

CAP WORKING NOTES
1991

AGRICULTURAL INCOME 1990
*
SITUATION OF AGRICULTURAL
HOLDINGS 1988/89

COMMISSION OF THE EUROPEAN COMMUNITIES
Directorate-General for Agriculture

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I. AGRICULTURAL INCOME 1990 (*)

Agricultural income in the Community in 1990⁽¹⁾ is expected to fall by 4.5% in real terms, after having risen by 11.2% in 1989. It decreased in most Member States, although there was a marginal increase in Portugal, Denmark and France and a more marked increase in Spain. Against a background of overall stagnation in production volume (a small increase for animals and a slight decrease in crop products, particularly cereals, fresh fruit and wine), the downturn in agricultural income is due mainly to the unfavourable trend in prices in real terms, which was particularly marked in the case of oleaginous plants and in the livestock sector. In addition, the intermediate consumption of agriculture increased in nominal terms slightly more than total final production.

* * *

Three indicators are used to illustrate trends in income:

Indicator 1: net value added in agriculture at factor cost, in real terms, per annual work unit (= overall income available for the remuneration of the factors of production employed; intermediate consumption, taxes linked to production, and depreciation having been deducted from the value of final production and production subsidies added).

Indicator 2: net income from agricultural activity for the entire labour force, in real terms, per annual work unit (net value added at factor cost less rent and interest).

Indicator 3: net income from agricultural activity for family labour, in real terms, per annual work unit (net value added at factor cost less rent, interest and remuneration of hired workers).

Main results: an overview

Member States' estimates from the end of January 1991 show a clear fall (-4.5%) in real net value added at factor cost per annual work unit (Indicator 1) in the Community in 1990. The 1989 increase in Indicator 1 (+11.2%) did not therefore continue in 1990. The fall in real net income from agricultural activity of total labour input in agriculture per AWU is expected to be slightly greater (-6.0%). Real net income from agricultural activity of family labour input per AWU was down 8.2% on the previous year's level (cf. table below).

(*) Extracts from "Agricultural income 1990", Eurostat.

(1) Data for the Federal Republic of Germany in its boundaries prior to 3 October 1990, including West Berlin.

Probable change in real agricultural income per annual
work unit in 1990 as against 1989 (in %)

Member State	Real net value added at factor cost/AWU (Indicator 1)	Real net income from agricultural activity	
		of total labour input in agriculture/AWU (Indicator 2)	of family labour input/AWU (Indicator 3)
B	- 15,2	- 19,2	- 21,0
DK	+ 0,8	- 4,1	- 5,1
D	- 12,6	- 16,3	- 19,6
GR	- 7,8	- 8,4	- 8,4
E	+ 3,9	+ 2,6	+ 2,8
F	+ 0,2	+ 0,2	- 0,5
IRL	- 7,6	- 10,9	- 11,9
I	- 10,2	- 10,6	- 16,6
L	- 7,0	- 10,8	- 10,7
NL	- 3,0	- 5,6	- 6,8
P	+ 1,2	- 2,9	- 4,4
UK	- 3,7	- 6,3	- 11,4
EUR 12	- 4,5	- 6,0	- 8,2

NB: The commas in the table read as decimal points.

1. Real net value added at factor cost per annual work unit
(Indicator 1)

Production volume

The volume of agricultural production is estimated to have increased by only 0.3% in 1990, with 1.3% drop in crop production and a 1.7% increase in animal production. In the crops sector, quantities increased considerably only in the case of oleaginous plants (excluding olives) (+ 9.5%) and slightly in the case of sugarbeet (+ 1.5%), whereas they decreased markedly for olive oil (- 23.0%) and somewhat for fresh fruit (- 3.1%), cereals (- 3.0%) and grape must and wine (- 2.4%). In the livestock sector, there were increases for all types of livestock (average + 2.8%), while animal products (milk, eggs, etc.) remained at the same level.

Producer prices

There was only a slight increase in nominal producer prices in 1990 (+ 0.4%). The upward trend in animal product prices came to an end, with the average prices for cattle falling particularly sharply (- 7.5%). Pig prices also dropped in 1990 (- 4.1%), after having leapt the previous year, and the level of milk prices was lower than that achieved the previous year (- 2.9%). Price falls for these three major products were the main reason for the fall in prices for animal production as a whole (- 3.7%).

In crop production, on the other hand, there were further price rises (+ 4.7%). In the cereals sector the average prices remained nominally stable (+ 0.4%) for the most part, despite the application of stabilizers and the fact that cereals prices are dependent on market organization measures. This can mainly be attributed to the positive trends in prices in France, the United Kingdom and Greece, since some of the falls recorded in the other Member States were significant. Average Community producer prices soared for fresh vegetables (+ 11.0%), grape must and wine (+ 10.6%) and fresh fruit (+ 14.7%), which basically explains the rise in crop production prices.

Value of final production

The total value of final production increased only slightly in the Community as a whole since there were only minor rises in both prices and volumes. The trends in the individual Member States did, however, vary considerably. On the whole, we can say that it increased for crops, but fell for animal production.

Change in volume, prices and value of the main final production items, 1990 as against 1989 (in %)

	Volume	Price	Value
Cereals	- 3,0	+ 0,4	- 2,6
Fresh vegetables	- 1,2	+ 11,0	+ 9,7
Grape must and wine	- 2,4	+ 10,6	+ 7,9
Cattle	+ 3,8	- 7,5	- 3,9
Pigs	+ 1,1	- 4,1	- 3,0
Milk	+ 0,0	- 2,9	- 2,9
Final production	+ 0,3	+ 0,4	+ 0,7

NB: The commas in the table read as decimal points.

Intermediate consumption

The increase in the value of intermediate consumption in 1989 was sustained in 1990 (+ 1.9%). As in 1989, this rise was primarily due to higher prices, with prices up 1.3% while intermediate consumption volume only rose by 0.7%.

Gross value added at market prices

The increase in intermediate consumption value (+ 1.9%) cancelled out the moderate rise in the value of final production overall (+ 0.7%). As a result, the gross value added at market prices (total final production less intermediate consumption) remained virtually constant in the Community in 1990 (- 0.3%).

Net value added at factor cost

Value added at factor cost is calculated from value added at market prices by adding production subsidies and deducting taxes linked to production.

The rise in subsidies (+ 12.0%)⁽¹⁾ is not fully covered by the rise in taxes linked to production (+ 6.2%), but if depreciation (+ 5.2%) is taken into account, the resulting net value added at factor cost (basis of indicator 1) is slightly down in nominal terms (- 0.7%, after + 12.5% in 1989).

**Indicator 1 - Change in net value added at factor cost
in agriculture, 1990 as against 1989 (in %)**

Member States and date of estimate	Nominal net value added at factor cost	Implicit price index of gross do- mestic pro- duct at mar- ket prices (Deflator)	Real net value added at factor cost (1:2)	Agricultural labour input (total) in AWU	Real net value added at factor cost per AWU (3:4)
	1	2	3	4	5
B (31.1.91)	- 14,6	+ 3,3	- 17,3	- 2,5	- 15,2
DK (31.1.91)	+ 2,8	+ 3,0	- 0,2	- 1,0	+ 0,8
D (31.1.91)	- 12,4	+ 3,7	- 15,5	- 3,4	- 12,6
GR (24.1.91)	+ 8,7	+ 20,8	- 10,0	- 2,4	- 7,8
E (30.1.91)	+ 4,8	+ 7,4	- 2,4	- 6,1	+ 3,9
F (31.1.91)	+ 0,3	+ 3,5	- 3,1	- 3,3	+ 0,2
IRL (31.1.91)	- 4,4	+ 2,1	- 6,4	+ 1,3	- 7,6
I (31.1.91)	+ 3,7	+ 7,1	- 10,2	0,0	- 10,2
L (29.1.91)	- 7,9	+ 3,1	- 10,7	- 4,0	- 7,0
NL (30.1.91)	- 1,2	+ 2,9	- 4,0	- 1,0	- 3,0
P (31.1.91)	+ 8,4	+ 13,9	- 4,8	- 6,0	+ 1,2
UK (31.1.91)	+ 1,8	+ 7,7	- 5,5	- 1,9	- 3,7
EUR 12	- 0,7	:	- 7,2	- 2,8	- 4,5

NB: The commas in the table read as decimal points.

