1 152	1 580	9 296	1 156	2 823	8 475	1 532	5 241	83	3 975	923	668	1 079	1 228	5 290	35 247	44 500
	Milk	936	1 494	8 143	902	2 009	7 596	1 493	4 268	81	3 432	755	583	821	1 121	4 597	30 116	38 230
	Eggs	189	82	1 057	195	703	793	26	940	2	464	103	71	41	98	619	4 389	5 382
=	Final output	6 592	6 853	32 841	8 815	26 853	46 953	4 435	35 081	176	16 233	3 611	4 347	2 304	3 336	19 369	179 426	217 799
	Seeds and seedlings	257	121	839	106	340	2 125	73	552	4	451	71	:	28	136	475	4 742	5 580
	Energy and lubricants	326	214	2 903	822	887	1 852	294	1 581	8	925	313	286	188	359	925	9 562	11 882
	Fertilizers and soil improvers	205	242	1 452	198	898	2 838	346	913	11	281	132	:	209	197	1 443	7 285	9 365
	Plant protection products and pharmaceutical products	237	145	1 064	253	897	2 740	173	731	5	168	88	312	66	78	1 160	6 480	8 116
	Feedingstuffs	2 011	1 714	4 925	552	4 688	8 098	789	4 620	23	3 539	398	949	500	724	3 766	30 542	37 298
	Materials and small tools, maintenance and repairs	402	708	2 711	368	1 879	2 549	215	:	10	1 107	383	208	229	571	1 562	9 692	12 901
	Services	331	481	3 709	58	703	2 811	164	845	:	1 325	20	194	250	346	2 917	10 351	14 154
-	Intermediate consumption	4 251	3 625	18 096	2 559	11 410	23 588	2 207	9 865	84	8 143	1 883	2 190	1 551	2 412	12 537	83 268	104 401

Table A.3. (continued)

Economic accounts for agriculture in 1997
at current prices and current exchange rates (mio Ecu)

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
=	Gross value added at market prices	2 341	3 229	14 746	6 256	15 443	23 365	2 228	25 216	92	8 090	1 728	2 157	752	924	6 832	96 158	113 398
+	Subsidies	401	776	5 474	2 104	4 173	7 633	1 258	5 093	45	1 403	1 468	440	1 746	756	3 951	29 134	36 720
-	Taxes linked to production	74	100	582	290	119	1 249	31	480	2	458	176	33	9	44	165	3 215	3 812
=	Gross value added at factor cost	2 668	3 905	19 637	8 070	19 496	29 750	3 455	29 829	136	9 035	3 020	2 563	2 489	1 635	10 618	122 077	146 306
-	Depreciation	616	1 006	7 112	463	2 229	4 951	584	9 102	37	2 263	1 359	143	585	737	2 888	28 979	34 072
=	Net value added at factor cost	2 052	2 899	12 526	7 608	17 267	24 799	2 872	20 727	99	6 772	1 661	2 421	1 903	898	7 730	93 099	112 234
-	Rent and other payments in cash or in kind	143	178	1 405	282	723	1 469	1	278	10	243	101	61	65	131	256	4 498	5 344
-	Interest	441	1 016	2 123	404	878	1 730	244	1 150	9	975	141	227	196	336	885	8 116	10 756
=	Net income from agricultural activity of total labour input	1 468	1 706	8 997	6 922	15 665	21 600	2 626	19 300	79	5 554	1 419	2 133	1 643	432	6 589	80 485	96 133
-	Compensation of employees	247	494	:	486	2 602	4 614	258	6 730	6	1 542	340	628	263	260	2 766	:	:
=	Net income from agricultural activity of family labour input	1 221	1 211	:	6 436	13 063	16 986	2 368	12 570	73	4 012	1 079	1 505	1 380	172	3 823	:	:

Table A.4.

Percentage change in volume of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	-2.8	-0.4	6.2	2.2	3.7	0.8	-5.4	3.1	42.5	-0.7	11.2	-20.0	-22.4	-1.6	-1.7	1.9	1.6
	Cereals	7.4	-2.3	-3.0	3.6	20.8	8.8	-14.2	8.1	-9.2	2.2	-5.6	-15.6	-33.5	-2.3	-0.2	6.3	4.9
	Potatoes	-13.0	1.2	-7.6	-4.5	-1.6	-7.1	-8.6	7.9	-6.7	-20.0	-1.9	9.6	-19.6	-2.0	-8.6	-6.6	-6.5
	Sugarbeet	-15.0	1.5	4.6	-36.4	1.5	-7.5	5.2	-4.0	-	-17.0	4.7	20.4	-34.2	-1.5	-11.6	-3.5	-5.2
	Industrial crops	-2.5	14.1	14.9	10.1	-12.2	0.2	:	3.5	15.5	-9.3	12.3	4.3	-31.4	-1.2	-5.9	1.3	2.9
	Oilseeds and oleaginous fruit (excluding olives)	8.7	14.1	17.6	39.7	-20.1	-0.3	:	7.4	:	4.0	14.4	14.0	-31.4	-1.2	-3.8	2.6	2.1
	Fresh vegetables	-4.0	-9.4	0.9	2.9	8.6	2.1	0.4	1.7	-10.5	-1.1	2.0	-8.2	-13.4	-3.4	-3.7	2.2	1.7
	Fruit (fresh fruit, citrus fruit, tropical fruit and grapes)	6.9	-16.2	12.1	3.9	-3.8	-14.5	18.7	10.3	63.0	4.0	-1.9	-37.6	-13.1	0.0	25.2	0.0	0.8
	Grape must and wine	-	-	39.2	-3.5	-12.6	-1.1	-	12.6	112.9	-	60.6	-39.0	-	-	-	5.0	4.9
	Olive oil	-	-	-	2.2	13.2	-	-	-21.2	-	-	-	-25.2	-	-	-	-3.6	-2.2
	Flowers and ornamentals	0.0	2.9	-1.1	0.0	0.0	1.0	:	-1.6	:	0.5	:	:	-0.9	0.0	1.5	-0.3	-0.1
+	Final animal output	1.5	4.4	1.3	-1.2	2.5	-0.2	0.2	-0.1	0.3	9.7	3.1	0.1	1.0	-0.6	-0.5	1.6	1.4
	Animals	0.6	6.2	2.7	-3.6	4.0	-0.2	1.8	-1.0	-0.3	17.9	4.4	-0.3	1.0	-1.2	-0.2	2.5	2.2
	Cattle (including calves)	-12.0	-7.9	-3.5	-0.8	3.2	-5.5	1.7	-1.7	0.8	-4.1	2.4	-22.9	-5.7	-5.1	-3.2	-3.4	-3.5
	Pigs	5.0	8.0	6.3	-1.7	7.6	6.0	9.1	-2.2	-3.0	40.0	6.5	7.3	2.8	0.3	-0.1	8.5	7.6
	Sheep and goats	-0.7	:	-1.1	-1.6	-1.0	-3.0	0.1	0.5	:	4.0	1.8	-6.4	-11.1	0.8	3.5	-1.6	-0.2
	Poultry	9.4	2.8	4.9	-14.3	-0.3	2.3	-1.4	1.1	19.5	2.5	-0.7	11.0	15.8	1.8	-0.2	2.4	1.6
	Animal products	3.7	0.6	-0.3	1.8	-1.8	-0.2	-2.2	1.4	0.8	1.1	0.9	1.0	0.4	-0.1	-0.9	0.1	0.1
	Milk	0.0	0.8	-0.6	2.9	-1.2	-0.5	-2.3	1.7	0.8	1.0	-0.4	0.1	-0.4	0.1	-1.5	-0.1	-0.2
	Eggs	22.6	-2.8	-0.3	-3.0	-3.8	2.0	1.9	0.1	1.4	2.0	-1.2	8.3	-4.8	-1.8	2.5	1.0	0.9
=	Final output	-0.3	3.1	3.2	1.2	3.2	0.3	-0.5	1.8	6.8	4.6	5.8	-9.1	-6.1	-0.9	-1.0	1.7	1.5
	Seeds and seedlings	0.6	-7.5	-0.5	-3.8	-5.5	1.6	16.5	-1.0	1.4	-2.0	2.2	:	-0.8	0.4	-2.4	0.2	-0.2
	Energy and lubricants	0.0	0.0	-0.5	1.9	-5.5	1.0	8.8	-0.4	5.7	-3.0	-2.4	-18.4	-2.9	-1.0	1.2	-1.2	-0.8
	Fertilizers and soil improvers	0.6	0.0	-0.5	0.0	5.1	-2.0	6.8	-0.3	-3.4	4.0	-3.1	:	0.5	-1.4	2.1	0.2	0.4
	Plant protection products and pharmaceutical products	-1.0	-3.6	-0.5	1.5	-2.2	6.5	16.1	0.9	1.0	9.0	2.4	5.1	-0.3	0.3	1.7	3.4	2.9
	Feedingstuffs	4.0	2.8	0.0	4.6	3.5	2.5	14.8	-0.9	2.6	-3.5	-13.0	2.0	5.7	4.4	1.7	1.3	1.5
	Materials and small tools, maintenance and repairs	0.0	-2.7	0.0	1.4	6.2	3.0	3.1	:	0.3	-2.0	1.9	4.9	-1.1	-1.4	-3.1	2.0	0.9
	Services	0.0	-2.7	0.5	0.5	4.5	2.0	6.6	1.2	:	0.0	1.0	0.8	-2.4	1.8	-0.7	1.2	0.7
-	Intermediate consumption	2.0	0.0	-0.1	2.0	2.0	2.2	11.7	-0.4	0.2	-1.9	-0.9	-0.9	0.8	1.1	0.6	1.0	1.0

Table A.5.
Percentage change in nominal prices of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	9.3	0.2	-1.5	-2.3	-0.7	0.3	7.9	0.4	-10.1	3.0	-3.9	16.1	2.3	0.3	2.4	0.6	0.6
	Cereals	-12.3	-6.9	-6.3	0.6	-6.1	-8.7	0.9	-2.4	-9.7	-8.1	2.9	-5.5	-2.4	-6.8	-15.9	-6.6	-7.6
	Potatoes	130.0	0.4	47.6	14.1	19.6	36.9	66.7	8.2	-0.7	45.0	10.3	33.5	10.1	22.0	85.3	38.2	41.3
	Sugarbeet	1.0	-2.5	-4.4	-9.0	3.3	2.1	-1.0	-5.0	-	9.0	-15.4	-11.7	10.3	3.4	3.5	-1.2	-0.9
	Industrial crops	0.0	7.5	2.0	-4.8	10.3	2.4	-	-0.7	1.6	-4.0	-3.4	3.8	-5.0	5.3	5.8	2.8	1.2
	Oilseeds and oleaginous fruit (excluding olives)	0.0	5.5	3.0	4.0	20.2	2.5	-	-9.9	-	-4.0	-3.4	1.1	-5.0	5.3	6.1	2.2	2.7
	Fresh vegetables	5.0	19.1	6.7	-2.0	2.3	-0.8	2.9	1.6	35.2	-4.5	1.0	1.3	3.6	0.0	9.1	1.1	1.7
	Fruit (fresh fruit, citrus fruit, tropical fruit and grapes)	-4.4	9.0	6.0	1.7	4.6	9.0	19.4	1.8	-39.5	-7.0	1.3	26.4	12.2	0.0	6.0	4.3	4.2
	Grape must and wine	-	-	-25.0	7.0	7.6	8.1	-	5.4	-7.3	-	-10.7	55.9	-	-	-	3.3	3.3
	Olive oil	-	-	-	-9.2	-22.5	-	-	-11.8	-	-	-	-13.6	-	-	-	-18.3	-16.1
	Flowers and ornamentals	1.0	7.1	3.0	9.8	11.1	-2.1	-	2.0	-	4.7	-	-	0.9	0.0	-0.7	2.9	2.9
+	Final animal output	-12.4	-16.5	-7.8	3.6	-7.8	-3.8	-2.4	-2.0	-0.7	-9.8	-7.9	-10.6	-1.2	-3.7	-14.6	-6.1	-7.2
	Animals	-16.2	-23.8	-17.3	-0.5	-11.0	-6.1	-6.0	-1.3	-4.6	-19.5	-13.1	-14.7	-1.9	-8.3	-16.9	-10.4	-11.5
	Cattle (including calves)	12.5	1.3	3.1	4.0	4.6	5.9	-2.1	5.4	6.6	6.6	3.6	6.5	6.8	7.3	-12.4	4.8	3.4
	Pigs	-29.0	-27.6	-31.0	-10.1	-20.7	-26.3	-20.1	-8.0	-28.4	-36.0	-26.1	-25.4	-9.9	-21.8	-27.0	-25.7	-25.8
	Sheep and goats	-4.4	-	-4.0	1.3	-12.1	-8.4	-17.1	-1.9	-	-14.0	5.2	-11.3	11.5	2.1	-23.2	-10.3	-12.5
	Poultry	-14.0	-4.2	-5.0	2.8	-4.3	-3.0	-5.5	-2.8	7.1	-8.0	-2.0	-4.6	3.1	1.1	-9.8	-4.2	-5.0
	Animal products	-2.6	0.0	3.2	8.4	2.2	0.1	3.2	-3.3	2.3	2.2	0.4	-0.7	-0.9	0.3	-11.5	0.8	-0.5
	Milk	2.3	0.0	4.8	8.7	4.8	1.3	3.7	-3.6	2.4	5.0	2.4	0.5	0.7	0.3	-11.7	2.3	0.7
	Eggs	-23.0	0.7	-9.0	6.6	-4.8	-11.0	-4.1	-1.2	-1.0	-18.0	-9.9	-10.4	7.4	-0.2	-8.8	-8.6	-7.8
=	Final output	-4.6	-12.1	-5.2	-0.6	-3.6	-1.6	-1.2	-0.4	-2.6	-3.7	-6.5	0.1	-0.2	-2.5	-8.5	-2.7	-3.4
	Seeds and seedlings	6.5	0.8	1.0	1.9	9.7	-6.0	6.5	1.7	1.7	6.0	-0.2	-	-2.6	1.6	-2.4	-0.7	-0.7
	Energy and lubricants	-11.9	-3.4	-7.0	-4.5	-2.2	-12.5	-2.4	-1.3	-4.1	-1.0	-0.1	-9.1	-7.6	-2.9	-6.1	-6.0	-5.8
	Fertilizers and soil improvers	-1.5	-0.6	-4.0	2.5	-3.9	-1.0	-5.2	-1.1	-0.8	-5.0	-9.2	-	-2.7	-1.3	-19.6	-2.6	-5.0
	Plant protection products and pharmaceutical products	0.1	0.2	-3.0	5.4	6.8	0.1	-10.9	0.4	0.1	0.0	0.6	-2.7	0.4	-4.7	-5.6	0.1	-0.6
	Feedingstuffs	-8.9	-5.1	-10.0	2.0	-3.1	-8.5	-4.5	-2.2	1.2	-6.0	0.0	-4.5	-3.5	-7.7	-16.0	-6.3	-7.1
	Materials and small tools, maintenance and repairs	2.4	-7.4	2.0	7.1	2.0	1.0	1.9	-	-1.0	2.0	-0.4	2.6	2.9	1.8	0.7	1.7	1.2
	Services	1.0	2.1	1.0	0.7	5.1	1.0	-5.5	2.4	-	2.0	1.9	2.7	-1.4	2.7	0.5	1.4	1.3
-	Intermediate consumption	-5.1	-3.8	-3.9	1.0	-0.2	-4.3	-4.5	-0.8	0.2	-1.6	-2.2	-2.8	-2.3	-2.2	-8.3	-2.9	-3.5

