

Agriculture in the Italian National Economy

1. Premise

In recent years important structural changes have occurred in the countries of western Europe. The secondary and tertiary sectors have expanded far more rapidly than the agricultural sector, the production of which, it is true, has increased, but to a relatively minor degree, so that agriculture has lost part of its importance.

The productivity per worker in agriculture, on the other hand, has increased rapidly, as a result of both the increase of production and the shift of a large number of workers from agriculture to non-agricultural sectors. But notwithstanding this increase in productivity, which in general has not been lower than that of the economy as a whole, income per worker in agriculture has lagged behind income per worker in the other sectors. In most countries agricultural prices have risen less than the prices of non-agricultural products and services as a whole.

The decline of agriculture's relative importance is, as we know, one of the characteristic features of economic development.

In the United States the agricultural sector's share of total income is said, according to available estimates, to have declined from 40 to 20 per cent between the beginning of the nineteenth and the beginning of the twentieth century, and to have shrunk to 10 per cent in the thirties and to about 7 per cent in 1950 and to less than 5 per cent in 1960.

In Great Britain, a century ago, agriculture provided about one-fifth of the national income, in the thirties barely 3.5 per cent, and during the period immediately following the Second World War this figure rose, but in 1960 it was only a little above 4 per cent.

In Sweden, a country where agriculture is favoured by nature, the percentage dropped from 20 per cent at the beginning of the century to 9 per cent or little more in recent years, excluding forestry.

It may be argued that the countries referred to are highly industrialized, yet what has been said is equally true of the agricultural countries. According to Colin Clark, the contribution of Australian agriculture to the national income dropped from 37 to 17 per cent in the half-century from 1891 to 1939 (1). In New Zealand, according to the same source, around one half of the national income was derived from agriculture at the beginning of this century. In 1936 the contribution to the national income was little more than one-third; in recent years it has been less than one-fourth.

We are thus dealing with a general phenomenon, which has no exceptions. For that matter, it is only natural that economic development should lead to the growth of non-agricultural activities at a rate higher than that of agriculture: in the more advanced countries income elasticity of demand for agricultural products is far below unity, and tends to become lower as income increases. For instance, there is nothing to prevent us from imagining a society so rich that its demand for foodstuffs no longer increases together with income, a society in which, that is, the income elasticity of agricultural-foodstuff products has become equivalent to zero.

It seems more difficult to explain the loss in per capita income experienced by agriculture compared with the other sectors, when the decrease of employment in agriculture is taken into account.

The developments that have occurred in Italy come in effect within this general framework, even though they show particular features and characteristics.

While the survey that we are making here concerns primarily recent years, it covers, even if summarily, more than a century, i.e. the whole period from Italy's unification onwards.

When consideration was being given to recent years, it seemed necessary to go farther back, and this was attempted in spite of the fact that the statistical material available was anything but complete. Thus the survey has been divided into two parts: the first concerns the period 1861-1950 and the second the years from 1950 onwards.

(1) COLIN CLARK, M. A., *The Conditions of Economic Progress*, Macmillan, London, 1951, Chap. X, p. 451.

The elaborations relating to the war periods must obviously be taken only as orientative. This notwithstanding, it was thought best not to exclude those periods, since it seemed better to have some sort of indication rather than none at all.

The above-mentioned sub-division was therefore made necessary by the material available. The data for the later years are more complete and reliable; nevertheless, some estimates have been necessary also for the more recent period, as will be explained in the course of this study.

The parity ratios we shall calculate are not of themselves indicative of comparative standards of living and prosperity. The comparison regarding per capita income as between agriculture and the other sectors — as, for that matter, also the comparison of agricultural per capita income itself at different epochs — is subject to certain limitations. Part of these limitations relate to agriculture's so-called "invisible" incomes deriving from farm-consumption of home grown agricultural produce which is evaluated in agricultural income at farm instead of consumer prices. We have abstained from attempting an estimate of these incomes, that is, from making allowance for the difference between farm value and retail value of agricultural produce consumed in farm homes, also because there was a lack of bases which, if not sound, were at least reliable for so long a period. Nevertheless, these incomes too, and their trend over the years, must certainly be kept in mind when considering the parity ratios that we shall give later.

Another limitation is due to the fact that agricultural income does not include the rental value of farm houses which is considered together with the product of the other buildings in a single aggregate.

The sectoral per capita incomes, which are calculated on the output at factor cost, include direct taxes and transfers. In other words, they are calculated "before" direct taxation and transfers.

It should be borne in mind, besides, that the per capita output of the different sectors is due to the contribution of both labour and capital, and that therefore the most intensive sectors from the standpoint of capital — the sectors in which, that is, the ratio capital-labour is highest — ought to show a higher level of output per person employed. The different capital intensity and the so-called invisible incomes are at all events not sufficient to explain

the gap between per capita income in agriculture and in the other sectors.

The surveys that follow were made on gross instead of net product. The price indices calculated on net product would represent the average prices or the levels of remuneration of the productive factors.

The trend of price indices of gross product of the different sectors depends not only on the trend of the prices of products but also on the trend of prices of goods and services used in production, which have been bought from other sectors.

Finally, a complicated problem is that relating to "buildings". By disregarding the product of buildings, that is, income from house rents or real estate, when calculating the per capita income of the non-agricultural sectors, the advantage is gained of obviating the complication relating to the rental value of farm houses.

To make clearer the elaborations that will follow, a survey scheme is given in the Appendix.

2. Agriculture in the period 1861 - 1950

(a) *Decline of agriculture's relative share in national income.*

As far as Italy is concerned, the statistical elements available tend to indicate that from the country's unification onwards there was an almost continuous decline in agriculture's share in the formation of national income.

A century ago, in the first five years of national unification, agriculture (2) provided 55 per cent of national income (table 1). At the beginning of the twentieth century this percentage had fallen to 46 per cent and it diminished to about 40 per cent in the five-year period 1911-15.

During the First World War agriculture's contribution to national income showed only a very slight increase, and also after the war, in the period 1921-25, it was still very close to 40 per cent.

A clear decrease occurred subsequently, so that in the period immediately before the Second World War agriculture's share had fallen to 25 per cent or little more.

During the Second World War agriculture regained a large part of the importance it had lost from this point of view. In

(2) Including forestry, hunting and fishing.

