# The Structure of EC Agriculture: Implications for CAP Reform and GATT

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GATT Research Paper 92-GATT 2 October 1991

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This material is based upon work supported by the Cooperative State Research Service, U.S. Department of Agriculture, under Agreement 89-38812-4480.

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.

## **CONTENTS**

Figures		٠.		•	•				•	٠.	•	•		•	•		•	•						•	•	 •	•			•	•		•	•		 ٠	•	 •	٧
Tables .																																			• •			 •	V
Abstract									•	٠.		•						•						•			•										•	 •	vi
Backgrou	und	Info	ori	ma	tic	n	οn	th	ıe	St	ru	cti	116	e 0	f	ΕŒ	C.	Ą٤	gri	cu	ıltı	ure	е.									•		•					1
Structure	e, C	ΑP	R	efc	rn	n,	an	d (	G/	Αī	Т								•			•						•	٠.	•						 			14
Conclusi	on																																						23
Referenc	es																																						27

## **FIGURES**

1.	Agricultural employment	3
2.	Agricultural production per worker, 1989	5
3.	European Agricultural Guidance and Guarantee Fund expenditures, agricultural production, and holdings, 1989	12
4.	Distribution of land, 1987	16
	TABLES	
1.	Agricultural employment as a share of total employment	2
2.	Characteristics of agriculture in EC member countries	4
3.	Shares of individual member states in EC agricultural production, 1989	6
4.	Commercial agricultural holdings, distribution by type of enterprise, 1988/89	8
5.	Farm net value added per agricultural worker, 1988/89	10
6.	Distribution of farm net value added per agricultural worker, 1988/89	11
7.	Distribution of expenditures under the European Agricultural Guidance and Guarantee Fund in 1989, with comparisons to other indicators	13
8.	Distribution of utilized agricultural land by farm size, 1987	15
9.	Distribution of dairy cows by herd size, 1987	18
10.	Distribution of cattle numbers by herd size, 1987	19
11.	Average value of outputs and inputs per commercial agricultural holding, 1986/87	21
12.	Characteristics of agriculturally less-favored areas (LFAs), 1986/87	24

### **ABSTRACT**

Statistics demonstrate the diversity of EC agriculture. Agriculture in southern Europe is characterized by many small farms, most of which emphasize crop production. In northern Europe, farms are larger and more likely to emphasize livestock production. More than 70 percent of all EC farms are in southern Europe, but northern Europe accounts for more than 60 percent of all agricultural production and public expenditures on agriculture.

The proposed Common Agricultural Policy (CAP) reform would reduce agricultural support prices and impose additional supply control measures. Small-scale producers would be exempt from supply control provisions and would receive direct payments to compensate for reduced market returns. Large-scale producers would receive compensation payments on only a portion of their production. Given the distribution of land and livestock in the European Community, less than 10 percent of all farms are too large to receive full compensation, but these farms account for approximately 50 percent of all crop acreage and 40 percent of dairy and beef animals. These large farms are concentrated in northern Europe, which helps explain the opposition of several northern European agricultural ministers to the reform proposal.

The CAP reform process addresses some of the same issues that are the focus of the Uruguay Round of trade negotiations being conducted under the auspices of the General Agreement on Tariffs and Trade (GATT). Speculating about the consequences for the European Community of a GATT agreement is hazardous, given the great uncertainties about the terms of an agreement. It is clear, however, that the structure of EC agriculture will influence the policy debate and that the outcome of both the CAP reform process and the GATT negotiations will have important structural implications.

## THE STRUCTURE OF EC AGRICULTURE: IMPLICATIONS FOR CAP REFORM AND GATT

Concerns about the structure of agriculture shape policy debates in the European Community. In the current round of trade negotiations under the auspices of the General Agreement on Tariffs and Trade (GATT), EC negotiators have argued that agriculture plays a different and greater social function in Europe than in the United States. These negotiators contend that government support is required to protect the large number of small farms and to aid disadvantaged areas in the Community. Likewise, the current internal debate over reform of the Common Agricultural Policy (CAP) is dominated by arguments about what effect the proposed changes would have on farms of different scale in different countries.

This report provides background information about the structure of EC agriculture and examines the implications for CAP reform and the GATT negotiations. The first section summarizes statistical information about the structure of EC agriculture, considering differences across countries, enterprises, and income groups. The second section focuses on structural issues directly related to CAP reform and the GATT negotiations, such as distribution of land and other resources, production costs, and characteristics of the areas designated by the European Community to be less-favored areas (LFAs).

### Background Information on the Structure of EC Agriculture

Agricultural employment accounted for 7.0 percent of total employment in the European Community in 1989, compared to 2.9 percent in the United States (Table 1). In general, agriculture accounted for a much larger share of total employment in southern Europe (Italy, Spain, Greece, and Portugal) than in northern Europe (France, West Germany, United Kingdom, Netherlands, Denmark,

Table 1. Agricultural employment as a share of total employment

	1960	1970	1980	1985	1989
			(Percent)		
France	22.5	13.5	8.7	7.6	6.4
West Germany	13.8	8.6	5.3	4.6	3.7
United Kingdom	4.8	3.2	2.6	2.5	2.2
Netherlands	9.8	6.3	4.9	4.9	4.7
Denmark	18.2	11.5	8.1	7.1	6.0
Belgium	8.7	4.8	3.2	3.1	2.8
Ireland	37.3	27.1	18.3	16.1	15.1
Luxembourg	16.6	9.4	5.4	4.2	3.4
(N. Europe Subtotal)	13.1	8.2	5.5	4.9	4.1
Italy	32.6	20.2	14.3	11.2	9.3
Spain	42.3	29.5	19.2	18.5	13.0
Greece	57.1	40.8	30.3	28.9	26.6
Portugal	43.9	30.0	28.6	23.9	18.9
(S. Europe Subtotal)	38.6	25.8	18.6	16.2	13.0
European Community	21.1	13.8	9.6	8.5	7.0
United States	8.5	4.5	3.6	3.1	2.9
Japan	30.2	17.4	10.4	8.8	7.6

SOURCE: Commission of the European Communities 1991, T/96.