(1) It should be pointed out that the rise in production subsidies does not necessarily mean an increase in overall aid to agriculture but simply a growth in direct transfers to agriculture. Such transfers concern in particular both aid to farmers affected by natural disasters and payments made under the various Community schemes adopted in recent years (set-aside, conversion aid, premium in the cattle and sheep sector, buying-back of milk quotas, etc.) to offset or supplement the decrease in price maintenance and market support.

2. Real net income from agricultural activity of total labour input per annual work unit (Indicator 2)

For the Community as a whole, there is likely to be a drop of 6.0% in the net real income of total labour input in agriculture per AWU, which is a faster rate of decline than for Indicator 1. Accordingly, the rates of change for Indicator 2 in most of the Member States are greater than for Indicator 1.

The changes in interest payments and rents are the main reason for the differences between Indicators 1 and 2. At Community level and in most Member States there was a major rise in interest rates. However, with expenditure on rent remaining unchanged in some Member States or even falling in others, the average rise throughout the Community was lower than for interest rates.

Indicator 2 - Change in net income from agricultural activity of total labour input in 1990 as against 1989 (in %)

Member States and date of estimate	Nominal net income of total labour input	Implicit price index of gross domestic product at market prices (Deflator)	Real net income of total labour input (1:2)	Total agricultural labour input in AWU	Real net income of total labour input per AWU (3:4)
	1	2	3	4	5
B (31.1.91)	- 18,7	+ 3,3	- 21,3	- 2,5	- 19,2
DK (31.1.91)	- 2,2	+ 3,0	- 5,1	- 1,0	- 4,1
D (31.1.91)	- 16,2	+ 3,7	- 19,2	- 3,4	- 16,3
GR (24.1.91)	+ 8,0	+ 20,8	- 10,6	- 2,4	- 8,4
E (30.1.91)	+ 3,5	+ 7,4	- 3,6	- 6,1	+ 2,6
F (31.1.91)	+ 0,3	+ 3,5	- 3,1	- 3,3	+ 0,2
IRL (31.1.91)	- 7,8	+ 2,1	- 9,7	+ 1,3	- 10,9
I (31.1.91)	- 4,3	+ 7,1	- 10,6	0,0	- 10,6
L (29.1.91)	- 11,7	+ 3,1	- 14,4	- 4,0	- 10,8
NL (30.1.91)	- 3,8	+ 2,9	- 6,5	- 1,0	- 5,6
P (31.1.91)	+ 4,0	+ 13,9	- 8,7	- 6,0	- 2,9
UK (31.1.91)	- 1,0	+ 7,7	- 8,1	- 1,9	- 6,3
EUR 12	- 2,0	:	- 8,6	- 2,8	- 6,0

NB: The commas in the table read as decimal points.

3. Real net income from agricultural activity of family labour input per annual work unit (Indicator 3)

Whereas the first two indicators reflect the income of all persons working in agriculture, Indicator 3 refers exclusively to family workers. The previous year's positive trend for Indicator 3 (+ 15.0%) was not sustained in 1990. Indeed, Indicator 3 for 1990 reveals an 8.2% drop in real family labour income per annual work unit.

Discrepancies between Indicators 2 and 3 are due to the importance of, and current changes in, compensation of employees, as well as to the differences between changes in total labour input on the one hand, and family labour input on the other. There was a general increase in compensation of employees, the only exception being the further decline recorded in the Federal Republic of Germany.

Indicator 3 - Change in net income from agricultural activity of family labour input in 1990 as against 1989 (in %)

Member States and date of estimate	Nominal net income of family labour input	Implicit price index of gross domestic product at market prices (Deflator)	Real net income of family labour input (1:2)	Family labour input in AWU	Real net income of family labour input per AWU (3:4)
	1	2	3	4	5
B (31.1.91)	- 20,5	+ 3,3	- 23,0	- 2,5	- 21,0
DK (31.1.91)	- 5,2	+ 3,0	- 8,0	- 3,0	- 5,1
D (31.1.91)	- 18,8	+ 3,7	- 21,7	- 2,6	- 19,6
GR (24.1.91)	+ 8,0	+ 20,8	- 10,6	- 2,4	- 8,4
E (30.1.91)	+ 2,7	+ 7,4	- 4,4	- 7,0	+ 2,8
F (31.1.91)	+ 0,4	+ 3,5	- 3,8	- 3,3	- 0,5
IRL (31.1.91)	- 8,9	+ 2,1	- 10,8	+ 1,3	- 11,9
I (31.1.91)	- 10,7	+ 7,1	- 16,6	0,0	- 16,6
L (29.1.91)	- 12,3	+ 3,1	- 14,9	- 4,7	- 10,7
NL (30.1.91)	- 6,0	+ 2,9	- 8,7	- 2,0	- 6,8
P (31.1.91)	+ 2,4	+ 13,9	- 10,1	- 6,0	- 4,4
UK (31.1.91)	- 6,7	+ 7,7	- 13,4	- 2,2	- 11,4
EUR 12	- 4,2	:	- 11,0	- 3,1	- 8,2

NB: The commas in the table read as decimal points.

Long-term income trends in the Member States

Indices of real net value added at factor cost per annual work unit
(Indicator 1), from 1980 to 1990, 1984-1986 ¹⁾ = 100

	B	DK	D	GR	E	F	IRL	I	L	NL	P	UK	EUR 12
1980	87,0	65,8	89,9	91,5	86,7	85,9	88,2	107,0	69,2	75,2	95,7	88,6	89,8
1981	95,4	75,4	90,8	97,0	77,2	89,0	88,5	105,8	77,6	92,3	90,0	95,0	91,9
1982	100,5	91,2	110,8	99,9	89,5	105,1	96,6	106,1	107,7	96,9	100,5	103,1	101,7
1983	108,4	78,1	89,3	90,7	89,9	104,2	101,0	111,5	95,1	93,4	97,3	93,1	98,7
1984	104,4	104,0	102,5	98,8	101,0	103,5	112,2	100,9	98,0	100,9	99,6	111,9	102,4
1985	99,4	95,7	92,5	101,3	103,1	98,3	97,6	101,8	99,9	95,6	98,4	90,6	98,2
1986	96,2	100,3	105,0	100,0	95,9	98,2	90,2	97,4	102,2	103,5	102,1	97,5	99,3
1987	90,5	80,0	87,8	101,8	102,7	98,7	109,2	98,9	101,9	99,6	99,8	96,1	97,7
1988	98,8	81,0	109,3	111,9	118,5	94,9	122,9	94,6	107,4	102,6	84,0	85,3	100,1
1989	115,5	94,5	132,4	118,6	118,5	110,1	124,6	100,0	124,9	119,4	98,3	95,3	111,3
1990	98,0	95,3	115,8	109,4	123,1	110,3	115,2	89,8	116,2	115,8	99,5	91,8	106,3
Average annual rates of change ²⁾ in %													
1980-82 to 84-86	+ 1,5	+ 6,6	+ 0,7	+ 1,0	+ 4,3	+ 1,7	+ 2,4	- 1,6	+ 4,2	+ 3,2	+ 1,2	+ 1,1	+ 1,4
1984-86 to 88-90	+ 1,0	- 2,6	+ 4,5	+ 3,2	+ 4,7	+ 1,2	+ 4,9	- 1,3	+ 3,8	+ 3,0	- 1,6	- 2,4	+ 1,5
1980-82 to 88-90	+ 1,3	+ 1,9	+ 2,6	+ 2,1	+ 4,5	+ 1,5	+ 3,6	- 1,5	+ 4,0	+ 3,1	- 0,2	- 0,6	+ 1,4

1) 1984-86 = (1984 + 1985 + 1986) : 3

2) Calculated as geometric means

II. SITUATION OF AGRICULTURAL HOLDINGS
IN THE EUROPEAN COMMUNITY

(FADN ACCOUNTS 1988/89)
(Author : DG VI/A-3, January 1991)

SUMMARY

Every farm is unique. But despite the inherent diversity of farming there are Member States and types of farming showing common features of farm structure and agricultural income. The main objective of this report, therefore, is to join together the puzzle of detailed information in order to get a clearer picture of the whole.

