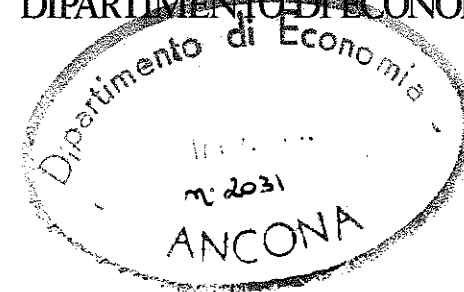




UNIVERSITÀ DEGLI STUDI DI ANCONA
DIPARTIMENTO DI ECONOMIA



**AN OVERVIEW ON PUBLIC TRANSFERS
IN THE ITALIAN AGRICULTURAL POLICY**

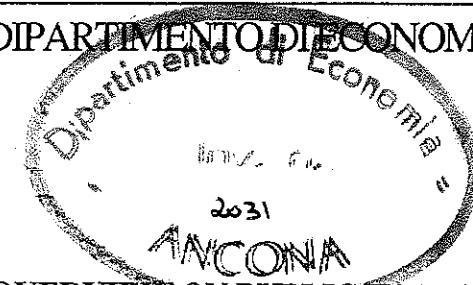
FRANCO SOTTE, GIUSEPPE BUONCOMPAGNI

48
QUADERNI DI RICERCA



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QUADERNI DI RICERCA n. 48

marzo 1994

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1. INTRODUCTION	3
2. THE AIMA	6
2.1 The role and incidence of AIMA expenditure on the national agricultural system	6
2.2 The reclassification of AIMA expenditure	10
2.3. Classification by source of funds	11
2.4. Classification by type of agricultural production	12
2.5. Classification by direct receiver of the expenditure	16
3. THE EXPENDITURE OF THE MINISTRY OF AGRICULTURE AND FORESTRY	18
3.1 Analysis of MAF expenditure	18
3.2. Classification by economic destination	20
4. AGRICULTURAL CREDIT	25
4.1 The volume of credit	25
4.2. The weight and the distribution of the subsidized credit	27
4.3. Relation between agricultural credit and capital requirements of the agricultural sector: the role of speculative transactions	29
4.4 The estimate of the agricultural benefit from credit	31
4.5 The regional analysis	32
5. TAXATION IN AGRICULTURE	35
5.1 The tax system in agriculture	35
5.2 Level and structure of tax and fiscal burden	39
6. SOCIAL SECURITY IN AGRICULTURE	45
6.1. Quantitative analysis of the social security system in agriculture	45
7. A GLOBAL ESTIMATE OF TRANSFERS TO AGRICULTURE	50
References and further reading	54

1. INTRODUCTION

This paper is an attempt to quantify and reclassify the intervention activities in agriculture.¹ The long term objective, still not reached at this stage, is the analysis of the public expenditure that flows into the primary sector through the creation of a "parallel" budget to the official one for each authority that pays funds to agriculture; from this "parallel" budget, the input data are collected for a better understanding and interpretation of the global expenditure.

For a long time, Italian agricultural policy has been characterized as a *non-programmed* policy, where the "control" on the results obtained has been systematically neglected. A decision process can be divided into three stages: *choice, implementation, control*. Control becomes of greatest importance when:

- the system is complex and subjected to unforeseeable and turbulent variations;
- more numerous and independent are the parties and the decision-makers concerned;
- when objectives are multifarious, difficult to formalize and possibly in conflict;
- when decisions to be taken involve deep structural changes, possible only in long time periods.

¹ The work has been done on the annual final balances. For the reclassifications it was necessary to analyse every expenditure item separately.

These circumstances very often appear in agricultural policy, hence the necessity to set up appropriate instruments for an up-to-date and continued checking of the efficiency and effectiveness of public expenditure in agriculture. This issue has become increasingly topical. The increase in the demand for a more effective policy has been the result of important events which have modified the overall situation. These include: the reduction of EC support; appearance of new agricultural policies not orientated only towards productivity; the recession in the industrial countries, which is characterized, among other things, by increasing public debt and, in Europe, by the crisis of the ERM; the problems posed by the liberalization of agricultural markets in the Uruguay Round; the "MacSharry Reform" of the CAP that moved some of the assistance to agriculture from prices to direct income support; the increasing network of relations between agriculture and the general economics system which involve inter-sectoral issues.

In this context, the role of public decision makers becomes increasingly important for planning and implementing interventions in the agricultural sector. Hence, the introduction of analysis and control systems for the measurement and periodical evaluation of the results obtained is an essential instrument for the activation of proper corrective measures.

On the basis of data so far available, we will concentrate our attention on two institutions which participate directly on agricultural markets: AIMA and the *Ministry of Agriculture and Forestry (MAF)*². Furthermore, we will examine the three

² Besides the AIMA and the MAF, this analysis should have also included the Regional Governements. Agricultural policy in Italy, as set by the Constitution (art. 117), is locally managed by the Regions. Unfortunately, there is not enough

classical instruments for public intervention in agriculture: *agricultural credit*, with which it is possible to fasten or slow productive investments; *taxation*, which can favour the development of specific types of enterprises with certain characteristics instead of others; *social security*, which has consequences on the employees presence in the sector and on the labour supply.

In the last section of this paper we will attempt a first comparison, on a homogeneous basis, of the intervention of each authority and a consolidated estimate of the amount of financial resources annually paid to agriculture.

information about the Regions' expenditure, but this problem is partially alleviated if it is considered that most of the Regions' expenditure is financed by the MAF; this amount is, therefore, included in the MAF budget.

2. THE AIMA

2.1 THE ROLE AND INCIDENCE OF AIMA EXPENDITURE ON THE NATIONAL AGRICULTURAL SYSTEM

The AIMA, which is an acronym for *Azienda di Stato per gli Interventi nei Mercati Agricoli* (State Agency for the Intervention on Agricultural Markets), was created in 1966 to apply and carry out EC regulations on agriculture, as a direct instrument of the Common Agricultural Policy. National intervention tasks are also committed to AIMA, even though the main part of its activity is defined by the EC, which finances the Institution from the Guarantee Section of the FEOGA.

The typical activities are represented by: intervention purchases at the intervention price and the subsequent storage and re-introduction on the internal or international market; the payment of financial incentives such as price subsidies, premiums, compensations, export restitutions and contributions; finally, organizing food supplies for developing countries disposed by the Community. While the interventions on behalf of the EC are paid by the Community through the FEOGA Guarantee, the interventions carried out for the accomplishment of the internal market policy are financed by the Italian Government. These interventions, which should be fitted on the CAP framework and approved by the Commission of the Community, are similar to the interventions paid by the

FEOGA, but they are considered "residual" because their operation field is limited to:

1. non-regulated sectors,
2. sectors burdened with a crisis or temporary difficulties,
3. supplementary EC interventions in sectors where, due to budgetary retrenchments, the support from the Community itself is considered insufficient.

Table 1 reports the evolution of the AIMA total expenditure during the period 1983-1990, distinguishing between current and constant values³. Table 1 reports also the estimate of the composite rate of growth⁴ of payments made every year.

The time pattern of the total real expenditure is not linear; in particular, the first four-year period starts with a low value for 1983, followed by a high value in the next year and a progressive decrease in the subsequent two years when, in 1986, the AIMA expenditure falls to the lowest point. The second four-year period is opened by the record value of almost eight thousand billion lire (current lire), but since then an uninterrupted reduction of real expenditure has occurred.

In spite of fluctuations, the real expenditure trend in the whole period (represented by the composite growth rate) has proved to be stable, though slightly negative (-0.1%).

Table 1 provides also a representation of the above time periods in relation to characteristic indicators for the agri-

³ From this point, when we refer to constant values (or real terms) it means constant lire of 1990 deflated with the implicit index of the GDP, drawn from ISTAT (1991) and Annuario statistico italiano (Italian Statistical Yearbook).

⁴ That estimate has been computed by using regression; the value of the annual rate of growth (i) has been calculated from the formula: $S_t = S_0(1+i)^t$.

That equation was transformed to a straight line (type $y = a + bt$) by using natural logarithms: $\ln(S_t) = \ln(S_0) + t\ln(1+i)$.

TABLE 1 - AIMA TOTAL EXPENDITURE

YEAR	CURRENT BIL.LIRE	CONSTANT (year '90) BIL.LIRE	PAYM.S./ NET PROD. %	PAYM.S./ FINAL OUT %	PAYM.S./ EMPLOYEE TH.LIRE	PAYM.S./ CULT.AREA TH.LIRE/HA
1983	4203	7098	13.7	9.5	2810	497
1984	6084	9322	19.7	13.2	3843	653
1985	5644	7947	16.4	11.6	3457	557
1986	5123	6678	14.1	10.1	2980	468
1987	7909	9611	21.1	15.1	4441	673
1988	7599	8658	20.7	14.6	4203	606
1989	7084	7614	18.0	13.0	3910	533
1990	7381	7381	19.4	13.5	3895	517
TOTAL	-	64308	-	-	-	-
Mean	-	8038	17.7	12.4	3692	563
Comp.rate of growth	-	-0.1	3.8	4.2	4.1	-0.1

Source: A. Bartola, F. Sotte, G. Buoncompagni (1992), L'Aima, Università di Ancona, Dipartimento di Economia, Quaderni di Ricerca, n. 30.

cultural sector such as net product, final output, employees⁵, and area of cultivated land (expressed in hectares). It can be observed that in the second four year-period the AIMA expenditure on net product, final and per employee output is at a higher level than in the previous one. This is the result of both the larger absolute values of payments and the declining value of the denominators, as evident from the figure of the expenditure per hectare of cultivated land (the most stable denominator), which during the period 1987-90 differs proportionally less than the other ratios from the previous four-year period. The substantial negative trend, which has involved all the four variables since 1987, is clear.

Another important information that can be obtained from the tables is the level of the AIMA expenditure: about 4 million lire per employee, 5-600 thousand lire per hectare of cultivated land, almost 1/5 of the net product in agriculture, and 10-15% of the final output.

One of the major information about AIMA is the lack of data about the allocation of expenditure among the Regions. Since the AIMA payments are almost exclusively devoted to the support of agricultural commodities, a methodology for the division by regions of the AIMA expenditure, which tries to overcome this great lack, has been devised. It has proceeded as follows:

- 1) Firstly, the AIMA expenditure of every year has been disaggregated by type of production, using the reclassification by type of agricultural commodity (see paragraph 1.2).

⁵ For the term "employees in agriculture", we mean the sum of farmers and subordinate employees working in the primary sector.

- 2) Then, the yearly share of every Region in the final output of each commodity considered⁶ has been multiplied by the sums paid by AIMA in the corresponding year for every type of commodity (using the data obtained at the stage 1). The result gives an estimate of the AIMA payments for the various commodities that benefit each Region.

- 3) Finally, the AIMA annual total expenditure for each Region has been calculated as the sum of the estimates of the expenditure for each commodity.

The results obtained are shown in table 27.

The mean values of the estimated AIMA regional expenditure during the period 1983-90 have then been expressed in terms of characteristic variables of the sector. Figure 1 gives a concise view of the quotients obtained. The distribution of the expenditure among Regions is very unbalanced. When compared with the net product (figure 1a), payments tend to be mainly concentrated towards the South. In those Regions, the AIMA support seems to be essential in the determination of agricultural incomes; Umbria 34%, Apulia 27%, Calabria 23%, Molise 21%, Abruzzo, 20%, Basilicata 20%.

If the expenditure is analyzed in terms of employees in agriculture (figure 1c), this argument is no longer valid because in the first positions we find the Regions with more advanced agriculture: Umbria, Friuli, Venetia and Lombardy, where the

⁶ Data referring to the regional final output for each product have been obtained from INEA, *Annuario INEA* (INEA yearbook), various years.

⁷ The geographic zone called NORTH is composed by 8 Regions, from Piedmont to Emilia-Romagna; the CENTRE by 4 Regions, from Tuscany to Latium; and the SOUTH by 8 Regions, from Abruzzo to Sardinia.

TABLE 2 - REGIONALISATION OF AIMA EXPENDITURE
(billions - constant lire year 1990)

	1993	%	1994	%	1995	%	1996	%	1997	%	1998	%	1999	%	1990	%
1 Piedmont	461	7	423	5	523	7	376	6	546	6	546	6	453	6	453	6
2 Val d'Aosta	9	0	7	0	7	0	5	0	6	0	4	0	5	0	4	0
3 Lombardy	547	8	491	5	628	8	520	8	905	9	794	9	609	8	683	9
4 Trentino	74	1	92	1	107	1	88	1	117	1	88	1	82	1	73	1
5 Venetia	581	8	638	7	716	9	655	10	1036	11	985	11	750	10	835	11
6 Friuli V.G.	89	1	113	1	162	2	165	2	296	3	233	3	195	3	227	3
7 Liguria	61	1	81	1	83	1	30	0	38	0	31	0	40	1	33	0
8 E.Romagna	619	9	741	8	611	8	623	9	885	9	833	10	608	8	659	9
9 Tuscany	310	4	413	4	339	4	287	4	362	4	363	4	304	4	291	4
10 Umbria	209	3	276	3	274	3	199	3	272	3	306	4	273	4	263	4
11 Marche	177	2	208	2	190	2	165	2	200	2	243	3	183	2	191	3
12 Latium	398	6	568	6	407	5	306	5	404	4	379	4	364	5	324	4
13 Abruzzo	212	3	386	4	254	3	203	3	266	3	245	3	230	3	192	3
14 Molise	56	1	90	1	74	1	65	1	81	1	94	1	63	1	70	1
15 Campania	695	10	910	10	666	8	579	9	784	8	854	10	873	11	781	11
16 Apulia	1107	16	2040	22	1193	15	1014	15	1194	12	1410	16	1000	13	976	13
17 Basilicata	93	1	192	2	113	1	101	2	128	1	128	1	93	1	96	1
18 Calabria	487	7	327	4	540	7	283	4	716	7	239	3	553	7	355	5
19 Sicily	747	11	1131	12	896	11	877	13	1166	12	684	8	777	10	723	10
20 Sardinia	166	2	195	2	194	2	145	2	228	2	200	2	178	2	151	2
NORTH	2442	34	2585	28	2808	35	2454	37	3830	40	3514	41	2723	36	2968	40
CENTRE	1094	15	1466	16	1210	15	967	14	1229	13	1290	15	1124	15	1070	14
SOUTH	3562	50	5271	57	3929	49	3267	49	4553	47	3864	45	3766	49	3343	45
TOTALITY	7098	100	9322	100	7947	100	6678	100	9611	100	8658	100	7614	100	7381	100

Source: F. Soite, La spesa per l'agricoltura di Aima, Maf e Regioni, in: G.De Mico, Il governo dell'acclattamento dell'agricoltura italiana: istituzioni e strumenti, Il Mulino, Bologna, Atti XXVIII convegno Sidea

Fig. 1a AIMA expenditure on Net Product

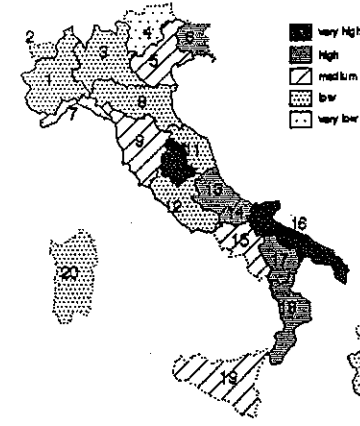


Fig. 1b AIMA expenditure per hectare



Fig. 1c AIMA expenditure per employee

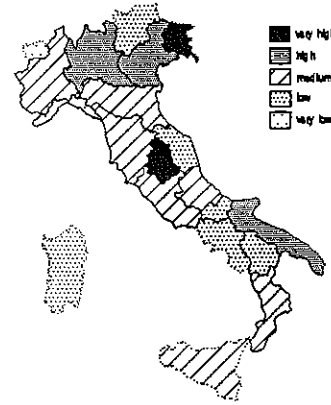


Fig. 1 - Regional distribution of AIMA expenditure

levels are higher than in less developed ones like Basilicata, Molise, Sardinia, Campania.