Belgium, Ireland, and Luxembourg). At one extreme, agriculture's share of total employment is lower in the United Kingdom and Belgium than in the United States, whereas at the other extreme, more than one-fourth of all Greek workers are employed in agriculture.

The relative importance of agriculture in total employment has been declining since 1960 in all EC countries, the United States, and Japan (Figure 1). Although the levels are very different, the general pattern is remarkably similar across countries. In the European Community as a whole, agriculture's share of total employment fell by 67 percent of its 1960 value between 1960 and 1989.

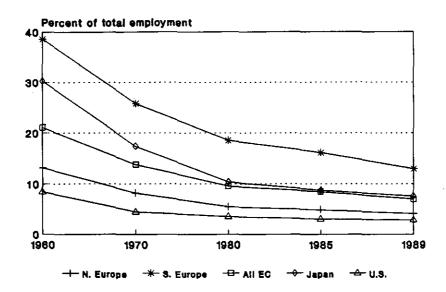


Figure 1. Agricultural employment

SOURCE: Commission of the European Communities 1991, T/96.

The corresponding decline for the United States was 66 percent, and for Japan it was 75 percent. The employment data provide little evidence that the high levels of government support for agriculture in the European Community (and Japan) have significantly slowed the outflow of workers from the agricultural sector to other parts of the economy.

Among EC member countries, the value of 1989 agricultural production was greatest in France, and northern European countries as a group accounted for 64 percent of total EC agricultural production (Table 2). Southern European countries, on the other hand, accounted for 59 percent of total agricultural employment and 71 percent of agricultural holdings in the European Community. Per worker productivity was greatest in Belgium and the Netherlands and was approximately 2.5 times as great in northern Europe as in southern Europe (Figure 2).

The mean commercial farm in the European Community had 13.3 hectares of utilized agricultural area in 1987 (Table 2). For comparison, the mean farm in the United States in 1987 was 187.0 hectares in size, and the mean U.S. farm with cropland had 97.1 hectares of cropland

Table 2. Characteristics of agriculture in EC member countries

	(1)	(2)	(3) Production	(4)	(5)	(6) Utilized Area	(7) Ag and Food
	Production 1989	Employment 1989	per Worker 1989	Utilized Area 1989	Number of Holdings 1987	per Holding 1987	Trade Balance 1989
	(Mil. ECUs)	(1,000)	(ECUs)	(1,000 Ha)	(1,000)	(Ha)	(Mil. ECUs)
France	46,264	1,381	33,500	30,710	982	28.6	549
West Germany	28,894	1,063	27,182	11,885	705	16.8	-6,641
United Kingdom	19,184	575	33,363	18,031	260	64.4	-5,200
Netherlands	15,676	286	54,811	2,019	132	15.3	-189
Denmark	6,851	160	42,819	2,809	87	32.2	1,067
Belgium	6,119	100	61,190	1,363	93	14.8	-2,071
Ireland	4,321	163	26,509	5,697	217	22.7	781
Luxembourg	188	6	30,549	126	4	30.2	_a
(N. Europe Subtotal)	127,497	3,734	34,143	72,640	2,480	27.4	-11,706
Italy	36,708	1,946	18,863	17,297	2,784	5.6	-5,933
Spain	23,380	1,598	14,631	27,110	1,792	13.8	-2,441
Greece	7,993	972	8,223	5,741	953	4.0	-285
Portugal	3,513	829	4,238	4,532	636	5.2	-1,161
(S. Europe Subtotal)	71,594	5,345	13,395	54,680	6,165	7.7	-9,821
European Community	199,090	9,079	21,928	127,320	8,644	13.3	-21,527

SOURCES: (1): Commission of the European Communities 1991, T/28.

(2), (4), (5), (6), (7): Commission of the European Communities 1991, T/20-T/21.

(3): Calculated, (1)/(2).

<sup>&</sup>lt;sup>a</sup>Included in figures for Belgium.

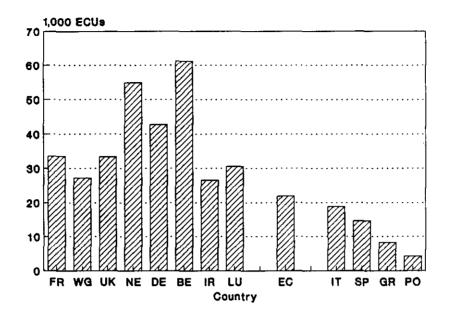


Figure 2. Agricultural production per worker, 1989

SOURCE: Commission of the European Communities 1991, T/20, T/21, T/23.

(U.S.Department of Commerce 1989, 7). The average farm in northern Europe was more than three times as large as the average farm in southern Europe, and the mean farm size in the United Kingdom was 16 times greater than that in Greece.

The EC countries also exhibit great diversity in trade balances for agricultural and food products. On the one hand, West Germany, Italy, the United Kingdom, Spain, Belgium, and Portugal were large net importers of agricultural and food products in 1989 (Table 2). On the other hand, Denmark and Ireland were large net exporters, and net trade balances for France, the Netherlands, and Greece were small. Even in countries with large negative trade balances, agricultural exports were significant. For example, West German exports of agricultural and food products to non-EC countries totaled 5.4 billion European currency units (ECUs) in 1989, compared to imports of 12.0 billion ECUs and domestic agricultural production valued at 28.9 billion ECUs (Commission of the European Communities 1991, T/152).