AGRICULTURE'S SHARE IN THE FORMATION
OF THE GROSS DOMESTIC PRODUCT (1)
(at factor cost: millions of lire at current prices)

TABLE I

Periods	Agriculture (forestry, hunting, and fishing)	Other sectors	Total gross domestic product (2)	Percentage of agriculture relative to the total
1861-65	4,249	3,539	7,788	54.6
1901-05	5,961	7,058	13,019	45.8
1906-10	6,825	9,366	16,191	42.2
1911-15	8,373	12,745	21,118	39.6
1916-20	26,003	38,190	64,193	40.5
1921-25	44,389	71,820	116,209	38.1
1926-30	45,780	88,488	134,268	34.1
1931-35	27,938	74,267	102,205	27.3
1936-40	40,374	114,673	155,047	26.0
1941-45	281,170	298,878	581,048	48.4
1946-50	1,994,000	4,090,000	6,084,000	32.8
1950	2,234,000	5,664,000	7,898,000	28.3

(1) Present frontiers.

(2) Including duplications.

GROSS SALEABLE AGRICULTURAL AND LIVESTOCK PRODUCTION
AT 1938 PRICES (1)

TABLE 2

Periods	Gross saleable agricultural and livestock production (2)		Population (3)		Agricultural production per head of population
	Millions of 1938 lire	Indices	Thousands	Indices	
1861-65	23,901	100.0	26,731	100.0	100.0
1901-05	32,541	136.1	34,506	129.1	105.4
1906-10	34,884	146.0	36,000	134.7	108.4
1911-15	36,340	152.0	37,577	140.6	108.1
1916-20	34,619	144.8	37,626	140.8	102.8
1921-25	37,885	158.5	38,505	144.0	100.1
1926-30	39,900	166.9	40,208	150.4	111.0
1931-35	40,547	169.6	41,783	156.3	108.5
1936-40	41,699	174.5	43,323	162.1	107.6
1941-45	33,222	139.0	44,890	167.9	82.8
1946-50	38,409	160.7	46,525	174.0	92.4
1950	43,064	180.2	47,082	176.1	102.3

(1) Present frontiers.

(2) ISTAT: Annali di Statistica, Series VIII, Vol. 9 "Indagine statistica sullo sviluppo del reddito nazionale dell'Italia dal 1861 al 1956", Rome, 1957, Appendix, Table 6.

(3) Resident population: averages calculated on the data at the year's end. For 1950, resident population at the middle of the year.

the five-year period 1941-45, in fact, 48 per cent of national income came from agricultural activity. In the following five-year period, however, there was a rapid return to the pre-war position and in 1950 the agricultural sector's contribution to national income more or less equalled that of 1938.

During this long period the development of production and income in the non-agricultural sectors was far more rapid than it had been in agriculture. Between the periods 1861-65 and 1946-50 agricultural production increased at constant (1938) prices by about 61 per cent (table 2), while production in manufacturing industries, for instance, increased almost fivefold and national income just short of threefold.

(b) *Decrease of the population in agriculture.*

The decline in the agricultural sector's share of total income was accompanied by a decrease in the working population engaged in agriculture.

During the period 1861-65 about 69 per cent of all working persons was in agriculture (forestry, hunting and fishing); this percentage fell to little more than 60 at the beginning of the twentieth century and to less than 50 in the period 1936-40. In absolute figures, the working agricultural population decreased from 10.8 million units during the period 1861-65 to 9.1 millions in the years 1936-40, or by 16 per cent. At the same time the working population in non-agricultural sectors increased from 4.8 millions to 9.6 million units, or by 100 per cent (table 3).

Both industry and tertiary activities, particularly the latter, contributed to the increase of the working population in the non-agricultural sectors, the increase for the period in question being more than 80 per cent in industry and just under 130 per cent in the remaining activities.

If the absolute figures are examined, it can be stated that agriculture lost approximately 1,700,000 persons during the first 75 years of Italy's national unification, which, as we shall see later on, is not much more than the loss sustained during the last 13 years.

The shifts of labour from agriculture to the other sectors, which have always existed, therefore assumed vast proportions only after the Second World War.

If during the first 75 years of Italy's unification the labour force in agriculture decreased in absolute figures by only 16 per cent, its decline in a relative sense (i.e., as a percentage of the total labour force) was far greater, inasmuch as the working population had in the meantime increased by 20 per cent.

WORKING POPULATION BY ECONOMIC SECTORS

TABLE 3

Periods	Population (thousands) (1)	Working Population (2)		Working population by branch of economic activity (3)					
		(thousands)	per cent	Agriculture		Industry		Other activities	
				(thousands)	per cent	(thousands)	per cent	(thousands)	per cent
1861-65	26,731	15,638	58.5	10,826	69.2	2,860	18.3	1,952	12.5
1901-05	34,506	16,873	48.9	10,248	60.7	3,830	22.7	2,795	16.6
1906-10	36,000	17,218	47.8	10,224	59.4	3,996	23.2	2,988	17.4
1911-15	37,578	17,624	46.9	10,108	57.4	4,246	24.0	3,270	18.6
1916-20	37,626	17,458	46.4	9,896	56.6	4,252	24.4	3,310	19.0
1921-25	38,505	17,597	45.7	9,665	54.9	4,428	25.2	3,504	19.9
1926-30	40,208	18,013	44.8	9,489	52.7	4,664	25.9	3,860	21.4
1931-35	41,783	18,385	44.0	9,276	50.5	4,930	26.8	4,179	22.7
1936-40	43,323	18,759	43.3	9,098	48.5	5,199	27.7	4,462	23.8
1941-45	44,890	18,988	42.3	8,664	45.6	5,521	29.1	4,803	25.3
1946-50	46,525	19,168	41.2	8,281	43.2	6,002	31.3	4,885	25.5
1950	47,082	19,398	41.2	8,286	42.7	6,168	31.8	4,944	25.5

(1) Present frontiers. Resident population (cf. footnote 2 of table 2).

(2) In occupational status: excluding young persons seeking their first job.

(3) In absolute figures and in percentages relative to the total working population.

Source: ISTAT.

(c) *Trend in the ratio of income per working person in agriculture to the other sectors.*

Table 4 gives the income per worker in agriculture and in the other sectors and the "income parity ratios", that is, the ratios of per capita income in agriculture to per capita income in the non-agricultural sectors. There was no choice but to use data concerning working population, which includes unemployed persons, when calculating income per working person of the various sectors. This undoubtedly represents a limitation which, together with the others

mentioned earlier, must be borne in mind during the rapid excursus that we shall endeavour to make.

As was said above, in the case of the war periods the elaborations concerning the parity and the terms of trade provide only a guide.

For the purpose of calculating the parity ratio, it was considered best to exclude the buildings from gross domestic product for the reasons previously outlined.