Analyzing payments per hectare of cultivated land (figure 1b), the Central Regions (Marche, Tuscany and Latium) are exceeded by the Southern Regions (Apulia, Campania and Calabria) and, to a minor extent, by the Northern Regions (Venetia, Friuli and Trentino).

The figure also emphasises the position of some Regions that reach the primary positions in all three classifications (namely Umbria, Apulia, Friuli, Venetia) and others whose results are particularly poor (Liguria, Sardinia, Val d'Aosta, Marche). This is a matter that should be studied more carefully to discover the origins of those results.

2.2 THE RECLASSIFICATION OF AIMA EXPENDITURE

The AIMA expenditure has been also analysed from other perspectives with the aim of increasing the quality and the quantity of information obtained and of having a more accurate control of the results obtained. In this way, we will be in a better position to evaluate the agricultural policy that has been carried out through the Institution.

As mentioned above, the basic unit for the reclassification is represented by the final balance items that have been analyzed separately. We will consider three classifications. Every classification, which is inclusive of the total payments made up during the year considered, is formed of different aggregates to which identification codes are assigned.

2.3. CLASSIFICATION BY SOURCE OF FUNDS

This classification aims to distinguish the national or european (EC) origins of the paid sums. The derived aggregates are:

EC = when the supports are totally a charge against the FEOGA Guarantee,

NAT = when the supports are totally a charge against the Italian State.

Table 3 shows the breakdown from which four conclusions appear:

1. The amounts paid by the EC were predominant throughout the whole period compared with national funds (the Average Composition Ratio is 86% against 14%). The FEOGA Guarantee payments have reached peaks above 90% of the total amount spent, but they show a declining trend.
2. During the first five years, the absolute value of the EC expenditure showed a considerable oscillation. After 1987, a decreasing pattern began, clearly linked to budgetary retrenchment policies. This affected the composite rate of growth, which at the end of the period turns out to be negative at 2%.
3. On the other hand, after 1986, the national expenditure grew and, by the end of the period concerned, doubled its relative weight, due to both larger growth in absolute value and to the reduction in EC resources. Over the eight-year period, the average composite rate of growth of national expenditure was equal to 14.6%.
4. Notwithstanding the higher level of national supports in the second half of the period, they showed the same tendency, in

TABLE 3 - SOURCE OF FUNDS
(values in billions - constant lire year 1990)

YEAR	EC	%	NATIONALA	%	TOTAL
1983	6623	93.3	475	6.7	7098
1984	8495	91.1	827	8.9	9322
1985	7211	90.7	736	9.3	7947
1986	5639	84.5	1038	15.5	6678
1987	7907	82.3	1704	17.7	9611
1988	7276	84.0	1383	16.0	8658
1989	6243	82.0	1371	18.0	7614
1990	6176	83.7	1205	16.3	7381
TOTAL	55570		8738		64308
Mean	6946		1092		8038
A.C.R. %	86.4		13.6		100.0
Comp.rate of growth	-2.0		14.6		-0.1

Source: A. Bartola, F. Sotte, G. Buoncompagni (1992), L'Aima,

monetary terms, as the regressive nature of EC expenditure and were not sufficient to reverse the negative trend in total payments evident in the last four-year period.

2.4. CLASSIFICATION BY TYPE OF AGRICULTURAL PRODUCTION

This classification refers to the agricultural commodity to which the AIMA intervention is addressed.

The sectors derived are:

OIL = oilseeds (soya-bean, colza, rape, flax, ricinus, sunflower).

OLI = olive-growing.

FRV = fruit and vegetables⁸.

DAI = dairy products: milk, butter, cheese.

ZOO = animals (cattle, sheep, goats, hogs).

SUG = sugar-growing.

TEX = textile fibre and silk-growing (hemp, cotton, wool, silkworm).

VIT = viticulture (grapes, wine, must and in general all products obtained from their distillation).

TOB = tobacco.

SED = seeds.

CER = cereals (hard and soft wheat, maize, barley) and rice.

FIS = fish.

GEN = this general category includes the expenditure items that cannot be related to a specific sector (e.g. general administrative costs that are not directly related to a specific agricultural commodity).

⁸ This category includes vegetables, citrus fruit, fresh and dried fruit.

At the end of the considered period, the expenditure distribution among the different sectors of production changed considerably from the initial position. In particular, as we can see from table 4, there are six components whose trend was clearly positive; first of all, the oilseeds (OIL) which, after the sharp growth of the initial years, seem to have settled at considerable levels (in 1990 it was the first recipient sector for AIMA payments with almost 1/6 of total expenditure). The aggregate TOB (tobacco) also registered a major change, receiving more than 12% of the total payments. The dairy sector (DAI)⁹ and the category GEN (influenced by the expansion in working expenses) showed a significant but lower growth. The sugar-growing sector is small, but there was increased expenditure from 1986 while, for cereals and rice, there was often a sudden and considerable oscillation, even though expenditure had been risen.

By contrast, three of the most important components, ZOO, FRV and VIT, showed a tendency to lose relative weight during the whole period. However, while animals, fruit and vegetables suffered severe reductions, the losses of viticulture were smaller.

The last relevant component, OLI (olive-growing), was quite unstable, with a peak reached in 1984 and with an unclear diminishing trend in the later years.

The distinctive features of the expenditure distribution among the main variables are better emphasised by comparing the average composition of the expenditure in the first four-year

⁹ The exceptional value of 1987 is due to the compensation received after the nuclear disaster of Chernobyl.

TABLE 4 - AIMA EXPENDITURE PER AGRICULTURAL COMMODITY

YEAR	OIL	OLI	FRV	DAI	ZOO	SUG	TEX	API	VIT	TOB	SED	CER	FIS	GEN	TOTAL
A) Billion current lire															
1983	68	770	847	160	741	0	0	1	558	340	1	529	4	84	4200
1984	105	1512	1338	187	535	36	1	0	1310	497	0	442	1	140	6084
1985	258	844	1044	223	727	0	1	0	1100	545	1	742	3	157	5844
1986	481	613	1082	184	800	120	1	0	864	471	1	482	2	184	5123
1987	1144	1374	1264	661	820	140	1	0	1082	823	1	600	6	184	7909
1988	1041	1087	675	307	672	149	1	0	1321	853	1	1265	4	242	7589
1989	726	1375	1045	282	520	107	1	0	956	928	1	809	3	222	7084
1990	1157	1026	1103	302	486	103	0	0	828	885	1	1058	3	430	7381
B) Billion constant lire 1990															
1983	115	1300	1599	270	1252	0	1	1	943	574	2	883	7	142	7056
1984	161	2317	2051	256	820	55	1	0	2008	761	1	877	1	215	9322
1985	364	1188	1470	314	1023	1	1	0	1549	767	1	1045	4	221	7947
1986	640	789	1423	252	783	156	1	0	1126	613	1	628	2	253	6578
1987	1390	1670	1538	803	753	170	1	0	1315	757	1	972	7	236	9611
1988	1185	1216	789	350	768	170	1	0	1505	872	1	1442	5	276	8556
1989	781	1478	1123	313	558	115	1	0	1027	997	1	877	3	238	7614
1990	1157	1026	1103	302	486	103	0	0	826	885	1	1058	3	430	7381
TOTAL	5792	10994	11074	2859	6442	769	6	1	10298	6329	9	7893	33	2010	64338
Mean	724	1374	1384	367	805	86	1	0	1287	791	1	962	4	251	8238
A.C.R. %	9.0	17.1	17.2	4.4	10.0	1.2	0.0	0.0	16.0	9.8	0.0	12.0	0.1	3.1	100.0
Comp.rate of growth	40.2	-3.6	-8.5	4.0	-10.6	=	-17.5	=	-4.9	6.5	4.5	5.4	1.7	11.1	-3.1
C) Percentages															
1983	1.6	18.3	22.5	3.8	17.6	0.0	0.0	0.0	13.3	8.1	0.0	12.6	0.1	2.0	100.0
1984	1.7	24.9	22.0	2.7	8.8	0.6	0.0	0.0	21.5	8.2	0.0	7.3	0.0	2.3	100.0
1985	4.6	15.0	18.5	3.9	12.9	0.0	0.0	0.0	19.5	9.7	0.0	13.1	0.0	2.8	100.0
1986	8.5	12.0	21.3	3.8	11.7	2.3	0.0	0.0	16.9	9.2	0.0	9.4	0.0	3.8	100.0
1987	14.5	17.4	16.0	8.4	7.8	1.8	0.0	0.0	13.7	7.9	0.0	10.1	0.1	2.5	100.0
1988	13.7	14.0	8.9	4.0	8.8	2.0	0.0	0.0	17.4	11.2	0.0	16.7	0.1	3.2	100.0
1989	10.3	19.4	14.7	4.1	7.3	1.5	0.0	0.0	13.5	13.1	0.0	12.8	0.0	3.1	100.0
1990	15.7	13.9	14.9	4.1	6.6	1.4	0.0	0.0	11.2	12.0	0.0	14.3	0.0	5.8	100.0
Mean 83-85	4.4	17.5	21.1	3.6	12.8	0.7	0.0	0.0	17.8	8.8	0.0	10.6	0.0	2.7	100.0
Mean 87-90	13.5	16.2	13.6	5.2	7.7	1.7	0.0	0.0	13.9	11.1	0.0	13.5	0.1	3.6	100.0
Mean 83-90	8.8	16.9	17.4	4.4	10.2	1.2	0.0	0.0	15.9	8.9	0.0	12.0	0.1	3.2	100.0

Source: A. Bartola, F. Sotte, G. Buoncompagni (1992), L'Alma, Università di Ancona, Dipartimento di Economia, Quaderni di Ricerca, n. 30.

period with the second half of the period, in the third part of table 4. The sectors that received the bigger shares are, in decreasing order, FRV, OLI, VIT, CER, ZOO, TOB, OIL, DAI and SUG.

The estimates of the average annual composite rates of growth of every aggregate, presented in table 4, allows us to separate again the sectors with growing expenditures from the others:

- the components of the first group are OIL (40.2%), GEN, TOB, CER and SED;
- by contrast, TEX, ZOO, FRV, VIT are a losing position;
- the variables FIS and OLI are, finally, the most stable.

Table 5 shows the ratio between the yearly AIMA payments to each sector and the recorded value of the final output¹⁰. The result obtained is an indicator of the degree of public direct protection for agricultural production¹¹.

From this table¹² it can be observed that tobacco (TOB), which received payments greater than the value of its

¹⁰ Data about the final output in the various sectors have been drawn from the INEA yearbooks.

¹¹ We are aware that the value of the numerator does not include all kinds of protection a commodity can benefit from, because it is not comprehensive of the expenditure made by other institutions and, furthermore, of the positive effects on price of variable levies, the imposition of import restriction and internal production quotas, all typical intervention measures of the CAP.

¹² The illustration of the footnotes appearing on table 9 is reported here:

1) In addition to the aggregate GEN, the variables SED (seeds) and FIS (fish) have been excluded because they are not part of the agricultural final output.

2) The column TOTAL shows the ratio between the total payments in the sectors considered and the values of the total final output registered in the same sectors, excluding the amount of the final output of production which does not benefit from AIMA supports. These are, more specifically, flowers, canes, withes, horses,

TABLE 5 - RATIO BETWEEN AIMA EXPENDITURE AND FINAL OUTPUT FOR EACH COMMODITY (percentages)

YEAR	OIL	OLI	FRV	DAI	ZOO	SUG	TEX	API	VIT	TOB	CER	TOTAL
1983	51.0	27.7	7.9	3.1	9.9	0.0	1.8	4.2	13.1	69.8	11.6	11.0
1984	55.1	126.9	10.6	3.1	6.7	5.0	2.2	0.0	36.7	92.7	7.6	15.6
1985	62.4	32.0	7.8	4.0	8.3	0.1	2.4	0.0	29.6	111.4	13.6	13.3
1986	51.6	41.4	8.0	3.3	6.9	11.0	2.6	0.0	17.5	102.2	8.0	11.4
1987	87.6	49.5	9.2	11.0	7.6	12.5	2.7	0.0	21.7	119.6	13.6	17.3
1988	87.3	57.4	4.6	5.1	8.1	15.3	2.9	0.0	29.5	113.7	23.4	16.8
1989	55.6	60.4	6.9	4.6	5.7	10.3	3.2	0.0	20.0	121.3	17.2	14.8
1990	92.6	49.6	7.4	4.8	5.6	10.2	0.4	0.0	17.8	116.8	19.8	15.5
Mean	74.0	50.3	7.7	4.9	7.3	8.9	2.3	0.4	22.7	107.9	14.2	14.5

final output (107.9%), was the most assisted sector, showing an increasing trend. Oilseeds (OIL: 74%) and the olive-growing (OLI: 50.3%) seemed to have also experienced high levels of protection; the former shows a sudden increase that caused the ratio to assume values between 80 and 90%, and the latter expands more gradually, reaching values of 50-60%.

Concerning to the other sectors with a lower degree of protection, some of them increased their ratio. The proportion of expenditure to final output for CER (cereals and rice) moved from values around 8-13% in the first four-year period to about 20% in the second; the variables DAI, SUG and TEX also progressed, in spite of the downturns in the last two years or in the last one.

Other categories were characterized by a negative trend in their ratio; viticulture (VIT) showed an erosion of the degree of protection, in spite of its high absolute value (20%), as well as animal production (ZOO), and fruit and vegetables (FRV) did.

2.5. CLASSIFICATION BY DIRECT RECEIVER OF THE EXPENDITURE

In this classification it is possible to distinguish the first beneficiaries of AIMA expenditure:

A = administrative costs¹³.

F = farmers.

I = processing industries.

poultry and eggs. Hence, the values in the column "TOTAL" are bigger than those recorded in table 2 because the denominator (final output) is clearly reduced.

¹³ They include mainly personnel costs and operating expenses.

Theoretically we could say that the farmer is the natural receiver of all the AIMA payments, because its interventions aim to support his income. Nevertheless, in many cases farmer support is granted through the operators in the food industry sector, who receive the AIMA payments directly and preliminarily on condition that they pay to farmers, that supply commodities, the minimum price granted by the EC¹⁴. It would be interesting to quantify the difference (positive or negative) between the payments received by the industrial sector and the higher costs involved in buying the staple commodities in the national rather than in the international market.