France was the leading EC producer of wheat, barley, maize, oilseeds, sugar beets, milk, and beef in 1989 (Table 3). West Germany was the leading producer of pork in 1989, and German unification will make united Germany the leading producer of barley, milk, beef, and perhaps sugar beets. Italy was the second leading producer of maize and oilseeds in 1989, and was second only to France in terms of the total value of agricultural production. In general, the commodities of greatest interest in the GATT negotiations and in the CAP reform process were produced primarily in northern Europe. France, West Germany, and the United Kingdom together accounted for more than 50 percent of EC production of cereals, oilseeds, sugar beets, milk, and beef (and 47.3 percent of

Table 3. Shares of individual member states in EC agricultural production, 1989

	Wheat	Barley	Maize	Oil- seeds	Sugar Beets	Milk	Beef	Pork	Total
					(Percen	t)			
France	40.6	21.1	48.1	39.9	28.5	23.8	22.4	13.7	23.2
West Germany	14.1	21.0	5.7	14.3	21.5	22.2	21.1	23.8	14.5
United Kingdom	17.6	17.1	0.0	9.1	8.9	13.6	13.1	7.2	9.6
Netherlands	1.3	0.5	0.0	0.2	8.0	10.4	6.5	14.2	7.9
Denmark	4.1	10.7	0.0	6.2	3.4	4.4	2.7	8.9	3.4
Belgium	2.0	1.4	0.2	0.1	6.7	3.3	4.0	6.3	3.1
Ireland	0.6	3.2	0.0	0.1	1.5	4.9	5.8	1.1	2.2
Luxembourg	0.0	0.1	0.0	0.0	0.0	0.3	0.1	0.1	0.1
(N. Europe)	80.3	75.1	54.0	70.1	78.5	82.9	75.8	75.3	64.0
Italy	9.4	3.7	24.4	18.8	12.1	9.7	15.4	9.1	18.4
Spain	6.9	20.0	12.3	10.0	6.7	5.3	6.0	12.9	11.7
Greece	2.5	1.1	6.5	0.8	2.7	0.6	1.1	1.2	4.0
Portugal	0.8	0.2	2.9	0.4	0.0	1.4	1.7	1.6	1.8
(S. Europe)	19.7	24.9	46.0	29.9	21.5	17.1	24.2	24.7	36.0
European									
Community	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Commission of the European Communities 1991, T/160 (wheat), T/161 (barley), T/162 (maize), T/185 (oilseeds), T/179 (sugar beets), T/275 (milk), T/250 (beef), T/257 (pork), and T/28 (total).

Note: Percentages are in terms of the quantity produced except in the case of total production, which is measured in value terms.

total agricultural production), even though those three countries accounted for only 22.5 percent of EC agricultural holdings.

The Farm Accountancy Data Network (FADN) classifies commercial EC agricultural holdings into nine types of enterprises, based on the commodity or commodities that provide most of the farms' incomes (Commission of the European Communities 1990, 127). On specialized farms (cereals, horticulture, vineyards, permanent crops, dairy, and hogs and poultry), the principal product accounts for more than two-thirds of the farms' standard gross margin (the value of production minus certain variable costs). On general cropping farms, crop production is the major activity but cereals account for less than two-thirds of the farm's standard gross margin. Dry stock farms emphasize the production of cattle, sheep, or goats, and may have both beef and dairy cattle. Mixed farms have no dominant enterprise; a typical mixed farm might produce cereals, milk, and pork.

General cropping was the single most common type of farm in the European Community in 1986/87, accounting for 28.8 percent of all farms (Table 4). General cropping was particularly dominant in southern Europe, where many small farms produced a variety of crops. The cereals sector has received considerable attention in CAP reform and the GATT negotiations, yet only 7.4 percent of EC farms specialized in cereal production in 1986/87. Many farms specialized in horticulture in the Netherlands and Belgium, but not in other countries. Vineyards were most common in France, Luxembourg, and Italy. Permanent crops (e.g., fruits and olives) were unimportant in northern Europe but accounted for 20.1 percent of all farms in southern Europe.

More than one-third of all farms in West Germany, the Netherlands, Ireland, and Luxembourg were classified as dairy farms in 1988/89, but there were relatively few dairy farms in southern Europe. Cattle and sheep farms predominated in Ireland and were also common in the United Kingdom. Except in the Netherlands, Denmark, and Belgium, relatively few farms specialized in hog or poultry production. Mixed farms with no dominant enterprise were common in West Germany,

Table 4. Commercial agricultural holdings, distribution by type of enterprise, 1988/89

	_7000			·	Typeof Farm					
	Cereals	General Cropping	Horticulture	Vineyards	Permanent Crops	Dairy	Cattle, Sheep	Hogs, Poultry	Mixed	All Farms
					(Percent)					
France	6.6	20.9	2.1	9.9	2.5	22.8	16.4	1.6	17.3	100.0
West Germany	2.9	14.6	2.5	4.5	1.1	35.9	5.1	0.9	32.5	100.0
United Kingdom	11.2	15.8	3.7	0.0	1.1	25.6	28.6	3.1	10.8	100.0
Netherlands	0.1	15.1	15.5	0.0	4.1	41.0	4.6	10.5	9.0	100.0
Denmark	15.2	30.4	2.3	0.0	1.0	19.0	0.7	5.8	25.5	100.0
Belgium	0.3	15.1	10.7	0.0	2.9	25.8	11.1	6.9	27.2	100.0
Ireland	2.3	2.1	0.0	0.0	0.0	39.6	51.2	0.1	4.6	100.0
Luxembourg	0.0	1.5	0.0	10.3	0.0	55.6	15.5	0.1	17.0	100.0
(N. Europe)	5.5	16.9	3.4	5.0	1.8	29.2	16.3	2.4	19.6	100.0
Italy	7.5	35.6	2.7	9.1	21.0	6.2	6.4	0.5	11.0	100.0
Spain	16.3	24.0	2.1	1.5	21.8	10.6	14.0	2.2	7.6	100.0
Greece	6.3	42.5	1.9	4.2	26.8	0.4	9.7	0.2	7.9	100.0
Portugal	2.3	38.9	2.1	2.2	8.0	4.4	10.2	1.0	30.9	100.0
(S. Europe)	8.3	34.9	2.3	5.5	20.1	5.8	9.2	0.9	13.0	100.0
European										
Community	7.4	28.8	2.7	5.3	13.9	13.7	11.6	1.4	15.2	100.0

SOURCE: Commission of the European Communities 1991, T/48-T/53.