The ratios of per capita income in agriculture to the other sectors, calculated in this way, are given in column (5) of table 4.

During the first five-year period of unification, per capita gross product in agriculture was equivalent to about 61 per cent of that of the non-agricultural sectors. Forty years later, at the beginning of the century, the ratio was still substantially similar.

During the five years 1911-15, a decrease appears, but subsequently, up to the period 1921-25, the ratio fluctuated practically around 54 per cent without appreciable variations.

Examining the whole period, it can therefore broadly be stated that as far as per capita income in agriculture and the other sectors is concerned, a noteworthy equilibrium marked the first sixty years of national unification. It is true that during this period the degree of self-sufficiency of rural families declined, while their contribution to the market economy has increased, but the conclusion above seems equally valid if account is taken of what happened subsequently.

In fact, during the following 30 years things went very differently and the parity ratio tumbled from 53 per cent in the period 1921-25 to about 40 per cent in the thirties, afterwards mounting sharply to 117 per cent during the Second World War, only to fall to 54 per cent in 1950.

The break in the pre-existing equilibrium occurred in a period of far-reaching changes in the economy, not only domestic but also international, which coincided more or less with the period covering the years of the great crisis. The agricultural protectionism of those years did not serve, it can be said, to prevent that sharp drop in the parity which in fact occurred.

The movement of the income parity ratios, calculated by excluding from the product of the non-agricultural sectors the product of the buildings, does not differ substantially from that of the same ratios calculated by including buildings, as is seen from table 5.

TABLE 4
GROSS PRODUCT PER WORKING PERSON IN AGRICULTURE AND THE OTHER SECTORS 1861-1950
(present frontiers)

Periods	Agricultural Sector		Non-agricultural sectors		Ratio of the per capita product in agriculture to that in the other sectors (percentage) (5) = (2):(4)	Overall		Ratio of the per capita product in agriculture to that in overall activities (8) = (2):(7)
	Gross product (millions of lire) (1)	Per capita gross product (lire) (2)	Gross product (millions of lire) (3)	Per capita gross product (lire) (4)		Gross domestic product (millions of lire) (6)	Per capita gross domestic product (lire) (7)	
1861-65	4,219	392	3,112	647	60.6	7,361	471	83.2
1901-05	5,961	582	6,199	936	62.2	12,160	721	80.7
1906-10	6,825	668	8,411	1,204	55.5	15,236	885	75.5
1911-15	8,373	828	11,544	1,536	53.9	19,917	1,130	73.3
1916-20	26,003	2,628	36,290	4,799	54.8	62,293	3,566	73.7
1921-25	44,389	4,593	67,659	8,530	53.4	112,048	6,367	72.2
1926-30	45,780	4,825	81,921	9,611	50.2	127,701	7,089	68.1
1931-35	27,938	3,012	67,014	7,357	40.9	94,952	5,165	58.3
1936-40	40,374	4,438	104,026	10,768	41.2	144,400	7,698	57.7
1941-45	281,170	32,453	286,824	27,782	116.8	568,994	29,996	108.3
1946-50	1,994,000	240,792	4,047,000	371,728	64.8	6,041,000	315,161	76.4
1950	2,234,000	269,611	5,492,000	494,285	54.5	7,726,000	398,288	67.7
1861-65	23,358	2,158	22,683	4,714	45.8	46,041	2,944	73.3
1901-05	31,423	3,066	36,514	5,512	55.6	67,937	4,026	76.2
1906-10	33,522	3,279	45,228	6,476	50.6	78,750	4,574	71.7
1911-15	35,048	3,467	56,448	7,510	46.2	91,496	5,192	66.8
1916-20	34,161	(3,452)	71,167	(9,411)	36.7	105,328	(6,033)	57.2
1921-25	37,340	3,873	67,957	8,567	45.2	105,307	5,984	64.7
1926-30	38,774	4,081	76,120	8,930	45.7	114,844	6,376	64.0
1931-35	38,474	4,148	80,543	8,842	46.9	119,017	6,474	64.1
1936-40	39,408	4,332	101,302	10,486	41.3	140,710	7,561	57.8
1941-45	32,939	(3,802)	73,005	(7,071)	53.8	105,944	(5,586)	68.1
1946-50	36,349	4,389	93,517	8,590	51.1	129,866	6,775	64.8
1950	39,869	4,812	107,079	9,637	49.9	146,948	7,575	63.5

Source: ISTAT - Annali di Statistica - Series VIII, vol. 9 - "Indagine statistica sullo sviluppo del reddito nazionale dell'Italia dal 1861 al 1956".

Note: By per capita is meant per working person.

(a) The calculations have been made on the *gross domestic product* at factor cost including duplications, subtracting from the gross product of the non-agricultural sectors and therefore also from the overall gross domestic product, the gross product of the buildings and dwellings. The agricultural sector includes also forestry, hunting and fishing.

(b) In the absence of Istat data at 1938 prices relative to the aggregates considered in (a), resort was had to estimates. The estimates of the

TABLE 5

PARITY RATIO OF PER CAPITA INCOME OF AGRICULTURE
TO THE OTHER SECTORS, AND ITS COMPONENTS
1861/65-1946/50

Periods	Percentage distribution of working population		Percentage distribution of gross domestic product		Parity ratio of incomes per head		
	Agriculture (1)	Other sectors (2)	Agriculture (3)	Other sectors (4)	Of agriculture compared with the whole economy	Of the other sectors compared with the whole economy	Of agriculture compared with the other sectors
					(5) = $\frac{(3)}{(1)} \times 100$	(6) = $\frac{(4)}{(2)} \times 100$	(7) = $\frac{(5)}{(6)} \times 100$
1861-65	69.2	30.8	54.6	45.4	78.9	147.4	53.5
1901-05	60.7	39.3	45.8	54.2	75.5	137.9	54.7
1906-10	59.4	40.6	42.2	57.8	71.0	142.4	49.9
1911-15	57.4	42.6	39.6	60.4	69.0	141.8	48.7
1916-20	56.6	43.4	40.5	59.5	71.6	137.1	52.2
1921-25	54.9	45.1	38.1	61.9	69.4	137.3	50.5
1926-30	52.7	47.3	34.1	65.9	64.7	139.3	46.4
1931-35	50.5	49.5	27.3	72.7	54.1	146.9	36.8
1936-40	48.5	51.5	26.0	74.0	53.6	143.7	37.3
1941-45	45.6	54.4	48.4	51.6	106.1	94.9	111.8
1946-50	43.2	56.8	32.8	67.2	75.9	118.3	64.2
1950	42.7	57.3	28.3	71.7	66.3	125.1	53.0

(1), (2) Working population (excluding young persons seeking their first job).