Obviously, the reclassification has not been able to measure the whole redistribution, limiting itself to locate the first (or direct) receiver of the subsidies. Nonetheless, the analysis is interesting because it can give an indirect signal of the real strength of different categories along the food chain.

From table 6 we can see that on average, during the period 1983-90, the AIMA resources that passed to the industrial sector (51.2%) exceeded clearly those destined to farmers (45.2%), whereas the remaining category A (administrative expenses) received less than 4% of the total¹⁵. However, the most important feature concerns the clear expansion of the component I to the detriment of F during the period. While the former increased from 47% to 55%, the latter diminished from 51% to 39%.

¹⁴ This support is given to the following commodities: oilseeds, olive oil, tobacco, alcohol, processed and dried fruit and vegetables, sugar, dairy products.

¹⁵ Component A underestimates the real administrative costs relative to the Guarantee expenditure. Controls and other bureaucratic tasks are backed by Regions and other institutions, as well as the related administrative costs.

TABLE 6 - DIRECT RECEIVER OF AIMA EXPENDITURE
(billions - constant lire year 1990)

YEAR	A	%	F	%	I	%	TOTAL	%
1983	156	2.2	3630	51.1	3312	46.7	7098	100
1984	262	2.8	4467	47.9	4593	49.3	9322	100
1985	230	2.9	3574	45.0	4143	52.1	7947	100
1986	293	4.4	2847	42.6	3537	53.0	6678	100
1987	285	3.0	4689	48.8	4636	48.2	9611	100
1988	353	4.1	3821	44.1	4485	51.8	8658	100
1989	323	4.2	3129	41.1	4162	54.7	7614	100
1990	459	6.2	2885	39.1	4037	54.7	7381	100
TOTAL	2361		29042		32905		64308	
Mean	295		3630		4113		8038	
A.C.R. %	3.7		45.2		51.2		100.0	
Comp.rate of-growth	12.5		-3.2		1.7		-0.1	

Source: A. Bartola, F. Sotte, G. Buoncompagni (1992), L'Aima, Università di Ancona, Dipartimento di Economia, Quaderni di Ricerca, n. 30.

3. THE EXPENDITURE OF THE MINISTRY OF AGRICULTURE AND FORESTRY

3.1 ANALYSIS OF MAF EXPENDITURE

The accounting system adopted by the Ministry of Agriculture and Forestry (MAF) is different from that followed by the AIMA. While the MAF adopts a balance of assets and liabilities accrued, AIMA presents a mixed balance; a balance of assets and liabilities associated with national interventions and a cash balance for EC interventions, which is the overwhelming proportion (see table 3).

The MAF system is characterized by three phases, each leading to a quantification (*appropriation, engagement and payment*) of the expenditure items included in the budget. The appropriations can be considered as a measure of the intention to spend declared by Parliament, which approves the expenditure law. However, such intentions would remain only an intent if the appropriations are not transformed into engagements and then into payments. Therefore, payments alone can be regarded as an indicator of what has been accomplished. The appropriated resources that are not engaged by the end of the year constitute savings, whereas the sums engaged but not paid during the year are the so-called expenditure arrears that will be paid afterwards. By contrast, in the AIMA cash balances, only

the phase of payment is relevant, irrespective of the year when the decision on expenditure was taken.

In order to compare the AIMA and MAF expenditure under existing conditions, we consider only the total payments of every year¹⁶.

The consistency and the evolution of the MAF expenditures are shown in table 7¹⁷. We can notice the large role carried out by the MAF, whose average expenditure at 1990 constant prices was 3600 billion lire per year on appropriations and almost 3000 billions on payments. Its consistency, in terms of payments, can be better understood if it is related to the characteristic indicators of the agricultural sector. Considering the mean values of this period, we obtain 6.2% of the net product, 4.3% of the final output, 1.3 million lire per employee and 200 thousand lire per hectare of cultivated land.

Table 7 also shows that the constant prices expenditure was subjected to wide oscillations, in both appropriations and payments.

During the considered period, the expenditure outcome, defined as the ratio between payments and appropriations, showed a mean value of 81.4%. This points out a lack of efficiency in the expenditure management by the administration, with the lowest level registered in 1983 when only 55% of the appropriations were transformed into payments and with high

¹⁶ If we do not specify, when we speak about "expenditure" we mean "payment".

¹⁷ With the referendum of April 1993, the Italians decided to abolish the law on which the Ministry of Agriculture and Forestry is founded. This will involve a deep internal reorganization of the Institution and part of its functions will be transferred to the Regions.

TABLE 7 - APPROPRIATIONS AND TOTAL PAYMENTS OF
MINISTRY OF AGRICULTURE AND FORESTRY

YEAR	CURRENT LIRE		CONSTANT LIRE '90		PAYMENTS/ NET PROD. %	PAYMENTS/ FINAL OUT %	PAYMENTS/ EMPLOYEES Th/Empl.	PAYMENTS/ AREA CULT Th/ha
	APPROPR IATIONS	TOTAL PAYMENTS	APPROPR IATIONS	TOTAL PAYMENTS				
1980	939	935	2543	2532	99.6	4.5	3.2	873
1981	1463	1002	3348	2293	68.5	4.4	3.0	839
1982	1600	1642	3117	3199	102.6	6.4	4.4	1268
1983	2082	1148	3515	1938	55.1	3.7	2.6	767
1984	2681	2874	4077	4403	108.0	9.3	6.2	1815
1985	2292	1899	3227	2674	82.9	5.5	3.9	1163
1986	2969	2040	3870	2659	68.7	5.6	4.0	1186
1987	3578	2739	4348	3328	76.6	7.3	5.2	1538
1988	3529	2749	4021	3132	77.9	7.5	5.3	1520
1989	3733	3319	4012	3567	88.9	8.5	6.1	1832
1990	3686	2639	3686	2639	71.6	6.9	4.8	1392
TOTAL			39764	32363	81.4	6.2	4.3	1290
Mean			3615	2942	81.4			
Comp.rate of growth			3.4	2.3				

values (exceeding 100%) appearing in 1982 and 1984, when payments came from arrear accounts¹⁸.

Nevertheless, the real weight of the expenditure shows a positive trend; at constant prices, during the period considered, the appropriations grew at 3.4% and payments at 2.3%.

3.2. CLASSIFICATION BY ECONOMIC DESTINATION

Along with AIMA, the MAF expenditure has also been analyzed and reclassified¹⁹. In this case, the *economic destination*, which considers the economic aims towards which the expenditure is addressed, is assumed as a discriminating variable for the aggregation of the expenditure items of the final balances.

The classification work has been carried out at two levels:

- the first is based on identification of "big" aggregates, for a clearer and more immediate analysis of expenditure;
- the second involves division of every aggregate into sub-aggregates, allowing a more detailed specification of the expenditure destination.

The categories derived through this classification are the following:

¹⁸ As a matter of fact, the total payments in a specific year are defined as the sum of payments of the year plus payments, in that year, of arrears coming from former accounting periods.

¹⁹ The study has been carried out on the period 1980-1989.

ADM = administrative costs²⁰,

DEV = development services,

- RES = research and experimental activity,

- DIV = divulgation activity²¹,

- TRA = formation and training of human capital,

- TAS = technical assistance,

PCO = processing and commercialization²²,

- MAR = promotion and marketing of agricultural products,

- PRO = product protection against counterfeits and food frauds,

- TPR = trade and processing facilities,

²⁰ This is the only aggregate whose subdivision was not considered worthwhile. It includes personnel costs, operating expenses, ordinary repairs of premises, machineries, means of transport, plants, etc.

²¹ The aggregate DIV includes the MAF expenditure for the diffusion of information among farmers (through agricultural magazines, specialized operators, etc.) about new methods of cultivation, new technologies (inputs and machineries), etc. This item includes also the expenditure for helping farmers in administrative issues.

²² This aggregate includes activities with different features but with a common denominator; they are all activities placed at the end of the biological production cycle and devoted to increase, directly or indirectly, the economic value of the agricultural commodity.

The sub-aggregate MAR contains resources destined for the creation of "public certainty" (trademarks, denominations of origin, etc.), for the creation or safeguard and improvement of the image of some products, for the formulation of food educational programmes and for the improvement of the quality of production.

PRO are mainly interventions directed to the protection of consumers' health, which creates more confidence in the quality of the purchased product with positive consequences on the product marketability and ultimately on farmer income.

The sub-aggregate TPR includes the resources spent for the construction, enlargement and development of processing, preservation and commercialization plants.

FAR = interventions in favour of farms,

- INV = farm investments²³,

- CUR = support of current farm management²⁴,

INF = infrastructural interventions²⁵,

- REC = reclamation or improvement of land and creation of infrastructures,

- IRR = irrigation,

- PAR = parks and green areas.

The distribution of MAF expenditure between the different broad "agricultural policies" is shown in table 8, while table 9 considers the analytical aggregates. From the analysis of the results obtained, we can draw out the following comments.

Considering separately the working expenses (ADM) (averaging 12.4% of the total)²⁶, the overall expenditure is mainly concentrated on interventions to farms (FAR). On average, almost half of the total payments are directed to this component; distinguishing between its two sub-aggregates, farm investments (INV) receive 31.3% of the total and the current farm management (CUR) 15.7%. Moreover, this component is

²³In this category, resources are devoted to the maintenance of fixed assets and to the acquisition of plant and equipment.

²⁴The sub-aggregate CUR consists of working capital credits, contributions for the support of some types of production, aids to farmers in case of natural calamities, etc.

²⁵The aggregate INF includes the expenditure devoted for the construction of infrastructural exteriors in individual farms, from which they can take advantage in the environment where they are located.

²⁶The incidence of the administrative costs on total payments has decreased from 14-15% at the beginning of the Eighties to 11-12% at the end of the underlined period, showing an improvement in the efficiency of the MAF, especially when considering the growth in the real expenditure which was administered.

TABLE 8 - ECONOMIC DESTINATION OF MAF EXPENDITURE, BROAD AGGREGATES
TOTAL PAYMENTS
Billions - constant lire year 1990

YEAR	ADM	%	DEV	%	PCO	%	FAR	%	INF	%	TOT	%
1980	362	14	240	9	211	8	719	28	1001	40	2532	100
1981	355	15	155	7	160	7	792	35	831	36	2293	100
1982	378	12	160	5	234	7	1789	56	638	20	3199	100
1983	316	16	234	12	186	10	778	40	424	22	1938	100
1984	409	9	212	5	515	12	2535	58	732	17	4403	100
1985	368	14	190	7	425	16	1105	41	586	22	2674	100
1986	363	14	126	5	306	12	1288	48	576	22	2659	100
1987	355	11	297	9	512	15	1690	51	474	14	3328	100
1988	404	13	314	10	482	15	1425	46	506	16	3132	100
1989	383	11	367	10	500	14	1853	52	464	13	3567	100
Mean	369		229		353		1397		623		2972	
A.C.R. %	12.4		7.7		11.9		47.0		21.0		100.0	
Comp. rate of growth	0.9		6.2		13.4		8.2		-6.6		3.7	

TABLE 9 - ECONOMIC DESTINATION OF MAF EXPENDITURE, ANALYTICAL AGGREGATES - TOTAL PAYMENTS

YEAR	ADM	RES	DIV	TRA	TAS	MAR	PRO	TPR	INV	CUR	REC	IFR	PAR	TOTAL
A) billions constant lire 1990														
1980	362	62	14	0	164	89	12	110	436	283	804	185	12	2532
1981	365	82	12	0	60	70	11	78	470	322	604	182	45	2293
1982	378	58	11	1	90	59	8	167	1163	626	368	260	20	3199
1983	316	74	11	2	146	41	9	137	562	216	195	197	31	1938
1984	409	66	16	2	128	69	9	437	1979	658	458	191	83	4403
1985	368	76	28	2	84	64	9	363	563	542	387	161	39	2674
1986	363	72	17	6	31	44	9	253	817	470	341	224	11	2659
1987	355	99	17	6	174	68	7	438	1297	392	207	204	63	3328
1988	404	108	31	4	172	95	17	370	895	630	324	153	30	3132
1989	383	152	33	10	172	48	17	434	1219	635	266	167	30	3667
Mean	369	85	19	3	122	64	11	279	930	467	396	191	36	2972
A.C.R. %	12.4	2.9	0.6	0.1	4.1	2.1	0.4	9.4	31.3	15.7	13.3	6.4	1.2	100
Composite of growth	0.9	8.1	12.0	50.2	3.7	-1.7	3.6	19.7	9.0	6.6	-9.1	-1.8	4.7	3.7
B) percentages														
1980	14.3	2.4	0.5	0.0	6.5	3.5	0.5	4.4	17.2	11.2	31.8	7.3	0.5	100
1981	15.5	3.6	0.5	0.0	2.6	3.1	0.5	3.4	20.5	14.1	26.4	7.9	2.0	100
1982	11.6	1.8	0.4	0.0	2.8	1.9	0.2	5.2	36.4	19.6	11.5	7.8	0.6	100
1983	16.3	3.8	0.6	0.1	7.5	2.1	0.5	7.1	28.0	11.2	10.1	10.2	1.6	100
1984	9.3	1.5	0.4	0.1	2.9	1.6	0.2	9.9	42.7	14.9	10.4	4.3	1.9	100
1985	13.7	2.8	1.1	0.1	3.1	2.0	0.3	13.6	21.0	20.3	14.6	6.0	1.4	100
1986	13.6	2.7	0.6	0.2	1.2	1.6	0.3	9.5	30.7	17.7	12.8	8.4	0.4	100
1987	10.7	3.0	0.5	0.2	5.2	2.0	0.2	13.1	39.0	11.8	6.2	6.1	1.9	100
1988	12.9	3.4	1.0	0.1	5.5	3.0	0.5	11.8	28.5	16.9	10.3	4.9	0.9	100
1989	10.7	4.3	0.9	0.3	4.8	1.3	0.5	12.2	34.2	17.8	7.5	4.7	0.8	100

Source: A. Bartola, F. Solte, A. Fioretti, La spesa del Maf negli anni ottanta, La Questione Agraria, n. 43, 1991

also expanding; the average composite rate of growth is 8.2%, much higher than the corresponding value of the total expenditure (3.7%).

Another main component of the global expenditure, with an average composition ratio of 11.9%, is represented by *processing and commercialization* (PCO) which, in the last years, doubled its relative weight compared to its initial values. This is mainly due to the exceptional change in the sub-aggregate TPR (financing of processing, preservation and commercialization structures) showing an average share of 9.4% and whose estimated annual growth was near to 20% (the highest value of the whole expenditure). Therefore, the direction of agricultural policy choices in the last years seems evident; they tend to favour a greater integration of the manufacturing and commercializing process complying with the requests of the food industries.

On the other hand, only small average amounts, 2.1% and 0.4% of the total, are covered by the remaining two sub-aggregates, MAR (promotion & marketing) and PRO (product protection against food frauds), respectively. This result contrasts with the need of checking the quality of production with benefits for producers, consumers and for the environment.