Note: To be classified as a specialized farm, two thirds of the farm's standard gross margin must come from the commodity or commodities in question.

On mixed farms, no single activity accounts for two-thirds of the farm's standard gross margin.

Denmark, Belgium, and Portugal. In every northern European country, more than one-half of all farms were classified as livestock or mixed enterprises, but in every southern European country, more than one-half of all farms specialized in crop production.

One way to examine the distribution of farm income is to look at average levels of farm net value added per agricultural worker across countries and types of enterprises (Table 5). Net value added per worker in 1988/89 was more than 2.5 times as great in northern Europe as in southern Europe and approximately 14 times as great in the Netherlands as in Portugal. In comparison, the variation among enterprises within particular countries was much smaller and may have as much to do with 1988/89 weather and market conditions as with underlying structural differences. Net value added per worker in West Germany, Denmark, Belgium, Italy, Greece, and Portugal was highest on the relatively few specialized hog and poultry farms. In the United Kingdom, the Netherlands, Luxembourg, and Spain, dairy farms had the highest net value added per worker; in France it was vineyards, and in Ireland it was the rare specialized cereals farms.

Another way to examine the distribution of farm income is to look at the proportion of farms that fall into different income classes in different countries (Table 6). For the European Community as a whole, the farm net value added per agricultural worker in 1988/89 was less than 8,000 ECUs on 59.7 percent of all commercial holdings. In the northern European countries, more than one-half of all commercial holdings had a farm net value added per worker of more than 12,000 ECUs, but in southern Europe, nearly one-half of the commercial farms had a farm net value added of less than 4,000 ECUs. The Netherlands and Belgium had the highest proportions of high-income farms, and Portugal and Greece had the highest proportions of low-income farms.

Most agricultural production takes place in northern Europe, but most farmers live in southern Europe. EC spending on the CAP much more closely corresponds with the distribution of agricultural production in the Community than it does to the distribution of agricultural holdings

Table 5. Farm net value added per agricultural worker, 1988/89

•				*************	-Type of Fan	m				
	Cereals	General Cropping	Horticulture	Vineyards	Permanent Crops	Dairy	Cattle, Sheep	Hogs, Poultry	Mixed	All Farms
			-	(	1,000 ECUs)		•••	<del></del>		- · · · <del>- ·</del>
France	19.5	16.5	13.7	21.2	13.0	13.6	11.9	12.9	12.1	14.8
West Germany	6.3	14.5	14.2	10.9	14.7	15.6	11.8	16.7	12.6	13.8
United Kingdom	16.3	17.0	16.9	a	10.3	25.2	14.5	11.7	18.5	18.1
Netherlands	a	26.9	23.7	a	20.3	39.7	22.3	22.9	24.5	29.2
Denmark	11.4	19.7	20.5	a	21.6	28.4	14.3	31.8	22.1	23.1
Belgium	a	28.4	19.4	a	23.4	25.7	22,3	31.8	23.6	24.3
Ireland	17.6	16.3	a	_a	a	16.3	8.4	<b>a</b>	11.4	12.6
Luxembourg	a	a	a	12.3	a	18.5	15.3	a	15.3	16.9
(N. Europe)	15.7	17.4	18.1	18.8	15.1	18.9	11.7	20.4	14.4	16.4
Italy	7.9	6.9	10.2	8.2	8.1	13.1	10.2	27.3	7.9	8.4
Spain	9.4	8.1	7.1	7.1	6.0	4.8	6.3	7.1	6.7	6.9
Greece	6.1	4.5	6.4	5.1	4.6	5.7	5.8	10.1	5.3	4.9
Portugal	5.4	1.6	3.9	2.4	2.6	3.6	2.1	7.1	1.8	2.1
(S. Europe)	8.2	5.6	8.1	7.3	6.4	8.6	6.6	11.9	5.1	6.4
European										
Community	10.3	7.7	14.0	11.8	6.9	16.1	9.0	17.0	8.9	9.9

SOURCE: Commission of the European Communities 1991, T/48-T/53.

<sup>&</sup>lt;sup>a</sup>Sample is too small to be representative.

Table 6. Distribution of farm net value added per agricultural worker, 1988/89

			Class of Incom	ne, 1,000 ECUs		
	Less than 4,000	4,000 - 8,000	8,000 - 12,000	12,000 - 24,000	More than 24,000	Total
			(Percent of Con	mmercial Holdings)		
France	13.7	16.7	17.4	35.6	16.6	100.0
West Germany	17.1	15.4	17.5	35.7	14.2	100.0
United Kingdom	14.3	13.6	13.1	35.5	23.5	100.0
Netherlands	4.4	4.5	7.3	30.1	53.8	100.0
Denmark	28.0	6.7	8.7	25.1	31.5	100.0
Belgium	2.0	7.4	9.0	39.9	41.8	100.0
Ireland	18.1	29.6	18.4	24.2	9.8	100.0
Luxembourg	8.2	8.5	11.7	46.5	25.0	100.0
(N. Europe Subtotal)	14.8	15.6	15.6	33.7	20.2	100.0
Italy	38.9	27.6	14.5	14.3	4.6	100.0
Spain	35.7	28.8	15.1	15.7	4.6	100.0
Greece	51.2	34.9	9.3	4.1	0.6	100.0
Portugal	87.7	9.1	1.8	1.2	0.2	100.0
(S. Europe Subtotal)	48.5	26.1	11.6	10.6	3.2	100.0
European Community	37.1	22.6	13.0	18.4	8.9	100.0

SOURCE: Commission of the European Communities 1991, T/54-T/55.