(3) Including duplications.

(4) Including duplications. Includes the gross product of dwellings.

gross domestic product at factor cost have been made by starting from the national income at 1938 prices calculated by Istat. In passing from this income to the gross domestic product at factor cost, it was assumed that the percentages relating to amortizations, net incomes from abroad, duplications and indirect taxes were the same as those relating to the series at current prices. In effect, in the absence of particular deflation indices, it was possible to use only the index relative to the national income. The value added of the buildings and dwellings (which as above has been subtracted from the gross domestic product and that of the non-agricultural sectors) was estimated by making that of 1938 change on the basis of the total of living rooms in the different periods. This implies that in the various periods the gross product of the non-residential buildings has changed like that of the residential buildings.

The agricultural sector's gross product at 1938 prices was estimated on the basis of the deflation index of gross saleable production, implicit in the Istat calculations. The non-agricultural sectors' gross product was obtained by finding the difference, i.e. by subtracting from the gross domestic product (including duplications and excluding buildings) the gross agricultural product.

Between brackets are indicated the war years. The gross product of the five-year period 1916-20 is considerably affected by duplications.

The parity ratios of agriculture to the economy as a whole are shown in the last column of table 4. The trend of these parity ratios is obviously affected by the changes in the structure of employment and production.

(d) *Comparative development of productivity and prices in agriculture and the other sectors.*

The trend of the parity ratio of per capita income depends: (1) on the comparative trends of productivity per person employed, i.e. on the ratio of the output, in volume, per employed person in agriculture and the other sectors; (2) on the comparative trends of price indices of gross product of both agriculture and the other sectors, i.e. on the development of the "terms of trade". The development of the parity ratio depends, that is, on the combined effect of the two factors.

The income parity ratio could remain constant if, for example, agriculture should lose ground as regards comparative productivity while prices were moving in favour of agriculture, and the improvement of the terms of trade were sufficient to compensate the loss in productivity. If on the contrary productivity in agriculture were to increase compared with the other sectors, the parity ratio would remain constant if this improvement were to be absorbed by a deterioration of the terms of trade.

Productivity per working person in agriculture and in the other sectors has been calculated on the gross product at 1938 prices (table 4). The calculation has required us to make estimates, since the necessary aggregates at 1938 prices were not available; these estimates are dealt with in a footnote to table 4.

Table 6 shows the movement in productivity, total and by groups. In table 7, finally, are recapitulated the productivity ratios between agriculture and the other sectors, the terms of trade, as well as the parity ratios of per capita income that were dealt with above.

Our elaboration shows that in the period 1861-65, the agricultural gross product per working person at 1938 prices was equivalent to 46 per cent of that of the non-agricultural sectors.

Subsequently the ratio decisively improved in favour of agriculture, and in the first five years of the century rose to 56 per cent. Between the first five years of national unification and the first

five years of the century the comparative productivity per working person grew, that is, by more than one-quarter in favour of agriculture. In the meantime the terms of trade had moved against agriculture. In spite of this the income parity ratio of agriculture to the rest of the economy rose, even if only slightly.

Between the five-year periods 1901-06 and 1911-15 agriculture, compared with the other sectors, lost ground as regards productivity, the terms of trade remained more or less constant and the parity ratio diminished.

TABLE 6
GROSS PRODUCT PER PERSON WORKING IN AGRICULTURE
AND IN THE OTHER SECTORS IN REAL TERMS
(Estimates at 1938 prices: indices)

Periods	Gross domestic product at 1938 prices (1)			Working population (2)			Gross product per working person (3)		
	Total	Agriculture	Other sectors	Total	Agriculture	Other sectors	Total	Agriculture	Other sectors
1861-65	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1901-05	147.6	134.5	161.0	107.9	94.7	137.7	136.8	142.1	116.9
1906-10	171.0	143.5	199.4	110.1	94.4	145.1	155.4	152.0	137.4
1911-15	198.7	150.0	248.9	112.7	93.4	156.2	176.3	160.6	159.3
1916-20	228.8	146.2	313.7	111.6	91.4	157.1	(. .)	(160.0)	(. .)
1921-25	228.7	159.9	299.6	112.5	89.3	164.8	203.3	179.1	181.8
1926-30	249.4	165.8	335.8	115.2	87.6	177.3	216.5	189.3	189.4
1931-35	258.5	164.7	355.1	117.6	85.7	189.3	219.8	192.4	187.6
1936-40	305.6	168.7	446.6	120.0	84.0	200.8	254.7	200.8	222.4
1941-45	230.1	141.0	321.8	121.4	80.0	214.5	(. .)	(176.3)	(. .)
1946-50	282.1	155.6	412.3	122.6	76.5	226.2	230.1	203.9	182.2
1950	319.2	170.7	472.1	124.0	76.5	230.9	257.3	222.9	204.4

(1) Including duplications: these estimates are made on the basis of Istat data at current prices. See table 4, part (b). The added value of buildings is excluded.

(2) Excluding young persons seeking their first job.

(3) Gross product per working person in the whole economy increased more rapidly than that of the individual sectors owing to the changes in structure.

(. .) War years.

During the First World War period, in the years 1916-20, the terms of trade greatly improved and the income parity ratio therefore rose considerably.

The depression of this ratio in the years 1931-35 seems to have been due to the distinct deterioration in the terms of trade, since

the comparative productivity of agriculture rose, even if only slightly. During the following five years there was a deterioration as regards comparative productivity, compensated by an improvement in the terms of trade, so that the income parity ratio remained at the level of the previous five years.

TABLE 7
PARITY RATIO OF PER CAPITA INCOME OF AGRICULTURE
TO THE OTHER SECTORS, AND ITS COMPONENTS

Periods	Ratio of productivity per person employed in agriculture to the other sectors		Terms of trade between agriculture and the other sectors		Parity ratio of per capita income of agriculture to the other sectors	
	Ratio (in per cent)	1861-65=100	1938=100	1861-65=100	Ratio (in per cent)	1861-65=100
1861-65	45.8	100.0	132.3	100.0	60.6	100.0
1901-05	55.6	121.4	111.9	84.6	62.2	102.6
1906-10	50.6	110.5	109.7	82.9	55.5	91.6
1911-15	46.2	100.9	116.7	88.2	53.9	88.9
1916-20	36.7	80.2	149.3	112.8	54.8	90.4
1921-25	45.2	98.7	118.1	89.3	53.4	88.1
1926-30	45.7	99.8	109.8	83.0	50.2	82.8
1931-35	46.9	102.4	87.2	65.9	40.9	67.5
1936-40	41.3	90.1	99.8	75.4	41.2	68.0
1941-45	53.8	117.5	217.1	164.1	116.8	191.4
1946-50	51.1	111.6	126.8	95.8	64.8	106.9
1950	49.9	109.0	109.2	82.5	54.5	89.9

Note: Buildings excluded.