Table A.6.

Percentage change in real prices of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	7.7	-1.8	-2.4	-7.4	-3.0	-0.7	4.4	-1.9	-11.9	1.1	-5.0	12.0	0.8	-1.2	-0.3	-1.1	-1.4
	Cereals	-13.6	-8.8	-7.1	-4.7	-8.3	-9.6	-2.4	-4.7	-11.6	-9.8	1.8	-8.9	-3.9	-8.2	-18.2	-7.9	-9.2
	Potatoes	126.6	-1.6	46.3	8.2	16.8	35.6	61.3	5.6	-2.8	42.3	9.1	28.7	8.5	20.2	80.2	36.0	38.6
	Sugarbeet	-0.5	-4.5	-5.2	-13.8	0.9	1.0	-4.3	-7.2	-	7.0	-16.3	-14.9	8.6	1.9	0.6	-2.6	-2.6
	Industrial crops	-1.5	5.3	1.1	-9.8	7.7	1.4	-	-3.0	-0.5	-5.8	-4.5	0.1	-6.4	3.7	3.0	1.3	-1.2
	Oilseeds and oleaginous fruit (excluding olives)	-1.5	3.4	2.1	-1.4	17.3	1.5	-	-12.0	-	-5.8	-4.5	-2.5	-6.4	3.7	3.2	0.9	1.2
	Fresh vegetables	3.5	16.6	5.7	-7.1	-0.1	-1.7	-0.5	-0.8	32.4	-6.3	-0.1	-2.3	2.1	-1.5	6.2	-0.8	-0.6
	Fruit (fresh fruit, citrus fruit, tropical fruit and arables)	-5.8	6.8	5.1	-3.6	2.1	7.9	15.5	-0.6	-40.7	-8.7	0.2	21.9	10.6	-1.5	3.1	2.3	1.9
	Grape must and wine	-	-	-25.7	1.5	5.1	7.0	-	2.9	-9.2	-	-11.7	50.3	-	-	-	1.7	1.7
	Olive oil	-	-	-	-13.9	-24.3	-	-	-13.9	-	-	-	-16.7	-	-	-	-20.3	-18.7
	Flowers and ornamentals	-0.5	4.9	2.0	4.1	8.5	-3.0	-	-0.4	-	2.7	-	-	-0.5	-1.5	-3.4	1.2	1.1
+	Final animal output	-13.7	-18.2	-8.6	-1.8	-9.9	-4.7	-5.6	-4.3	-2.7	-11.4	-8.9	-13.8	-2.6	-5.1	-16.9	-7.6	-8.9
	Animals	-17.5	-25.4	-18.1	-5.7	-13.1	-7.0	-9.1	-3.6	-6.6	-21.0	-14.0	-17.7	-3.3	-9.6	-19.1	-11.9	-13.2
	Cattle (including calves)	10.8	-0.8	2.2	-1.4	2.2	4.8	-5.3	2.9	4.4	4.6	2.5	2.7	5.2	5.7	-14.8	3.1	1.6
	Pigs	-30.0	-29.0	-31.6	-14.8	-22.6	-27.0	-22.8	-10.1	-29.9	-37.2	-26.9	-28.0	-11.3	-23.0	-29.0	-27.0	-27.1
	Sheep and goats	-5.8	-	-4.9	-4.0	-14.2	-9.3	-19.8	-4.2	-	-15.6	4.1	-14.5	9.8	0.6	-25.3	-12.2	-14.9
	Poultry	-15.3	-6.2	-5.8	-2.6	-6.5	-4.0	-8.6	-5.0	4.9	-9.7	-3.1	-8.0	1.6	-0.4	-12.2	-5.7	-6.8
	Animal products	-4.1	-2.0	2.3	2.8	-0.2	-0.9	-0.2	-5.6	0.2	0.3	-0.7	-4.3	-2.4	-1.1	-13.9	-0.8	-2.3
	Milk	0.8	-2.1	3.9	3.0	2.3	0.3	0.3	-5.9	0.3	3.0	1.2	-3.0	-0.8	-1.2	-14.1	0.8	-1.1
	Eggs	-24.1	-1.4	-9.8	1.0	-7.0	-11.9	-7.3	-3.5	-3.1	-19.5	-10.9	-13.6	5.8	-1.7	-11.3	-10.2	-9.6
=	Final output	-6.0	-13.9	-6.0	-5.8	-5.9	-2.6	-4.5	-2.7	-4.6	-5.5	-7.5	-3.4	-1.7	-3.9	-11.0	-4.3	-5.3
	Seeds and seedlings	4.9	-1.3	0.1	-3.4	7.1	-6.9	3.0	-0.7	-0.4	4.0	-1.3	-	-4.0	0.1	-5.0	-2.1	-2.3
	Energy and lubricants	-13.2	-5.4	-7.8	-9.5	-4.5	-13.4	-5.6	-3.6	-6.1	-2.8	-1.2	-12.4	-8.9	-4.4	-8.6	-7.5	-7.6
	Fertilizers and soil improvers	-3.0	-2.7	-4.9	-2.8	-6.1	-2.0	-8.3	-3.4	-2.9	-6.8	-10.2	-	-4.1	-2.7	-21.7	-4.0	-6.7
	Plant protection products and pharmaceutical products	-1.4	-1.9	-3.9	-0.1	4.3	-0.9	-13.9	-1.9	-2.0	-1.9	-0.5	-6.2	-1.0	-6.1	-8.2	-1.7	-2.6
	Feedingstuffs	-10.3	-7.0	-10.8	-3.3	-5.4	-9.4	-7.7	-4.5	-0.9	-7.8	-1.1	-7.9	-4.9	-9.1	-18.3	-7.9	-8.8
	Materials and small tools, maintenance and repairs	0.9	-9.3	1.1	1.5	-0.3	0.0	-1.4	-	-3.0	0.1	-1.5	-1.1	1.4	0.3	-2.1	0.2	-0.5
	Services	-0.5	0.0	0.1	-4.5	2.6	0.0	-8.6	0.0	-	0.1	0.8	-1.0	-2.9	1.2	-2.2	0.0	-0.4
-	Intermediate consumption	-6.5	-5.8	-4.7	-4.3	-2.6	-5.3	-7.6	-3.2	-1.9	-3.4	-3.2	-6.2	-3.8	-3.6	-10.8	-4.4	-5.2

Table A.7.

Percentage change in nominal value of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	6.3	-0.1	4.6	-0.2	3.0	1.1	2.2	3.5	28.1	2.3	6.8	-7.1	-20.6	-1.3	0.7	2.5	2.2
	Cereals	-5.7	-9.1	-9.1	4.2	13.4	-0.6	-13.4	5.5	-18.1	-6.0	-2.8	-20.2	-35.1	-8.9	-16.1	-0.7	-3.0
	Potatoes	100.1	1.6	36.3	8.9	17.7	27.2	52.4	16.7	-7.4	16.0	8.2	46.4	-11.5	19.6	69.3	29.1	32.2
	Sugarbeet	-14.2	-1.0	0.0	-42.1	4.9	-5.6	4.1	-8.8	-	-9.5	-11.4	6.3	-27.4	1.9	-8.5	-4.7	-6.0
	Industrial crops	-2.5	22.7	17.2	4.8	-3.2	2.5	:	2.8	17.4	-12.9	8.4	8.3	-34.8	4.0	-0.4	4.2	4.2
	Oilseeds and oleaginous fruit (excluding olives)	8.7	20.4	21.1	45.3	-4.0	2.2	:	-3.2	:	-0.2	10.5	15.2	-34.8	4.0	2.1	4.9	4.9
	Fresh vegetables	0.8	7.9	7.7	0.8	11.1	1.3	3.3	3.3	21.0	-5.5	3.0	-6.9	-10.3	-3.4	5.1	3.4	3.3
	Fruit (fresh fruit, citrus fruit, tropical fruit and grapes)	2.2	-8.7	18.9	5.6	0.6	-6.8	41.7	12.3	-1.3	-3.3	-0.6	-21.2	-2.5	0.0	32.7	4.4	5.0
	Grape must and wine	-	-	4.4	3.3	-6.0	6.9	-	18.7	97.2	-	43.4	-4.9	-	-	-	8.4	8.4
	Olive oil	-	-	-	-7.2	-12.3	-	-	-30.5	-	-	-	-35.4	-	-	-	-21.3	-18.0
	Flowers and ornamentals	1.0	10.2	1.8	9.8	11.1	-1.1	:	0.4	:	5.2	5.4	:	0.0	0.0	0.8	2.5	2.8
+	Final animal output	-11.1	-12.9	-6.6	2.4	-5.5	-4.0	-2.2	-2.1	-0.4	-1.0	-5.1	-10.5	-0.2	-4.3	-15.0	-4.6	-5.9
	Animals	-15.7	-19.1	-15.1	-4.1	-7.4	-6.3	-4.3	-2.3	-4.9	-5.1	-9.2	-14.9	-0.9	-9.4	-17.0	-8.2	-9.6
	Cattle (including calves)	-1.0	-6.7	-0.5	3.2	8.0	0.1	-0.4	3.6	7.4	2.2	6.1	-18.0	0.7	1.8	-15.1	1.2	-0.2
	Pigs	-25.4	-21.8	-26.7	-11.6	-14.7	-21.9	-12.9	-10.0	-30.6	-10.4	-21.3	-19.9	-7.4	-21.6	-27.1	-19.4	-20.1
	Sheep and goats	-5.1	-11.1	-5.1	-0.3	-12.9	-11.1	-17.0	-1.4	:	-10.6	7.1	-17.0	-0.9	2.9	-20.5	-11.7	-12.7
	Poultry	-5.9	-1.5	-0.3	-11.9	-4.6	-0.8	-6.8	-1.7	28.0	-5.7	-2.7	5.9	19.4	2.9	-10.0	-1.9	-3.5
	Animal products	1.0	0.6	2.9	10.3	0.4	-0.2	1.0	-1.9	3.2	3.4	1.3	0.3	-0.5	0.2	-12.3	1.0	-0.4
	Milk	2.3	0.8	4.2	11.9	3.5	0.8	1.4	-2.0	3.2	6.1	2.0	0.6	0.3	0.4	-13.0	2.2	0.5
	Eggs	-5.6	-2.1	-9.3	3.4	-8.4	-9.2	-2.3	-1.1	0.4	-16.4	-11.0	-3.0	2.2	-2.0	-6.6	-7.8	-7.0
=	Final output	-4.9	-9.3	-2.2	0.6	-0.5	-1.3	-1.7	1.4	4.0	0.7	-1.1	-8.9	-6.3	-3.4	-9.4	-1.0	-2.0
	Seeds and seedlings	7.1	-6.7	0.5	-1.9	3.6	-4.5	24.0	0.7	3.1	3.9	2.0	:	-3.4	2.0	-4.7	-0.4	-0.9
	Energy and lubricants	-11.9	-3.4	-7.5	-2.6	-7.6	-11.6	6.2	-1.7	1.3	-4.0	-2.5	-25.8	-10.3	-3.9	-5.0	-7.2	-6.5
	Fertilizers and soil improvers	-0.9	-0.6	-4.5	2.5	1.0	-3.0	1.2	-1.4	-4.2	-1.2	-12.0	:	-2.2	-2.6	-17.9	-2.4	-4.6
	Plant protection products and pharmaceutical products	-0.9	-3.4	-3.5	6.9	4.4	6.6	3.4	1.3	1.0	9.0	3.0	2.2	0.2	-4.4	-4.0	3.4	2.3
	Feedingstuffs	-5.3	-2.4	-10.0	6.6	0.3	-6.2	9.6	-3.1	3.8	-9.3	-13.0	-2.6	2.0	-3.6	-14.5	-5.1	-5.7
	Materials and small tools, maintenance and repairs	2.4	-9.9	2.0	8.5	8.4	4.0	5.1	:	-0.8	0.0	1.5	7.6	1.8	0.4	-2.4	3.7	2.2
	Services	1.0	-0.7	1.5	1.2	9.9	3.0	0.8	3.6	:	2.0	2.9	3.5	-3.8	4.6	-0.2	2.6	2.0
-	Intermediate consumption	-3.2	-3.8	-3.9	3.0	1.8	-2.2	6.7	-1.2	0.4	-3.5	-3.0	-3.7	-1.5	-1.1	-7.7	-1.9	-2.5