Note: The definition of a commercial holding varies across countries. The definition excludes many small farms in northern Europe that are large enough that they would be considered commercial holdings in southern Europe. Many very small farms in southern Europe are also excluded.

(Figure 3, Table 7). In 1989, northern European countries accounted for 64.0 percent of agricultural production and 66.2 percent of all spending by the European Agricultural Guidance and Guarantee Fund (EAGGF). In contrast, the northern European countries accounted for just 28.7 percent of commercial agricultural holdings. The close correlation between production and government spending is consistent with the nature of current EC agricultural policies, which rely heavily on various mechanisms to increase internal prices of agricultural commodities. Large-scale producers in northern Europe fear the possible consequences of a CAP reform that would redirect EC resources away from price augmentation for all producers and toward income subsidies for small-scale producers.

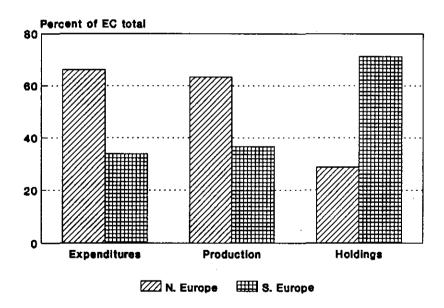


Figure 3. European Agricultural Guidance and Guarantee Fund expenditures, agricultural production, and holdings, 1989

SOURCE: Commission of the European Communities 1991, T/20-T/21, T/28, T/85.

Table 7. Distribution of expenditures under the European Agricultural Guidance and Guarantee Fund in 1989, with comparisons to other indicators

	3447 THE TOTAL OF THE 18 THE 1	Expenditures		*****************	Share of EC Total	
	Guarantee	Guidance	Total	Expenditures	Ag Production	Ag Holdings
		(Mil. ECUs)	-		(Percent)	
France	4,811	180	4,990	18.3	23.2	11.4
West Germany	4,189	133	4,322	15.8	14.5	8.2
United Kingdom	1,917	78	1,995	7.3	9.6	3.0
Netherlands	3,750	21	3,771	13.8	7.9	1.5
Denmark	1,015	17	1,032	3.8	3.4	1.0
Belgium	586	32	617	2.3	3.1	1.1
Ireland	1,241	122	1,363	5.0	2.2	2.5
Luxembourg	2	4	5	0.0	0.1	0.0
(N. Europe)	17,510	586	18,096	66.2	64.0	28.7
Italy	4,622	264	4,885	17.9	18.4	32.2
Spain	1,903	204	2,107	7.7	11.7	20.7
Greece	1,651	235	1,886	6.9	4.0	11.0
Portugal	174	179	354	1.3	1.8	7.4
(S. Europe)	8,350	882	9,233	33.8	36.0	71.3
Community	13	0	13	0.0	_	_
European Community	25,873	1,468	27,341	100.0	100.0	100.0

SOURCE: Commission of the European Communities 1991, T/20-T/21, T/28, T/85.

### Structure, CAP Reform, and GATT

The CAP reform proposal agreed upon by the EC commissioners on July 9, 1991, would impose significant reductions in agricultural support prices—35 percent for cereals, 15 percent for beef, and 10 percent for milk. In addition, a set-aside program would be instituted for cereals, milk quotas would be reduced, and other supply control measures would be instituted. To compensate producers for income loss, per hectare payments would be made to crop producers and per head payments would be made to livestock producers (*CAP Weekly* 1991a).

The proposed reform would target benefits to smaller-scale producers in a variety of ways.

Cereal producers with less than 20 hectares would be exempt from set-aside requirements, and producers with between 20 and 50 hectares would be compensated for lost revenue on the set-aside. Approximately four-fifths of all commercial holdings in the European Community were smaller than 20 hectares in 1987, but they accounted for just one-fourth of all utilized agricultural area (Table 8, Figure 4). Most farms, therefore, would be exempt from set-aside requirements, but most of the area cultivated would not. In northern Europe, the proportion of farms with less than 20 hectares of utilized agricultural area was less than the EC average, ranging from 41.2 percent in the United Kingdom to 70.3 percent in Belgium.

Full compensation for set-aside area would be offered to the 13.7 percent of all farms with between 20 and 50 hectares, farms that accounted for 25.8 percent of all utilized agricultural area in 1987. In northern Europe, such farms accounted for 29.2 percent of the commercial holdings and 31.7 percent of the area. Compensation for set-aside would not be made in full to the 6.8 percent of farms with more than 50 hectares that accounted for more than 48.6 percent of all utilized agricultural area. In southern Europe, West Germany, the Netherlands, Belgium, and Ireland, less than 10 percent of all producers would not be fully compensated. In the United Kingdom, however,

Table 8. Distribution of utilized agricultural land by farm size, 1987

	1-20 He	ectares	20-50 H	lectares	More than 5	0 Hectares	Ali F	arms
	Holdings	Area	Holdings	Area	Holdings	Area	Holdings	Area
				(F	Percent)			
France	49.1	13.5	32.8	34.4	18.1	52.1	100.0	100.0
West Germany	69.2	29.9	24.8	43.3	6.1	26.8	100.0	100.0
United Kingdom	41.2	5.0	25.4	12.2	33.3	82.8	100.0	100.0
Netherlands	68.3	32.6	27.3	47.7	4.4	19.6	100.0	100.0
Denmark	43.4	15.2	39.4	38.7	17.2	46.2	100.0	100.0
Belgium	70.3	32.4	23.9	41.8	5.8	25.8	100.0	100.0
Ireland	60.4	25.7	30.6	41.2	9.0	33.1	100.0	100.0
Luxembourg	42.1	9.5	31.6	34.9	26.3	55.6	100.0	100.0
(N. Europe)	56.6	16.2	29.2	31.7	14.2	52.2	100.0	100.0
Italy	93.4	50.6	4.6	17.9	1.9	31.5	100.0	100.0
Spain	84.6	26.6	9.4	18.0	6.0	55.4	100.0	100.0
Greece	97.0	76.8	2.5	13.2	0.5	10.0	100.0	100.0
Portugal	94.7	43.6	3.4	12.0	1.9	44.5	100.0	100.0
(S. Europe)	91.1	39.5	5.8	17.2	3.1	43.3	100.0	100.0
European				•				
Community	79.5	25.7	13.7	25.8	6.8	48.6	100.0	100.0

SOURCE: Commission of the European Communities 1991, T/122-T/123.