The exceptional height of the income parity ratio during the Second World War seems to have been due to both factors, and primarily to the very strong improvement of relative prices.

The sharp drop in the parity in the years 1946-50 depended almost entirely on the terms of trade, which decidedly declined without however returning to prewar levels.

3. Agriculture in the years 1950 to 1963

(a) Agriculture's contribution to the national income.

It can be stated that during the years 1950-51 agriculture's contribution to the national income returned to what it was before

the war. In 1950 in fact the agricultural sector supplied about 28 per cent of the gross domestic product, as compared with 27 per cent in 1938, while in 1951 the figure was 26 per cent, i.e. equivalent to that of the period 1936-40.

During the following years agriculture continued to decline in importance as a contributor to the formation of national income, for the share of the domestic product it supplied diminished almost uninterruptedly. From 1957-58 its share had already fallen to 20 per cent and in 1963 it was only 15 per cent.

TABLE 8
AGRICULTURE'S SHARE IN THE GROSS DOMESTIC PRODUCT (a)
(at factor cost: milliards of current lire)

Years	Agriculture	Other sectors	Total	Agriculture's percentage of total
1950	2,234	5,664	7,898	28.3
1951	2,332	6,766	9,098	25.6
1952	2,352	7,276	9,628	24.4
1953	2,678	7,941	10,619	25.2
1954	2,666	8,579	11,245	23.7
1955	2,820	9,483	12,303	22.9
1956	2,736	10,413	13,149	20.8
1957	2,837	11,358	14,195	20.0
1958	3,011	12,229	15,240	19.8
1959	3,033	13,145	16,178	18.7
1960	2,993	14,679	17,672	16.9
1961	3,397	16,156	19,553	17.4
1962	3,668	18,291	21,959	16.7
1963 prov.	3,797	21,148	24,945	15.2

(a) Including duplications.

Source: ISTAT.

(b) Employment.

As we have seen, there was a pronounced decrease in the working population employed in agriculture during the periods before and after the Second World War.

Between the five-year periods 1936-40 and 1946-50 about 800,000 workers left agriculture, i.e. double the number compared with the previous 10 years.

After 1950 this tendency developed far more swiftly.

For the period 1950-63 we shall use data relating to employment instead of those concerning the working population, availing ourselves of the estimates made by Svimez, which exist for the years between 1950 and 1957, and of the results of the sample surveys on the labour force carried out by the Istituto Generale di Statistica. Since the Istituto's figures are available for the years from 1959 onwards, the link-up of the two series has entailed our making some estimates, a reference to which is made in the footnote to table 9.

PERSONS EMPLOYED IN ITALY FROM 1950 TO 1963

TABLE 9

Years	Agriculture, forestry, hunting and fishing		Non-agricultural sectors						Total	
	thousands	per cent	Industry		Other sectors		Overall		thousands	per cent
			thousands	per cent	thousands	per cent	thousands	per cent		
1950	6,870	40.8	5,392	32.0	4,578	27.2	9,970	59.2	16,840	100.0
1951	6,800	40.0	5,505	32.4	4,695	27.6	10,200	60.0	17,000	100.0
1952	6,730	39.3	5,619	32.8	4,791	27.9	10,410	60.7	17,140	100.0
1953	6,650	38.3	5,768	33.2	4,957	28.5	10,725	61.7	17,375	100.0
1954	6,570	37.3	5,926	33.6	5,119	29.1	11,045	62.7	17,615	100.0
1955	6,480	36.3	6,059	34.0	5,286	29.7	11,345	63.7	17,825	100.0
1956	6,390	35.5	6,180	34.3	5,440	30.2	11,620	64.5	18,010	100.0
1957	6,300	34.6	6,320	34.7	5,600	30.7	11,920	65.4	18,220	100.0
1958	6,250	34.0	6,400	34.8	5,750	31.2	12,150	66.0	18,400	100.0
1959	6,066	32.1	6,928	36.7	5,883	31.2	12,811	66.9	18,877	100.0
1960	6,028	31.3	7,201	37.5	6,001	31.2	13,202	68.7	19,230	100.0
1961	5,689	29.5	7,466	38.7	6,140	31.8	13,606	70.5	19,295	100.0
1962	5,474	28.3	7,693	39.7	6,200	32.0	13,893	71.7	19,367	100.0
1963	5,206	26.8	7,943	40.8	6,303	32.4	14,246	73.2	19,452	100.0

Note: Up to 1957, SVIMEZ estimate (*L'aumento dell'occupazione in Italia dal 1950 al 1957*, Rome, 1959). From 1959 ISTAT data (*Rilevazione regionale delle forze di lavoro*, May 10, 1963 to October 20, 1963). For the link-up, estimates were made for 1958. Excluding workers employed abroad and casual workers.

Taking the Svimez estimates and the Istat data as a basis, it can be stated that the workers employed in agriculture, excluding those occasionally employed or abroad, diminished by about 1,700,000 between 1950 and 1963, i.e. by 24 per cent. Between 1950 and 1960 the decrease totalled almost 850,000, or about half of the figure for

the entire period. Over the following three years the decrease was more or less the same. Between 1950 and 1963 in the non-agricultural sectors employment increased, on the contrary, by about 4,300,000 persons, i.e. by 43 per cent.

Agricultural employment, which in 1950 represented 41 per cent of overall employment had thus fallen to 27 per cent in 1963.

A transfer of labour between sectors such as has occurred in recent years has no precedent in Italian history.

By way of guidance it can be added that in 1963 employment in agriculture was about equal to half of the agricultural working population during the first ten years of the century.

(c) *Trend of the parity ratio of income per worker in agriculture to the rest of the economy.*

Let us now examine the development of the ratio between per capita income in agriculture and per capita income in the non-agricultural sectors.

Table 10 shows the per capita income of the agricultural sector and of the other sectors. In compiling this table the same criteria have been followed as for table 4, i.e. excluding buildings.

As can be seen from column (5), the parity ratio fell considerably between 1950 and 1960. It is true that the ratio registered a substantial decline between 1950 and 1951, dropping from 59 per cent to 54 per cent; but even if one disregards this sudden drop that can perhaps be considered as the return to a normal level after the effects that followed the war, the tendency towards a deterioration remains just as clear.