The farm structure of Member States in terms of economic size is as follows:

1. The majority of agricultural holdings are comparatively small in Greece, Spain, Ireland, Italy and Portugal: 50 - 75% of farms are classified as being "very small". On the other hand, a comparatively large number of "very large" agricultural holdings are to be found in the United Kingdom, the Netherlands and Denmark.
2. A "bimodal" farm structure (i.e. a high proportion of "very small farms" and a high proportion of "medium" or "large" farms is to be found in Belgium, France, Germany, Luxembourg and the United Kingdom.

The level of agricultural income differ widely among countries. Nevertheless, two aspects are comon to all Member States:

1. The distribution of agricultural income is skewed to the left. In other words, the majority of labour force in all Member States has an income which is below the average (i.e. arithmetic mean).
2. The 20% of the labour force with the lowest earnings usually have an income less than 1/3 of the national agricultural median income ¹⁾. On the other hand, the top 20% often earn two or more times the national median.

1) Median income is that which divides the income distribution into two parts: So 50% of the labour force earn above and 50% below the median income.

An analysis of 13 types of farming ¹⁾ for EUR 10 shows that there are differences in the level, recent trend and fluctuation of income. According to these income indicators, the following groups have been distinguished:

1. The "successful" types of farming

These are: Specialist horticulture,
Specialist dairying,
Mixed cattle, and
Pigs and poultry

2. The "less fortunate" types of farming

These are: Cereals
General field cropping
Sheep and/or goats
Mixed crops/livestock

3. Two "transitional" groups:

a) Types of farming, which showed a significant income improvement:

Specialist vineyards
Mixed livestock holdings

b) Types of farming, which showed a steady upward income trend:

Other permanent crops
Specialist cattle
Mixed cropping

1) For definition see Annex 3.

1. Introduction

Agriculture in the European Community is very diversified. Detailed information as regards the situation of agricultural holdings is published by Eurostat and the Farm Accountancy Data Network (FADN) (1). Based on these data the objective of this report is to identify common features as regards farm structure and income.

The most important part of this analysis is included in the summary. The other sections are technical and explain the classification criteria.

The empirical sections of this report are based mainly on FADN data. The European Community set up the FADN in order to monitor the economics of farming as a business. This information network presently collects accountancy data from around 57.000 commercial farms throughout the Community (2).

The FADN provides a range of income indicators. In this report the term "income" is referring to Farm Net Value Added per Annual Work Unit (FNVA/AWU). This remunerates family and hired labour, own and borrowed capital and the management of the holding. For a detailed definition see Annex 1.

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- (1) See for example : Farm Accountancy Data Network "Economic Results of Agricultural Holdings No 5 - 1986/87", Commission of the European Communities, Brussels-Luxembourg, 1990 - Eurostat, Agricultural Income, Theme 5, Series D.
 - (2) For more information as regards the FADN see : Farm Accountancy Data Network, "An A to Z of methodology", Commission of the European Communities, Brussels-Luxembourg, 1989.

2. Agriculture in Member States - 1988/89

2.1 Farm structure in terms of economic size

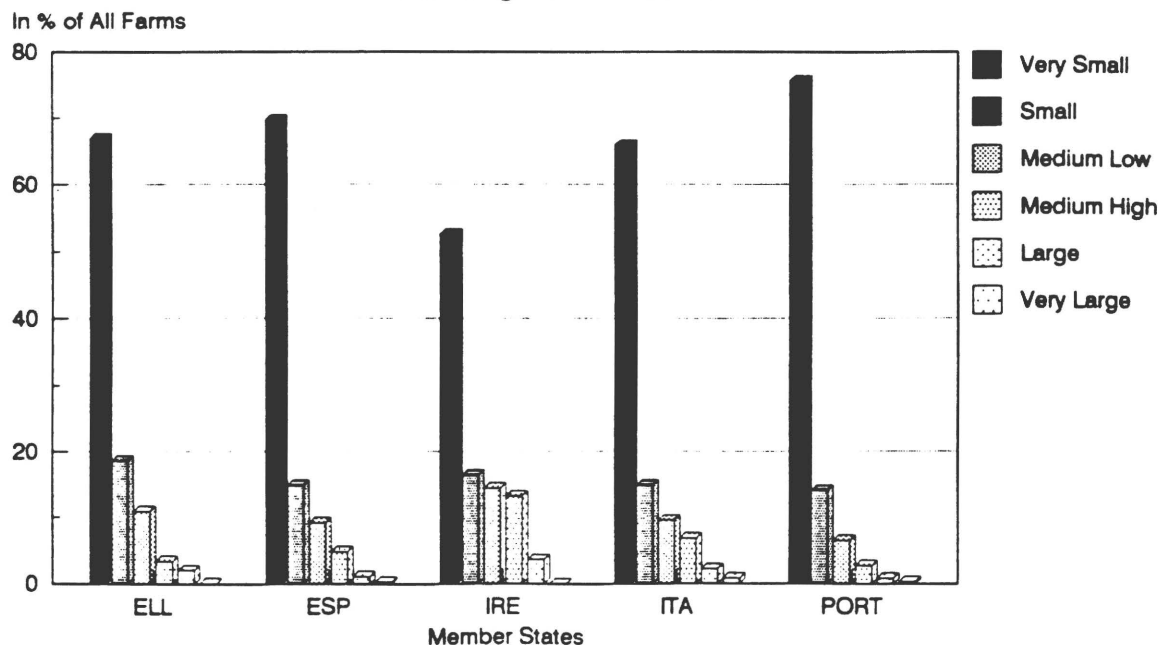
The determination of economic size in "European Size Unit" (ESU) is based on the concept of Standard Gross Margins (SGMs). The SGM is defined as the value of output from one hectare or from one animal, less the cost of variable inputs required to produce that output. For each region of the Community all feasible crops and livestock items are accorded an SGM. The sum of SGMs gives the "Farm Gross Margin". The value of one ESU is defined as a fixed number of ECU of Farm Gross Margin.

The FADN field of observation consists of commercial farms. A commercial farm is defined as an agricultural holding which exceeds a certain threshold measured in ESU. This threshold differs from country to country in order to reflect the different economic conditions of Member States. It is stated that commercial farms are large enough to provide a main activity for the farmer and a level of income sufficient to support the agricultural household.

The distribution of agricultural holdings by economic size is shown in Figures 1; 2, 3 (see also Annex 2). Accordingly, in a European context, two main types of farm structure can be distinguished.

1. The first group of Member States shows a distribution curve which is considerably skewed to the left. The modal farm size is "very small". This class covers between 50 and 75 % of all farms in the Member States concerned. Correspondingly there are comparatively small numbers of farms in the other size classes. The larger the farm size the smaller their share of total agricultural holdings. Member States belonging to this type are : Greece, Spain, Ireland, Italy and Portugal (see Figure 1).