Note: Data include only holdings greater than one hectare in size.

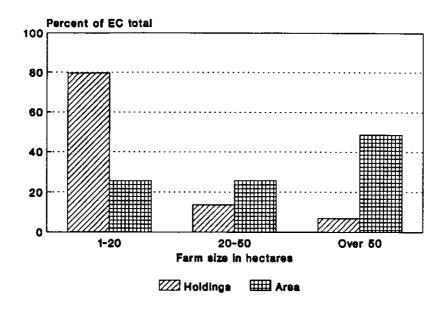


Figure 4. Distribution of land, 1987

SOURCE: Commission of the European Communities 1991, T/122-T/123.

33.2 percent of the farms accounting for 82.8 percent of total area exceeded 50 hectares in size in 1987, and France, Denmark, and Luxembourg also had a high proportion of large farms.

In the dairy sector, producers of fewer than 200,000 kilograms of milk per year would be exempt from the mandated 4 percent reduction in milk quotas (*CAP Weekly* 1991a). At the 1989 EC average yield per cow, this exemption would be the equivalent of approximately 43 cows. At the average yields in particular countries, the number of cows required to produce 200,000 kilograms of milk ranges from 32 in Denmark to 70 in Greece (Commission of the European Communities 1991, T/274). Producers who are subject to a reduced quota would be compensated for lower milk prices. An annual payment of 75 ECUs per cow would be made for the first 40 cows in every herd, provided stocking rates per hectare are less than an established maximum. At higher stocking ratios, it is assumed that animals are consuming a sufficiently high proportion of concentrates so reduced feed costs from lower cereal prices would compensate for lower milk prices.

More than 90 percent of all dairy herds in the European Community had fewer than 40 cows in 1987, but almost 40 percent of all cows were in herds of more than 40 (Table 9). As with land, the distribution of cow numbers by herd size varied greatly across countries. On the one hand, 64.8 percent of the herds in the United Kingdom had more than 40 cows, and more than 50 percent of all cows were in herds of more than 40 in the United Kingdom, the Netherlands, Denmark, and Luxembourg. On the other hand, less than 10 percent of the herds had more than 40 cows in West Germany and in the southern European countries.

The CAP reform proposal would compensate beef producers by making per head payments on the first 90 animals in the herd. Current premiums for male bovines would be increased to 180 ECUs per animal, and the suckler cow premium would be increased to 75 ECUs per cow. As with dairy, to qualify for the premiums, stocking rates must be less than a specified level per hectare (CAP Weekly 1991a).

In 1987, 6.7 percent of the cattle herds in the European Community had more than 100 head, and these herds accounted for 35.8 percent of all cattle (Table 10). Herds of more than 100 accounted for the majority of cattle in the United Kingdom, the Netherlands, Denmark, and Luxembourg, but less than 30 percent of all animals in France, West Germany, Ireland, Spain, Greece, and Portugal. No data are available on the number of farms with between 90 and 100 head.

In the cereal, dairy, and beef sectors, then, the majority of producers would be fully or largely compensated for lower prices and production controls under the CAP reform proposal. Less than 10 percent of all producers would not receive compensation on marginal hectares or animals, but these producers account for approximately 50 percent of the agricultural land and approximately 40 percent of the dairy cows and cattle.

Response to the reform package by EC farm ministers was predictable, given the distribution of land and other resources. For example, the most vocal opponent of the proposal was British farm

Table 9. Distribution of dairy cows by herd size, 1987

	1-19	Cows	20-39	Cows	More than	1 40 Cows	All 1	Farms
	Herds	Cows	Herds	Cows	Herds	Cows	Herds	Cows
				(Pe	ercent)	- · ·		
France	55.7	25.4	33.0	45.4	11.2	29.1	100.0	100.0
West Germany	68.2	37.5	25.2	41.3	6.6	21.3	100.0	100.0
United Kingdom	15.7	2.3	19.4	8.9	64.8	88.9	100.0	100.0
Netherlands	29.0	6.4	29.2	22.8	41.7	70.9	100.0	100.0
Denmark	30.9	9.7	36.4	31.9	32.6	58.4	100.0	100.0
Belgium	47.5	19.9	34.7	39.5	17.9	40.6	100.0	100.0
Ireland	51.3	19.3	29.6	32.7	19.0	47.9	100.0	100.0
Luxembourg	25.5	8.9	44.2	41.0	30.2	50.1	100.0	100.0
(N. Europe)	55.0	21.6	28.9	34.4	16.0	44.0	100.0	100.0
Italy	84.1	40.4	9.6	21.9	6.2	37.7	100.0	100.0
Spain	93.9	71.7	4.9	16.3	1.3	11.9	100.0	100.0
Greece	96.8	74.3	2.5	14.9	0.8	10.8	100.0	100.0
Portugal	97.8	77.4	1.7	12.6	0.5	10.0	100.0	100.0
(S. Europe)	90.5	54.8	6.2	19.1	3.2	26.1	100.0	100.0
European								
Community	72.8	29.8	17.6	30.7	9.6	39.6	100.0	100.0

SOURCE: Commission of the European Communities 1991, T/114-T/115.