In fact, after the fluctuation of the years between 1951 and 1955, and 1956 and 1960, the parity ratio fell from 54 to less than 48 per cent.

The diminution during the five years 1956-60 was followed in recent years by an increase: during the years 1961-62 the ratio rose again almost to the level of the years 1951-55. In spite of the drop in 1963, in that year, too, it was higher than that of the period 1956-60.

The parity ratio calculated by including the buildings' income in the product of the non-agricultural sectors showed, as can be seen from table 11, a trend that did not differ greatly from that described above.

TABLE 10
GROSS PRODUCT PER EMPLOYED PERSON IN AGRICULTURE AND THE OTHER SECTORS 1950-1963

Periods	Agricultural Sector		Non-agricultural sectors		Ratio of per capita product in agriculture to other sectors (%) (5)=(2):(4)	Overall	Ratio of per employed person product in agriculture to the whole economy (%) (8)=(2):(7)
	Gross product (milliards of lire) (1)	Per capita gross product (thousands of lire) (2)	Gross product (milliards of lire) (3)	Per capita gross product (thousands of lire) (4)			
1950	2,234	325.2	5,484	550.1	59.1	7,718	71.0
1951	2,332	342.9	6,537	640.9	53.5	8,869	65.7
1952	2,352	340.5	7,000	672.4	52.0	9,352	64.1
1953	2,678	408.7	7,630	711.4	57.5	10,308	68.9
1954	2,666	405.8	8,244	746.4	54.4	10,910	65.5
1955	2,820	435.2	9,100	802.1	54.3	11,920	65.1
1956	2,736	428.2	9,915	853.3	50.2	12,651	61.0
1957	2,837	450.3	10,740	901.5	50.0	13,583	60.4
1958	3,011	481.8	11,466	943.7	51.1	14,477	61.2
1959	3,033	500.0	12,327	962.2	52.0	15,360	61.4
1960	2,993	496.5	13,746	1,041.2	47.7	16,739	57.0
1961	3,397	597.1	15,152	1,113.6	53.6	18,549	62.1
1962	3,668	670.1	17,079	1,229.3	54.5	20,747	62.6
1963	3,797	729.4	19,765	1,387.4	52.6	23,562	60.2
				At 1954 prices			
1950	2,391	348.0	6,208	622.7	55.9	8,599	68.2
1951	2,502	367.9	6,830	669.6	54.9	9,331	67.0
1952	2,551	379.0	7,079	680.0	55.7	9,630	67.5
1953	2,848	428.3	7,662	714.4	60.0	10,510	70.8
1954	2,666	405.8	8,244	746.4	54.4	10,910	65.5
1955	2,810	436.7	8,838	779.0	56.1	11,668	66.7
1956	2,782	435.4	9,325	802.5	54.3	12,107	64.8
1957	2,774	440.3	9,924	832.6	52.9	12,698	63.2
1958	3,134	501.4	10,372	853.7	58.7	13,506	68.3
1959	3,217	530.3	11,233	876.8	60.5	14,450	69.3
1960	3,055	506.8	12,421	940.8	53.9	15,476	63.0
1961	3,281	570.7	13,533	994.6	58.0	16,814	66.2
1962	3,314	605.4	14,567	1,048.5	57.7	17,881	65.6
1963	3,242	622.7	15,599	1,081.6	57.6	18,751	64.6

(1) (3) (6) Source: Ist. Centrale di Statistica: Gross domestic product (at factor cost) including duplications. The gross product of buildings has been subtracted from the gross product of the non-agricultural sectors and from the gross product of all sectors.

(2) (4) (7) Values calculated on the basis of the data given in table 9. By per capita is meant per employed person.

TABLE 11
PARITY RATIO OF PER CAPITA INCOME OF AGRICULTURE TO THE OTHER SECTORS, AND ITS COMPONENTS
1950-1963

Periods	Percentage distribution of employment		Percentage distribution of the gross domestic product (a)		Parity ratio of per capita income		
	Agriculture (1)	Other sectors (2)	Agriculture (3)	Other sectors (4)	Of agriculture compared with the whole economy (5) = $\frac{(3)}{(1)} \times 100$	Of the other sectors compared with the whole economy (6) = $\frac{(4)}{(2)} \times 100$	Of agriculture compared with the other sectors (7) = $\frac{(5)}{(6)} \times 100$
1950	40.8	59.2	28.3	71.7	69.4	121.1	57.3
1951	40.0	60.0	25.6	74.4	64.0	124.0	51.6
1952	39.3	60.7	24.4	75.6	62.1	124.5	49.9
1953	38.3	61.7	25.2	74.8	65.8	121.2	54.3 ¹
1954	37.3	62.7	23.7	76.3	63.5	121.7	52.2
1955	36.3	63.7	22.9	77.1	63.0	121.0	52.0
1956	35.5	64.5	20.8	79.2	58.6	122.8	47.7
1957	34.6	65.4	20.0	80.0	57.8	122.3	47.9
1958	34.0	66.0	19.8	80.2	58.2	121.5	47.5
1959	32.1	67.9	18.7	82.3	58.3	121.2	48.1
1960	31.3	68.7	16.9	83.1	54.0	121.0	44.6
1961	29.5	70.5	17.4	82.6	58.6	117.2	50.0
1962	28.3	71.7	16.7	83.3	59.0	116.2	50.8
1963	26.8	74.2	15.2	84.8	56.7	114.3	49.6

(a) Calculated on the gross domestic product, including duplications, and including buildings.

(d) Comparative rate of growth of productivity and prices.

Productivity per person employed in agriculture has been increasing at a high rate during the years from 1950 onwards. Between 1950 and 1963 the output of such persons, measured at constant 1954 prices, rose by 79 per cent, production having risen by 36 per cent in face of a 24 per cent contraction of employment.

The rise of production in the non-agricultural sectors was far higher and was equivalent to 143 per cent; but, as was said, employment grew by 43 per cent, so that output per employed person rose by 70 per cent.

In agriculture, therefore, the increase of productivity per person employed proves to be higher, even if only slightly, than the in-

crease shown for other sectors. Only in one year — 1957 — of the period under consideration was the productivity increase in agriculture substantially below that of the non-agricultural sectors.