Figure 1 : Distribution of Agricultural Holdings
According to Economic Farm Size

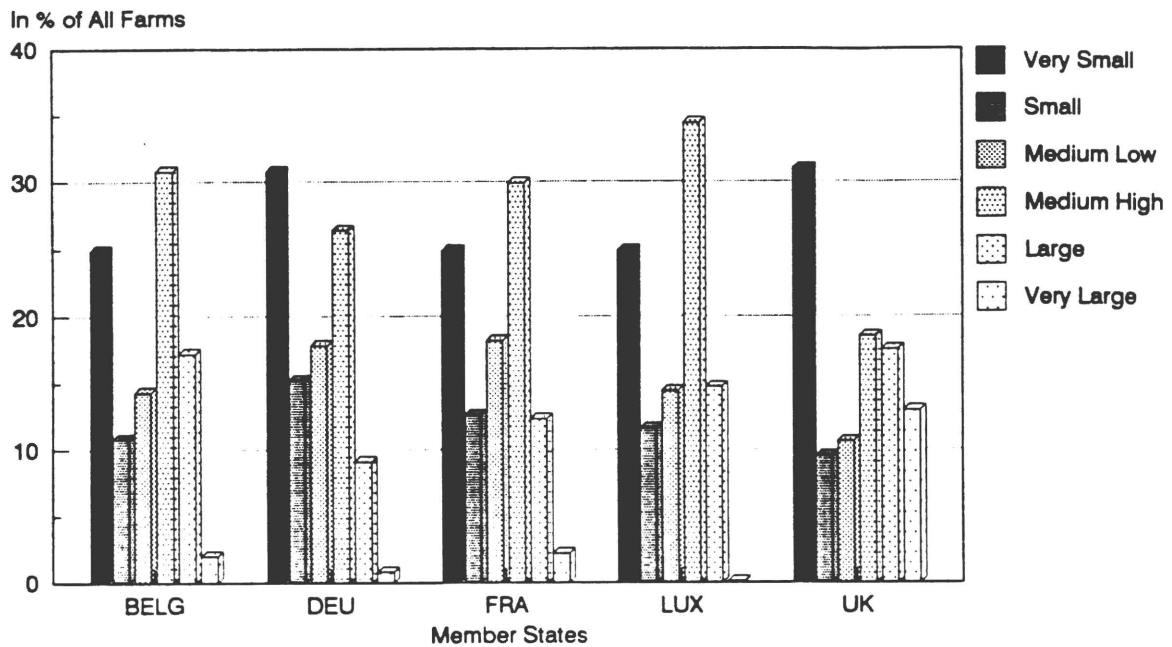


Source : Eurostat, Farm Structure Survey 1987

2. The second group of Member States shows a more even distribution of farm size, where the mode class amounts to 30 - 35 % of holdings. Member States belonging to this group are **Belgium, Denmark, Germany, France, Luxembourg, Netherlands and United Kingdom**. All of them show the most frequent size of commercial farm (i.e. farms above the threshold, see Annex 2) in the medium high class, with the exception of the Netherlands, where the most frequent farm size is the large class.

Within the second type a subgroup of Member States can be identified, characterised by a bimodal distribution curve. These Member States are **Belgium, Germany, France, Luxembourg and United Kingdom**. All of them show a peak of the distribution curve in the smallest size class and another peak in the medium high size class (see Figure 2).

Figure 2 : Distribution of Agricultural Holdings
According to Economic Farm Size

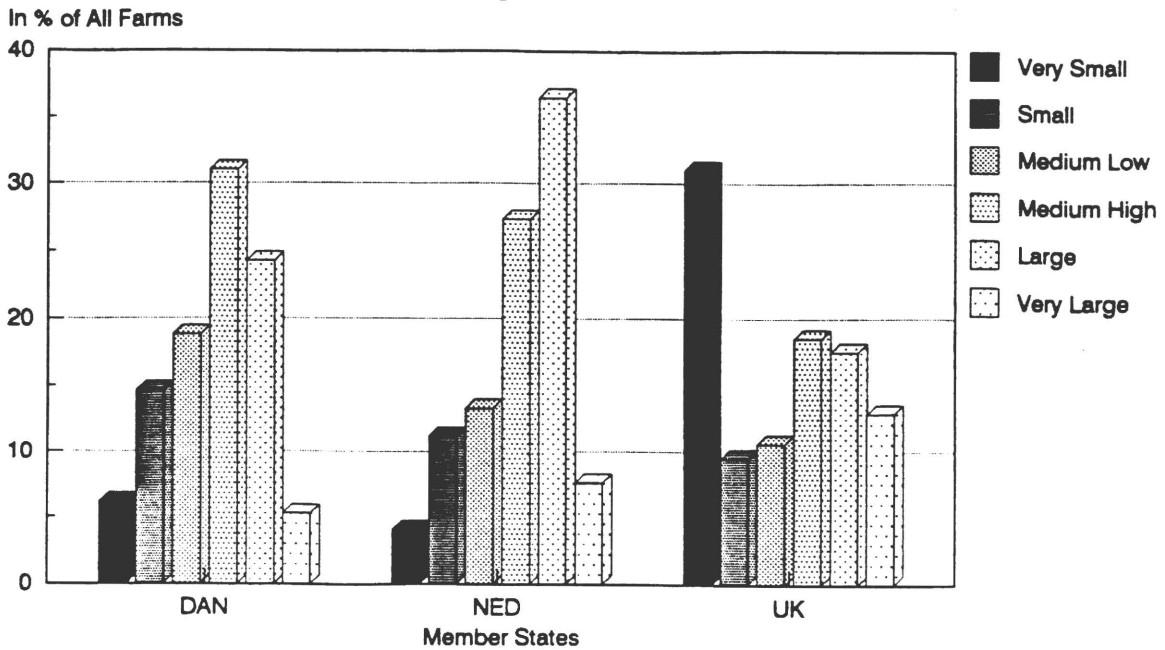


Source : Eurostat, Farm Structure Survey 1987

This bimodal distribution of farm size shows the duality of farm structure in these countries. Beside the commercial farm sector, which covers the majority of agricultural holdings, there exists also a sector of non-commercial farms, which make up an important share of the total.

The "very large" size class contains only a few agricultural holdings in most Member States. In general, this size class covers the smallest number of farms in all countries, except for the **Netherlands and United Kingdom**. These two countries, and to a lesser extent also **Denmark**, show a relatively high number of agricultural holdings in the largest farm size class. This indicates the "non-typical" farm structure of these Member States (see Figure 3).

Figure 3 : Distribution of Agricultural Holdings
According to Economic Farm Size

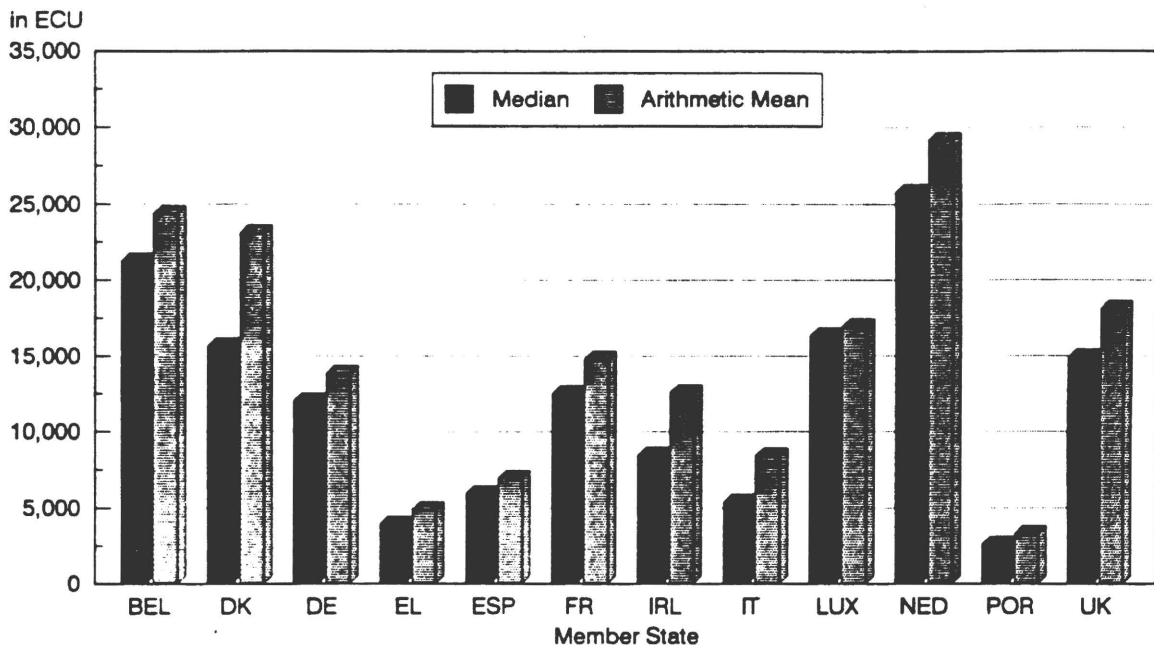


Source : Eurostat, Farm Structure Survey 1987

2.2 Income distribution of commercial farms

Figure 4 shows the median and the arithmetic mean income by Member State. The median is defined as that level of income such that half the labour force has an income above it and the other half has an income below it. Figure 4 suggests that the median in all Member States is always less than the mean. In other words the income distribution is skewed to the left. The majority of the agricultural labour force in all Member States has an income which is below the average (i.e. arithmetic mean). This is marked in Italy, Ireland and Denmark.