Table A.7. (continued)

Percentage change in nominal value of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
=	Gross value added at market prices	-8.0	-15.6	0.1	-0.4	-2.2	-0.5	-10.0	2.4	7.4	4.9	1.1	-14.3	-16.2	-9.2	-12.5	-0.3	-1.5
+	Subsidies	-5.8	2.1	-4.5	6.7	1.8	0.0	10.4	-8.4	-8.5	-72.2	-8.2	10.3	0.0	10.4	-7.4	-5.4	-4.5
-	Taxes linked to production	-8.8	8.1	4.9	7.7	5.6	-1.0	7.7	6.8	12.9	-4.2	-10.3	-8.9	-9.1	-0.3	16.8	0.3	1.8
=	Gross value added at factor cost	-7.7	-12.7	-1.4	1.2	-1.4	-0.3	-2.7	0.5	2.0	-6.6	-2.7	-10.1	-4.8	-0.4	-11.0	-1.5	-2.3
-	Depreciation	-2.0	2.5	0.2	9.4	9.7	1.0	5.7	1.1	0.1	0.0	0.4	0.0	-1.0	0.0	0.5	1.4	1.4
=	Net value added at factor cost	-9.4	-17.9	-2.3	0.7	-2.8	-0.6	-4.4	0.2	2.7	-8.9	-5.3	-10.7	-6.0	-0.7	-15.3	-2.4	-3.5
-	Rent and other payments in cash or in kind	0.0	0.0	1.4	2.0	-3.4	3.4	0.0	3.9	0.7	1.2	-2.2	-1.0	0.0	2.9	10.3	1.3	1.7
-	Interest	-3.0	0.0	0.7	2.0	-5.6	0.4	4.5	-18.2	-6.3	-7.6	-3.8	-8.3	-2.1	-11.6	16.0	-4.2	-2.1
=	Net income from agricultural activity of total labour input	-12.2	-30.5	-3.5	0.5	-2.6	-0.9	-5.3	1.3	4.0	-9.5	-5.7	-11.3	-6.7	6.6	-20.5	-2.4	-3.9
-	Compensation of employees	2.0	0.0	:	1.0	10.9	3.3	1.3	2.2	4.6	7.5	2.9	3.9	6.8	3.1	1.5	:	:
=	Net income from agricultural activity of family labour input	-15.1	-42.9	:	0.5	-5.3	-2.1	-6.0	0.8	4.0	-16.1	-8.4	-17.6	-9.3	12.1	-36.5	:	:

Table A.8.

Percentage change in real value of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
+	Final crop output	4.7	-2.2	3.7	-5.4	0.6	0.1	-1.2	1.1	25.5	0.4	5.6	-10.4	-21.8	-2.8	-2.1	0.8	0.1
	Cereals	-7.1	-11.0	-9.9	-1.3	10.8	-1.6	-16.3	3.0	-19.8	-7.8	-3.9	-23.1	-36.1	-10.3	-18.4	-2.2	-4.7
	Potatoes	97.1	-0.5	35.1	3.2	14.9	26.0	47.4	14.0	-9.3	13.8	7.1	41.1	-12.8	17.8	64.7	27.0	29.6
	Sugarbeet	-15.4	-3.0	-0.9	-45.1	2.5	-6.5	0.7	-10.9	:	-11.2	-12.4	2.5	-28.5	0.4	-11.0	-6.1	-7.6
	Industrial crops	-3.9	20.2	16.2	-0.7	-5.5	1.5	:	0.4	15.0	-14.5	7.3	4.4	-35.8	2.5	-3.1	2.6	1.7
	Oilseeds and oleaginous fruit (excluding olives)	7.0	17.9	20.0	37.8	-6.3	1.2	:	-5.5	:	-2.1	9.3	11.1	-35.8	2.5	-0.7	3.5	3.3
	Fresh vegetables	-0.6	5.7	6.7	-4.4	8.5	0.3	-0.1	0.9	18.5	-7.3	1.9	-10.3	-11.6	-4.9	2.2	1.4	1.1
	Fruit (fresh fruit, citrus fruit, tropical fruit and grapes)	0.7	-10.6	17.8	0.1	-1.7	-7.7	37.0	9.7	-3.4	-5.1	-1.7	-24.0	-3.9	-1.5	29.1	2.4	2.7
	Grape must and wine	-	-	3.5	-2.1	-8.2	5.9	-	15.9	93.2	-	41.8	-8.3	-	-	-	6.8	6.7
	Olive oil	-	-	-	-12.0	-14.3	-	-	-32.1	-	-	-	-37.7	-	-	-	-23.1	-20.6
	Flowers and ornamentals	-0.5	7.9	0.9	4.1	8.5	-2.1	:	-2.0	:	3.3	4.2	:	-1.5	-1.5	-1.9	0.8	1.0
+	Final animal output	-12.4	-14.6	-7.5	-2.9	-7.7	-4.9	-5.4	-4.4	-2.4	-2.8	-6.2	-13.7	-1.6	-5.7	-17.3	-6.1	-7.7
	Animals	-16.9	-20.8	-15.8	-9.1	-9.6	-7.2	-7.4	-4.6	-6.9	-6.8	-10.2	-18.0	-2.3	-10.7	-19.3	-9.7	-11.3
	Cattle (including calves)	-2.5	-8.6	-1.4	-2.2	5.4	-0.9	-3.7	1.2	5.2	0.3	5.0	-20.9	-0.8	0.3	-17.4	-0.4	-2.0
	Pigs	-26.6	-23.4	-27.3	-16.2	-16.7	-22.7	-15.7	-12.1	-32.0	-12.1	-22.1	-22.8	-8.8	-22.8	-29.1	-20.8	-21.5
	Sheep and goats	-6.5	-12.9	-5.9	-5.5	-14.9	-12.0	-19.7	-3.7	:	-12.3	6.0	-20.0	-2.4	1.4	-22.7	-13.6	-15.1
	Poultry	-7.3	-3.5	-1.2	-16.5	-6.8	-1.7	-9.8	-4.0	25.4	-7.5	-3.8	2.2	17.7	1.4	-12.4	-3.5	-5.3
	Animal products	-0.5	-1.4	2.0	4.6	-2.0	-1.2	-2.4	-4.2	1.0	1.4	0.2	-3.3	-2.0	-1.2	-14.7	-0.6	-2.2
	Milk	0.8	-1.3	3.3	6.0	1.1	-0.2	-1.9	-4.3	1.1	4.1	0.8	-3.0	-1.2	-1.1	-15.3	0.6	-1.3
	Eggs	-7.0	-4.1	-10.1	-2.0	-10.6	-10.1	-5.5	-3.4	-1.7	-17.9	-12.0	-6.4	0.6	-3.5	-9.1	-9.3	-8.8
=	Final output	-6.3	-11.2	-3.0	-4.7	-2.8	-2.3	-4.9	-1.0	1.9	-1.2	-2.1	-12.2	-7.7	-4.8	-11.9	-2.7	-3.9
	Seeds and seedlings	5.5	-8.7	-0.4	-7.1	1.2	-5.4	19.9	-1.7	1.0	1.9	0.9	:	-4.8	0.5	-7.3	-1.8	-2.5
	Energy and lubricants	-13.2	-5.4	-8.3	-7.7	-9.8	-12.5	2.7	-4.0	-0.8	-5.8	-3.6	-28.5	-11.6	-5.3	-7.6	-8.6	-8.3
	Fertilizers and soil improvers	-2.4	-2.7	-5.3	-2.8	-1.4	-3.9	-2.1	-3.7	-6.2	-3.0	-12.9	:	-3.6	-4.1	-20.1	-3.9	-6.3
	Plant protection products and pharmaceutical products	-2.3	-5.4	-4.4	1.4	2.0	5.6	0.0	-1.0	-1.0	7.0	1.8	-1.5	-1.3	-5.9	-6.6	1.6	0.2
	Feedingstuffs	-6.7	-4.4	-10.8	1.1	-2.1	-7.1	6.0	-5.4	1.7	-11.0	-13.9	-6.1	0.5	-5.0	-16.8	-6.7	-7.5
	Materials and small tools, maintenance and repairs	0.9	-11.8	1.1	2.9	5.8	3.0	1.6	:	-2.8	-1.9	0.4	3.8	0.3	-1.1	-5.1	2.2	0.4
	Services	-0.5	-2.7	0.6	-4.0	7.4	2.0	-2.5	1.2	:	0.1	1.8	-0.2	-5.2	3.1	-2.9	1.2	0.2
-	Intermediate consumption	-4.6	-5.8	-4.8	-2.4	-0.6	-3.2	3.2	-3.5	-1.7	-5.3	-4.1	-7.1	-3.0	-2.6	-10.3	-3.5	-4.3

Table A.8. (continued)

Percentage change in real value of 1998 over 1997

		B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EUR-11	EU-15
=	Gross value added at market prices	-9.4	-17.3	-0.8	-5.6	-4.5	-1.5	-12.9	0.0	5.2	2.9	0.0	-17.3	-17.4	-10.6	-14.8	-2.0	-3.5
+	Subsidies	-7.2	0.0	-5.4	1.1	-0.6	-1.0	6.7	-10.6	-10.4	-72.7	-9.2	6.4	-1.4	8.7	-10.0	-7.0	-6.4
-	Taxes linked to production	-10.2	5.9	4.0	2.1	3.1	-1.9	4.2	4.3	10.6	-6.0	-11.3	-12.2	-10.4	-1.7	13.6	-1.1	0.0
=	Gross value added at factor cost	-9.0	-14.5	-2.2	-4.1	-3.7	-1.3	-5.9	-1.9	-0.1	-8.4	-3.8	-13.3	-6.2	-1.9	-13.5	-3.2	-4.3
-	Depreciation	-3.4	0.4	-0.7	3.7	7.2	0.0	2.2	-1.3	-1.9	-1.9	-0.6	-3.6	-2.5	-1.5	-2.3	-0.3	-0.4
=	Net value added at factor cost	-10.7	-19.6	-3.1	-4.6	-5.1	-1.6	-7.6	-2.1	0.6	-10.6	-6.4	-13.9	-7.4	-2.2	-17.6	-4.1	-5.5
-	Rent and other payments in cash or in kind	-1.5	-2.1	0.5	-3.3	-5.7	2.4	-3.3	1.5	-1.4	-0.7	-3.3	-4.5	-1.5	1.4	7.3	-0.1	0.0
-	Interest	-4.4	-2.1	-0.2	-3.3	-7.8	-0.6	1.1	-20.1	-8.3	-9.3	-4.8	-11.6	-3.5	-12.9	12.8	-5.7	-4.0
=	Net income from agricultural activity of total labour input	-13.5	-31.9	-4.4	-4.7	-4.9	-1.9	-8.4	-1.1	1.9	-11.2	-6.7	-14.4	-8.1	5.1	-22.7	-4.2	-5.9
-	Compensation of employees	0.5	-2.1	:	-4.3	8.3	2.3	-2.0	-0.2	2.5	5.5	1.8	0.2	5.2	1.5	-1.2	:	:
=	Net income from agricultural activity of family labour input	-16.3	-44.1	:	-4.7	-7.6	-3.1	-9.1	-1.6	1.8	-17.6	-9.4	-20.5	-10.6	10.4	-38.3	:	:

Table A.9.
Belgique / Belgie
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	55.6	38.4	144.6	158.5	91.3
...
1978	60.8	58.7	103.3	128.5	80.5
...
1984	85.1	80.7	105.2	115.6	91.1
1985	83.9	85.6	97.9	112.8	86.8
1986	83.3	88.7	93.7	111.4	84.1
1987	78.1	90.7	86.0	108.0	79.6
1988	83.0	92.6	89.5	104.5	85.7
1989	106.0	96.9	109.2	102.1	107.1
1990	97.1	100.0	97.0	100.2	96.9
1991	96.8	103.1	93.8	97.7	96.0
1992	91.4	106.9	85.3	93.6	91.3
1993	89.9	111.2	80.8	91.2	88.6
1994	92.4	113.7	81.1	88.9	91.3
1995	74.0	115.4	64.1	86.3	74.3
1996	75.0	117.3	63.8	84.1	75.9
1997	76.4	118.9	64.2	80.8	79.5
1998	69.3	120.7	57.3	78.8	72.8
% 98/97	-9.4	1.5	-10.7	-2.5	-8.4

⁽¹⁾ AWU : Annual Work Unit

Table A.10.
Danmark
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	37.8	30.5	123.7	200.1	61.9
...
1978	53.7	50.9	105.3	159.0	66.3
...
1984	102.7	82.0	125.0	125.9	99.4
1985	95.5	85.6	111.5	121.3	92.0
1986	101.4	89.5	113.2	116.9	96.9
1987	81.2	93.7	86.6	112.5	77.0
1988	83.5	92.3	90.3	106.1	85.2
1989	103.8	97.0	106.8	103.2	103.6
1990	101.2	100.2	100.8	100.1	100.8
1991	95.1	102.7	92.4	96.7	95.6
1992	86.2	105.0	81.9	94.7	86.6
1993	87.7	105.6	82.9	93.8	88.5
1994	93.3	106.5	87.5	89.5	97.8
1995	107.7	108.3	99.3	85.8	115.9
1996	111.4	110.5	100.7	83.7	120.4
1997	106.1	112.6	94.1	80.3	117.2
1998	87.0	115.0	75.6	78.7	96.1
% 98/97	-17.9	2.1	-19.6	-2.0	-18.0

⁽¹⁾ AWU : Annual Work Unit

Table A.11

Deutschland

**Major components of the calculation of Indicator 1
(indices, 1989-1991=100 with the exception of ⁽²⁾)**

	Nominal net value added at factor cost		Implicit price index of gross domestic product at market prices		Real net value added at factor cost		Total labour input in AWU ⁽³⁾		Real net value added at factor cost per AWU	
	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾
1973	94.3	:	54.7	54.7	171.9	:	174.9	:	98.6	:
...
1978	93.8	:	69.4	69.4	134.8	:	146.4	:	92.3	:
...
1984	91.4	:	86.7	86.7	105.1	:	123.3	:	85.5	:
1985	83.7	:	88.4	88.4	94.3	:	121.6	:	77.8	:
1986	96.5	:	91.2	91.2	105.4	:	119.8	:	88.2	:
1987	77.1	:	93.0	93.0	82.7	:	112.7	:	73.5	:
1988	95.3	:	94.4	94.4	100.6	:	110.9	:	91.0	:
1989	110.9	:	96.7	96.7	114.4	:	104.2	:	110.0	:
1990	97.8	103.3	99.7	99.7	97.8	105.2	100.7	108.8	97.4	96.4
1991	91.3	96.7	103.6	103.6	87.9	94.8	95.1	91.2	92.6	103.6
1992	95.8	98.8	108.2	109.4	88.3	91.8	91.3	76.5	97.0	119.6
1993	:	84.5	111.5	113.7	:	75.4	87.2	71.1	:	105.7
1994	:	84.8	113.8	116.5	:	73.9	:	66.4	:	110.9
1995	:	84.2	:	119.1	:	71.8	:	63.0	:	113.7
1996	:	91.7	:	120.3	:	77.4	:	60.5	:	127.6
1997	:	91.9	:	121.0	:	77.1	:	58.4	:	131.6
1998	:	89.8	:	122.1	:	74.7	:	56.0	:	132.9
% 98/97	:	-2.3	:	0.9	:	-3.1	:	-4.1	:	1.0

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

⁽³⁾ AWU : Annual Work Unit

Table A.12

Ellada

**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	6.0	6.8	88.3	151.0	58.2
...
1978	12.5	13.2	95.1	135.1	70.1
...
1984	39.9	39.1	102.3	124.2	82.0
1985	48.9	45.7	106.9	125.9	84.5
1986	54.9	53.7	102.1	121.5	83.7
1987	59.6	61.5	96.9	114.9	84.0
1988	70.1	71.8	97.7	115.1	84.5
1989	86.8	82.2	105.6	108.1	97.3
1990	88.5	99.1	89.3	99.8	89.1
1991	124.7	118.7	105.1	92.1	113.6
1992	122.5	136.3	89.9	93.4	95.8
1993	131.0	156.1	84.0	95.1	87.9
1994	156.5	173.5	90.2	90.6	99.1
1995	173.2	190.5	90.9	86.4	104.8
1996	173.5	205.6	84.4	83.8	100.3
1997	174.9	219.8	79.6	81.3	97.5
1998	176.0	231.9	75.9	78.6	96.2
% 98/97	0.7	5.5	-4.6	-3.3	-1.3

⁽¹⁾ AWU : Annual Work Unit

Table A.13
Espana
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	19.7	13.1	150.9	232.3	64.9
...
1978	41.1	30.7	134.0	173.7	77.0
...
1984	67.9	65.0	104.3	122.8	84.9
1985	72.2	70.1	103.0	119.0	86.5
1986	72.5	77.8	93.1	114.6	81.2
1987	79.0	82.3	95.9	111.5	86.0
1988	93.2	87.0	107.1	109.0	98.2
1989	93.7	93.1	100.5	104.1	96.5
1990	102.7	99.9	102.7	100.7	101.9
1991	103.6	107.0	96.7	95.2	101.6
1992	92.1	114.3	80.5	92.8	86.7
1993	107.9	119.2	90.4	89.2	101.3
1994	130.1	124.1	104.7	88.2	118.6
1995	137.0	130.1	105.2	87.3	120.5
1996	162.0	134.4	120.4	82.6	145.7
1997	158.2	137.1	115.3	82.8	139.3
1998	153.7	140.4	109.4	83.7	130.6
% 98/97	-2.8	2.4	-5.1	1.2	-6.2

⁽¹⁾ AWU : Annual Work Unit

Table A.14
France
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	40.3	25.6	157.6	166.5	94.7
...
1978	51.7	43.4	118.8	147.0	80.8
...
1984	83.5	79.2	105.4	125.6	83.9
1985	85.8	83.8	102.3	121.4	84.3
1986	87.7	88.3	99.3	117.0	84.8
1987	88.0	90.9	96.7	112.8	85.7
1988	85.9	93.6	91.7	108.7	84.4
1989	99.9	96.8	103.1	104.2	98.9
1990	103.6	100.0	103.6	100.0	103.6
1991	96.5	103.3	93.3	95.8	97.4
1992	95.8	105.6	90.6	91.8	98.8
1993	92.3	108.1	85.3	87.0	98.1
1994	102.6	110.0	93.3	84.3	110.7
1995	107.4	111.6	96.2	82.1	117.2
1996	109.5	113.1	96.8	80.0	121.0
1997	107.6	114.2	94.1	78.0	120.7
1998	107.0	115.3	92.7	76.1	121.8
% 98/97	-0.6	1.0	-1.6	-2.5	0.9

⁽¹⁾ AWU : Annual Work Unit

Table A.15
Ireland
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	21.5	19.9	108.1	135.3	79.9
...
1978	49.5	38.4	128.9	122.7	105.1
...
1984	80.4	79.8	100.8	107.1	94.1
1985	73.6	83.9	87.7	107.1	81.9
1986	69.6	88.8	78.4	102.9	76.2
1987	83.5	91.7	91.0	98.8	92.2
1988	98.4	94.7	103.8	97.3	106.8
1989	103.2	99.9	103.3	101.5	101.8
1990	102.6	99.2	103.4	100.0	103.4
1991	94.2	100.9	93.4	98.5	94.8
1992	109.3	103.3	105.9	97.0	109.2
1993	111.6	107.9	103.5	94.3	109.8
1994	115.5	109.1	105.8	91.3	116.0
1995	122.6	109.6	111.8	86.1	129.9
1996	124.7	111.3	112.0	86.7	129.2
1997	118.1	113.8	103.8	79.9	130.0
1998	112.9	117.7	95.9	79.1	121.4
% 98/97	-4.4	3.4	-7.6	-1.0	-6.6

⁽¹⁾ AWU : Annual Work Unit

Table A.16
Italia
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	18.4	11.8	156.1	157.2	99.3
...
1978	35.5	26.2	135.4	149.4	90.6
...
1984	83.7	65.9	126.9	119.9	105.9
1985	87.4	71.9	121.6	115.0	105.7
1986	90.0	77.5	116.1	114.2	101.7
1987	94.7	82.2	115.2	111.8	103.1
1988	91.1	87.0	104.6	106.7	98.1
1989	96.4	92.6	104.0	101.2	102.8
1990	94.2	99.8	94.3	99.3	95.0
1991	109.4	107.5	101.7	99.5	102.3
1992	106.4	112.5	94.5	94.6	100.0
1993	103.8	117.3	88.4	87.7	100.8
1994	105.8	121.7	86.8	83.6	103.9
1995	115.1	128.4	89.5	80.3	111.6
1996	123.2	134.8	91.3	77.8	117.4
1997	119.8	138.3	86.5	76.7	112.8
1998	120.0	141.7	84.7	75.6	112.0
% 98/97	0.2	2.4	-2.1	-1.5	-0.7

⁽¹⁾ AWU : Annual Work Unit

Table A.17
Luxembourg
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	51.7	33.2	154.7	211.0	73.6
...
1978	57.2	46.0	123.7	167.7	74.0
...
1984	87.9	69.9	125.1	124.6	100.7
1985	91.3	77.8	116.8	121.2	96.7
1986	94.0	85.4	109.5	117.2	93.8
1987	91.2	83.6	108.6	111.5	97.7
1988	93.1	86.4	107.2	107.1	100.4
1989	110.2	95.3	115.1	104.6	110.4
1990	101.8	100.4	100.9	99.2	102.0
1991	88.0	104.3	84.0	96.2	87.6
1992	88.9	107.7	82.1	92.1	89.4
1993	89.3	113.2	78.6	89.9	87.7
1994	87.1	119.0	72.9	85.6	85.3
1995	95.7	119.9	79.4	82.1	97.0
1996	98.2	123.1	79.4	79.0	100.8
1997	93.4	126.1	73.7	76.8	96.3
1998	95.9	128.7	74.1	75.6	98.3
% 98/97	2.7	2.1	0.6	-1.5	2.1

⁽¹⁾ AWU : Annual Work Unit

Table A.18
Nederland
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	53.1	53.1	100.0	121.9	82.0
...
1978	66.1	74.4	88.8	110.8	80.1
...
1984	95.2	94.0	101.3	105.2	96.4
1985	91.5	95.6	95.7	104.6	91.5
1986	98.4	95.7	102.7	103.5	99.3
1987	80.0	95.5	83.7	102.5	81.7
1988	82.9	96.4	85.9	101.2	84.9
1989	100.0	97.6	102.4	101.2	101.2
1990	99.0	99.7	99.3	98.1	101.2
1991	100.9	102.7	98.3	100.6	97.7
1992	93.4	104.7	89.2	101.6	87.8
1993	78.4	106.7	73.4	100.5	73.1
1994	93.8	108.7	86.3	97.9	88.2
1995	87.3	111.1	78.5	96.2	81.7
1996	87.5	112.7	77.7	95.2	81.6
1997	101.4	115.1	88.0	95.7	92.0
1998	92.4	117.3	78.7	96.9	81.2
% 98/97	-8.9	1.9	-10.6	1.3	-11.7