TABLE 12
GROSS PRODUCT PER PERSON EMPLOYED IN AGRICULTURE
AND IN THE OTHER SECTORS IN REAL TERMS
(at 1954 prices: indices)

Years	Gross product			E m p l o y m e n t			Gross product per person employed		
	Total	Agri- culture	Other sectors	Total	Agri- culture	Other sectors	Total	Agri- culture	Other sectors
	(1)								
1950	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1951	108.5	104.6	110.0	101.0	99.0	102.3	107.4	105.7	107.5
1952	112.0	106.7	114.0	101.8	98.0	104.4	110.0	108.9	109.2
1953	122.2	119.1	123.4	103.2	96.8	107.6	118.4	123.0	114.7
1954	126.9	111.5	132.8	104.6	95.6	110.8	121.3	116.6	119.9
1955	135.7	118.4	142.3	105.8	94.3	113.8	128.3	125.6	125.8
1956	140.8	116.4	150.2	106.9	93.0	116.5	131.7	125.2	128.9
1957	147.7	116.0	159.9	108.2	91.7	119.6	136.5	126.5	133.6
1958	157.1	131.1	167.1	109.3	91.0	121.9	143.7	144.1	137.1
1959	168.0	134.5	180.9	112.1	88.3	128.5	149.9	152.3	140.8
1960	180.0	127.8	200.1	114.2	87.7	132.4	157.6	148.7	151.1
1961	195.5	137.2	218.0	114.6	82.8	136.5	170.6	165.7	159.7
1962	207.9	138.6	234.6	115.0	79.7	139.3	180.8	173.9	168.4
1963	218.1	135.6	249.8	115.5	75.8	142.9	188.2	178.9	174.8

(1) Buildings excluded. Duplications included.

Table 10 shows the incomes per person employed in real terms at 1954 prices, while in table 12 the same incomes are shown in the form of indices. Table 13 recapitulates the productivity ratios, the terms of trade and the parity ratios of agriculture to the other sectors from 1950 to 1963.

The ratio of productivity in agriculture to the non-agricultural sectors showed some fluctuations during these years, but the tendency, as was said, was on the whole positive in the case of the agricultural sectors.

The ratio of prices, that is, the terms of trade, showed a less fluctuating trend, but as a whole it moved to the detriment of agriculture and greatly contributed to that development of the income parity ratio already mentioned. A first marked variation unfavourable to agriculture occurred in 1951. In the two subsequent

TABLE 13
PARITY RATIO OF PER CAPITA INCOME OF AGRICULTURE
TO THE OTHER SECTORS, AND ITS COMPONENTS - 1950-63

Years	Ratio of productivity per person employed in agriculture to the other sectors		Terms of trade between agriculture and the other sectors		Per capita income parity ratio of agriculture to the other sectors	
	Ratio (in per cent)	1950=100	1954=100	1950=100	Ratio (in per cent)	1950=100
1950	55.9	100.0	105.7	100.0	59.1	100.0
1951	54.9	98.2	97.4	92.1	53.5	90.5
1952	55.7	99.6	93.4	88.4	52.0	88.0
1953	60.0	107.3	95.8	90.6	57.5	97.3
1954	54.4	97.3	100.0	94.6	54.4	92.0
1955	56.1	100.4	96.8	91.6	54.3	91.9
1956	54.3	97.1	92.4	87.4	50.2	84.9
1957	52.9	94.6	94.5	89.4	50.0	84.6
1958	58.7	105.0	87.1	82.4	51.1	86.5
1959	60.5	108.2	85.9	81.3	52.0	88.0
1960	53.9	96.4	88.5	83.7	47.7	80.7
1961	58.0	103.8	92.4	87.4	53.6	90.7
1962	57.7	103.2	94.5	89.4	54.5	92.2
1963 (prov.)	57.2	102.3	92.0	87.0	52.6	89.0

Note: Buildings excluded.

years there was a further deterioration, followed however by a certain recovery between 1953 and 1954, a year when the terms of trade rose to a level slightly above that of 1951. From 1954 to 1959 the development of comparative prices again went against the agricultural sector, so that the terms of trade fell from 100 to 86. Between 1959 and 1962 there was a substantial recovery, which was only partially reduced by a deterioration in 1963. In that year the terms of trade were equal to 92, taking 1954=100, and to 87 taking 1950=100.

The above calculation, as was mentioned, excludes the rents of buildings, which rose in this period to a greater extent than other prices owing to readjustment of legal rents. By including buildings, the deterioration of the terms of trade as far as the agricultural sector is concerned would be greater.

The improvement in the parity ratio of agriculture's per capita income to the other sectors which occurred after 1960 was deter-

mined by both an increase in comparative productivity and a positive development of the terms of trade.

The parity ratio, which had been equal on the average to 54.3 per cent in the five-year period 1951-55 and had fallen to 50.2 per cent in the five-year period 1956-60, rose in the last three years to 53.6 per cent.

PRICE INDICES OF THE GROSS DOMESTIC PRODUCT
(1954=100) TABLE 14

Years	Gross domestic product (1)	Agriculture, forestry, hunting and fishing	Industry	Whole of non-agricultural sectors (2)
1950	89.8	93.4	97.1	88.3
1951	95.0	93.2	106.9	95.7
1952	97.1	92.2	105.0	98.9
1953	98.1	94.0	103.0	99.6
1954	100.0	100.0	100.0	100.0
1955	102.2	99.6	101.1	103.0
1956	104.5	98.3	101.6	106.3
1957	107.0	102.3	102.5	108.3
1958	107.2	96.1	103.8	110.5
1959	106.3	94.3	101.5	109.7
1960	108.2	98.0	101.5	110.7
1961	110.3	103.5	102.6	112.0
1962	116.0	110.7	106.0	117.2
1963	125.7 (prov.)	117.1	113.2	127.4

(1) Calculated on gross domestic product including duplications, the gross product of the buildings being subtracted.

(2) Gross product of buildings excluded.

The ratio of agricultural productivity to the other sectors, calculated on the gross product in real terms (at 1954 prices), moved between the periods above mentioned from 56.2 to 56.1 and 57.6 per cent.

The terms of trade, with a base 1954=100, which were equal to 96.6 in the five-year period 1951-55 and fell to 89.6 in the five-year period 1956-60, rose to 93.0.

In the last three years agriculture's terms of trade improved, but this did not suffice to compensate the deterioration that had occurred previously.

If the terms of trade had remained constant at the 1954 level, the gross agricultural product at current prices would have been greater than it actually was — on an average 95 milliard lire annually in the years 1951-53, 125 milliards annually in the years 1955-57, 350 milliards annually in the years 1958-60 and 225 milliards annually in the years 1960-63.