Undoubtedly, during the ten-year period, the financing of infrastructural interventions (INF) importance declines. From a relative weight of 40% in 1980, these aggregate accounts only for 13% of the MAF total expenditure 9 years later, registering a progressive decline in the average composite rate of growth, which was clearly negative (-6.6%). The EC progressive shift from the principle of unlimited guarantee to policies aiming at curbing surpluses, might have suggested a

need for both an increasing and more selective commitment towards infrastructural investments, because they led to an enlargement of the productive basis and because they could also generate positive social and environmental effects especially in the weaker areas. These components, so crucial for the competitiveness of Italian agriculture and for its environmental sustainability, have been neglected, leading to divergence between agriculture's real needs and the direction of agricultural policies.

Within the INF components, only the sub-aggregate PAR (parks and green areas) shows a slight increase, in spite of the low relative weight, whereas IRR (irrigation) and in particular the main component REC (reclamation or improvement of land and creation of infrastructures) slipped back.

The "services for development" policy (DEV) receives a relatively small share of the total resources (less than 8% on average), even though the variable, during the ten-year period considered, tended to increase (in terms of composite rate of growth) more than total expenditure. Within its components, RES (research) and more significantly TAS (technical assistance) collected more than 90% of the weight of the whole aggregate, whereas negligible resources were assigned to DIV (divulcation) and TRA (formation and training).

4. AGRICULTURAL CREDIT

4.1 THE VOLUME OF CREDIT

Post-war national agricultural policy has continuously utilized the credit instrument, initially using the original law of 1928 (n.1760) and then slightly modifying it with special laws.

The fundamental law defined two main kinds of concessional operation for working capital agricultural credit and for improvement credit, specifying the purposes involved²⁷. The division into two parts has allowed the separation of financial credit for working capital from that for land improvement and purchase. These two groups of credit were created with the intention of distinguishing the operations in relation to the duration, guarantees requested and controls on the destination of the loans.

However, that classification was not sharp enough, since both short term loans (financing of farm operating expenses such as purchase of seeds, fertilizers, payments of salaries, etc.) and medium term loans (financing of the purchase of machinery and livestock) were included within working capital

²⁷Working capital credit includes loans for the current management of the farm, loans to agrarian bodies or agrarian associations, loans for the purchase of livestock and agricultural equipment. Improvement credit is constituted by loans for construction and repair of rural buildings, execution of plantations or cultivation conversions, irrigation works, land settlements and finally purchase of land from minor farmers.

credit. Therefore, the short and medium term loans have been later on separated into two specific categories in order to reflect their characteristics, but the rates of interest have continued to be the same for both categories.

The feature of agricultural credit, which makes it distinctive from ordinary credit, is the provision of particularly favourable conditions, whose cost is charged on the public authority (mainly MAF and Regions). These advantageous conditions include the possibility of obtaining reduced rates of interest, lump sum grants, relieves or fiscal exemptions, long term credit contracts, payments in kind along with payments by cash, and finally fewer guarantees being requested.

Regarding the distributing institutions, a "mixed system" is in force, which is characterized by the contemporaneous presence of *special* and *authorized institutes* to carry on agricultural credit operations. The *special institutes*, operating on a regional or inter regional basis, are qualified to deal with all categories of agricultural credit (working capital and improvement) and they also have important functions relating to the direction and coordination of credit activity. The *authorized institutes* are usually ordinary banks which are allowed to handle short and medium term credit that need a wide territorial diffusion, but do not require a special technical organization.

Analyzing the distribution of agricultural credit during the period 1960-1990 (table 10), a large discrepancy in absolute values and in the growth rate of the funds absorbed by working capital and by improvement credit stands out. In real terms, the amount of working capital of the granted credit increased from 4,200 billion lire in 1960 to almost 17,000 in 1990, four times its original value. On the other hand, during

TABLE 10 - TOTAL AGRICULTURAL CREDIT
(billions - constant lire year 1990)

YEAR	WORKING CAPITAL CREDIT						IMPROVEMENT CREDIT		TOTAL AGRICULTURAL CREDIT	
	SHORT TERM		MEDIUM TERM		TOTAL		LONG TERM	CREDIT	Value	%
	Endowment	Endowment	Endowment	Endowment	Endowment	Endowment	CREDIT			
	Value	%	Value	%	Value	%	Value	%	Value	%
1960	3442	64	831	15	4272	80	1098	20	5370	100
1965	4883	68	1213	17	6096	84	1122	16	7218	100
1970	6039	65	1616	17	7655	83	1586	17	9241	100
1971	6585	68	1480	15	8065	83	1656	17	9721	100
1972	5863	64	1677	18	7540	83	1551	17	9091	100
1973	6878	70	1293	13	8171	83	1660	17	9831	100
1974	7165	70	1388	14	8553	84	1649	16	10202	100
1975	8095	65	1964	16	10058	81	2358	19	12417	100
1976	8344	65	2055	16	10398	81	2447	19	12846	100
1977	8867	69	1803	14	10671	83	2151	17	12822	100
1978	11371	73	2063	13	13434	86	2104	14	15538	100
1979	12508	72	2667	15	15176	88	2101	12	17277	100
1980	13264	74	2523	14	15787	88	2057	12	17844	100
1981	13658	76	2131	12	15789	88	2091	12	17880	100
1982	13324	77	2043	12	15367	89	1945	11	17312	100
1983	13766	79	1844	11	15611	90	1778	10	17388	100
1984	14221	81	1679	10	15900	91	1594	9	17494	100
1985	14290	83	1463	8	15753	91	1563	9	17316	100
1986	15673	83	1355	7	17028	90	1846	10	18873	100
1987	15859	82	1429	7	17289	90	1956	10	19245	100
1988	15782	81	1343	7	17125	88	2416	12	19541	100
1989	15691	81	1325	7	17015	88	2294	12	19310	100
1990	15600	82	1306	7	16906	89	2173	11	19079	100
mean										
'60-'74	5477	67	1243	15	6720	83	1421	17	8141	100
mean										
'75-'90	13145	77	1812	11	14957	88	2055	12	17011	100

Source: A.Bartola, F.Sotte, G.Buoncompagni, Linee evolutive del credito agrario in Italia, Economia Marche, n. 2, 1992

the same period, improvement credit doubled its initial value, from 1,100 to 2,200 billion lire. Therefore, the ratio between improvement and working capital credit has changed from 1 : 4 to 1 : 8.

Within the credit categories, we notice the relevant weight and the steady growth of short term loans, which increased from about 64% to 82% during the thirty year period, as opposed to a decline in both medium term credit (from 15 to 7%) and long term credit (from 20% to 11%).

However, taken as a whole, the annual credit allocation shows a strong growth, with a sharp acceleration after the second half of the 1970s, both in absolute values and in relation to the characteristic aggregates of the sector. **Table 11** presents the total agricultural credit compared to the final output of the primary sector. The ratio, moving within the values of 10% and 15% until 1975, increased sharply during the remaining period, reaching 35% in 1990. The amount of credit per employee in agriculture reaches 10 million (constant) lire in 1990 (from less than 1 million in 1960), and credit per hectare of cultivated area approached 1.4 million.

4.2. THE WEIGHT AND THE DISTRIBUTION OF THE SUBSIDIZED CREDIT

Having emphasized the importance of the various categories of agricultural credit and the disproportion between short, medium and long term debt flows of Italian farms, it is important to look at the component financed at a reduced rate

TABLE 11 - TOTAL AGRICULTURAL CREDIT RELATED TO AGRICULTURAL FINAL OUTPUT, EMPLOYEES IN AGRICULTURE AND HECTARES OF CULTIVATED AREA (Constant lire year 1990)

YEAR	TOTAL AGRIC. CREDIT/ FINAL OUTPUT %	TOTAL AGRIC. CREDIT/ EMPLOYEE Thou '90	TOTAL AGRIC. CREDIT/ CULTIV AREA Thou '90
1960	10.0	832	296
1965	11.1	1485	410
1970	13.7	2563	536
1971	14.6	2702	596
1972	14.1	2723	570
1973	13.1	3032	635
1974	13.2	3214	659
1975	15.9	4075	810
1976	16.4	4254	858
1977	16.8	4096	890
1978	19.5	5062	1039
1979	21.3	5780	1162
1980	22.6	6155	1203
1981	23.7	6543	1226
1982	23.8	6863	1189
1983	23.3	6883	1218
1984	24.7	7212	1225
1985	25.2	7532	1213
1986	28.5	8422	1322
1987	30.2	8893	1348
1988	33.0	9486	1368
1989	33.1	9918	1352
1990	34.9	10068	1336

Source: A.Bartola, F.Sotte, G.Buoncompagni, Linee evolutive del credito agrario in Italia, *Economia Marche*, n. 2, 1992

of interest²⁸. From table 12 it is clear that, during the period considered,²⁹ about 60% of the total agricultural credit has been assigned at a reduced rate of interest, peaking at 70% during the mid-Seventies.

The share of the subsidized credit in the total, which remained constant during the Eighties, conceals two symmetric trends: the regressive nature of both the long term subsidized credit (which shrank from values greater than 80% at the beginning of the period to 50%) and the medium term (where the facilitated credit declined from 60-70% of the Seventies to the current 40%) is opposed to a slight increase of the subsidized quota of the short term credit.

Considering the subsidized agricultural credit as a whole (table 12, part B), we see that already in the mid-Seventies a large proportion (65%) was at short term, whereas, only 15% and 20% was at medium and long term, respectively. These results are surprising, especially because in that period the necessity of the revision of the Italian rural structure was at the centre of the main agricultural policy debates. Indeed, the realization of medium and long term investments evidently depends on the availability of loans having corresponding periods,

²⁸ In the case of cut-rate credit, the public authority contributes to the payment of the interest, reducing the burden for the borrower. The facility mechanism works as follows: a ministerial decree fixes the reference rate (inclusive of commissions and additional charges) received by the grantor institute and the difference between the facilitated rate (paid by the borrower) and the reference rate constitutes the contribution paid by the State.

²⁹ The analysis has been carried out exclusively for the period 1974-1988 because, on one hand, only since 1974 has the Bank of Italy distinguished between facilitated and non facilitated operations and, on the other hand, data concerning the subsidized credit for the years 1989 and 1990 were not still available when this research ended, due to the reorganization of the Statistical Bulletin.

TABLE 12 - INCIDENCE OF SUBSIDIZED CREDIT ON TOTAL AGRICULTURAL CREDIT

YEAR	SHORT TERM			MEDIUM TERM			LONG TERM			TOTAL		
	Value	of which substd.	%	Value	of which substd.	%	Value	of which substd.	%	Value	of which substd.	%
A) Billions - constant lire year 1990												
1974	7165	4218	59	1388	892	64	1649	1337	61	10202	6447	63
1975	8095	5150	64	1964	1475	75	2358	1931	82	12417	8555	69
1976	8344	5731	69	2055	1426	69	2447	2092	85	12846	9249	72
1977	8867	5391	61	1803	1089	60	2151	1667	77	12822	8147	64
1978	11371	7072	62	2063	1113	64	2104	1394	66	15538	9580	62
1979	12508	6947	56	2667	1441	54	2101	1334	63	17277	9721	56
1980	13264	7749	58	2523	1284	51	2057	1310	64	17844	10344	58
1981	13658	8287	61	2131	1070	50	2091	1417	68	17880	10774	60
1982	13324	8351	63	2043	1130	55	1945	1494	77	17312	10975	63
1983	13765	8533	62	1844	964	52	1778	1350	76	17388	10848	62
1984	14221	9117	64	1679	839	50	1594	1204	76	17494	11150	64
1985	14290	9224	65	1463	730	50	1563	945	60	17316	10898	63
1986	15673	10438	67	1355	654	48	1846	1130	61	18873	12223	65
1987	15859	10413	66	1429	602	42	1956	976	50	19245	11991	62
1988	15782	9423	60	1343	532	40	2416	1148	47	19541	11102	57
mean												
'74-'80	9945	6037	61	2066	1246	60	2124	1581	74	14135	8863	63
'81-'88	14572	9223	63	1661	815	49	1899	1208	64	18131	11246	62
B) Percentages on total												
1974	70.2	65.4		13.6	13.8		16.2	20.7		100.0	100.0	
1975	65.2	60.2		15.8	17.2		19.0	22.6		100.0	100.0	
1976	65.0	62.0		16.0	15.4		19.1	22.6		100.0	100.0	
1977	69.2	56.2		14.1	13.4		16.8	20.5		100.0	100.0	
1978	73.2	73.8		13.3	11.6		13.5	14.6		100.0	100.0	
1979	72.4	71.5		15.4	14.8		12.2	13.7		100.0	100.0	
1980	74.3	74.9		14.1	12.4		11.5	12.7		100.0	100.0	
1981	76.4	76.9		11.9	9.9		11.7	13.2		100.0	100.0	
1982	77.0	76.1		11.8	10.3		11.2	13.6		100.0	100.0	
1983	79.2	78.7		10.6	8.9		10.2	12.4		100.0	100.0	
1984	81.3	81.7		9.6	7.5		9.1	10.8		100.0	100.0	
1985	82.5	84.6		8.4	6.7		9.0	8.7		100.0	100.0	
1986	83.0	85.4		7.2	5.4		9.8	9.2		100.0	100.0	
1987	82.4	85.8		7.4	5.0		10.2	8.1		100.0	100.0	
1988	80.8	84.9		6.9	4.8		12.4	10.3		100.0	100.0	

Source: A. Bartola, F. Solte, G. Buoncompagni, Linee evolutive del credito agrario in Italia, Economia Marche, n. 2, 1992

even though the public sources have been progressively and increasingly directed to different objectives, that is the reduction of the cost of the short term credit. In this way the national agricultural policy revealed its willingness to favour capitalistic farms that were probably those which had already substantially resolved their structural problems.

By the end of the examined period, the weight of the short term subsidized credit in global subsidized credit reached 85%, reducing the corresponding shares of the medium and long term subsidized credit to 5% and 10% respectively.

4.3. RELATION BETWEEN AGRICULTURAL CREDIT AND CAPITAL REQUIREMENTS OF THE AGRICULTURAL SECTOR: THE ROLE OF SPECULATIVE TRANSACTIONS

In this section we will examine the contribution made by the special agricultural credit system for the support of current expenses and for the realization of medium and long term investments in the primary sector. We will relate, respectively, the short, medium and long term credit to the value of intermediate consumption plus wages, medium term investments and long term investments in agriculture³⁰, in order to obtain a gross indicator of the degree of credit coverage for the different types of capital which farmers require.

The quota of long and medium term investments financed by the corresponding credit (figure 2) shrank, falling from about 40% of the period of the second "Piano verde"

³⁰ The values of these variables are drawn from the INEA Yearbooks.