Figure 4: Agricultural Income by Member State
FNVA/AWU, 1988/89



Source : FADN

Figure 5 shows the range of income in each Member State. Total annual labour force has been divided, by FNVA/AWU, into 5 groups of increasing income, each of which is the same size. Thus one income group, or quintile, represents 20 % of the labour input of a Member State. The "Top" and "Bottom" quintiles have been standardized by the national median income, which is 100 in Figure 5. Thus, differences between Member States in the level of agricultural incomes are eliminated.

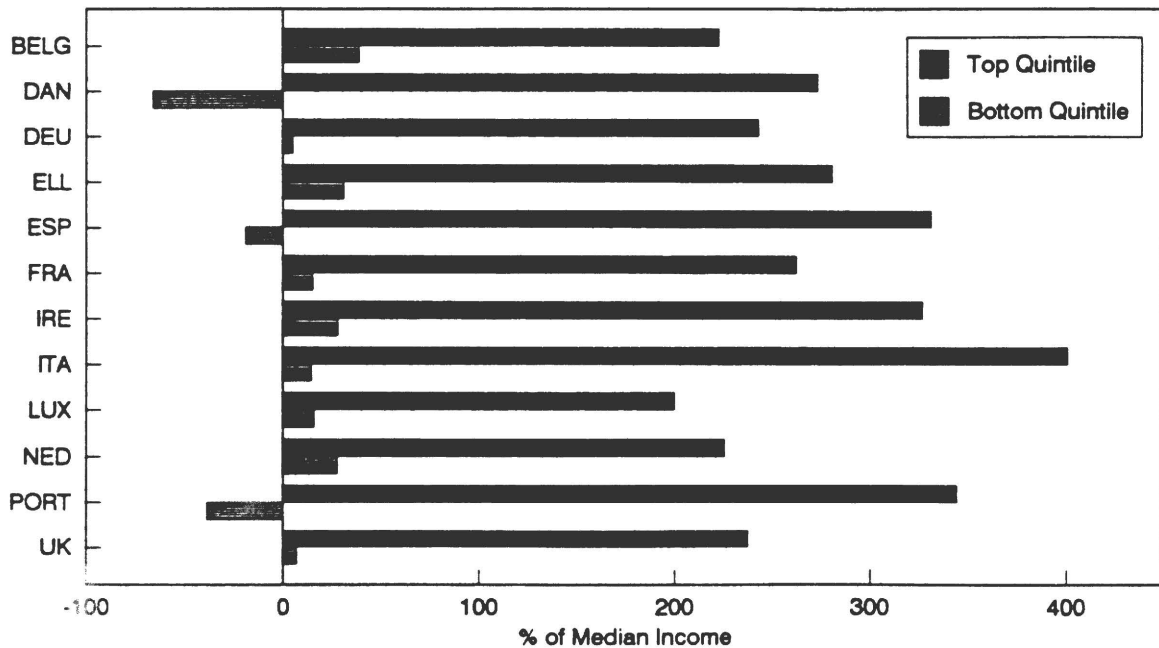
In order to correctly interpret the calculated range one has to keep in mind two features of the FADN-data base.

1. FADN collects data only from commercial farms. Thus the calculated range indicates only the income difference of commercial farms. For all Member States especially those with a comparatively high threshold, the range of agricultural income would be greater if all agricultural holdings were included.
2. As the income of quintiles has been used, the calculated range is the difference between the averages of extreme quintiles and not the difference between extreme observations (i.e. outliers).

Taking these aspects into account it can be said that the calculated income range is a conservative estimate of the real differences. I.e. the range of the absolute minima and maxima of individual farm data might be even larger than those showed in Figure 5.

Figure 5: Income Range by Member State

FNVA/AWU in ECU, 1988/89



Source: FADN

It is clear from Figure 5 that the incomes of the highest quintile, relative to the Member States' median income, is very high in Spain, Ireland, Italy and Portugal. In these countries, the top 20 % achieve about 3 to 4 times the median income. In the other Member States this ratio is between 2 and 3.

In three Member States (Denmark, Spain and Portugal), the lowest income group receives a negative income. In the other Member States, the incomes of this group are positive but normally do not exceed 30 % of the national median.

Despite these differences in income distribution among Member States, one can generally state that, as a rule of thumb, the bottom 20 % of the labour input usually has an income less than 1/3 of the national median income per AWU whereas the top 20 % usually earns two or more times the median income.

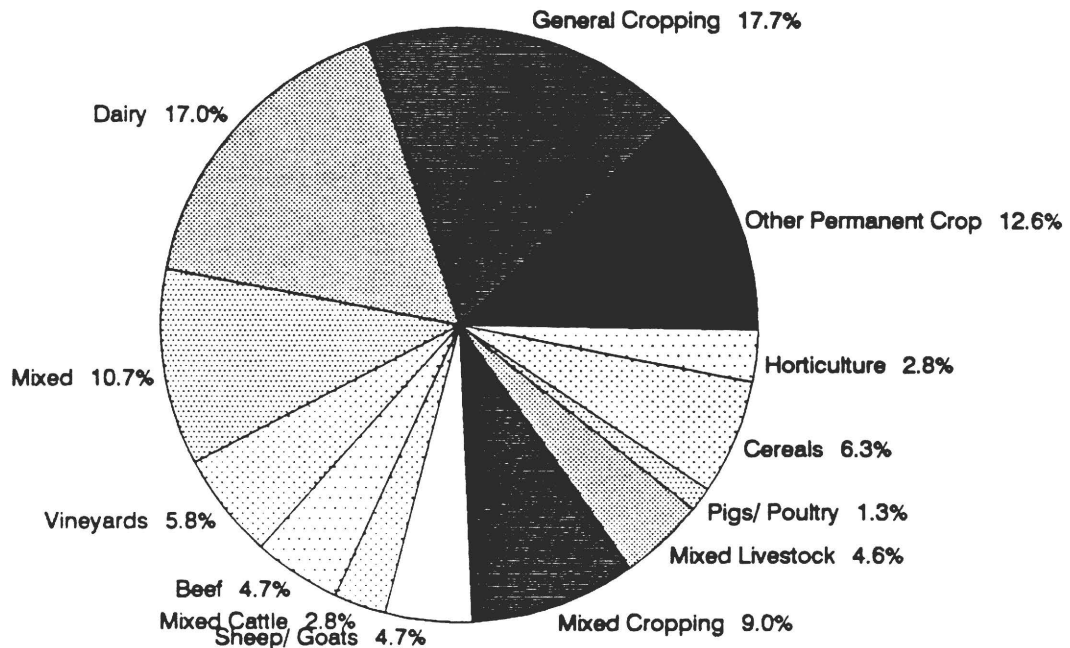
3. Agricultural income by type of farming from 1981 to 1989

3.1 Farm structure by type of farming

Natural environment as well as economic and political conditions influence agriculture in different ways. Thus, in this section the level, recent trend, and fluctuations of agricultural incomes are shown for different types of farming in the Community of EUR10. These are : Belgium, Denmark, Germany, Greece, France, Ireland, Italy, Luxembourg, the Netherlands and United Kingdom (1).

Agricultural holdings have been classified into 13 types of farming (see Annex 3). They are defined in terms of the relative importance of the different enterprises on the farm. Relative importance is itself measured quantitatively as a proportion of each enterprise's Standard Gross Margin (SGM) to the farm's total SGM.

Figure 6 :Types of Farming
Share of Total Population, EUR.10, 1987



Source : FADN

The 1987 figures of the structure of type of farming in EUR10 are given in Figure 6. This shows the dominance of the following types of farming : "General Field Cropping", "Specialist Dairying", "Other Permanent Crops" and "Mixed". Each of these four types of farming account for more than 10 % of all farms. Together they account for 58 % of all agricultural holdings in EUR10. On the other hand there are comparatively few "Specialists Granivores", "Specialists Horticulture" and "Mixed Cattle". Each of these accounts for less than 3 % of all farms.

(1) There are insufficient data for time series analysis from 1981 onwards for Spain and Portugal.

3.2 Analysis of income indicators

3.2.1 Absolute level of income

To distinguish income patterns of the 13 types of farming from 1981 onwards, they have been grouped into three categories. The categories have been defined in relation to the "all farm types" level of income (1).