The loss suffered by agriculture because of the terms of trade in the last three-year period was therefore extremely high absolutely and relatively, even though considerably below that of the previous three-year period. In 1963 it amounted to about 280 milliards.

On the assumption that the price index of the agricultural product were to change like that of the non-agricultural sectors and therefore like that of the whole domestic product, i.e. on the assumption that the terms of trade were "neutral", the parity ratios of per capita income would, as was seen, correspond to those of the productivities of the two sectors.

The recent improvement of the parity ratio of per capita income cannot be generalized, as it relates to an improvement resulting from averages. Bearing in mind the situation as regards both the different productive expansions and the low mobility of labour within the agricultural sector, it is to be presumed, on the contrary, that it is in fact a synthesis of highly dissimilar situations.

In addition, farm consumption of agricultural output has diminished considerably during the last period, and it is to be presumed that the "invisible incomes" in the shape of the savings of distribution costs on agriculture's farm-consumed products have likewise diminished.

The trend of the income parity ratio reflects, it can be stated, the ups and downs of our agricultural and non-agricultural economy and of the international economy, as well as the vicissitudes experienced during this period of time. The wars have left their mark as represented by the sharp upswing of the parity ratio and the terms of trade. The ten-year period 1930-40, on the contrary, stands out by reasons of the lowering of the ratio itself.

The trend experienced in the years following 1950 would seem to indicate that agriculture is destined to be on the losing side in the struggle to acquire the advantages of productivity attained by the economic system (it is hardly possible to describe as a tendency the improvement that occurred after 1960). Agriculture, it would seem, is incapable of preserving the increases in the real

output per capita which it itself achieves; it is not merely incapable of narrowing the gap that separates it from the other sectors as regards per capita income per employed person, but it appears to be incapable of maintaining its position as regards income in monetary terms, even while increasing its real output per person employed at a no less rapid rate than the other sectors.

If one looks farther back into the past, it can be stated that no indication emerges from the last sixty years (leaving out of consideration the war years and those from 1930 to 1940, which were exceptional periods) regarding the tendency of the parity ratio. So evident is this that one might be tempted to argue that this ratio fluctuates over short periods around a level which, in the long run, seems to be almost a constant fact. The improvement as regards comparative productivity would seem to tend to drive the parity ratio above these limits, but the terms of trade would seem to tend to lead it back within them.

As can be seen, the material in question provides plenty of points for argument and lends itself to quite a number of considerations the nature of which, if not theoretical, is at least not strictly empirical. Given the character of the present study, however, this seems hardly the right place to enter into them.

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APPENDIX

SCHEME OF THE SURVEY

(1) Let V_n (value added) stand for the gross domestic product, at current prices in a given period.

It is stated as:

$$V_n = Q_n \cdot P_n$$

where Q_n is the gross domestic product in real terms, i.e. at the prices of a period regarded as a base, and P_n is the prices level, so that:

$$\frac{V_n}{Q_n} = P_n$$

gives the price level of V_n .

Suppose that the whole economy is divided into two sectors, the first represented by agriculture (sector A), the second represented by the whole of the other activities (sector B).

Let V_a stand for the value added or gross agricultural product at current prices, and Q_a for the same value added at constant prices of the base period and P_a for the price level, so that:

$$V_a = Q_a \cdot P_a$$

and

$$\frac{V_a}{Q_a} = P_a$$

On the other hand let V_b stand for the gross product of the non-agricultural sectors (including duplications) at current prices, and Q_b for the same gross product in real terms, so that:

$$V_b = Q_b \cdot P_b$$

and

$$\frac{V_b}{Q_b} = P_b$$

Let, finally, L_n stand for the national employment, L_a for that of agriculture and L_b for that of the non-agricultural sectors.

The gross product for each person occupied will be: $\frac{V_a}{L_a}$ in sector A and $\frac{V_b}{L_b}$ in sector B, while the gross domestic product per person employed will be:

$$\frac{V_n}{L_n} = \frac{V_a + V_b}{L_a + L_b} = \frac{V_a}{L_n} + \frac{V_b}{L_n}$$

It must be stated that P_n , P_a and P_b , that is, the price levels of gross domestic agricultural and non-agricultural product, relate to unit of value added. Calculated on the net product they would express the average levels of prices or of remuneration of the factors of production.

The price index of the agricultural value added (P_n) depends upon the price level of the agricultural products sold by agriculture and upon the price level of the goods and services purchased by the agricultural sector and consumed in production. Similarly the price index of the non-agricultural sectors value added (P_b) do not express directly the average of the prices of the goods and services supplied by these sectors, but the difference, as regards prices, between output and input.

(2) Let $R_{(1)}$ stand for the parity ratio of the gross product per person employed in agriculture (Sector A) to the gross product per person employed in the remaining sectors (sector B):

$$R_{(1)} = \frac{V_a}{L_a} \div \frac{V_b}{L_b}$$

Since

$$V_a = Q_a \cdot P_a \text{ and } V_b = Q_b \cdot P_b$$

by substituting we obtain:

$$R_{(1)} = \frac{Q_a \cdot P_a}{L_a} \div \frac{Q_b \cdot P_b}{L_b}$$

that is:

$$R_{(1)} = \left(\frac{Q_a}{L_a} \div \frac{Q_b}{L_b} \right) \cdot \frac{P_a}{P_b} \quad [1]$$

the parity ratio of per capita income depends, that is, upon the ratio of the productivity of the agricultural sector (A) to the productivity of the non-agricultural sector (B) multiplied by the terms of trade between the first and the second sector.

(3) Let $R_{(2)}$ stand for the parity ratio of the agricultural per capita (per employed person) gross product to the national per capita gross product.

$$R_{(2)} = \frac{V_a}{L_a} \div \frac{V_n}{L_n}$$

$$R_{(2)} = \frac{Q_a \cdot P_a}{L_a} \div \frac{Q_n \cdot P_n}{L_n}$$

that is:

$$R_{(2)} = \left(\frac{Q_a}{L_a} \div \frac{Q_n}{L_n} \right) \cdot \frac{P_a}{P_n} \quad [2]$$

The ratio $R_{(2)}$ can be obtained as follows:

$$R_{(2)} = \frac{V_a}{V_n} \div \frac{L_a}{L_n}$$

that is, the two ratios being expressed as percentages, by dividing the percentage of the agricultural gross product relative to the national gross product by the percentage of agricultural employment relative to total employment.

The ratio $R_{(1)}$ can obviously be obtained by dividing the income parity of the agricultural sector relative to the whole of the economy by the parity of the non-agricultural sectors likewise relative to the whole of the economy.