⁽¹⁾ AWU : Annual Work Unit

Table A.19
Österreich
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU (¹)	Real net value added at factor cost per AWU
1973	:	46.3	:	:	:
...
1978	:	64.7	:	:	:
...
1984	89.0	85.6	104.0	123.4	84.1
1985	77.8	88.2	88.2	119.9	73.4
1986	86.4	90.6	95.4	116.1	82.1
1987	89.7	92.5	97.0	112.4	86.2
1988	89.6	94.0	95.4	108.7	87.7
1989	93.8	96.5	97.2	104.1	93.2
1990	103.0	99.9	103.2	99.9	103.1
1991	103.2	103.6	99.6	96.0	103.7
1992	102.5	108.1	94.8	90.0	105.2
1993	91.0	111.1	81.9	84.3	97.0
1994	103.7	114.1	90.9	79.4	114.3
1995	104.0	116.3	89.4	74.8	119.3
1996	89.4	118.7	75.4	71.2	105.8
1997	81.5	120.6	67.6	69.0	97.7
1998	77.1	121.9	63.3	67.5	93.6
% 98/97	-5.3	1.1	-6.4	-2.2	-4.2

(¹) AWU : Annual Work Unit

Table A.20
Portugal
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU (¹)	Real net value added at factor cost per AWU
1973	:	5.6	:	172.7	:
...
1978	:	13.9	:	154.0	:
...
1984	39.5	44.0	89.6	137.7	64.9
1985 (²)	47.7	53.6	88.7	134.5	65.8
1986	65.9	64.4	102.2	131.3	77.7
1987	79.6	70.8	112.1	123.7	90.4
1988	68.4	78.6	86.7	116.1	74.6
1989	86.9	88.4	98.1	107.5	91.0
1990	109.4	99.7	109.5	100.0	109.2
1991	103.7	111.9	92.5	92.5	99.8
1992	93.8	123.1	76.1	84.9	89.4
1993	86.7	131.3	65.9	77.4	85.0
1994	115.2	139.6	82.3	75.8	108.3
1995	121.2	147.2	82.1	74.3	110.3
1996	132.4	152.1	86.9	72.8	119.1
1997	115.2	156.3	73.5	71.3	102.8
1998	102.8	162.1	63.3	69.9	90.4
% 98/97	-10.7	3.7	-13.9	-2.1	-12.1

(¹) AWU : Annual Work Unit

(²) From 1986 onwards revised data and inclusion of Azores and Madeira.

Table A.21
Suomi / Finland
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	:	:	:	:	:
...
1978	:	42.7	:	:	:
...
1984	82.4	72.9	112.9	139.1	81.2
1985	82.0	76.8	106.7	134.1	79.6
1986	88.5	80.3	110.1	128.6	85.6
1987	67.4	84.1	80.1	127.0	63.1
1988	74.3	90.0	82.5	111.1	74.3
1989	96.1	95.5	100.7	102.7	98.1
1990	105.6	101.0	104.5	100.1	104.3
1991	98.3	103.5	94.9	97.2	97.6
1992	85.1	104.3	81.6	95.8	85.1
1993	87.0	106.7	81.5	91.7	88.9
1994	97.2	108.1	89.8	87.7	102.4
1995	95.5	110.8	86.2	83.9	102.8
1996	93.4	111.7	83.6	82.1	101.9
1997	86.4	114.1	75.7	80.3	94.3
1998	81.2	115.8	70.1	78.2	89.6
% 98/97	-6.0	1.5	-7.4	-2.5	-5.0

⁽¹⁾ AWU : Annual Work Unit

Table A.22
Sverige
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	:	23.0	:	184.3	:
...
1978	:	39.1	:	154.2	:
...
1984	90.7	67.0	134.4	127.1	105.9
1985	77.5	71.5	107.7	126.2	85.5
1986	79.4	76.4	103.3	118.2	87.5
1987	82.3	80.0	102.1	115.0	88.9
1988	82.4	85.2	96.1	108.7	88.5
1989	95.4	92.0	102.9	104.6	98.6
1990	122.3	100.2	121.2	99.3	122.4
1991	82.3	107.8	75.8	96.2	79.0
1992	72.8	108.9	66.3	94.4	70.4
1993	87.4	111.8	77.6	94.0	82.7
1994	78.2	114.5	67.8	92.6	73.4
1995	93.6	118.7	78.3	89.7	87.5
1996	71.0	119.9	58.8	86.6	68.0
1997	73.8	121.4	60.4	83.7	72.3
1998	73.3	123.2	59.1	81.0	73.1
% 98/97	-0.7	1.5	-2.2	-3.3	1.1

⁽¹⁾ AWU : Annual Work Unit

Table A.23
United Kingdom
**Major components of the calculation of Indicator 1
(indices, 1989-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	31.5	18.9	165.8	134.2	123.6
...
1978	52.3	40.3	129.5	124.9	103.8
...
1984	95.0	72.4	130.8	112.3	116.6
1985	78.6	76.7	102.2	111.7	91.5
1986	85.0	79.1	107.1	109.7	97.7
1987	88.1	83.4	105.4	107.0	98.5
1988	86.8	86.4	100.2	105.1	95.4
1989	98.4	92.8	105.7	102.3	103.4
1990	100.0	100.0	99.7	100.3	99.5
1991	101.6	107.2	94.6	97.4	97.1
1992	110.4	112.3	98.0	96.0	102.2
1993	129.5	115.8	111.6	95.3	117.1
1994	133.7	117.6	113.4	93.4	121.5
1995	151.6	120.6	125.3	92.2	136.0
1996	141.8	124.9	113.2	90.3	125.5
1997	110.7	128.3	86.0	89.3	96.4
1998	93.7	131.9	70.9	87.8	80.7
% 98/97	-15.3	2.8	-17.6	-1.6	-16.3

⁽¹⁾ AWU : Annual Work Unit

Table A.24
EUR 11
**Major components of the calculation of Indicator 1
(indices, 1990-1991=100)**

	Nominal net value added at factor cost	Implicit price index of gross domestic product at market prices	Real net value added at factor cost	Total labour input in AWU ⁽¹⁾	Real net value added at factor cost per AWU
1973	:	:	:	:	:
...
1978	:	:	:	:	:
...
1984	:	:	:	:	:
1985	:	:	:	:	:
1986	:	:	:	:	:
1987	:	:	:	:	:
1988	:	:	:	:	:
1989	:	:	:	:	:
1990	99.8	:	102.2	102.6	99.6
1991	100.2	:	97.8	97.4	100.4
1992	96.0	:	90.8	91.6	99.1
1993	89.4	:	85.2	86.1	98.9
1994	96.6	:	90.7	83.0	109.3
1995	98.0	:	90.9	80.4	113.1
1996	106.0	:	94.4	77.8	121.3
1997	103.2	:	91.5	76.3	119.8
1998	100.7	:	87.7	75.2	116.6
% 98/97	-2.4	:	-4.1	-1.5	-2.7

⁽¹⁾ AWU : Annual Work Unit

Table A.25.

EU-15

**Major components of the calculation of Indicator 1
(indices, 1989-1991=100 with the exception of ⁽²⁾)**

	Nominal net value added at factor cost		Implicit price index of gross domestic product at market prices		Real net value added at factor cost		Total labour input in AWU ⁽³⁾		Real net value added at factor cost per AWU	
	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾	⁽¹⁾	⁽²⁾
1973	:	:	:	:	:	:	:	:	:	:
...
1978	:	:	:	:	:	:	:	:	:	:
...
1984	80.6	:	:	:	111.6	:	122.8	:	90.8	:
1985	<u>80.3</u>	:	:	:	<u>105.0</u>	:	119.8	:	<u>87.6</u>	:
1986	84.6	:	:	:	103.6	:	116.9	:	88.6	:
1987	83.6	:	:	:	98.2	:	112.7	:	87.1	:
1988	87.3	:	:	:	98.0	:	108.9	:	90.0	:
1989	98.2	:	:	:	104.3	:	103.8	:	100.5	:
1990	99.6	98.9	:	:	99.6	101.9	99.9	102.7	99.7	99.3
1991	102.1	101.1	:	:	96.0	98.1	96.3	97.3	99.7	100.7
1992	99.5	98.4	:	:	89.4	91.1	92.9	92.4	96.3	98.5
1993	:	98.3	:	:	:	87.1	88.6	87.9	:	99.0
1994	:	107.6	:	:	:	92.2	:	84.7	:	108.8
1995	:	113.5	:	:	:	93.6	:	82.0	:	114.1
1996	:	118.9	:	:	:	95.1	:	79.4	:	119.7
1997	:	115.4	:	:	:	90.4	:	77.9	:	116.1
1998	:	111.4	:	:	:	85.6	:	76.6	:	111.8
% 98/97	:	-3.5	:	:	:	-5.3	:	-1.7	:	-3.7

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990 and a break in the series for Portugal between 1985 and 1986.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

⁽³⁾ AWU : Annual Work Unit

Table A.26.

Indicator 1

**Indices of real net value added at factor cost of total labour input per annual work unit (AWU)
from 1988 to 1998, (Indices, 1989-1991=100 with the exception of ⁽²⁾)**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	85.7	107.1	96.9	96.0	91.3	88.6	91.3	74.3	75.9	79.5	72.8	-8.4
DK	85.2	103.6	100.8	95.6	86.6	88.5	97.8	115.9	120.4	117.2	96.1	-18.0
D ⁽¹⁾	91.0	110.0	97.4	92.6	97.0	:	:	:	:	:	:	:
D ⁽²⁾	:	:	96.4	103.6	119.6	105.7	110.9	113.7	127.6	131.6	132.9	1.0
EL	84.5	97.3	89.1	113.6	95.8	87.9	99.1	104.8	100.3	97.5	96.2	-1.3
E	98.2	96.5	101.9	101.6	86.7	101.3	118.6	120.5	145.7	139.3	130.6	-6.2
F	84.4	98.9	103.6	97.4	98.8	98.1	110.7	117.2	121.0	120.7	121.8	0.9
IRL	106.8	101.8	103.4	94.8	109.2	109.8	116.0	129.9	129.2	130.0	121.4	-6.6
I	98.1	102.8	95.0	102.3	100.0	100.8	103.9	111.6	117.4	112.8	112.0	-0.7
L	100.4	110.4	102.0	87.6	89.4	87.7	85.3	97.0	100.8	96.3	98.3	2.1
NL	84.9	101.2	101.2	97.7	87.8	73.1	88.2	81.7	81.6	92.0	81.2	-11.7
A	87.7	93.2	103.1	103.7	105.2	97.0	114.3	119.3	105.8	97.7	93.6	-4.2
P	74.6	91.0	109.2	99.8	89.4	85.0	108.3	110.3	119.1	102.8	90.4	-12.1
FIN	74.3	98.1	104.3	97.6	85.1	88.9	102.4	102.8	101.9	94.3	89.6	-5.0
S	88.5	98.6	122.4	79.0	70.4	82.7	73.4	87.5	68.0	72.3	73.1	1.1
UK	95.4	103.4	99.5	97.1	102.2	117.1	121.5	136.0	125.5	96.4	80.7	-16.3
EUR-11	:	:	99.6	100.4	99.1	98.9	109.3	113.1	121.3	119.8	116.6	-2.7
EU-15 ⁽¹⁾	90.0	100.5	99.7	99.7	96.3	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.3	100.7	98.5	99.0	108.8	114.1	119.7	116.1	111.8	-3.7