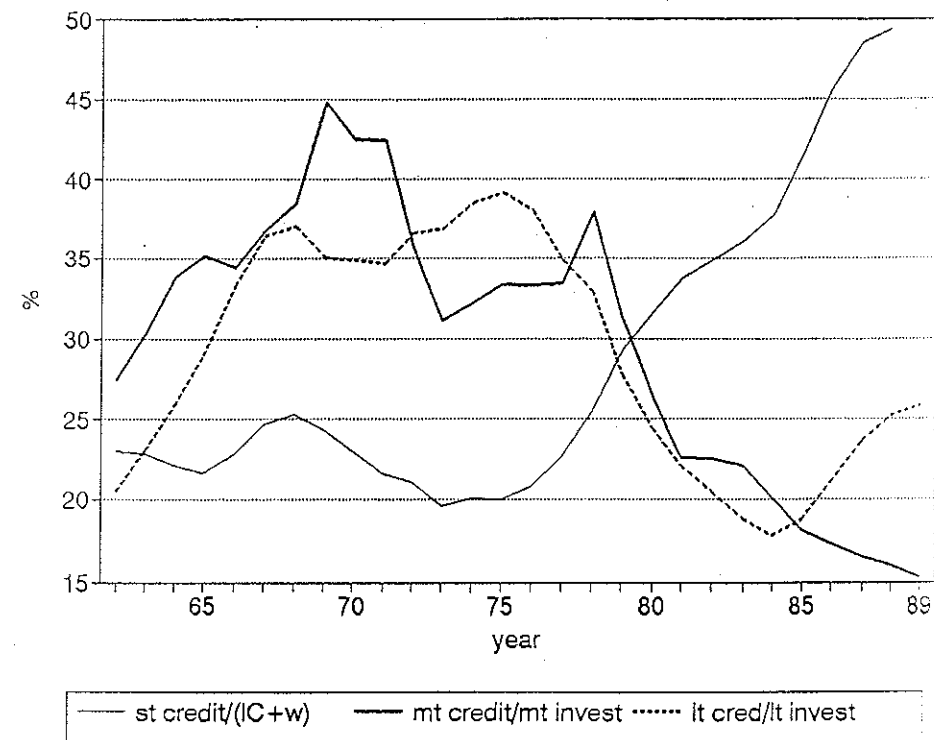


Figure 2 - Agricultural credit related to capital requirements

(National Agricultural Development Scheme) (1967-1970)³¹ to less than 20% in the mid-Eighties. The most recent years were characterized by a recovery up to 25% for long term credit, even though the relationship between medium term credit and the corresponding investments maintained its regressive trend.

By contrast, after the second half of the Seventies, the share of operating expenses financed by short term agricultural credit increased sharply, and the relationship between short term credit and the sum of wages and intermediate consumption approached 50%³². The exceptional growth of short term credit and the corresponding reduction of medium-long term credit can be explained by speculative transactions that have occurred since 1976-77. In fact, considering the total amount of agricultural credit granted as fixed, the lack of controls on the destination of credit could have induced farmers to reduce medium and long term credit and to ask for short term loans, in order to benefit from the existing gap between the high yield obtainable from Government securities and the low facilitated rates of paid interest (see table 13). In practice, farmers used short term credit, which was easier to ask for and faster to obtain than the medium and long term ones, to buy Treasury Bills (whose

³¹ The national public intervention in agriculture during the Sixties was characterized by two quinquennial Agricultural Development Schemes. The first one, in operation by the law n. 459 of 1961, was named "five-year plan for the development of agriculture" or "Primo piano verde" (*First Green Plan*); the second one, in force by the law n. 910 of 1966, was called "Measures for agricultural development during the five-year period 1966-1970" or "Secondo piano verde" (*Second Green Plan*).

³² Actually, the sum of intermediate consumption and wages does not correspond to the short term capital needs, being the related costs distributed throughout the year. If we assume that the real need could approximate half that value, the coverage of short term capital needs made by short term credit is close to 100%.

TABLE 13 - GAP BETWEEN THE TREASURY BILL RATES AND THE BORROWING RATES OF INTEREST OF THE SUBSIDIZED AGRICULTURAL CREDIT (Percentages)

YEAR	WORKING CAPITAL SUBSIDIZED RATE		IMPROVEMENT SUBSIDIZED RATE	
	CENTRE- NORTH	SOUTH	CENTRE- NORTH	SOUTH
	1970	2.7	2.7	2.7
1971	2.7	2.7	2.7	3.7
1972	2.2	2.2	2.2	3.2
1973	3.9	3.9	3.9	4.9
1974	12.6	12.6	12.6	13.6
1975	1.5	3.5	3.5	5.0
1976	10.7	12.9	11.7	13.2
1977	6.2	8.4	7.2	8.7
1978	5.1	7.3	6.1	7.6
1979	9.0	11.2	10.0	11.5
1980	10.3	11.8	12.3	12.8
1981	14.7	16.9	15.7	17.2
1982	7.9	12.1	8.6	12.1
1983	6.3	10.5	5.9	7.9
1984	3.8	8.0	4.5	8.0
1985	2.0	6.2	3.0	6.7
1986	1.2	6.2	1.9	6.1
1987	2.3	6.0	3.0	6.1
1988	2.1	5.8	1.7	5.3
1989	2.3	6.6	2.8	6.4
1990	2.2	6.4	2.1	6.0

Source: A. Bartola, F. Sotte, G. Buoncompagni, *Linee evolutive del credito agrario in Italia*, Economia Marche, n. 2, 1992

massive distribution to the public began just then, in 1977) obtaining a gain from the difference between the interest received from Government securities and the interest paid on credit³³.

4.4 THE ESTIMATE OF THE AGRICULTURAL BENEFIT FROM CREDIT

Analyzing the rates of interest, **Table 14** clearly shows the high degree of market segmentation. It is expressed by the considerable gap between the facilitated and non facilitated rates (the latter are represented by reference rates)³⁴. The discrepancy between reference and facilitated rates measures the cost of the charge against the Italian State. Evidently the gap with the market situation (estimated by the reference rates) was considerable for the whole period and in particular at the end of the Seventies and the beginning of the Eighties. Using the information provided by this figure, **table 15** estimates the public transfers which agriculture received from credit, simply by multiplying the amount of each category of subsidized credit by the difference between the reference rate and the facilitated rate of interest for the corresponding category of loans³⁵. On average, agriculture benefited from 832 billion lire per year through

³³ In 1981, that difference reached the peak of 17% for the South.

³⁴ The reference rates for working capital and improvement credit are valid for the whole state territory, while the facilitated rates for the same categories of credit change according to the different geographical zones (Centre-North and South). Both reference rates and facilitated rates are adjusted every two months in compliance with the variation of the cost of money. However, for greater convenience, the figures have been drawn by calculating the mean values registered during the year.

³⁵ That difference has been calculated considering the average rates of facilitated interest of Centre-North and South.

TABLE 14 - AGRICULTURAL CREDIT RATES OF INTEREST DISTINGUISHED FOR CATEGORY OF CREDIT AND GEOGRAPHIC ZONE

YEAR	WORKING CAPITAL			IMPROVEMENT		
	REFERENCE	FACILITATED RATE		REFERENCE	FACILITATED RATE	
	RATE	CENTRE-NORTH	SOUTH	RATE	CENTRE-NORTH	SOUTH
1970	8.15	3.00	3.00	9.30	3.00	2.00
1971	9.15	3.00	3.00	10.30	3.00	2.00
1972	8.65	3.00	3.00	9.80	3.00	2.00
1973	7.90	3.00	3.00	9.05	3.00	2.00
1974	10.00	3.00	3.00	10.70	3.00	2.00
1975	14.50	7.00	5.00	13.80	5.00	3.50
1976	14.50	6.75	4.50	14.40	5.75	4.25
1977	16.75	6.75	4.50	15.60	5.75	4.25
1978	13.65	6.75	4.50	15.05	5.75	4.25
1979	13.00	6.75	4.50	14.65	5.75	4.25
1980	17.50	6.75	5.25	15.50	4.75	4.25
1981	21.50	6.75	4.50	17.50	5.75	4.25
1982	21.50	11.50	7.25	21.25	10.75	7.25
1983	21.00	11.50	7.25	20.90	11.90	9.90
1984	18.25	11.50	7.25	20.45	10.75	7.25
1985	16.35	11.75	7.50	17.70	10.75	7.00
1986	16.70	10.05	5.05	16.90	9.30	5.10
1987	12.40	7.45	3.75	12.35	6.80	3.70
1988	12.40	7.45	3.75	14.20	7.85	4.30
1989	14.25	8.55	4.30	14.75	8.10	4.45
1990	14.05	8.45	4.25	15.60	8.60	4.70

Source: A.Bartola, F.Sotte, G.Buoncompagni, *Linee evolutive del credito agrario in Italia*, Economia Marche, n. 2, 1992

TABLE 15 - ESTIMATE OF THE AGRICULTURAL BENEFIT FROM CREDIT
Billions - constant lire year 1990

YEAR	SHORT TERM			MEDIUM TERM			LONG TERM			TOTAL	
	SUBSID. CREDIT	DIFF. IN RATES (%)	BENEFIT	SUBSID. CREDIT	DIFF. IN RATES (%)	BENEFIT	SUBSID. CREDIT	DIFF. IN RATES (%)	BENEFIT	SUBSID. CREDIT	BENEFIT
1974	4218	7.0	295	892	7.0	62	1337	8.2	110	6447	366
1975	5150	8.5	438	1475	8.5	125	1931	9.6	184	8555	573
1976	5731	8.9	509	1426	8.9	127	2092	9.4	197	9249	645
1977	5391	11.1	600	1089	11.1	121	1667	10.6	177	8147	732
1978	7072	8.0	568	1113	8.0	89	1394	10.1	140	9580	667
1979	6947	7.4	512	1441	7.4	106	1334	9.7	129	9721	628
1980	7749	11.5	891	1284	11.5	148	1310	11.0	144	10344	1050
1981	8287	15.9	1316	1070	15.9	170	1417	12.5	177	10774	1498
1982	8351	12.1	1013	1130	12.1	137	1494	12.3	183	10975	1162
1983	8533	11.6	992	964	11.6	112	1350	10.0	135	10848	1114
1984	9117	8.9	809	839	8.9	74	1204	11.5	138	11160	895
1985	9224	6.7	620	730	6.7	49	945	8.8	83	10898	678
1986	10438	9.2	955	654	9.2	60	1130	9.7	110	12223	1025
1987	10413	6.8	708	602	6.8	41	976	7.1	69	11991	756
1988	9423	6.8	641	532	6.8	36	1148	8.1	93	11102	685
mean '74-'88	7736	9.4	724	1016	9.4	97	1382	9.9	138	10134	832

Source: A. Bartola, F. Sotte, G. Buoncompagni, *Linee evolutive del credito agrario in Italia*, Economia Marche, n. 2, 1992

the credit channel, with peaks higher than 1,000 billions reached at the beginning of the Eighties (almost 1,500 billions in 1981), showing then a decreasing trend in the later years.

4.5 THE REGIONAL ANALYSIS

Our study becomes more interesting if the analysis focuses on specific Regions. In fact, the distribution of agricultural credit, in both the total and the individual components, seems to be uneven.

Table 16 shows that in the period 1984-1988, using an average of these 5 years at the constant lire value of 1990, Southern Regions registered use of short term credit (85%), somewhat greater than the national mean, while Northern (80.5%) and Central Regions (80.1%) showed the lower ratios. In decreasing order, Apulia, Campania, Sicily, Emilia-Romagna, Friuli and Lombardy were the Regions that made the most use of short term credit. By contrast, minimal utilization occurred in Val d'Aosta, Liguria and Piedmont.

The situation is the opposite if we refer to medium term credit, averaging 7.9% of the total. In this case, Central Italy has the maximum incidence, followed by the Northern area and lastly by the South. At a regional level, Piedmont was in first position followed by Umbria and Marche.

Finally, the long term loans characterizes mainly the Northern Regions followed by Central Italy, whereas only 8.6% of improvement credit goes to the South. Regions showing the highest values were Val d'Aosta, Liguria, Trentino and Piedmont, while Campania, Apulia and Umbria register the smallest quotas.

TABLE 16 - SHORT, MEDIUM AND LONG TERM AGRICULTURAL CREDIT DISTINGUISHED BY REGION
 Mean 1984-88, Billions - constant lire year 1980

REGION	SHORT TERM		MEDIUM TERM		LONG TERM		TOTAL	
	VALUE	%	VALUE	%	VALUE	%	VALUE	%
Piedmont	764	68.8	153	14.7	182	16.4	1110	100
V.d'Aosta	19	53.2	3	7.7	14	36.1	36	100
Lombardy	1818	82.5	204	9.3	181	8.2	2203	100
Trentino A.A.	218	71.3	18	5.9	69	22.8	303	100
Venettia	1414	78.5	161	9.0	203	11.4	1778	100
Friuli V.G.	309	83.2	22	5.8	41	11.0	372	100
Liguria	91	59.1	10	6.3	53	34.5	154	100
Emilia-Romagna	2149	85.6	111	4.4	251	10.0	2511	100
Tuscany	1057	83.5	112	8.5	144	10.9	1313	100
Umbria	344	78.1	56	13.3	33	7.5	435	100
Marche	337	78.1	56	12.9	36	9.0	431	100
Lazio	702	82.3	84	9.9	67	7.8	853	100
Abruzzi	385	76.7	60	12.0	57	11.4	502	100
Molise	175	78.7	21	9.7	23	10.8	220	100
Campania	780	88.0	53	5.8	53	6.0	886	100
Apulia	1886	89.7	66	3.1	151	7.2	2111	100
Basilicata	381	83.9	29	6.4	44	9.7	454	100
Calabria	340	76.6	45	10.2	58	13.2	444	100
Sicily	1209	87.4	61	4.4	114	8.2	1383	100
Sardinia	774	78.2	118	11.9	97	9.8	989	100
ITALY	15160	82	1453	8	1875	10	18488	100
NORTHERN ITALY	6781	80	591	8	595	12	8466	100
CENTRAL ITALY	2441	80	310	10	262	8	3003	100
SOUTHERN ITALY	5538	85	453	8	558	9	6589	100

Source: A. Bartola, F. Sotte, G. Buoncompagni, Linee evolutive del credito agrario in Italia, Economia Marche, n. 2, 1982

Hence, it is evident that Southern Regions (chiefly Campania, Apulia, Sicily and Basilicata) used the lower share of medium and long term agricultural credit in the total, even though those are the areas whose agricultural systems had major need for structural adjustments.

Table 17 considers the incidence of cut-rate credit on total credit in every Region or geographic zone. The low quotas of Lombardy (32%), Piedmont (36%) and Marche (39%) contrast with the extraordinary percentages of Molise (90%), Basilicata (88%), Sicily (87%), Calabria and Apulia (86%). On average, the quota of subsidized credit accruing to South reaches 83%, which is greater than the national mean (62%) and, obviously, than the corresponding value for the North (48%). Central Italy is placed at an intermediate position, with a share of 52%, mainly determined by the high relative value of Lazio, since the other Regions and in particular Marche and Umbria register the lowest values.