The first group, indicating a "high" income level, contains only those types of farming, which show above average incomes in the period examined. Farm types are classified as having "medium" levels of income, if they show an income level sometimes above and sometimes below the average in the period under consideration. A "low" income level means that income has been consistently below the average.

Table 1 shows a distinct income pattern according to type of farming. Four farm types had an income which is usually above the annual average of all types. At the same time there are also four farm types belonging to the low income group i.e. with incomes always below the average. Five types of farming show a medium income level. Annual income of these latter farm types is sometimes above and sometimes below the annual "all types" average.

Table 1 : Level of agricultural income 1981-1989, 13 Types of farming, EUR10

Level	Criteria	Type of farming
High	Above average	Specialist horticulture Specialist dairying Mixed cattle Pigs and poultry
Medium	Sometimes below and sometimes above average	Specialist cereals Specialist vineyards General field cropping Mixed crops/livestock Mixed livestock holdings
Low	Below average	Other permanent crops Specialist cattle Sheep and/or goats Mixed cropping

Source : Annex 4

(1) The income trend of "all farm types" in the FADN sample does not reflect the sectoral income. This is due to the sample definition which includes only commercial farms larger than a minimum threshold. For sectoral income analysis see : Eurostat, Agricultural Income, Theme 5, Series D.

3.2.2 Income trends

For the period under review, 1981 to 1989, the income level of different types of farming is shown in the previous section. Although this pattern reveals a certain stability, not all farm types have maintained their relative income position. The changes are outlined below.

Three trends can be identified :

1. Positive income trend in real terms

i.e., the income growth is stronger than the "all types" average. Thus, a type of farming showing this either entered a higher income position or maintained its position in the "high" group.

2. Static income

i.e., the trend is upwards, but below the "all types" average. Thus, the relative income position of this farm type deteriorated although there was a income increase in real terms.

3. Negative income trend

i.e., an absolute income loss in real terms.

In Table 2 the farm types have been ranked according to the observed income trends. The income development is shown by the relative income change from the three-year-average 1981/82/83 to the three-year-average 1987/88/89. During this time period the real income for all types of farming increased by 14,5 %. Taken this growth rate as the yard-stick, the classification criteria for the different development paths are shown in Table 2.

**Table 2 : Trends of agricultural income in real terms 1981-1989,
13 Types of Farming, EUR 10**

Trends	Criteria	Type of farming	% increase
Positive	X > 14,5 %	Specialist vineyards	+ 31,6 %
		Specialist dairying	+ 29,2 %
		Specialist cattle	+ 29,0 %
		Specialist horticulture	+ 22,6 %
		Mixed cattle	+ 20,4 %
		Other permanent crops	+ 18,9 %
		Mixed livestock holdings	+ 16,7 %
		Mixed cropping	+ 15,3 %
Static	0 < x < 14,5 %	Mixed crops/livestock	+ 6,8 %
		Sheep and/or goats	+ 0,7 %
		Pigs and poultry	+ 0,7 %
Negative	x < 0	General field cropping	- 6,1 %
		Specialist cereals	- 12,1 %

Income (X) in % = ((Average 1987/88/89 / Average 1981/82/83) - 1) x 100

Source : Annex 4

Most exceptional are the types "specialist vineyards", "specialist dairying", and "specialist cattle" with an income increase of about 30 %. On the other hand, the farm types "specialist cereals" and "general field cropping" suffered income losses.

3.2.3 Fluctuation of income

Sections 3.2.1 and 3.2.2 reveal the level and trend of income by type of farming. Farming, however, takes place in an environment subject to unforeseen changes and hence incomes vary from year to year. Therefore, this section focusses on income fluctuations.

The MacBean-Index (MBI) (1) has been applied for calculating income fluctuations. This index measures the relative deviation of the annual income data from a 5-year moving average. Thus, by applying the MacBean-Index (MBI), instability is defined as the year to year deviation from an estimated short term trend. On the other hand, annual alterations of income per se are not taken as being fluctuations, as long as they are in line with the calculated short time trend.

In Table 3 the types of farming have been ranked according to income instability. They have been classified into three groups : low, medium and high instability. Low instability is if MBI is smaller than 5 %, medium of 5 to 8 % and high larger than 8 %.

$$(1) \quad MBI = \frac{100}{n-4} \sum_{t=5}^{n-2} \frac{|X_t - MA_t|}{MA_t}$$

n = Number of Observations

t = Time

x = Annual Data

MA = Moving Average

Table 3 : Fluctuation of agricultural income 1981-1989, 13 Types of Farming EUR10

Fluc-tuation	Criteria	Type of farming	MacBean Index (MBI)
Low	MBI < 5 %	Mixed cattle	3,2 %
		Mixed cropping	3,5 %
		Specialist dairying	3,9 %
		Specialist cattle	4,4 %
		Other permanent crops	4,5 %
		Specialist horticulture	4,7 %
Medium	MBI 5 - 8 %	Mixed crops/livestock	5,3 %
		General field cropping	6,3 %
		Specialist cereals	6,9 %
		Mixed livestock	7,2 %
High	MBI > 8 %	Specialist vineyards	8,8 %
		Sheep and/or goats	9,9 %
		Pigs and poultry	18,7 %
		All types of farming	2,2 %

Source : Annex 4

Firstly, income fluctuations of the overall average (all types of farming) are smaller than for individual types of farming. This is because co-variances between different farm types reduce the fluctuations of the aggregate.

Secondly, three of the six types of farming in the "low-fluctuation" group are concerned with dairying or cattle. Thus, it can be said that for milk and beef production relatively stable market conditions have prevailed.

On the other hand high income fluctuation is particularly evident for "specialist granivores". This farm type shows the highest rate of income fluctuation probably due to unstable market conditions.

3.3 Synthesis

Based on Table 4, the income situation by type of farming for EUR10 during the period from 1981 to 1989 can be summarized as follows.

Table 4 : Synopsis of Income parameters

Type of farming	Level	Trend	Fluctuation
Specialist cereals	medium	negative	medium
General field cropping	medium	negative	medium
Specialist horticulture	high	positive	low
Specialist vineyards	medium	positive	high
Other permanent crops	low	positive	low
Specialist dairying	high	positive	low
Specialist cattle	medium	positive	low
Mixed cattle	high	positive	low
Sheep and/or goats	low	static	high
Pigs and poultry	high	static	high
Mixed cropping	low	positive	low
Mixed livestock holdings	medium	positive	medium
Mixed crops/livestock	medium	static	medium

Source : Calculations in chapter 3.2.1, 3.2.2, 3.2.3

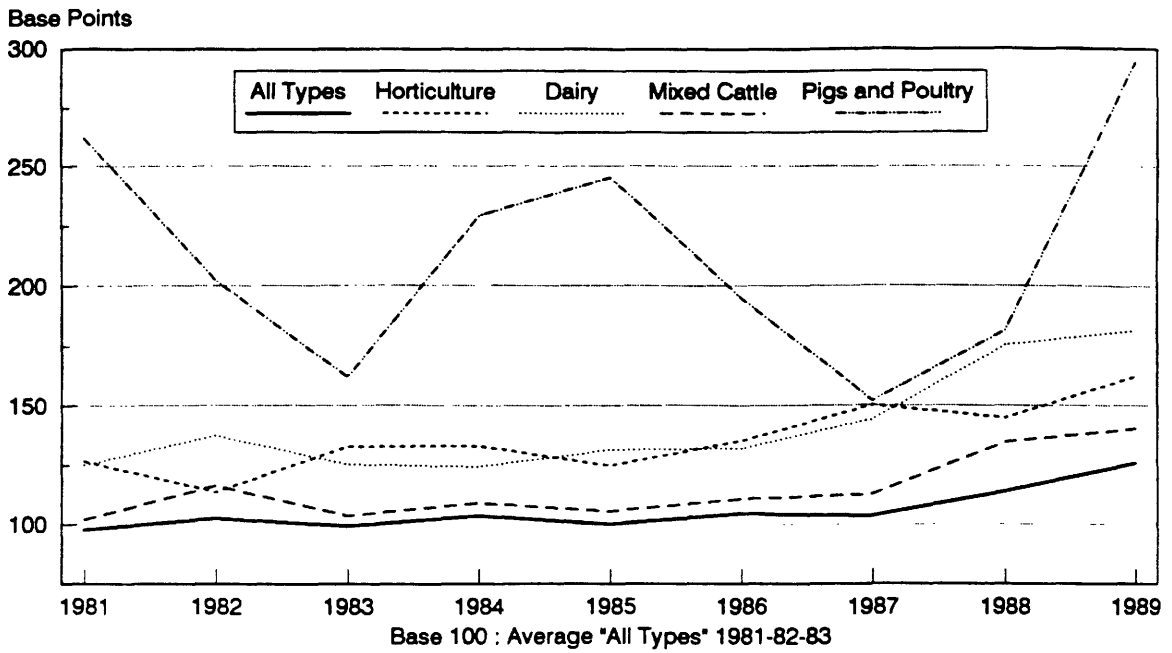
Firstly, there is a group of four "successful" types of farming (Figure 7)

1. Specialist horticulture
2. Specialist dairying
3. Mixed cattle
4. Pigs and poultry

The first three types recorded an income level higher than the "all types" average accompanied by a stable income increase. Thus, the disparity between the "all types" average and these farm types became larger from 1981 to 1989.