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.27.
Indicator 2

**Indices of real net income from agricultural activity of total labour input per annual work unit (AWU)
from 1988 to 1998, (Indices, 1989-1991=100 with the exception of ⁽²⁾)**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	84.6	110.5	96.6	92.8	85.4	81.4	83.8	62.9	65.8	69.8	61.9	-11.3
DK	66.4	102.1	104.0	93.9	74.3	76.6	101.7	131.7	140.8	132.3	91.9	-30.5
D ⁽¹⁾	90.2	114.1	96.8	89.1	94.4	:	:	:	:	:	:	:
D ⁽²⁾	:	:	99.0	101.0	114.7	94.7	98.0	99.4	115.0	118.6	118.3	-0.3
EL	84.2	98.3	88.8	113.0	94.4	86.2	98.5	102.3	100.3	97.6	96.2	-1.4
E	103.5	95.8	103.0	101.2	83.2	101.7	127.8	129.9	161.0	156.6	147.1	-6.1
F	82.1	98.5	104.1	97.4	98.0	96.4	111.3	119.4	123.9	123.8	124.5	0.6
IRL	111.0	103.7	102.5	93.8	110.8	114.1	122.9	137.8	137.1	136.3	126.1	-7.5
I	97.0	102.0	94.1	103.9	100.6	102.7	108.7	116.1	123.7	121.0	121.4	0.4
L	102.7	114.5	101.7	83.8	83.7	81.6	79.7	93.0	99.0	93.6	96.9	3.5
NL	84.7	103.8	101.0	95.2	82.7	65.1	85.4	78.9	79.3	94.4	82.7	-12.4
A	86.7	93.0	103.7	103.3	104.5	94.3	114.8	118.5	104.5	96.3	91.9	-4.6
P	76.3	92.6	110.8	96.6	83.0	78.5	109.8	114.3	125.6	107.5	94.0	-12.6
FIN	72.4	98.3	105.0	96.6	81.6	85.6	100.4	101.5	103.1	95.4	90.0	-5.7
S	81.0	99.6	138.9	61.5	45.6	70.9	56.7	84.5	49.9	66.1	71.8	8.6
UK	98.0	102.8	97.5	99.8	110.0	134.3	139.7	157.3	144.8	105.6	83.0	-21.4
EUR-11	:	:	100.0	100.0	97.3	96.9	110.6	114.7	124.7	124.3	121.0	-2.7
EU-15 ⁽¹⁾	89.7	100.8	99.6	99.6	95.1	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.5	100.5	97.1	97.9	111.0	116.8	124.0	120.8	115.8	-4.1

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.28.
Indicator 3

**Indices of real net income from agricultural activity of family labour input per annual work unit (AWU)
from 1988 to 1998, (Indices, 1989-1991=100 with the exception of ⁽²⁾)**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	83.5	111.7	96.8	91.6	83.1	78.8	81.4	57.7	60.9	65.1	55.8	-14.2
DK	48.1	101.5	106.6	91.9	62.6	66.4	100.3	141.3	154.8	143.2	81.7	-43.0
D ⁽¹⁾	89.3	119.0	97.2	83.8	90.3	:	:	:	:	:	:	:
D ⁽²⁾	:	:	:	:	:	:	:	:	:	:	:	:
EL	89.9	98.5	88.1	113.5	95.6	88.7	102.6	107.6	104.9	101.5	100.8	-0.7
E	105.0	93.7	103.8	102.5	80.8	103.9	138.4	143.6	183.4	180.7	167.7	-7.2
F	78.5	98.8	105.1	96.1	96.0	93.1	113.0	123.2	129.1	129.0	129.3	0.2
IRL	115.7	106.2	102.4	91.5	109.8	113.1	123.3	139.8	137.6	135.9	124.8	-8.2
I	94.8	102.0	88.9	109.0	97.4	101.6	114.8	130.4	145.5	140.9	141.5	0.4
L	102.2	114.8	102.1	83.2	83.0	80.9	79.2	93.5	100.0	94.7	98.6	4.1
NL	83.2	105.6	100.0	94.4	77.9	54.3	81.3	73.8	74.4	96.1	79.3	-17.4
A	85.2	92.2	104.6	103.2	103.9	90.3	114.1	117.8	100.2	89.8	83.5	-7.1
P	70.6	91.5	117.3	91.2	76.8	66.5	124.6	134.1	150.9	121.1	98.7	-18.5
FIN	68.3	99.4	106.7	93.9	78.0	83.2	100.0	102.5	106.1	98.6	90.9	-7.7
S	64.2	97.0	166.7	36.4	15.6	58.5	34.6	83.8	21.5	44.3	49.7	12.3
UK	97.6	106.1	95.0	98.9	118.3	162.4	169.0	200.8	177.6	107.8	67.6	-37.3
EUR-11	:	:	:	:	:	:	:	:	:	:	:	:
EU-15 ⁽¹⁾	88.0	101.5	99.5	99.0	92.4	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	:	:	:	:	:	:	:	:	:	:

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.29.

Volume indices of final output in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	95.8	98.8	97.5	103.7	109.5	112.6	111.7	113.2	112.7	111.3	111.0	-0.3
DK	94.9	97.7	101.8	100.5	97.7	106.1	101.4	103.3	103.5	104.7	107.9	3.1
D ⁽¹⁾	100.4	100.4	99.6	99.9	102.0	:	:	:	:	:	:	:
D ⁽²⁾	:	:	99.5	100.5	101.3	98.4	94.9	97.1	100.5	100.8	104.0	3.2
EL	100.9	105.3	91.2	103.6	102.2	101.0	105.6	109.8	104.8	106.5	107.8	1.2
E	101.3	96.3	101.9	101.8	101.9	98.3	98.8	95.6	109.8	102.7	106.0	3.2
F	96.1	99.5	101.5	99.0	105.0	99.6	100.9	103.2	107.6	107.8	108.2	0.3
IRL	95.6	91.9	103.9	104.2	109.6	106.3	105.0	108.5	111.2	111.0	110.5	-0.5
I	99.3	100.1	96.9	103.0	104.8	102.6	102.4	102.6	104.2	103.4	105.2	1.8
L	99.3	102.6	101.2	96.2	106.1	102.0	99.5	102.3	106.3	102.7	109.7	6.8
NL	93.8	97.1	100.4	102.5	104.4	105.1	106.8	106.3	105.8	100.4	105.0	4.6
A	100.3	99.0	100.1	101.0	98.0	98.4	99.4	95.3	94.9	96.0	101.6	5.8
P	84.8	97.4	101.6	101.0	103.2	90.5	94.7	96.1	102.0	98.0	89.1	-9.1
FIN	92.3	99.5	104.1	96.4	88.2	89.8	91.9	90.5	89.2	93.5	87.8	-6.1
S	99.4	102.1	104.7	93.3	89.6	99.8	94.7	93.1	95.2	98.8	97.9	-0.9
UK	98.8	100.0	99.4	100.6	102.6	99.3	100.8	100.6	101.3	102.2	101.2	-1.0
EUR-11	:	:	99.5	100.5	102.8	99.7	99.8	100.3	104.5	102.9	104.7	1.7
EU-15 ⁽¹⁾	97.8	99.2	99.9	100.9	103.0	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.5	100.5	102.4	100.0	100.1	100.7	104.1	103.1	104.6	1.5

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.30.

Nominal price indices of final output in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	93.4	103.4	98.7	97.8	91.8	87.3	89.3	82.6	86.0	87.9	83.9	-4.6
DK	98.1	104.2	98.8	97.0	96.6	85.5	86.5	89.0	91.1	90.0	79.1	-12.1
D ⁽¹⁾	96.7	103.8	98.4	97.8	94.7	:	:	:	:	:	:	:
D ⁽²⁾	:	:	100.4	99.6	96.6	91.1	93.6	92.5	93.1	94.0	89.1	-5.2
EL	72.5	81.9	99.7	118.5	121.0	127.9	140.9	142.7	147.3	151.5	150.6	-0.6
E	93.5	99.4	100.2	100.4	93.2	99.0	110.3	117.3	118.9	126.8	122.2	-3.6
F	95.8	101.1	100.5	98.4	91.1	85.8	88.0	88.2	86.9	88.0	86.6	-1.6
IRL	101.5	112.6	95.1	92.3	93.9	99.0	99.2	101.1	97.6	91.6	90.5	-1.2
I	91.4	95.7	100.1	104.2	101.3	102.8	105.0	112.8	115.4	113.5	113.0	-0.4
L	95.4	102.4	103.0	94.6	93.0	93.0	92.5	93.2	87.5	87.2	84.9	-2.6
NL	97.5	103.3	98.1	98.6	95.0	88.4	91.7	90.7	92.5	96.7	93.1	-3.7
A	93.3	96.9	101.1	102.0	100.9	99.5	100.4	79.3	79.6	80.0	74.8	-6.5
P	89.0	93.2	104.0	102.7	95.3	104.2	110.7	112.8	115.5	109.5	109.6	0.1
FIN	97.1	100.9	100.9	98.2	97.4	99.8	103.1	63.1	64.0	62.1	61.9	-0.2
S	99.5	103.9	99.0	97.1	96.3	91.7	98.2	97.3	91.6	88.8	86.6	-2.5
UK	92.1	99.1	100.9	100.1	100.8	104.5	105.8	114.7	110.0	98.0	89.6	-8.5
EUR-11	:	:	100.1	99.9	94.6	90.2	92.5	91.8	93.8	93.4	90.9	-2.7
EU-15 ⁽¹⁾	93.8	99.7	99.8	100.5	96.6	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.7	100.3	96.5	95.3	99.2	100.6	101.1	101.1	97.7	-3.4

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.31.

Real price indices of final output in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	100.8	106.7	98.7	94.9	85.9	78.5	78.5	71.6	73.3	73.9	69.5	-6.0
DK	106.3	107.3	98.5	94.3	91.9	81.0	81.2	82.1	82.4	79.8	68.8	-13.9
D ⁽¹⁾	102.3	107.2	98.5	94.3	87.4	:	:	:	:	:	:	:
D ⁽²⁾	:	:	102.3	97.7	89.8	81.4	81.7	79.0	78.6	78.9	74.2	-6.0
EL	100.9	99.6	100.6	99.8	88.8	82.0	81.2	74.9	71.6	69.0	65.0	-5.8
E	107.3	106.6	100.2	93.6	81.4	82.8	88.7	90.0	88.3	92.3	86.9	-5.9
F	102.2	104.4	100.4	95.2	86.2	79.3	79.9	79.0	76.8	77.0	75.0	-2.6
IRL	107.7	113.3	96.3	92.0	91.4	92.3	91.4	92.7	88.1	80.9	77.3	-4.5
I	104.9	103.1	100.1	96.8	90.0	87.5	86.1	87.7	85.5	81.9	79.7	-2.7
L	110.0	107.0	102.1	90.3	85.9	81.8	77.4	77.4	70.7	68.8	65.7	-4.6
NL	101.1	105.8	98.4	96.1	90.8	82.8	84.4	81.6	82.1	84.0	79.4	-5.5
A	99.3	100.4	101.2	98.4	93.3	89.6	88.0	68.2	67.0	66.3	61.3	-7.5
P	112.6	104.9	103.9	91.3	77.1	79.0	78.9	76.3	75.6	69.7	67.3	-3.4
FIN	107.7	105.5	99.7	94.6	93.3	93.3	95.2	56.9	57.2	54.3	53.4	-1.7
S	115.7	111.9	97.9	89.3	87.6	81.3	85.0	81.2	75.7	72.5	69.7	-3.9
UK	106.3	106.4	100.6	93.0	89.4	90.0	89.7	94.7	87.8	76.2	67.8	-11.0
EUR-11	:	:	102.4	97.6	89.3	84.7	85.6	83.4	82.1	81.7	78.3	-4.3
EU-15 ⁽¹⁾	104.3	105.3	99.8	95.0	87.5	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	102.5	97.6	89.8	85.3	86.1	84.4	82.5	80.9	76.8	-5.1

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.32.

Nominal value indices of final output in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	89.4	102.2	96.3	101.5	100.6	98.3	99.8	93.5	96.9	97.9	93.1	-4.9
DK	93.1	101.8	100.6	97.5	94.4	90.8	87.8	91.9	94.3	94.2	85.4	-9.3
D ⁽¹⁾	97.1	104.2	98.1	97.8	96.5	:	:	:	:	:	:	:
D ⁽²⁾	:	:	99.9	100.1	97.9	89.6	88.9	89.8	93.5	94.7	92.7	-2.2
EL	73.2	86.2	91.0	122.8	123.7	129.2	148.9	156.8	154.4	161.6	162.5	0.6
E	94.7	95.7	102.1	102.2	94.9	97.2	108.9	112.1	130.5	130.2	129.5	-0.5
F	92.0	100.6	102.0	97.4	95.6	85.5	88.8	91.1	93.5	94.9	93.7	-1.3
IRL	97.5	104.1	99.2	96.7	103.4	105.8	104.8	110.2	109.1	102.2	100.5	-1.7
I	90.7	95.7	97.0	107.3	106.1	105.4	107.4	115.7	120.2	117.3	118.9	1.4
L	94.6	105.0	104.1	90.9	98.5	94.8	91.9	95.3	92.9	89.4	93.0	4.0
NL	91.5	100.3	98.5	101.2	99.2	92.9	97.9	96.5	97.9	97.1	97.8	0.7
A	93.6	95.9	101.1	103.0	98.8	97.9	99.8	75.5	75.5	76.7	75.9	-1.1
P	75.4	90.7	105.6	103.7	98.2	94.3	104.7	108.4	117.7	107.2	97.6	-8.9
FIN	89.6	100.4	105.0	94.6	85.9	89.6	94.7	57.1	57.1	58.0	54.4	-6.3
S	98.8	106.0	103.5	90.5	86.2	91.4	92.9	90.5	87.2	87.7	84.7	-3.4
UK	91.1	99.1	100.2	100.7	103.4	103.7	106.7	115.3	111.4	100.1	90.7	-9.4
EUR-11	:	:	99.6	100.4	97.2	89.9	92.3	92.2	97.9	96.2	95.2	-1.0
EU-15 ⁽¹⁾	91.8	98.9	99.7	101.4	99.5	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.1	100.9	98.8	95.3	99.3	101.4	105.3	104.2	102.1	-2.0

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.33.