Analyzing the different credit categories, we understand that the major discrepancies are not due to the improvement credit (where the gap between Southern areas and the national average is only 9%) but to the working capital credit, where the difference reaches 22%. Considering short term credit, the share of cut-rate lending in the total goes from 49% for Northern Italy to 53% for the Centre and reaches 86% in the South, where Regions such as Sicily and Molise register values greater than 90%. Similar results occur for the medium term credit, whose subsidized quota was larger in the South (68%), while Molise and Basilicata shares are close to 100% (that is all the credit granted was subsidized). The subsidized shares for

TABLE 17 - INCIDENCE OF THE SUBSIDIZED CREDIT ON TOTAL CREDIT IN THE ITA
 Percentages of mean values in the period 1984-88

REGION	SHORT TERM	MEDIUM TERM	LONG TERM	TOTAL
Piemonte	41.2	22.2	25.2	35.8
V.d'Aosta	59.2	59.0	94.9	73.1
Lombardia	32.6	17.8	45.8	32.3
Trentino A.A.	64.4	92.3	63.9	65.9
Veneto	65.1	57.9	64.2	64.4
Friuli V.G.	67.5	55.9	80.6	68.3
Liguria	87.6	68.7	31.8	67.2
Emilia-Romagna	49.0	45.5	58.6	49.8
Toscana	53.0	41.5	68.5	53.7
Umbria	43.8	27.9	43.8	41.7
Marche	39.4	21.1	68.4	39.6
Lazio	62.8	45.1	45.7	59.7
Abruzzi	89.2	57.9	58.4	82.0
Molise	90.7	99.2	69.9	89.3
Campania	79.4	71.8	60.3	77.8
Puglia	87.8	80.8	63.0	85.8
Basilicata	88.2	94.1	83.9	88.2
Calabria	89.0	88.0	69.1	86.2
Sicilia	92.3	58.6	50.9	87.4
Sardegna	74.4	48.2	87.4	72.6
NORTH	49.0	36.6	51.6	48.3
CENTRE	52.6	36.3	60.2	51.7
SOUTH	86.2	67.7	66.4	83.3
ITALY	64.1	46.2	57.6	62.1

Source: A.Bartola, F.Sotte, G.Buoncompagni, Linee evolutive del credito agrario
 in Italia, Economia Marche, n. 2, 1992

Central and Northern Regions, whose values decrease to 36%, are lower.

Regarding the long term credit, the discrepancies are smaller, as mentioned before, and the weight of subsidized credit on the total is 52, 60 and 66%, for Northern, Central and Southern areas, respectively, with considerable homogeneity among Regions.

In conclusion, Italian agriculture has benefited for a long period from large amounts of credit, mainly subsidized. However, it has not led to substantial re-organizations with increase in efficiency because the credit has been essentially used for short term purposes. It has been directed to satisfy the urgent demands for working capital from food-industries, agricultural co-operatives, trading firms, and speculators.

5. TAXATION IN AGRICULTURE

5.1 THE TAX SYSTEM IN AGRICULTURE

In the modern State, taxation is the most common instrument for the financing of public expenditure. However, besides this task, the determination of tax structures and mechanisms has a major role in the realization of economic and social policy.

Three main taxes represent the *direct* imposition in Italy:

1. the personal income tax (IRPEF), which is paid by individual persons on their aggregate net income and which is progressive, with rates from 10 to 50% depending on the income bracket;
2. the corporate income tax (IRPEG), which is paid by corporate bodies on their aggregate net income and which is proportional, with a rate of 36%;
3. and finally, the local income tax (ILOR), which is proportional (the current rate is 16.2%) and hits, by superimposing itself on the previous taxes, all the income from patrimonial assets liable to personal income tax, i.e. income from land and buildings, returns on capital, business income and miscellaneous income. Only the income from subordinate employment is excluded from the ILOR tax base.

The main *indirect* taxes are constituted by the IVA (VAT: the ordinary rate is 19%), the local tax on the increased value of immovable property (INVIM), inheritance tax, registration of contracts tax, stamp duty, tax on manufacturing, government concession tax.

Agriculture benefits from a tax peculiarity on direct imposition. In fact, the taxable income is calculated through cadastral estimates rather than through the actual income obtained during the year. Therefore, all agricultural concerns pay IRPEF and ILOR on a presumptive income, but, if they are corporate bodies, IRPEG is paid on the income assessed on the final balance (as the difference between revenues and costs).

The cadastral income distinguishes between income from land ownership and agrarian income. The former comprises the revenues that the owner could get from land and from the fixed capital invested on it. The agrarian income pertains to the profits that the farmer could get from the working capital and from management activity. Hence, by the cadastral system, the tax base for the personal income and the local income tax is not represented by the *effective* income (as in the other economic sectors) but by the *potential* income. This presumptive income, assessed by the cadastre, refers to a period of time long enough to overcome the typical variability of farming. Besides, it is related to a conventional income which an ordinary farmer could get from that particular piece of land excluding the maximum and minimum results.

The cadastral income is defined as an annual average income, which is stable in the long period and obtainable by an ordinary farmer. It can be calculated by applying to each cadastral fraction the corresponding cadastral rate, which takes into

consideration the area, the type of feasible cultivation, and the productivity level of that land.

The choice of the cadastral income as tax base for agricultural activities had a number of justifications. Firstly economic justifications are based on the peculiarity of farming, characterized by time lags between investment decisions and output realization, perfect competition, income variability and an overall structural subordination compared with the other sectors. Considering these structural characteristics, the cadastral income was thought as an important instrument to secure certainty and stability to tax receipts against the sector instability. Moreover, the cadastral system could have stimulated agricultural productivity and the rationalization of the sector. In fact, this form of imposition should have favoured the more efficient farms, being detrimental to the less efficient ones. The former could have avoided tax imposition on the share of income exceeding the ordinary level determined by the cadaster. On the other hand, the less efficient farms should have borne a higher fiscal burden on the effective income obtained.

There were also administrative motivations for the adoption of the cadastral system; the imposition on cadastral income eliminates the problem of litigation on the assessment of the tax due and relieves farmers from fiscal book-keeping. Furthermore, considering the large number of small farms in Italy, the tax assessment of the effective income would have been almost impossible, at least in the past, and anyway too expensive for the small amounts due. Therefore, the tax-officer inspections can be redirected towards more interesting economic activities whose control is less efficient.

The role of cadastral surveys (which allow the calculation of agrarian and land ownership incomes, for each fraction of land) is very important for the agricultural tax system. Their connection with the real profitability of that particular fraction of land is a requirement for the equity of taxation. As a matter of fact, until 1988, the cadastral income was calculated using the cadastral surveys of the years 1937-1939, periodically re-valued with a single national coefficient. The weak correspondence of those surveys to the agricultural conditions of fifty years later is clear, as well as the bias and injustice created in this way. The first general revision of the cadastral surveys was in 1988 and from the 1st of January of that year new cadastral rates came into force, trying to identify in a better way the effective earning power of every cadastral fraction.

Agriculture benefits from a tax peculiarity on indirect imposition and, in particular, on the VAT³⁶. The aim of the VAT system in agriculture is not to charge any amount to farmers, granting them only gains. At the end of every year, farmers are given the option of choosing between an "ordinary" and a "special" VAT system. If the farmer plans to purchase more than to sell during the next year, and therefore the paid VAT will be greater than the collected one, then he will choose the ordinary system and ask for a tax refund. On the other hand, if he plans that sales will exceed purchases, then he will choose the special system and will not pay the difference between collected and paid VAT, retaining that amount.

³⁶ As mentioned above the ordinary VAT rate is 19%, but for agricultural goods there are also rates of 4%, 9%, and 12% depending on the type of commodity.

5.2 LEVEL AND STRUCTURE OF TAX AND FISCAL BURDEN

The awareness that farming activity was not able to guarantee farmers adequate income levels, comparable to those of other sectors, was the central idea for the adoption of a special tax system in the primary sector. The calculation of the tax base on the cadastral outcomes is inevitably linked to the concept of a lump sum tax, which is not consistent with the personality and progressiveness principles of imposition currently in force in the Italian tax system. Besides, the absolute peculiarity of the agricultural VAT system, which allows only revenues for farmers, has led to the criticism that agricultural income is underestimated and that the tax system in agriculture cannot reflect its real tax liability.

To this situation of tax erosion follows the unfairness judgement towards the other economic sectors whose tax burden is much higher than that of the agricultural sector. Furthermore, the tax relief and benefits for agriculture were designed to support small farms with structural problems and low profitability in order to boost investments and rationalization. In fact, the large farms with capitalistic management have mainly benefited from this situation, enjoying a real tax gain³⁷.

In this section we will analyze the level and structure of the tax and fiscal revenues in agriculture, by comparing them with those of the other sectors. Finally, we will present an estimate of the avoided tax receipts arising from the particular tax

³⁷ Therefore, the tax policy is essentially regressive, since it is not able to select and discriminate the interventions towards the areas with major needs. On the contrary, the stronger and more efficient agriculture is the principal recipient category of those interventions.

system in force for agriculture, which can be understood as a transfer to the primary sector.

The total imposition in agriculture is given by the sum of three main components: social security contributions, indirect taxes and direct taxes. In our analysis, the social security contributions have been distinguished on the basis of their origin: employers and employees on one hand, self-employed workers on the other. The indirect taxes have been grouped in a single entry, while the direct taxes have been classified into the following items: personal income tax (subordinate employment and land income), local income tax, corporate income tax, tax on increased value of immovable property³⁸.

From **table 18** and **19** the small extent of fiscal and tax receipts³⁹ (in absolute values), which stand at about 1% of the total, is evident. On the other hand, in 1990, the agricultural sector accounted for 9.5% of the total labour force and 4.5% of GDP.

The total fiscal revenues in agriculture at constant prices showed a relatively stable trend from the beginning of the Eighties until 1987, fluctuating between 4,000 and 4,500 billion lire per year. It registered a sudden strong increase in 1988, almost 25% compared with the previous year, and since then, it has been growing considerably. Increased social security contributions have been the main determinant of that ex-

³⁸ Since in national accounts documents INVIM is considered a direct tax, in the tables we will conform to this custom.

³⁹ By definition, the fiscal revenue is constituted by the sum of social security contributions, indirect and direct tax revenues. The tax revenue is obtained adding up the revenue from indirect and direct taxes.

TABLE 18 - PUBLIC BURDEN IN AGRICULTURE
Billions - constant lire year 1990

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
SOCIAL SECURITY CONTRIBUTION	2372	2669	2854	2508	2491	2442	2233	2263	3276	3808	4202	4870
Employers and Employees	1281	1460	1705	1464	1440	1442	1292	1377	2059	2347	2701	2771
Self-employed workers	1091	1209	1150	1044	1051	1000	941	886	1217	1460	1501	2099
INDIRECT TAXES	349	343	397	390	375	467	468	508	546	596	563	557
DIRECT TAXES	1205	1318	1253	1403	1396	1501	1352	1582	1543	1685	1625	1639
Personal Income Tax:												
Subordinate employment	449	492	530	547	550	579	521	548	547	528	524	514
Income from land	190	302	245	333	354	397	319	378	353	435	340	371
Local Income Tax	273	266	240	317	285	327	295	385	325	342	295	280
Corporate Income Tax	32	37	41	47	54	51	57	55	58	74	88	94
Tax on Increased Value of Immovable Property	260	222	197	159	153	148	159	216	260	306	378	379
TOTAL	3926	4331	4505	4301	4262	4410	4052	4353	5364	6089	6390	7066

TABLE 19 - PUBLIC BURDEN IN AGRICULTURE
Billions - current lire

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
SOCIAL SECURITY CONTRIBUTION	876	1166	1465	1485	1626	1734	1713	1862	2875	3543	4202	5246
Employers and Employees	473	638	875	867	940	1024	991	1133	1807	2184	2701	2985
Self-employed workers	403	528	590	618	686	710	722	729	1068	1359	1501	2261
INDIRECT TAXES	129	150	204	231	245	332	359	418	479	555	563	600
DIRECT TAXES	445	576	643	831	911	1066	1037	1302	1354	1568	1625	1765
Personal Income Tax:												
Subordinate employment	166	215	272	324	359	411	400	451	480	491	524	554
Income from land	70	132	126	197	231	282	245	311	310	405	340	400
Local Income Tax	101	116	123	188	186	232	226	317	285	316	295	302
Corporate Income Tax	12	16	21	28	35	36	44	45	51	69	88	101
Tax on Increased Value of Immovable Property	96	97	101	94	100	105	122	178	226	285	378	408
TOTAL	1450	1892	2312	2547	2782	3132	3109	3582	4708	5666	6390	7611

Source: F. Sotte, M. Tonarelli, (1994), *Quanta politica agraria attraverso la politica tributaria?*, in course of publication.

pansion, between 1987 and 1988, they increased by 45% in real terms.

Table 20 shows the percentage composition of the public burden in agriculture. The remarkable weight of social security contributions, which represent about 60% of the total, is evident. The direct and indirect taxes correspond, to about 10% and 30% of the full amount, respectively.

Regarding social security contributions, employer and employee contributions show a positive trend, with a simultaneous decrease of the self-employed worker contributions. Only recently they have risen, due to legislative measures which counterbalance the structural social security deficit in agriculture⁴⁰.

Among direct taxes, the main component is the personal income tax on subordinate employment, whose relative weight is about 1/3 of the total direct taxes, more than 10% of the total fiscal revenue.

The land income accounts for about 7% of the total and similar values are registered by the local income tax. The incidence of corporate income tax is very low, constantly at 1%, while the tax on increased value of immovable property assumes values around 4-5%.

Table 21 shows the comparison between the composition of fiscal receipts in agriculture and in the rest of the economic system. It can be noticed that in the other sectors the three fiscal categories (social security contributions, indirect taxes and direct taxes) have about the same weight (33%). The

⁴⁰ This result shows the structural change which occurred in agriculture during the Eighties, where domestic labour is progressively substituted by external wage-workers.

TABLE 20 - PUBLIC BURDEN IN AGRICULTURE
Percentages

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
SOCIAL SECURITY CONTRIBUTION	60	62	63	58	58	55	55	52	61	63	66	69
Employers and Employees	33	34	38	34	34	33	32	32	38	39	42	39
Self-employed workers	28	28	26	24	25	23	23	20	23	24	23	30
INDIRECT TAXES	9	8	9	9	9	11	12	12	10	10	9	8
DIRECT TAXES	31	30	28	33	33	34	33	36	29	28	25	23
Personal Income Tax:												
Subordinate employment	11	11	12	13	13	13	13	13	10	9	8	7
Income from land	5	7	5	8	8	9	8	9	7	7	5	5
Local Income Tax	7	6	5	7	7	7	7	9	6	6	5	4
Corporate Income Tax	1	1	1	1	1	1	1	1	1	1	1	1
Tax on Increased Value												
of Immovable Property	7	5	4	4	4	3	4	5	5	5	6	5
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100

Source: F. Sotte, M. Tonnarelli, (1994), Quanta politica agraria attraverso la politica tributaria?, in course of publication.