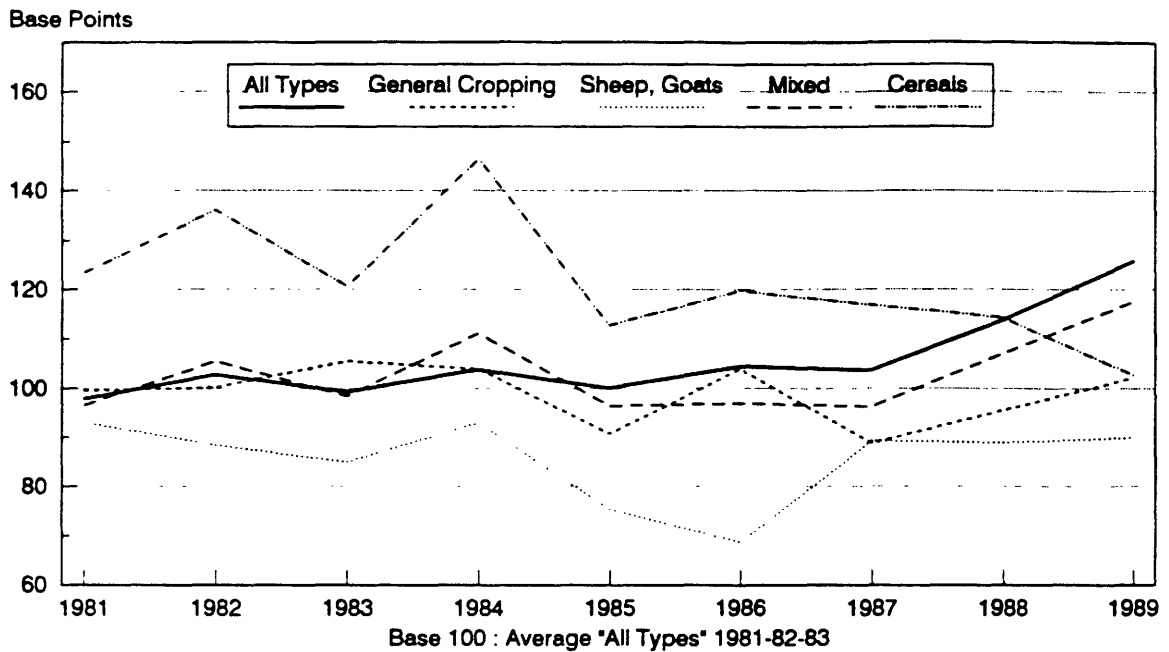
The income situation of pig and poultry farmers is exceptional in this group. These farmers showed outstandingly high income fluctuations. Good years were often followed by years of comparatively poor results. Nevertheless, the income level was always well above the "all types" average - in 1989 it was about 3 times the average. The classification of a "successful" type of farming, therefore, seems justified.

Figure 7 : The "Successful" Types of Farming
(FNVA/AWU in real terms - EUR 10)



Source : FADN

Figure 8 : The "Less Fortunate" Types of Farming
(FNVA/AWU in real terms - EUR 10)



Source : FADN

Secondly, there is a group of four "less fortunate" types of farming (Figure 8)

1. Cereals
2. General field cropping
3. Sheep and/or goats
4. Mixed crops/livestock

These farm types showed a low or medium income level, a negative or static income trend, and distinct income fluctuation. The relative income position of these farm types deteriorated in the period considered. In 1989 the income of each of these types was lower than the "all types" average.

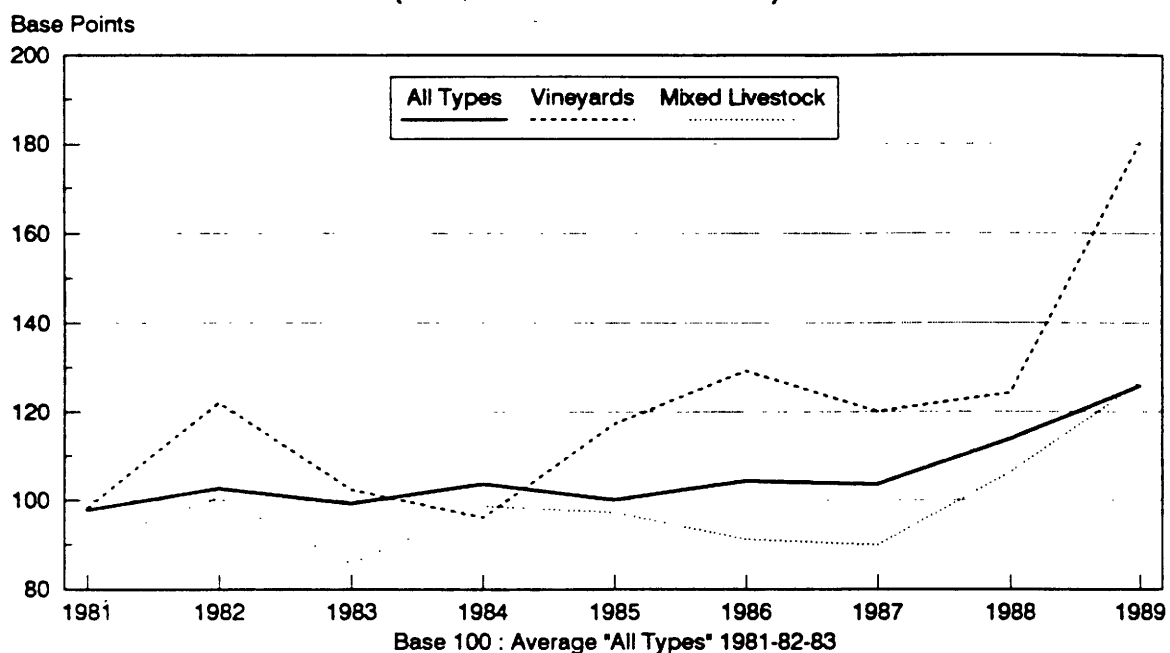
Thirdly, the remaining types fall into two transitional groups :

a) Type of farming, which showed an income improvement (Figure 9) :

1. Specialist vineyards
2. Mixed livestock holdings

Due to the positive income trend both farm types obtained in 1989 an income above the "all types" average. In particular, the income situation of specialists vineyards is relatively good. Nevertheless, this farm type showed comparatively high income fluctuation, indicating a certain instability of the income development.