Real value indices of final output in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	96.5	105.4	96.3	98.4	94.0	88.4	87.7	81.0	82.6	82.3	77.1	-6.3
DK	100.8	104.9	100.3	94.8	89.8	85.9	82.4	84.8	85.3	83.6	74.2	-11.2
D ⁽¹⁾	102.7	107.6	98.2	94.2	89.1	:	:	:	:	:	:	:
D ⁽²⁾	:	:	101.8	98.2	90.9	80.1	77.5	76.7	79.0	79.5	77.1	-3.0
EL	101.9	104.9	91.7	103.4	90.7	82.8	85.8	82.3	75.1	73.5	70.0	-4.7
E	108.7	102.6	102.0	95.3	82.9	81.4	87.6	86.1	97.0	94.8	92.1	-2.8
F	98.2	103.9	101.9	94.2	90.5	79.0	80.6	81.5	82.6	83.1	81.1	-2.3
IRL	102.9	104.1	100.0	95.8	100.1	98.0	96.0	100.6	98.0	89.8	85.4	-4.9
I	104.2	103.2	97.0	99.7	94.3	89.7	88.2	90.0	89.1	84.7	83.9	-1.0
L	109.2	109.8	103.3	86.9	91.2	83.5	77.0	79.1	75.2	70.7	72.0	1.9
NL	94.9	102.7	98.8	98.5	94.8	87.0	90.1	86.8	86.9	84.3	83.3	-1.2
A	99.6	99.4	101.3	99.4	91.4	88.1	87.4	64.9	63.6	63.6	62.3	-2.1
P	95.5	102.2	105.6	92.3	79.5	71.5	74.7	73.3	77.1	68.3	60.0	-12.2
FIN	99.5	105.0	103.8	91.2	82.3	83.8	87.4	51.5	51.0	50.8	46.8	-7.7
S	115.0	114.2	102.5	83.3	78.5	81.1	80.5	75.6	72.1	71.7	68.2	-4.8
UK	105.1	106.4	99.9	93.6	91.8	89.3	90.5	95.3	88.9	77.8	68.6	-11.9
EUR-11	:	:	101.9	98.1	91.8	84.5	85.4	83.7	85.8	84.2	81.9	-2.6
EU-15 ⁽¹⁾	102.1	104.5	99.7	95.9	90.1	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	101.9	98.1	91.9	85.3	86.2	85.0	85.9	83.4	80.3	-3.7

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.34.

Volume indices of intermediate consumption in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	94.0	97.6	98.4	104.0	105.5	105.8	110.3	110.9	112.2	110.9	113.1	2.0
DK	96.8	96.4	101.9	101.8	105.7	109.9	105.4	106.2	104.3	104.4	104.5	0.0
D ⁽¹⁾	101.7	101.4	99.8	98.8	96.3	:	:	:	:	:	:	:
D ⁽²⁾	:	:	100.5	99.5	95.0	90.4	90.8	92.2	90.7	91.7	91.6	-0.1
EL	96.6	99.9	100.3	99.8	101.3	106.4	105.2	111.1	110.1	109.8	112.0	2.0
E	97.4	97.9	101.3	100.8	101.8	101.7	106.3	108.7	112.6	113.3	115.6	2.0
F	97.4	99.6	100.8	99.6	99.2	97.0	99.5	102.5	103.9	105.0	107.3	2.2
IRL	93.3	101.3	98.9	99.8	101.7	105.7	115.0	119.6	120.5	115.6	129.2	11.7
I	100.2	100.6	98.8	100.5	99.1	96.1	94.0	93.9	93.4	92.2	91.9	-0.4
L	95.6	97.7	100.1	102.2	104.5	99.1	101.2	101.8	105.5	105.0	105.2	0.2
NL	110.6	99.6	99.3	101.2	101.7	101.0	100.2	101.6	101.6	98.4	96.5	-1.9
A	97.9	98.4	100.6	101.0	102.6	105.1	106.0	102.2	104.2	104.1	103.2	-0.9
P	88.4	97.2	100.0	102.8	101.5	103.3	102.6	101.5	103.4	100.9	99.9	-0.9
FIN	105.3	106.2	101.7	92.1	89.5	86.0	85.2	93.1	90.6	90.2	90.9	0.8
S	109.5	107.6	102.0	90.4	90.3	94.8	96.7	93.2	94.3	94.8	95.8	1.1
UK	101.6	100.9	99.5	99.6	86.7	87.9	89.1	90.6	89.7	89.1	89.6	0.6
EUR-11	:	:	100.1	99.9	98.9	96.9	98.4	100.2	100.8	100.7	101.7	1.0
EU-15 ⁽¹⁾	100.0	100.1	100.2	99.8	98.1	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	100.2	99.8	97.7	96.6	97.8	99.5	99.9	99.7	100.7	1.0

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.35.

Nominal price indices of intermediate consumption in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	98.7	101.5	98.9	99.6	99.0	98.0	97.3	96.8	101.1	102.6	97.4	-5.1
DK	103.0	105.2	97.8	97.0	96.2	95.5	93.0	91.8	95.9	99.3	95.6	-3.8
D ⁽¹⁾	97.8	100.1	99.1	100.8	101.7	:	:	:	:	:	:	:
D ⁽²⁾	:	:	98.6	101.4	103.1	103.8	104.3	105.3	108.0	109.4	105.2	-3.9
EL	76.2	82.7	98.7	118.6	135.1	143.7	153.4	163.4	177.3	182.4	184.1	1.0
E	95.5	98.2	99.4	102.4	102.5	103.9	105.9	108.4	112.0	115.1	114.8	-0.2
F	98.2	101.5	99.7	98.8	99.6	97.8	97.1	98.0	100.7	102.6	98.2	-4.3
IRL	97.4	98.5	100.8	100.6	100.3	100.2	101.2	103.4	106.6	105.6	100.9	-4.5
I	94.2	97.6	100.5	101.9	103.1	111.3	113.0	122.0	127.6	127.3	126.2	-0.8
L	95.2	98.7	100.4	100.8	101.1	100.4	98.4	99.3	100.1	100.5	100.7	0.2
NL	89.3	101.8	98.4	99.8	100.3	99.1	99.4	99.4	103.4	105.5	103.8	-1.6
A	98.7	99.4	99.4	101.2	101.7	101.3	102.0	101.9	105.3	107.9	105.5	-2.2
P	93.1	96.5	99.3	104.2	106.1	105.3	106.8	111.5	115.3	112.3	109.2	-2.8
FIN	89.3	95.5	99.0	105.4	108.0	112.8	110.9	83.9	86.7	90.2	88.1	-2.3
S	87.8	95.0	100.4	104.6	104.3	102.4	103.6	108.4	114.9	115.3	112.8	-2.2
UK	91.8	97.6	100.0	102.5	118.8	120.6	121.6	128.2	137.3	133.2	122.2	-8.3
EUR-11	:	:	99.4	100.6	101.3	100.3	100.0	101.1	104.9	104.5	101.4	-2.9
EU-15 ⁽¹⁾	95.0	99.2	99.5	101.3	103.7	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.0	101.0	103.5	104.6	105.2	107.2	111.5	112.6	108.7	-3.5

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.36.

Real price indices of intermediate consumption in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	106.6	104.8	98.9	96.6	92.6	88.2	85.5	83.9	86.3	86.3	80.7	-6.5
DK	111.6	108.5	97.5	94.4	91.6	90.5	87.4	84.8	86.8	88.2	83.1	-5.8
D ⁽¹⁾	103.5	103.5	99.3	97.2	93.9	:	:	:	:	:	:	:
D ⁽²⁾	:	:	100.5	99.5	95.8	92.7	91.1	89.9	91.3	91.9	87.6	-4.7
EL	106.0	100.6	99.6	99.9	99.1	92.1	88.4	85.7	86.2	83.0	79.4	-4.3
E	109.6	105.2	99.4	95.5	89.5	87.0	85.2	83.2	83.2	83.8	81.7	-2.6
F	104.9	104.8	99.6	95.6	94.3	90.4	88.2	87.7	89.0	89.8	85.0	-5.3
IRL	102.9	98.6	101.6	99.8	97.2	92.9	92.8	94.4	95.8	92.8	85.7	-7.6
I	108.0	105.1	100.4	94.5	91.4	94.6	92.6	94.7	94.4	91.8	88.9	-3.2
L	110.1	103.5	100.0	96.7	93.8	88.7	82.7	82.8	81.2	79.7	78.2	-1.9
NL	92.6	104.3	98.6	97.1	95.8	92.8	91.4	89.4	91.7	91.6	88.4	-3.4
A	105.0	103.0	99.5	97.6	94.0	91.1	89.4	87.6	88.7	89.4	86.5	-3.2
P	117.8	108.6	99.2	92.6	85.8	79.8	76.2	75.3	75.4	71.5	67.1	-6.2
FIN	99.4	100.1	98.1	101.9	103.7	105.7	102.6	75.8	77.7	79.1	76.2	-3.8
S	102.7	102.8	99.9	96.7	95.4	91.3	90.1	91.0	95.5	94.7	91.2	-3.6
UK	106.0	104.9	99.7	95.4	105.5	104.0	103.2	106.0	109.6	103.6	92.4	-10.8
EUR-11	:	:	101.6	98.4	95.4	92.9	90.8	89.4	90.4	90.4	86.5	-4.3
EU-15 ⁽¹⁾	104.9	104.4	99.5	96.1	94.5	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	101.6	98.4	96.7	94.3	92.3	91.2	92.6	91.9	87.3	-5.1

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.37.

Nominal value indices of intermediate consumption in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	92.8	99.1	97.3	103.6	104.5	103.7	107.3	107.3	113.5	113.8	110.2	-3.2
DK	99.9	101.5	99.7	98.8	101.8	105.1	98.1	97.6	100.1	103.8	99.9	-3.8
D ⁽¹⁾	99.4	101.5	99.0	99.6	97.9	:	:	:	:	:	:	:
D ⁽²⁾	:	:	99.1	100.9	98.0	93.8	94.8	97.1	98.0	100.3	96.3	-3.9
EL	73.5	82.6	99.0	118.4	136.9	153.0	161.4	181.6	195.3	200.3	206.3	3.0
E	93.0	96.1	100.8	103.2	104.3	105.7	112.6	117.9	126.0	130.4	132.7	1.8
F	95.7	101.1	100.5	98.4	98.8	95.0	96.6	100.5	104.6	107.7	105.3	-2.2
IRL	91.0	99.8	99.7	100.5	102.0	105.9	116.4	123.7	128.4	122.1	130.3	6.7
I	94.3	98.2	99.4	102.4	102.2	107.1	106.2	114.5	119.2	117.4	115.9	-1.2
L	91.0	96.4	100.6	103.0	105.7	99.5	99.6	101.1	105.6	105.5	105.9	0.4
NL	98.8	101.4	97.7	100.9	102.0	100.1	99.6	101.0	105.1	103.8	100.2	-3.5
A	96.7	97.9	99.9	102.2	104.3	106.4	108.1	104.1	109.7	112.3	108.9	-3.0
P	82.3	93.7	99.3	107.0	107.6	108.7	109.5	113.1	119.2	113.2	109.0	-3.7
FIN	94.3	101.6	101.0	97.4	97.0	97.2	94.8	78.2	78.7	81.6	80.3	-1.5
S	96.4	102.4	102.7	94.9	94.4	97.3	100.4	101.3	108.6	109.6	108.4	-1.1
UK	93.3	98.5	99.5	102.1	103.0	106.1	108.4	116.2	123.2	118.7	109.5	-7.7
EUR-11	:	:	99.4	100.6	100.2	97.2	98.3	101.2	105.7	105.2	103.2	-1.9
EU-15 ⁽¹⁾	95.0	99.3	99.7	101.0	101.7	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	99.2	100.8	101.2	101.1	102.8	106.7	111.4	112.3	109.4	-2.5

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.38.