TABLE 21 - PUBLIC BURDEN IN AGRICULTURE COMPARED WITH OTHER SECTORS
Percentage composition

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Mean 80-91
SOCIAL SECURITY CONTRIBUTIONS													
Agriculture	60.4	61.6	63.4	58.3	58.4	55.4	55.1	52.0	61.1	62.5	65.8	68.9	60.2
Other sectors	37.2	35.0	36.2	35.6	34.1	34.2	34.4	33.5	32.8	32.0	32.5	33.5	34.3
INDIRECT TAXES													
Agriculture	8.9	7.9	8.8	9.1	8.8	10.6	11.5	11.7	10.2	9.8	8.8	7.9	9.5
Other sectors	33.3	31.2	30.5	31.4	32.0	30.7	31.6	32.5	34.1	33.5	34.1	34.3	32.4
DIRECT TAXES													
Agriculture	30.7	30.5	27.8	32.6	32.8	34.0	33.4	36.3	28.8	27.7	25.4	23.2	30.3
Other sectors	29.5	33.8	33.2	33.0	33.9	35.1	34.0	34.0	33.1	34.5	33.4	32.1	33.3

Source: F. Sotte, M. Tonnarelli, (1994), Quanta politica agraria attraverso la politica tributaria?, in course of publication.

incidence of direct taxes in agriculture is the only consistent result with the average of the other sectors, while the indirect taxes are smaller than the social contributions by 1/3. The social contributions weight is twice as much as that from other sectors. The composition of fiscal revenues in agriculture has remained substantially stable during the twelve-year period considered. From the beginning of the Eighties and until 1987, direct taxes slightly increased their relative weight, which was then reabsorbed by social security contributions.

Regarding the other sectors, a positive trend characterizes both indirect and direct taxes, which is counterbalanced by the regressive nature of social security contributions.

It can be concluded that during the considered period, there are no tendencies for a gradual adjustment between agriculture and the rest of the economic system with respect to the composition of fiscal receipts.

Table 22 provides a comparison, in terms of fiscal and tax burden, between agriculture and the remaining economic sectors. The tax burden is defined by the ratio between the sum of indirect and direct taxes, and the net product. The fiscal burden is determined by the ratio between the sum of indirect, direct taxes and social security contributions, and the net product. Both indicators, expressed as percentage of the net product absorbed by the public burden, show a lower value for agriculture.

On the average, while in the other sectors the tax burden is almost six times larger than in agriculture, its corresponding value for the fiscal burden is only 3.6 times larger, due to the remarkable values of social security contributions in the composition of agricultural fiscal receipts.

TABLE 22 - SHARE OF NET PRODUCT ABSORBED BY PUBLIC BURDEN
Percentage composition

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	Mean 80-91
TAX BURDEN													
Agriculture	2.8	3.2	3.3	3.5	3.7	4.1	3.8	4.6	5.0	5.4	5.8	5.4	4.2
Other sectors	20.1	21.7	22.4	23.6	24.0	23.8	23.9	24.6	24.9	26.9	26.4	26.5	24.1
Other sectors/agriculture	7.2	6.8	6.8	6.8	6.4	5.8	6.2	5.4	5.0	5.0	4.6	4.9	5.9
FISCAL BURDEN													
Agriculture	7.0	8.3	9.0	8.3	9.0	9.1	8.5	9.5	12.8	14.4	16.8	17.3	10.9
Other sectors	31.9	33.4	35.2	36.7	36.5	36.3	36.4	37.0	37.0	38.6	38.9	40.3	36.5
Other sectors/agriculture	4.5	4.0	3.9	4.4	4.1	4.0	4.3	3.9	2.9	2.7	2.3	2.3	3.6

Source: F. Sotte, M. Tonnarelli, (1994), *Quanta politica agraria attraverso la politica tributaria?*, in course of publication.

Although agriculture has a special treatment, a redistributive trend is also evident. Notwithstanding the tax and fiscal burden increase in both the agriculture and the remaining sectors, the rate of growth of the primary sector is higher. With respect to the tax burden, while in agriculture it has grown from 2.8% in 1980 to 5.4% in 1991, the corresponding values for the remaining sectors are 20.1% and 26.5%, respectively. The fiscal burden in agriculture has expanded from 7% (in 1980) to 17.3% (in 1991), whereas for the other sectors that variable has moved from 32% to 40%.

A further measure of fiscal relief and benefits granted to agriculture is provided by table 23, which compare the value of subordinate employee wages in agriculture and in the other sectors after fiscal burden. The incidence of fiscal burden is still smaller in agriculture, even though a tendency for their realignment is noticeable as well as an overall decrease of net wages in both groups.

Notwithstanding several fiscal concessions, the average take-home wage in agriculture (net wage) is lower than in the other sectors. Furthermore, such a difference has been growing progressively: while in 1988 the ratio between the net average wage in agriculture and in the other sectors was 88.1%, the 1991 ratio was reduced to 72.4%. This result shows that the facilitated fiscal system in agriculture is losing its capability to counteract the wage adjustments dictated by the market.

Table 24 describes the attempt to underline the tax balance of Italian agriculture by comparing the actual receipts with the tax benefits (or missing receipts) deriving from the adoption of the cadastral tax base instead of the effective income, for the direct taxes, and of the facilitated VAT system, for the indirect

TABLE 23 - VALUE OF SUBORDINATE EMPLOYEE WAGE AFTER FISCAL BURDEN (NET WAGE)

	1985	1986	1987	1988	1989	1990	1991
A) Subordinate employee wage after fiscal burden (%)							
Agriculture	92.8	93.2	93.2	88.3	86.2	83	81.2
Other sectors	73.2	73.6	72.1	71.2	71.5	71.5	69.4
Other sectors/agriculture	0.79	0.79	0.77	0.81	0.83	0.86	0.85
B) Ratio between average subordinate wages in agric & in other sectors							
Gross average wages	69.5	68.6	66.7	66.0	64.8	63.2	61.8
Net average wages	88.1	86.8	86.1	81.9	78.1	73.4	72.4

TABLE 24 - TAX BALANCE OF ITALIAN AGRICULTURE
(billions - constant lire year 1990)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
A) Actual receipts											
Indirect taxes	349	343	397	390	375	467	468	508	545	596	563
Direct taxes	1205	1318	1253	1403	1396	1501	1352	1582	1543	1695	1625
Total taxes	1554	1662	1650	1793	1771	1968	1820	2090	2089	2282	2188
Reclaim contributions	821	693	693	611	465	426	455	439	432	446	471
Total	2375	2355	2243	2304	2236	2394	2275	2529	2521	2728	2659
B) Tax benefits											
VAT special system	1212	1783	2048	1739	1530	1750	1506	1556	1462	1419	1042
VAT normal system	859	955	1002	882	776	681	697	639	594	498	387
Total VAT	2071	2738	3050	2621	2306	2401	2203	2205	2056	1917	1429
Personal Income Tax											
on income from land	703	1117	919	1229	1319	1467	1165	1403	1303	1612	1265
Total	2774	3855	3969	3850	3625	3868	3388	3608	3359	3529	2694

Source: F. Sotte, M. Tonnarelli, (1994), *Quanta politica agraria attraverso la politica tributaria?*
in course of publication.

taxes⁴¹. During the considered period, the tax benefits are always greater than the actual receipts. The gap increases so much that it approaches the ratio of 2 to 1 at the beginning of the Eighties, then it decreases in the subsequent years until 1991, when the amount of the tax receipts is almost equal to the value of the tax benefits. This is a confirmation of the tendency, already emphasized, of a gradual erosion of the tax relieves granted to agriculture.

⁴¹ The estimate of the tax benefits has been obtained through a statistical survey run over a sample of farms included in the Agricultural Accounting Information Network (RICA). For a more detailed description of the methodology used, refer to: Bartola A., Sotte F., Tonnarelli M. (1993), *Quanta politica agraria attraverso la politica tributaria?* (How much Agricultural Policy through the Tax Policy?). The book is in course of publication.

6. SOCIAL SECURITY IN AGRICULTURE

6.1. QUANTITATIVE ANALYSIS OF THE SOCIAL SECURITY SYSTEM IN AGRICULTURE

The social security system is based on the social legislation aiming to protect workers against detrimental events, directly or indirectly linked with the work (accidents, disability, old age, sickness, etc.). This purpose is achieved through compulsory insurance, subscribed and paid by employers and employees. Furthermore, the social security system should ensure to all citizens a minimal level of income and consumption, independently of contribution.

Until the beginning of the Fifties, the principle driving the Italian social insurance system was that every person should receive social security benefits because of the contribution. In agriculture, the only existing form of social security was the insurance against accidents and occupational disease. After the mid-Fifties, when there was no longer a strict relation between benefits and contributions, this social security system was finally changed to a more proper one. In that period social old age insurance, civil disability and medical assistance were created (including agriculture), and since then the level of social security benefits has expanded sharply, much more than the increase in contributions.

Tables 25 shows the evolution of the social security contributions and benefits in agriculture in 1960, 1970 and

TABLE 25 - SOCIAL SECURITY CONTRIBUTIONS AND BENEFITS OF THE AGRICULTURAL SECTOR AND SOCIAL SECURITY BALANCE OF ALL THE OTHER SECTORS (billions - constant lire year 1990)

YEAR	CONTRIBUTIONS		BENEFITS		BALANCE		BALANCE OTHERS SECTORS	BALANCE ALL SECTORS
	CURR. VALUE	CONST. VALUE	CURR. VALUE	CONST. VALUE	CURR. VALUE	CONST. VALUE		
1960	70	1156	309	5103	-239	-3947		
1970	85	904	1277	13583	-1192	-12679	16936	4257
1980	876	2372	8224	22289	-7348	-19697	15409	-4488
1981	1166	2669	11067	25331	-9901	-22863	18115	-4548
1982	1465	2854	13292	25998	-11827	-23043	21828	-1215
1983	1495	2508	17299	29214	-15814	-26706	21106	-5600
1984	1626	2491	18721	28684	-17095	-26192	20733	-5459
1985	1734	2442	20658	29370	-19124	-26928	19735	-7193
1986	1713	2233	22470	29298	-20757	-27055	23496	-3659
1987	1862	2263	23851	28983	-21989	-26720	24148	-2572
1988	2875	3276	26746	30475	-23971	-27199	23365	-3834
1989	3543	3808	29907	32141	-26364	-28333	25653	-2680
1990	4202	4202	31913	31913	-27711	-27711	19789*	-7922
Mean '80-90		2829		28506		-25677	21216	-4461
Comp. rate of growth '80-90		3.6		3.0		2.9	3.0	2.0

Source: F. Sotte, A. Sgalla (1994), *Politica agraria e previdenza sociale*, in course of publication

from 1980 to 1990. In that period both variables increased, but it is evident the enormous gap between benefits and contributions, approaching 28,000 billion lire in 1990.

As shown in table 26, the incidence of the social security deficit to the net product increased progressively, from 35% in 1980 to 73% in 1990. However, this deficit, which exactly reflects the pattern of the benefits and shows the progressive loss of correlation between paid contributions and received benefits, cannot be considered entirely as a public transfer to agriculture. In fact, agriculture was the dominant sector of the labour force, and since the number of working farmers has decreased in parallel with economic development, the number of retired people in agriculture is now disproportionate in comparison with the number of workers. Comparing the social security deficit and the number of employees in agriculture from 1980 to 1990, we notice the inverse correlation between the two variables due to the mechanisms of the social security system. Even though the contributions per capita have increased, the current small number of farmers cannot afford, through their contributions, to pay pensions for the large number of retired people who have left agriculture.

The extent of the social security deficit can also be explained by the structural weakness of agriculture, characterized by: under-employment (understood as a small number of working days during the year and a large number of workers), low contributive liability due to scarce productive capacity and the low educational level of the labour force. These components laid the foundations for a simple system of social security, characterized by lack of controls and then allowing abuses and frauds.

TABLE 26 - INCIDENCE OF SOCIAL SECURITY DEFICIT ON EMPLOYEES AND VALUE ADDED
IN AGRICULTURE (Billions of lire)

YEAR	DEFICIT CURR. VALUES	DEFICIT CONST. VALUES	EMPL NUM. THOU.	DEFICIT/ EMPL THOU.LIRE	VALADD CURR. VALUES	DEFICIT/ VALADD %
1980	7348	19897	2899	6.9	20570	35.7
1981	9901	22663	2733	8.3	22698	43.6
1982	11827	23043	2523	9.1	25697	46.0
1983	15814	26706	2526	10.6	30717	51.5
1984	17095	26192	2426	10.8	30961	55.2
1985	19124	26928	2299	11.7	34317	55.7
1986	20757	27055	2241	12.1	36412	57.0
1987	21989	26720	2164	12.3	37546	58.6
1988	23871	27199	2060	13.2	36697	65.0
1989	26364	28333	1947	14.6	39250	67.2
1990	27711	27711	1895	14.6	37974	73.0

Source: F. Sotte, A. Sgalla (1994), *Politica agraria e previdenza sociale*,
in course of publication

There were also economic policy reasons for supporting agriculture through the social security instrument aimed at maintaining a social fabric in rural areas and avoiding the "escape" of manpower to the other sectors. In order to reach these purposes, contribution abatements were granted in addition to increases in social security benefits (not related to contributions paid) directed to supplement farmers' income.

The social security deficit in agriculture is annually financed by two instruments: the intersectorial liability and the State contribution. **Table 25** last two columns show the deficit is mainly covered using the contributions paid by the other sectors, whose social security balance is clearly positive⁴². Given that this is not sufficient, State contributions are required to balance the social security deficit of the primary sector.

Table 27 analyses the items which make up the categories of contributions and benefits. The main component is represented by the agricultural unified contributions (which all hired workers have to pay). During the considered four decades, their share increased until 1980 (45.2%) and it reduced in 1990 to 40.8%. The contributions paid by farmers for disability, old age and sickness also have a major incidence (34.8%), although they diminish during that period, while those paid by sharecroppers, showing a similar trend, are much lower (0.9% in 1990) due to their limited number.

⁴²The fact that the social security deficit in agriculture is financed through contributions paid by workers of the other sectors is considered very unfair since the cost of this policy should be totally a charge against the State which collects revenues, progressively, from the community as a whole.

TABLE 27 - PATTERN OF THE SOCIAL SECURITY CONTRIBUTIONS AND BENEFITS IN THE AGRICULTURAL SECTOR
(billions - constant lire year 1990)

	1960		1970		1980		1990	
	Value	%	Value	%	Value	%	Value	%
CONTRIBUTIONS								
Agricultural unified (subordinate employees)	426	36.8	319	35.3	1072	45.2	1714	40.8
Disability, old age and sickness for sharecroppers	116	10.1	25	2.7	63	2.7	38	0.9
Disability, old age and sickness for farmers	472	40.8	446	49.3	1026	43.3	1462	34.8
Accidents and professional diseases	132	11.4	85	9.4	180	7.6	935	22.3
Farm clerks	11	0.9	29	3.2	30	1.3	53	1.3
Total	1156	100.0	904	100.0	2372	100.0	4202	100.0
BENEFITS								
Accidents and professional diseases	161	3.2	574	4.2	1010	4.5	1697	5.3
Disability and old age insurance	2647	51.9	8598	63.3	19410	82.7	27683	86.7
Unemployment benefit	463	9.1	393	2.9	1381	6.2	1419	4.4
Tuberculosis insurance	202	4.0	202	1.5	80	0.4	43	0.1
Sickness and maternity insurance	844	16.5	2828	20.8	737	3.3	797	2.5
Family allowances	776	15.2	967	7.1	637	2.9	241	0.8
Farm clerks	11	0.2	21	0.2	14	0.1	33	0.1
Total	5103	100	13583	100.0	22269	100.0	31913	100.0

Source: F. Sotte, A. Sgalla (1994), *Politica agraria e previdenza sociale*,
in course of publication

An item which has recently reached an important share is represented by the contributions paid by farmers and sharecroppers for accidents and professional disease (22.3%).