Figure 9 : "Income Improvement"
(FNVA/AWU in real terms - EUR 10)



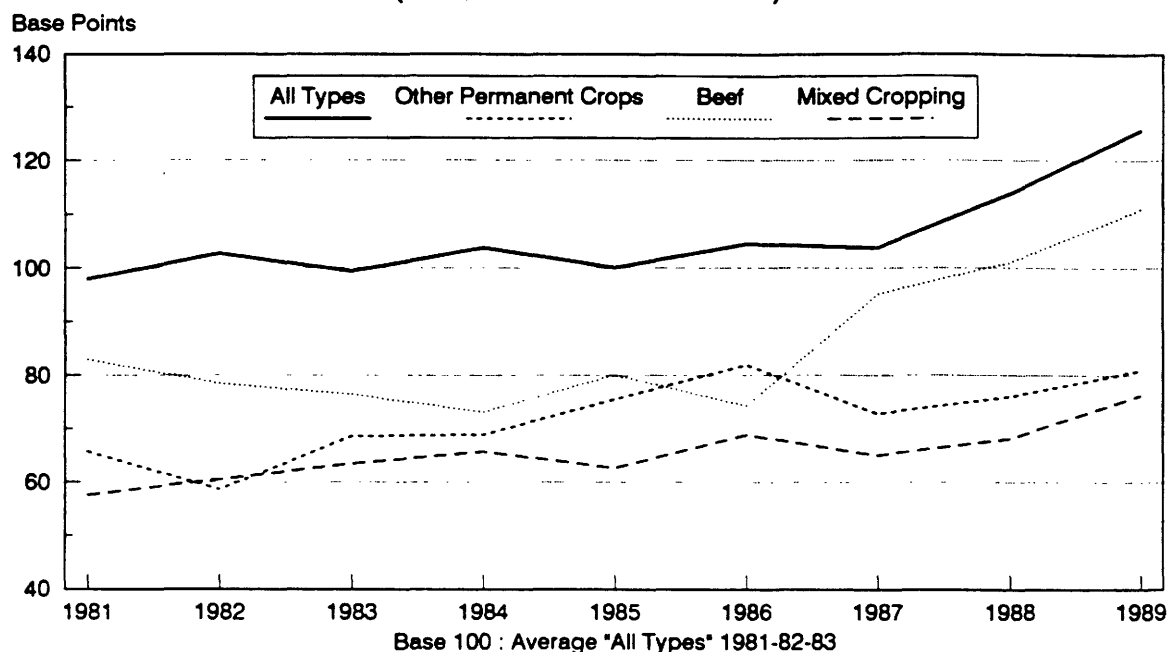
Source : FADN

b) Type of farming, which showed a steady upward income trend (Figure 10)

1. Other permanent crops
2. Specialist cattle
3. Mixed cropping

These farm types show both a stability of income and a positive trend. Although the level of income was less than the "all types" average, the income disparity became less over the period under consideration.

Figure 10 : Steady Upward Income Trend
(FNVA/AWU in real terms - EUR 10)



Source : FADN

This classification of farm types according to their income situation gives only an impression of the overall tendency. The development of individual farms may be rather different from that of the group to which it belongs. Thus, there is no doubt that the "success" of a farm depends more on the entrepreneurial and technical skill of the farmer than on it being classified as a certain farm type.

Key to Income Indicators in FADN

Sales (or turnover)				
	210	260	265	
	Change in value of livestock	Farmhouse consump- tion	Farm use	Stocks Closing valuation

Stocks Opening valuation	Livestock purchases	400 Subsidies on products and costs
130 - Output of which : 135 - crops 205 - livestock and products 255 - other		

275 - Intermediate con- sumption of which: 280 - Specific costs 335 - Overheads	395 - VAT balance 390 - Taxes (except VAT)	410 = Gross Farm Income
--	---	-------------------------

360 Depreciation	415 FNA = Farm Net Value Added	405 Investment grants and subsidies
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425 = 415/010 = FNA/AWU

365 - Wages, rent and interest paid	430 FFI = Family Farm Income
---	---------------------------------

430 = 420/015 = FFI/FWU

Income Indicator per Work Unit :

Distribution of all agricultural holdings according to farm size - 12 Member States, 1987

Member States	Class of Economic Size					
	Very small < 4 ESU	Small 4 - 8	Medium low 8 - 16	Medium high 16 - 40	Large 40 - 100	Very large > 100
Belgi(que)	24,9	10,8	14,3	30,8	17,2	2,0
Danmark	6,2	14,6	18,8	31,0	24,2	5,3
Deutschland	30,8	15,2	17,8	26,4	9,1	0,8
Ellas	66,9	18,6	10,9	3,4	0,2	0,02
España	69,7	14,9	9,2	4,8	1,1	0,3
France	24,9	12,6	18,2	29,9	12,3	2,2
Irèland	52,6	16,4	14,4	13,2	3,6	0,01
Italia	65,9	14,9	9,5	6,8	2,2	0,8
Luxembourg	24,9	11,6	14,4	34,4	14,7	0,1
Neder land	4,1	11,2	13,3	27,3	36,5	7,6
Portugal	75,6	14,1	6,5	2,7	0,8	0,3
United Kingdom	31,0	9,5	10,6	18,5	17,5	12,9

- Threshold : FADN definition of "Commercial Farms"

- Mode

Source : Farm Structure Survey, 1987

Classification of agricultural holdings by type of farming

The 13 groups presented (in columns) are combinations of the 17 principal types of farming of the Community Farm Typology (referred to below by their 2-digit codes) :

Cereals = specialist cereals (the total SGM for cereals represents more than 2/3 of the total SGM of the holding).

Field crops = mainly one or more of potatoes, sugar beet, grain maize, field vegetables and oilseeds, with or without cereals.

Horticulture = specialist cultivation of fruit and vegetables (market gardening), in the open or protected. The total SGM of these represents more than 2/3 of the total holding SGM.

Vineyards (Winegrowing) = holdings where vines represent more than 2/3 of the total SGM. They may produce quality wines or table wines (either direct sales or sales to cooperatives, etc.), as well as table grapes and raisins (as in Greece).

Permanent crops = any of tree fruit and nuts (apples, pears, peaches, walnuts, almonds, citrus fruit, etc.) and/or olive trees. Permanent crops (except vines) represent 2/3 of the SGM.

Dairy = specialist dairying farms (2/3 of the total SGM) with predominantly dairy cows.

Beef = specialist cattle farms where dairy cows account for less than 10 % of the herd : mainly fattening of beef cattle or calf-rearing.

Mixed cattle = holdings specializing in cattle production with both beef and dairy cattle.

Sheep and goats = farms with sheep and/or goat (accounting for more than 2/3 of the total SGM) specializing in the production of milk, meat or wool; also holdings combining cattle and goat or sheep farming.

Pigs and poultry = farms with normally intensive production of pigs and/or poultry (including egg production), these accounting for more than 2/3 of the total SGM.

Mixed cropping = predominantly cropping farms (arable and/or permanent crops) with no specialization.

Mixed livestock = as preceding but for livestock. This group includes particularly holdings with a pig or poultry unit combined with cattle farming.

Mixed farms = any combination of mixed crops and livestock, without any dominant enterprise.

**Farms Incomes : Change in Real Terms
FNVA/AMU - EUR10**

Type of farming	1981	1982	1983	1984	1985	1986	1987	1988	1989
Cereals	123.47	136.19	120.68	146.48	112.84	119.81	116.94	114.43	102.77
General cropping	99.54	100.29	105.49	103.97	90.88	103.95	88.86	95.54	102.21
Horticulture	126.70	113.56	132.91	133.02	124.74	135.20	150.29	144.94	162.18
Vineyards	98.32	122.15	102.47	96.22	117.27	129.20	120.21	124.32	180.37
Other permanent crops	65.84	58.70	68.70	68.93	75.56	82.04	72.79	76.10	80.91
Dairy	125.20	137.49	125.36	124.25	131.50	132.15	144.45	175.41	181.65
Beef	82.95	78.52	76.60	73.16	80.16	74.37	95.04	101.00	110.97
Mixed cattle	102.19	116.36	103.74	108.94	105.60	110.65	112.79	134.85	140.29
Sheep and goats	93.11	88.45	85.06	92.99	75.32	68.73	89.38	89.07	90.01
Pigs and poultry	262.03	202.35	161.93	229.14	245.12	194.88	152.13	181.44	294.39
Mixed cropping	57.64	60.60	63.52	65.86	62.75	68.94	65.08	68.20	76.32
Mixed livestock	90.54	100.60	85.79	98.74	97.35	91.38	90.04	106.45	126.62
Mixed	96.64	105.53	98.40	111.15	96.51	96.99	96.41	107.10	117.59
All types	97.92	102.74	99.34	103.77	100.12	104.50	103.71	113.87	125.80

Base 100 : Average "All Types" 1981/82/83

ECU-Deflator for EUR10 : GDP at market prices/GDP at constant prices in ECU

Source : 1981-1988 FADN Results, 1989 Forecast VI/A-3

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