Table 10. Distribution of cattle numbers by herd size, 1987

	1-39	Head	40-99	Head	More than	n 100 Head	All	Farms
	Herds	Animals	Herds	Animals	Herds	Animals	Herds	Animals
				(Pe	rcent)			
France	59.6	23.7	32.0	47.8	8.5	28.5	100.0	100.0
West Germany	65.1	27.6	28.2	46.5	6.7	26.0	100.0	100.0
United Kingdom	43.0	8.8	28.0	22.3	29.0	69.0	100.0	100.0
Netherlands	39.4	9.8	40.0	38.5	20.7	51.7	100.0	100.0
Denmark	48.2	12.2	30.8	34.5	21.0	53.2	100.0	100.0
Belgium	54.3	18.0	34.1	45.1	11.5	36.8	100.0	100.0
Ireland	72.2	43.1	21.4	37.4	6.3	28.6	100.0	100.0
Luxembourg	34.9	8.3	37.3	36.2	27.8	55.6	100.0	100.0
(N. Europe)	59.4	21.0	29.6	40.5	10.9	38.5	100.0	100.0
Italy	87.0	37.6	8.9	23.2	4.0	39.3	100.0	100.0
Spain	95.8	69.9	3.1	14.9	1.0	15.2	100.0	100.0
Greece	95.3	62.6	3.8	22.5	0.8	14.9	100.0	100.0
Portugal	97.8	70.1	1.5	13.3	0.6	16.5	100.0	100.0
(S. Europe)	92.6	51.8	5.2	19.7	2.1	28.6	100.0	100.0
European								
Community	74.8	27.8	18.5	36.4	6.7	35.8	100.0	100.0

SOURCE: Commission of the European Communities 1991, T/112-T/113.

minister John Gummer. "His chief complaint was that the reforms penalized the excellence and success of the large specialist farms in order to prop up part-time inefficient farms." Likewise, "Belgian Secretary of State De Keersmaeker raised his country's particular objections to the low threshold set for compensation in the dairy and beef sectors, saying that these levels would have to be raised by 50 percent for half of the Belgian farmers in these sectors to receive full compensation" (CAP Weekly 1991b, i).

The proposed compensation scheme would help protect farm income, but the reduction in support prices would change the incentives determining marginal production decisions. In the crop sector, for example, lower prices would be expected to reduce production if per hectare payments are made, whether or not farmers actually produce cereals. Marginal land would go out of production if market returns at the lower support prices fell below variable production costs. Estimates of likely price-induced supply reductions could be developed if the distribution of variable production costs across producers was known. Unfortunately, the aggregate data that are generally available provide little information about cost distribution on a commodity-by-commodity basis.

Published data from the Farm Accountancy Data Network (FADN) permit only crude estimates of variable production costs on an enterprise basis. For example, the 1986/87 value of crop-specific inputs was approximately 28.5 percent of the value of crop production in the European Community (Table 11). For the livestock sector, the value of feed and other livestock-specific inputs was 46.4 percent of the value of livestock production. Taking all inputs into account (including factors such as machinery and building expenses, energy costs, depreciation, wages, rent, and interest, which are not attributed in the data to any particular enterprise), the value of inputs was approximately 75.5 percent of the value of agricultural production.

The estimates of crop- and livestock-specific input values understate actual variable production costs because they exclude factors such as machinery costs, fuel, and wages. The estimates of total

Table 11. Average value of outputs and inputs per commercial agricultural holding, 1986/87

	Crops			Livestock			Total		
	Outputs	Specific Inputs	Inputs as Share of Outputs	Outputs	Specific Inputs	Inputs as Share of Outputs	Outputs	Total Inputs	Inputs as Share of Outputs
<del></del>	(1,000 ECUs)		(Percent) (1,6		ECUs)	(Percent)	(1,000 ECUs)		(Percent)
France	28.3	9.9	35.1	26.7	9.2	34.7	56.3	44.9	79.7
West Germany	24.4	8.9	36.3	41.7	19.2	46.2	72.1	61.3	85.0
United Kingdom	51.6	19.6	38.0	63.7	28.5	44.7	118.8	105.5	88.8
Netherlands	54.1	17.3	32.1	90.0	42.8	47.6	146.1	117.5	80.4
Denmark	30.6	10.6	34.5	49.3	26.6	53.9	82.2	76.8	93.4
Belgium	29.5	9.7	33.0	53.9	25.8	47.9	84.1	57.6	68.5
Ireland	3.6	3.9	107.3	23.6	8.0	34.1	27.7	21.8	78.9
Luxembourg	15.6	8.0	51.6	58.0	20.4	35.2	75.5	57.5	76.1
(N. Europe)	29.0	10.5	36.3	40.1	17.2	43.0	71.8	59.6	83.0
Italy	16.6	2.8	16.7	8.8	5.1	58.0	25.7	14.6	56.7
Spain	13.3	3.0	22.8	6.2	3.8	61.0	19.7	12.8	65.0
Greece	9.2	1.4	15.2	2.6	1.5	56.5	11.9	6.3	53.4
Portugal	6.3	1.4	22.4	6.5	3.8	58.2	13.2	9.7	73.4
(S. Europe)	13.2	2.4	18.2	6.6	3.9	58.5	20.0	11.9	59.4
European									
Community	19.1	5.5	28.5	19.2	8.9	46.4	39.5	29.9	75.5

SOURCE: Commission of the European Communities 1990, 23-26.

Note: Specific inputs for crops include seed, fertilizer, other chemicals, and other crop-specific inputs. Specific inputs for livestock include feed and other livestock-specific inputs. Total inputs also include machinery and building expenses, energy, contract work, other direct inputs, depreciation, wages, rent, and interest.

input values overstate variable production costs, however, because they include a variety of overhead expenses. Given the observed differences across countries, there are probably greater differences across producers in variable production costs. It seems likely that most farmers would find it profitable to continue to produce, even if prices were reduced by the percentages indicated in the CAP reform proposal, but there will certainly be some high-cost producers who will idle resources or sell them to more efficient farmers. The cropland set-aside program and the dairy quota reductions would have fairly predictable effects on agricultural production in the European Community, but the supply effects of price reform are more difficult to estimate.