Real value indices of intermediate consumption in agriculture from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽²⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	100.2	102.2	97.3	100.5	97.7	93.3	94.3	93.0	96.8	95.7	91.3	-4.6
DK	108.1	104.6	99.4	96.1	96.8	99.5	92.1	90.0	90.5	92.1	86.8	-5.8
D ⁽¹⁾	105.3	104.9	99.1	96.0	90.4	:	:	:	:	:	:	:
D ⁽²⁾	:	:	101.0	99.0	91.1	83.8	82.7	82.9	82.8	84.2	80.2	-4.8
EL	102.4	100.5	99.9	99.6	100.4	98.0	93.0	95.3	94.9	91.1	88.9	-2.4
E	106.8	103.0	100.7	96.3	91.1	88.5	90.6	90.5	93.6	95.0	94.4	-0.6
F	102.1	104.4	100.4	95.2	93.5	87.7	87.8	89.9	92.5	94.2	91.2	-3.2
IRL	96.0	99.9	100.5	99.6	98.8	98.2	106.7	112.8	115.4	107.3	110.8	3.2
I	108.1	105.8	99.2	95.0	90.6	91.0	87.0	88.9	88.2	84.6	81.6	-3.5
L	105.3	101.1	100.1	98.8	98.1	87.9	83.7	84.3	85.7	83.6	82.2	-1.7
NL	102.4	103.8	97.9	98.3	97.4	93.8	91.6	90.8	93.2	90.1	85.4	-5.3
A	102.9	101.3	100.0	98.6	96.5	95.8	94.7	89.5	92.4	93.1	89.3	-4.1
P	104.2	105.6	99.2	95.2	87.1	82.4	78.1	76.5	78.0	72.1	67.0	-7.1
FIN	104.6	106.3	99.8	93.9	92.9	90.9	87.5	70.5	70.4	71.4	69.2	-3.0
S	112.5	110.6	101.9	87.5	86.2	86.5	87.2	84.8	90.0	89.8	87.4	-2.6
UK	107.7	105.9	99.2	95.0	91.5	91.4	91.9	96.1	98.4	92.3	82.9	-10.3
EUR-11	:	:	101.6	98.4	94.3	90.0	89.4	89.6	91.2	91.0	87.9	-3.4
EU-15 ⁽¹⁾	104.9	104.5	99.6	95.9	92.7	:	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	101.8	98.2	94.5	91.1	90.2	90.8	92.5	91.6	87.8	-4.2

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.39.

Trends in productivity of intermediate consumption ⁽¹⁾ from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽³⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	101.9	101.2	99.1	99.7	103.8	106.4	101.3	102.1	100.5	100.3	98.1	-2.3
DK	97.9	101.4	99.9	98.8	92.4	96.5	96.2	97.2	99.2	100.3	103.3	3.0
D ⁽²⁾	98.7	99.0	99.8	101.2	105.9	:	:	:	:	:	:	:
D ⁽³⁾	:	:	99.0	101.0	106.6	108.9	104.5	105.3	110.8	110.0	113.6	3.3
EL	104.5	105.3	90.9	103.8	100.8	94.9	100.4	98.8	95.1	97.0	96.2	-0.8
E	104.0	98.4	100.5	101.0	100.2	96.6	92.9	88.0	97.5	90.6	91.7	1.2
F	98.7	99.8	100.8	99.4	105.9	102.6	101.4	100.7	103.5	102.7	100.8	-1.9
IRL	102.4	90.8	105.0	104.4	107.7	100.6	91.4	90.7	92.3	96.0	85.5	-10.9
I	99.1	99.5	98.0	102.5	105.7	106.7	108.9	109.3	111.6	112.1	114.6	2.2
L	103.8	105.0	101.1	94.2	101.5	102.9	98.3	100.4	100.7	97.9	104.3	6.6
NL	84.8	97.5	101.1	101.4	102.7	104.0	106.6	104.7	104.1	102.0	108.8	6.6
A	102.4	100.6	99.5	100.0	95.5	93.6	93.8	93.2	91.1	92.2	98.4	6.8
P	95.9	100.2	101.6	98.3	101.6	87.7	92.3	94.7	98.6	97.2	89.2	-8.2
FIN	87.7	93.8	102.4	104.6	98.5	104.5	107.8	97.3	98.5	103.7	96.6	-6.8
S	90.7	94.9	102.6	103.1	99.2	105.3	97.9	99.9	101.0	104.2	102.1	-2.0
UK	97.2	99.1	99.9	101.0	118.4	112.9	113.1	111.0	112.9	114.7	112.9	-1.5
EUR-11	:	:	99.5	100.5	103.9	102.9	101.4	100.2	103.6	102.3	103.0	0.7
EU-15 ⁽²⁾	97.5	98.7	99.3	100.7	104.5	:	:	:	:	:	:	:
EU-15 ⁽³⁾	:	:	99.2	100.8	104.8	103.5	102.4	101.3	104.3	103.4	103.9	0.5

⁽¹⁾ Index of volume of final output divided by the index of the volume of intermediate consumption.

⁽²⁾ With Germany in its boundaries prior to 3 October 1990.

⁽³⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.40.

Trends in "terms of trade" of agriculture ⁽¹⁾ from 1988 to 1998
(Indices, 1989-1991=100 with the exception of ⁽³⁾)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	94.6	101.9	99.9	98.2	92.8	89.1	91.8	85.3	85.0	85.7	86.1	0.5
DK	95.3	99.0	101.1	100.0	100.4	89.6	93.0	96.9	95.0	90.6	82.8	-8.6
D ⁽²⁾	98.9	103.6	99.3	97.1	93.1	:	:	:	:	:	:	:
D ⁽³⁾	:	:	101.8	98.3	93.7	87.8	89.7	87.9	86.2	85.9	84.7	-1.4
EL	95.2	99.0	100.9	99.9	89.5	89.0	91.8	87.3	83.1	83.1	81.8	-1.5
E	97.9	101.3	100.8	98.0	90.9	95.2	104.1	108.2	106.2	110.1	106.4	-3.4
F	97.5	99.7	100.8	99.6	91.4	87.7	90.6	90.0	86.3	85.8	88.2	2.8
IRL	104.1	114.3	94.3	91.7	93.6	98.8	98.0	97.7	91.5	86.8	89.7	3.4
I	97.1	98.0	99.6	102.3	98.3	92.3	92.9	92.5	90.4	89.2	89.5	0.4
L	100.3	103.8	102.5	93.8	91.9	92.6	93.9	93.9	87.4	86.7	84.3	-2.8
NL	109.2	101.4	99.7	98.9	94.7	89.2	92.2	91.3	89.5	91.7	89.7	-2.2
A	94.5	97.5	101.7	100.8	99.2	98.3	98.4	77.8	75.5	74.1	70.8	-4.4
P	95.6	96.6	104.7	98.6	89.8	99.0	103.6	101.2	100.2	97.5	100.3	3.0
FIN	108.7	105.7	101.9	93.1	90.2	88.5	93.0	75.3	73.8	68.8	70.3	2.1
S	113.3	109.4	98.6	92.8	92.3	89.5	94.8	89.8	79.8	77.0	76.8	-0.3
UK	100.4	101.6	100.9	97.6	84.8	86.6	87.0	89.4	80.1	73.6	73.3	-0.3
EUR-11	:	:	100.7	99.3	93.4	89.9	92.5	90.9	89.4	89.4	89.6	0.2
EU-15 ⁽²⁾	98.9	100.7	100.5	99.5	93.3	:	:	:	:	:	:	:
EU-15 ⁽³⁾	:	:	100.7	99.4	93.2	91.1	94.3	93.8	90.7	89.8	89.8	0.1

⁽¹⁾ Index of nominal prices of final output divided by the index of nominal prices of intermediate consumption.

⁽²⁾ With Germany in its boundaries prior to 3 October 1990.

⁽³⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

Table A.41.

**Volume of total labour input in agriculture in annual work units (AWU) from 1988 to 1998
in 1000**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	98.3	96.0	94.2	91.9	88.0	85.8	83.6	81.1	79.1	76.0	74.1	-2.5
DK	104.8	101.9	98.9	95.5	93.5	92.7	88.4	84.7	82.7	79.3	77.8	-2.0
D ⁽¹⁾	837.0	786.8	760.0	718.0	689.1	658.1	:	:	:	:	:	:
D ⁽²⁾	:	:	1229.1	1029.7	863.6	803.1	750.0	711.0	683.0	660.0	633.0	-4.1
EL	851.0	799.3	737.5	680.8	690.7	702.8	669.6	638.4	619.3	600.9	580.8	-3.3
E	1359.2	1298.0	1255.8	1186.7	1156.9	1112.1	1099.6	1088.2	1029.7	1031.8	1044.2	1.2
F	1401.0	1343.7	1288.6	1235.3	1183.0	1121.2	1086.5	1057.8	1031.3	1005.9	980.8	-2.5
IRL ⁽³⁾	250.6	261.5	257.6	253.7	249.8	242.9	235.1	221.9	223.4	205.7	203.6	-1.0
I	2313.3	2194.3	2153.4	2156.4	2051.1	1901.1	1812.9	1740.3	1687.1	1663.7	1639.2	-1.5
L	6.4	6.3	6.0	5.8	5.5	5.4	5.1	4.9	4.7	4.6	4.5	-1.5
NL	237.4	237.5	230.2	236.1	238.3	235.7	229.7	225.6	223.3	224.4	227.4	1.3
A	211.8	202.9	194.8	187.1	175.4	164.4	154.8	145.9	138.7	134.6	131.6	-2.2
P	914.0	846.8	787.3	727.9	668.5	609.1	597.1	585.1	573.4	561.6	550.0	-2.1
FIN	174.0	160.8	156.8	152.3	150.1	143.6	137.4	131.4	128.6	125.7	122.5	-2.5
S	107.8	103.7	98.4	95.4	93.6	93.3	91.8	89.0	85.9	83.0	80.3	-3.3
UK	457.6	445.7	436.7	424.3	418.1	415.1	407.0	401.6	393.3	388.9	382.6	-1.6
EUR-11	:	:	7653.9	7262.9	6830.3	6424.4	6191.8	5993.3	5802.3	5694.0	5611.0	-1.5
EU-15 ⁽¹⁾	9324.4	8885.2	8556.3	8247.1	7951.7	7583.2	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	9025.4	8558.8	8126.2	7728.2	7448.6	7206.9	6983.4	6846.2	6732.4	-1.7

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

⁽³⁾ Eurostat estimate for the period 1987-1990.

Table A.42.

**Volume of family labour input in agriculture in annual work units (AWU) from 1988 to 1998
in 1000**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	% 98/97
B	88.0	85.7	83.4	81.5	77.6	74.6	72.2	69.6	68.3	65.7	64.0	-2.5
DK	79.1	76.1	73.5	70.9	68.9	68.0	64.7	61.9	59.9	56.5	55.4	-2.0
D ⁽¹⁾	732.4	684.5	667.3	634.7	609.2	577.2	:	:	:	:	:	:
D ⁽²⁾	:	:	777.5	650.6	628.0	597.2	570.0	534.6	510.0	475.0	449.0	-5.5
EL	732.0	735.5	678.4	625.9	624.8	623.7	589.1	556.4	541.4	526.8	505.3	-4.1
E	1036.6	989.9	952.6	877.0	860.4	841.0	822.5	800.7	757.9	726.9	723.9	-0.4
F	1179.0	1123.1	1071.0	1021.7	973.3	915.4	879.1	848.7	820.5	793.4	767.2	-3.3
IRL ⁽³⁾	222.9	236.0	235.1	234.2	228.7	223.5	215.2	201.7	205.3	188.2	186.3	-1.0
I	1633.8	1502.6	1466.5	1496.0	1388.4	1299.7	1249.7	1197.7	1158.6	1146.3	1123.4	-2.0
L	5.8	5.7	5.3	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.9	-2.2
NL	182.6	179.8	172.3	173.7	174.0	170.8	166.0	161.1	155.4	153.0	152.7	-0.2
A	194.5	185.8	177.7	169.6	157.5	146.9	137.5	128.6	121.3	117.0	114.0	-2.6
P	776.7	721.2	669.3	617.5	565.6	513.8	502.0	490.3	478.5	466.8	455.2	-2.5
FIN	168.2	155.1	151.1	146.6	143.3	138.1	132.1	126.4	122.9	119.4	115.7	-3.1
S	80.3	77.0	73.0	70.8	69.5	69.2	68.1	66.0	64.9	63.7	62.6	-1.7
UK	287.0	281.7	274.5	268.1	266.9	266.7	262.5	259.1	254.5	251.4	247.7	-1.5
EUR-11	:	:	5761.8	5473.5	5201.7	4925.7	4750.7	4563.6	4402.8	4255.6	4155.3	-2.4
EU-15 ⁽¹⁾	7398.9	7039.6	6751.0	6493.3	6213.0	5933.2	:	:	:	:	:	:
EU-15 ⁽²⁾	:	:	6861.2	6509.2	6231.8	5953.2	5735.2	5507.0	5323.5	5154.0	5026.2	-2.5

⁽¹⁾ With Germany in its boundaries prior to 3 October 1990.

⁽²⁾ With Germany in its boundaries after 3 October 1990, (Indices, 1990-1991=100).

⁽³⁾ Eurostat estimate for the period 1987-1990.

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