During the considered thirty-year period, the analysis of the structural evolution of payments underlines a radical change. While in 1960 the situation was more diversified and the three main items (disability and old age, sickness and maternity insurance and family allowances) amounted to 83.6% of the total benefits, in 1990 disability and old age alone account for 86.7%. In 1990, only accidents and professional disease (5.3%), unemployment benefits (4.4%) and sickness and maternity insurance (2.5%) are worth mentioning among the remaining items.

The disability component is the main part of the 86.7% of disability and old age benefits as table 28 shows. The peculiarity of this feature, which is very different from that of the other sectors, confirms that the social security system in agriculture has been characterized by a charitable attitude. In 1970, the share of disability pensions on old age pensions was higher than 100% in Central and Southern zones, with peaks of 338%, 251%, 250% in Umbria, Latium and Molise, respectively. By contrast, in the same year, Northern Regions showed values lower than 100%. During the following years, these shares have progressively increased although the gap between Central-Southern Regions and the Northern ones has remained almost constant.

At present, on the average, Central Regions show almost 600 disability pensions for every 100 old age pensions, the corresponding value for Southern Regions is 740 (with peaks of 1155 and 1127 for Molise and Sardinia, respectively),

TABLE 28 - DISABILITY PENSIONS RELATED TO ORDINARY (OLD AGE) PENSIONS IN AGRICULTURE
Indexes % (Disability pensions/Ordinary pensions)

REGION	1970	1974	1978	1982	1986	1989
Piedmont	97	155	209	254	247	200
V.d' Aosta	85	165	261	359	405	384
Lombardy	77	101	114	114	98	82
Trentino A.A.	101	162	198	188	149	106
Venetia	79	107	123	124	106	86
Friuli V.G.	100	161	224	278	266	225
Liguria	92	160	204	308	332	286
Emilia-Romagna	133	176	207	211	163	151
Tuscany	167	258	364	465	460	374
Umbria	338	567	929	1232	1014	635
Marche	218	370	552	737	747	572
Lattum	251	435	658	1027	1216	768
Abruzzi	189	371	612	927	976	727
Molise	250	511	968	1540	1799	1155
Campania	215	412	705	982	1183	827
Apulia	104	180	242	306	316	288
Basilicata	225	424	540	772	823	584
Calabria	132	263	438	584	812	666
Sicily	181	303	475	682	728	576
Sardinia	183	328	504	821	1209	1127
Non residents in Ital	78	134	172	260	215	178

Source: F. Sotte, A. Sgalla (1994), *Politica agraria e previdenza sociale*,
In course of publication

whereas the North shows the lowest values, which are even under 100 in Lombardy and Venetia.

These results suggest that in the Central and Southern Regions social security mechanisms have been biased because of the nature of social structure. Due to such policies these Regions, characterized by the difficult economic and social situation of agriculture, have been granted disability pensions as supplementary income, not associated with production and real disability conditions.

Hence, it is necessary to redefine and reorganise separately the two existing kinds of social security, the charitable one and the insurance one (the latter based on the correspondence between contributions and benefits), also regarding the financing source. The social security system should be reformed by stimulating a major correspondence between contributions and benefits and allowing a more limited and justified use of the intersectorial liability. These aims should be complemented by charitable ones directly receiving State funds.

7. A GLOBAL ESTIMATE OF PUBLIC TRANSFERS TO AGRICULTURE

In this section we will try a consolidation of public transfers flowing to agriculture from the main institutions with competence in the primary sector.

Table 29 shows that agriculture has annually received directly (from AIMA and MAF) or indirectly (from taxes and social security) the average sum of 18,932 billion constant lire. The main share of financial support is granted by AIMA with 43% of the total, followed by social security benefits with 21.6%. The third main component, which shows an average incidence of 19% during the period considered, is represented by taxes. The fiscal benefits due to taxes and social security, are on the average more than two fifth of total transfers to agriculture, although they show a negative trend. The MAF expenditure accounts, on the average, for 16.4% of the total. The credit component does not appear in the matrix since the cost of subsidized credit is mostly included in the MAF and regional budgets.

The amount of public transfers to agriculture we considered does not include all the financial supports accruing to agriculture as, for instance, OECD's concept of PSE does. It leaves out the price component deriving from variable levies, imposition of import restriction and internal production quotas, and the expenditure in agriculture of other minor institutions such as the Regions, Comunità montane (Mountain communi-

TABLE 29 - PUBLIC TRANSFERS TO AGRICULTURE DISTINGUISHED BY INSTITUTIONS
(billions - constant lire year 1990)

YEAR	FISCAL BENEFITS			AIMA & MAF EXPENDITURE		TOTAL
	TAXES	SOCIAL SECURITY	TOTAL	AIMA	MAF	
1983	3850	6341	9191	7088	1938	18227
1984	3625	5239	8864	9322	4403	22689
1985	3968	4039	7907	7947	2674	18628
1986	3388	3788	7176	6678	2659	16512
1987	3608	3756	7364	9611	3328	20303
1988	3363	3263	6622	8558	3132	18412
1989	3629	3245	6774	7614	3567	18412
1990	2894			7381	2639	17955
Mean '83-89	3604	4096	7700	8132	3100	18932
A.C.R. %	19.0	21.6	40.7	43.0	16.4	100.0
Comp.rate of growth	-1.7	-0.6	-6.6	0.9	5.0	-1.7
B) Percentages on Net Product:						
1983	7.4	10.3	17.7	13.7	3.7	36.1
1984	7.6	11.0	18.7	19.7	9.3	47.6
1985	8.0	8.4	16.4	16.4	6.5	38.3
1986	7.1	8.0	16.1	14.1	6.6	34.8
1987	7.9	8.2	21.1	7.3	28.4	44.6
1988	8.0	7.8	16.8	20.7	7.5	44.0
1989	8.4	7.7	16.1	18.0	8.6	42.6
1990	7.1			19.4	6.9	26.4
Mean '03-09	7.0	8.8	16.6	17.5	6.7	24.2
						40.8

ties), Enti di Sviluppo (Development Boards), National Council for Scientific Research (CNR), other ministries, etc.⁴³.

Notwithstanding complaints of farmers and their representatives about the supposed scarce consideration of the Government towards agriculture, their protest seems to be unjustified from the financial point of view. However, although all the classical instruments for the economic development of agriculture have been used, we have shown that in general they have not been aimed at productive investments for the structural evolution and a better efficiency of the agricultural system as a whole. On the other hand, they have been employed for short term purposes such as the maintenance of a large number of small farms with traditional and inefficient farming methods, the absorption of surplus of labour force in agriculture and the consolidation of an electorate complying with the existing political equilibrium.

The protection the primary sector has prevented the transformations required by economic development for a more efficient and reorganised agriculture, characterized by more capitalised farms and by an increase in their sizes.

In so doing, Italian agriculture show her limits in competition with the other European agricultures. This is the reason because Italy has had to face a rising cost for the support of its agriculture, which has reached unsustainable levels.

The reconstruction of a new agricultural policy is extremely urgent. Considering the inevitable temptations for dismantling the expensive agricultural policies of the past and a

⁴³ In Italy there are around 900 different institutions with some responsibility of agricultural policy. Not taking into account the Regions ends up in a clear underestimate of the incidence of public transfers on agricultural incomes.

transfer of higher burdens to the sector, a new exam of the role of agriculture and the rural community is therefore necessary.

REFERENCES AND FURTHER READING

- AA.VV. (1989), *Guida alla lettura dei documenti di finanza pubblica*, Formez, Napoli.
- Ascari B. (1989), Il Regime fiscale per i produttori agricoli, *Fisco*, n. 45, pag. 6979-6982.
- Bale M.D., Lutz E. (1981), Price distortion in Agriculture and their Effects: An International Comparison, *American Journal of Agricultural Economics*, n. 63.
- Banca d'Italia, Bollettino Statistico, various years.
- Barilatti G. (1989), *Contabilità e controllo di gestione della spesa pubblica*, Etaslibri, Milano.
- Bartola A., Sotte F. (1986), Modelli regionali di programmazione dell'agricoltura, una rappresentazione attraverso diagrammi di flusso, in Panattoni A., *Evoluzione dei concetti e dei metodi nella pianificazione del settore agricolo*, INEA, il Mulino Bologna.
- Bartola A., Sotte F., Buoncompagni G. (1992), *L'Aima*, Università di Ancona, Dipartimento di Economia, Quaderni di ricerca, n. 30.
- Bartola A., Sotte F., Buoncompagni G. (1992), Linee evolutive del credito agrario in Italia, *Economia Marche*, n. 2.
- Bartola A., Sotte F., Fioritto A. (1983), *Programmazione in agricoltura e piani zonali. Un bilancio delle esperienze regionali*, Il Mulino, INEA Bologna.
- Bartola A., Sotte F., Sgalla A. (1993), *Politica agraria e previdenza sociale*, in course of publication.
- Bartola A., Sotte F., Tonnarelli M. (1993), *Quanta politica agraria attraverso la politica tributaria?*, in course of publication.
- Bennati A. (1987), *Manuale di contabilità di Stato*, Jovene, Napoli.
- Bonnet, Coulomb P., Delorme H., Menchineau V., Perraud D. (1993), *Politiques socio-structurelles et budgets agricoles nationaux. Règles communes et coherences nationales: Allemagne, France, Italie, Pays-Bas, Royaume Uni*, Sfer Session de Printemps, Montpellier, maggio.
- Buckwell A.E., Harvey D.R., Thomson K.J., Parton K.A. (1982), *The costs of the Common Agricultural Policy*, Croom Helm, London.
- Burrell A. (1987), EC Agricultural surpluses and budget control, *Journal of Agricultural Economics*, n. 1.

- Buscemi S. (1986), Agricoltura e credito agrario in Italia: momento di "intervenire, di rivedere, di inventare", *Il Risparmio*, n. 1.
- Campiti M. (1984), Il finanziamento dell'agricoltura e la riforma del credito agrario, *Matecon*, n. 3.
- Carrà G. (1984), Riflessioni in tema di sistema previdenziale e politica agraria, *Rivista di Economia Agraria*, n. 1, pag. 131-140.
- Cesqui E. (1980), Riforma dell'AIMA e Federconsorzi, *Nuovo diritto agrario*, Monteverde, Roma.
- Ciani A., Valorosi F. (1984), Imposizione fiscale in agricoltura: alcune considerazioni sulla tassazione del reddito e delle vendite, *Rivista di Economia Agraria*, n. 1, pag. 141-148 e segg.
- Corte dei Conti, *Relazione al Parlamento sulla gestione finanziaria dell'AIMA*, Senato della Repubblica, various years.
- Cristofaro A. (1984), L'agricoltura nel sistema fiscale italiano, *Rivista di Economia Agraria*, n. 1, pag. 9-41.
- Cristofaro A. Imposizione fiscale e tributaria in agricoltura, *Annuario dell'Agricoltura italiana*, INEA, Roma.
- De Stefano F. (1984), Le imposte come strumento di politica economica, *Rivista di Economia Agraria*, n. 1, pag. 57-86.
- Donati M. (1988), Ma cosa è quest'AIMA, *Cooperazione in Agricoltura*, n. 1.
- Donati M. (1989), Armonizzazione fiscale e mercato unico, *Cooperazione in Agricoltura*, n. 1, pag. 52-64.
- Fanfani R. (1990), *Lo sviluppo della politica agricola comunitaria*, Nis, Roma.
- Ferri A. (1989), L'organizzazione del credito agrario in Italia, *Cooperazione di credito*, n. 124.
- Festuccia M. (1982), Appunti per una storia della previdenza agricola, *Previdenza sociale*, n. 2.
- Filippi P. (1983), Gli organismi associativi e l'imposta sul valore aggiunto: il regime speciale in agricoltura, *Rivista della Cooperazione*, n. 17, pag. 16.
- Finuola R. (1990), La nuova pluriennale ed i finanziamenti pubblici per il settore primario, *Cooperazione in Agricoltura*.
- Finuola R. (1990) L'attività di spesa del Maf nell'ambito della legge pluriennale per l'agricoltura: le azioni orizzontali, *La Questione Agraria*, n. 39.
- Gatta C. (1964), Fiscalizzazione degli oneri sociali e previdenza agricola, *La previdenza sociale in agricoltura*, n. 6.
- Gatta C. (1982), Aspetti previdenziali del lavoro agricolo, *Rivista di Economia Agraria*, n. 3.
- Giorgi V. (1983), Sulle carenze del sistema previdenziale e sociale nel settore del lavoro agricolo subordinato, *Previdenza Sociale*, n. 4.

- Gressi F. (1988), L'AIMA è una struttura di servizi, *Cooperazione in Agricoltura*, n. 3.
- INEA (Istituto Nazionale di Economia Agraria) (1992), *RICA Italia, Strutture e redditi delle aziende agricole: Marche 1986-1990*, Roma.
- INEA (Istituto Nazionale di Economia Agraria), *Annuario dell'agricoltura italiana*, various years.
- ISTAT, *Annuario statistico italiano*, various years.
- Merolla F. (1977), *L'AIMA e il finanziamento degli interventi di mercato*, Giuffrè, Milano.
- Ministero dell'Agricoltura e delle Foreste, *Rendiconti annuali*, Senato della Repubblica, various years.
- Orlando G. (1984), *La politica agraria in Italia attraverso l'analisi della spesa pubblica*, Franco Angeli, Milano.
- Paci S. (1990), Evoluzione dell'ordinamento speciale sul credito agrario, *Zenit*, n. 1.
- Pilati L. (1989), Un'analisi comparata di alcune proposte di legge sulla riforma del credito agrario, *Economia e banca*, n. 1.
- Romei C. (1970), Considerazioni sul finanziamento della previdenza agricola, *La previdenza sociale in agricoltura*, n. 5-6.
- Selleri C. (1971), Il credito agrario, *Quaderni di Politica ed Economia*, n. 2.
- Sotte F. (1991), La spesa per l'agricoltura di Aima, Maf e Regioni, in De Meo G., *Il governo dell'adattamento dell'agricoltura italiana: istituzioni e strumenti*, Il Mulino, Bologna, atti del XXXIII Convegno di Studi Sidea.
- Sotte F., Novach D. (1988), *Analisi e controllo della spesa in agricoltura. Metodologie di elaborazione a livello regionale, il caso dell'Emilia Romagna*. Regione Emilia Romagna, Assessorato Agricoltura e Alimentazione. Collana Studi e Ricerche, Bologna.
- Torcasio S. (1984), Fiscalità ed agricoltura nei Paesi della CEE, *Rivista di Economia Agraria*, n. 1, pag. 191-210.

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