In the GATT negotiations, the United States is insisting that the European Community agree to reduce internal supports, export subsidies, and import barriers. The proposed CAP reform would go a long way toward reducing export subsidies if the proposal succeeds in reducing EC production of surplus commodities. The proposal would also reduce variable import levies, although it would not turn these levies into the specific or ad valorem tariffs desired by the United States. The effect of the proposal on an aggregate measure of support (AMS) would depend on how compensation payments are treated. If they are excluded from AMS calculations because they are considered decoupled payments, the proposed support price reductions are likely to be sufficient to meet reduction requirements. If compensation payments are not excluded (a per head premium paid to cattle producers, for example, is not likely to be considered a payment decoupled from production decisions), the proposed CAP reform may not meet the AMS reduction requirements that could result from a GATT agreement.

Another structural issue related to the GATT negotiations concerns the areas classified by the European Community as LFAs. Special programs offer farmers in LFAs additional support not available to other producers, and the proposed CAP reform would continue special treatment of LFA farms. At issue is whether such special treatment should be permitted and whether it would need to

be reduced along with other agricultural subsidies. How other countries view the issue may depend in part on how important the LFAs are in European agriculture.

In 1986/87, 36.3 percent of all commercial holdings were in LFAs (Table 12). They accounted for 33.0 percent of utilized agricultural area and 22.2 percent of agricultural output. Net value added per worker was approximately 45 percent less on LFA farms than on non-LFA farms. The importance and characteristics of LFAs varied greatly across countries. There were no LFAs in the Netherlands and Denmark, and LFAs accounted for less than one-sixth of all holdings in Spain and Belgium. At the other extreme, more than one-half of all holdings in Ireland, Luxembourg, Greece, and Portugal are in LFAs. Net value added per worker was much lower on LFA farms than on other farms in France, West Germany, the United Kingdom, Ireland, and Italy, but was actually higher on LFA farms than on other farms in Spain and Luxembourg.

### Conclusion

The statistics presented in this paper demonstrate the diversity of EC agriculture. U.S. and Dutch agriculture probably have more in common than do Dutch and Portuguese agriculture. Southern Europe is characterized by many small farms that generally emphasize crop production. Most EC agricultural production occurs in northern Europe, where farms are larger and are more likely to emphasize livestock production. Even within particular EC countries there is great diversity as large commercial farms coexist with small traditional plots.

With the stated goal of making EC agriculture more efficient while protecting small-scale producers, the proposed CAP reform would reduce EC support prices but protect the income of small-scale farmers by means of direct compensation payments. Large-scale farmers would only receive compensation on a portion of their total production. The statistics reported here indicate that most farms are small enough that they would be exempt from supply control measures and would qualify for full compensation payments. The number of farms that would receive only limited

Table 12. Characteristics of agriculturally less-favored areas (LFAs), 1986/87

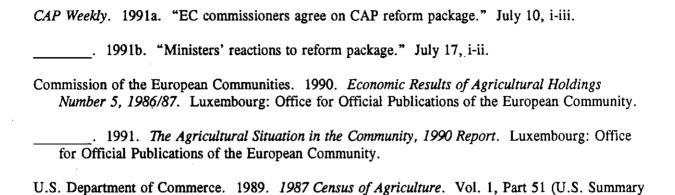
	S	share of LFAs in Tot	al	Net Value Added per Worker			
	Commercial Holdings	Utilized Ag Area	Ag Output	LFAs	Normal	Total	
		(Percent)		(1,000 ECUs)			
France	31.5	33.2	20.5	7.2	13.9	11.9	
West Germany	41.3	39.3	33.0	9.6	13.0	11.7	
United Kingdom	24.1	34.3	10.1	9.6	16.5	15.3	
Netherlands	0.0	0.0	0.0	_	20.6	20.6	
Denmark	0.0	0.0	0.0	_	24.5	24.5	
Belgium	16.4	25.0	11.7	19.4	20.9	20.6	
Ireland	54.8	49.3	31.8	5.1	10.3	7.7	
Luxembourg	89.9	98.5	92.4	14.6	13.6	14.5	
(N. Europe Subtotal)	31.2	33.2	18.1	8.1	15.6	13.4	
Italy	41.5	47.1	31.8	6.4	9.4	8.1	
Spain	8.2	6.3	8.1	9.4	6.9	7.1	
Greece	60.1	64.9	57.2	5.0	6.4	5.5	
Portugal	58.9	78.3	52.9	2.6	3.0	2.8	
(S. Europe Subtotal)	39.4	33.0	31.0	5.5	7.6	6.8	
European							
Community	36.3	33.0	22.2	6.2	11.2	9.4	

SOURCE: Commission of the European Communities 1990, 172-183.

compensation is less than 10 percent of all holdings in the crop, dairy, and beef sectors, but these large farms account for 40 percent to 50 percent of total EC area and livestock numbers and probably a similar or larger proportion of total EC production. CAP reform would likely change the current pattern of public spending on agriculture, moving spending away from a system for which program expenditures are proportional to production levels and toward a system that would do more to redistribute income within the agricultural sector away from larger-scale producers.

Available data on production costs are insufficient to properly estimate the amount of resources that would be idled or transferred if the CAP reform proposal is adopted and agricultural output prices fall in the European Community. The effects of a GATT agreement on EC agriculture are also difficult to estimate, given the uncertainties about which EC policies would need to be changed if an agreement was reached. It is clear, however, that the structure of EC agriculture will continue to affect the policy debate within the European Community concerning CAP reform and GATT and that policy reform is likely to have important implications for the structure of EC agriculture.

### REFERENCES



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