Planned Development and Labour Force Structure in Rumania, 1950-65

I. PĂCURARŬ [1]

Economic development and growth of the labour force

FROM 1950 to 1965 the Rumanian economy made unprecedented strides. Government investment policy was designed in effect to create a national industry, making full use of the material and human resources at the country's disposal. As one-quarter of the national income was allocated for capital accumulation, 338,000 million lei were invested in the national economy, including 173,000 million in industry. Industrialisation has been rapid, priority being given to power generation, metallurgy, engineering and chemicals. Old plant has been renewed, technical processes modernised, and production reorganised in such a way as to achieve maximum efficiency, all of which has had a decisive influence on raising the level of labour productivity and industrial output, which latter had increased by 1965 to 6.5 times that of 1950.

The development in industry has made it possible to provide other branches of the national economy—particularly transport and agriculture —with the most modern equipment and technical processes, thereby improving the efficiency of labour, increasing production of goods in all fields and, in the last analysis, creating continuous growth in the national income. The yearly growth rate of the national income in the period under review has averaged about 10 per cent., placing Rumania among the countries with an extremely dynamic economy. The 1965 national income was 4.1 times greater than in 1950.

During those 15 years, parallel to and because of the growth in all branches of the productive sector, there has also been continuous progress in non-productive fields of activity.[2] A whole cultural revolution,

[1] Deputy Director General of the Rumanian Central Statistical Board.

[2] The productive sector comprises mining, manufacturing, construction, agriculture, forestry, transport of goods, telecommunications for production purposes, trade, and home industries. Non-productive activities include education, health protection and social welfare, science and scientific services, community and housing services, passenger transport, private telecommunications, arts and culture, public administration, and personal services (hairdressing, photographic studios, deliveries, etc.).

together with improvements in the protection of health, and in welfare assistance and other social services, have added to the contribution made by the productive sector to the country's development.

The remarkable progress of industrialisation and, in consequence, the rapidity of development in all fields of the national economy have opened the way to a full use of manpower resources. The right to work, which the Constitution gives to all citizens of the Socialist Republic of Rumania, is a real one, guaranteed by the rapid and powerful growth of the national economy and demonstrated by the constantly increasing labour force.

During the period in question, the employment situation has radically changed: for the first time in our history, it has become genuinely possible for manpower resources to be fully and rationally employed. Through industrialisation, and the consequent development in all fields of the national economy, the level of employment has been notably stepped up; the creation of hundreds of factories and plants, the development and modernisation of existing undertakings, the opening of construction projects throughout the country, transport, the expanding growth of education and culture, the improvements in health services, etc., require an ever-increasing labour force. Table I provides some interesting figures in this connection.

TABLE I. INDICES OF GROWTH OF POPULATION OF WORKING AGE AND LABOUR FORCE, 1950 TO 1965 [1]

Category	1950	1955	1960	1965
Population of working age	100	107	110.5	113.7
Labour force	100	112	114.0	115.6
Wage and salary earners	100	139	158.0	207.0

[1] End of the year.

It can be seen that over this period of socialist construction the labour force has grown faster than the population of working age. Whereas the figures for the latter (men: 16 to 59 years; women: 16 to 54 years) have increased no more than 13.7 per cent. between 1950 and 1965, those for labour force have gone up by 15.6 per cent. The difference is even more marked in view of the fact that an increasing proportion of those who reach working age continue their secondary or higher vocational education, in order to attain a higher level of skill, and cannot therefore be classified as job-seekers. In the 1965-66 academic year alone some 568,000 persons (as against only 287,000 in the 1949-50 academic year) were attending high school (the three top classes), vocational training schools, technical schools, teachers' training colleges and higher

education courses. In other words, if pupils and students of working age are added to the labour force figures, the increase in the latter rises to 4.2 percentage points higher than that in the population of working age.

It is clear, therefore, that use has been made during the period under review not only of all the normal surplus population of working age but also of a considerable further proportion of manpower, particularly women who formerly remained in the home.

The table marks a further major point: between 1950 and 1965 the total number of wage and salary earners more than doubled, with an especially sharp increase over the past six years. Thus, whereas the total population was greater by 760,000 and the population of working age by 317,000 at the end of 1965 than at the end of 1959, the numbers of wage and salary earners increased by 1,262,000, i.e. 1.7 times the whole of the natural population increase over the period, and more than four times the increase in the population of working age.

The continuous expansion of industry, construction, transport and various activities in non-productive fields has succeeded in creating a situation in which manpower resources can be fully employed, and will slowly but surely ensure employment for all the manpower made available as a result of the mechanisation of agriculture.

Changes in the social and sectoral structure of the labour force

Economic planning, together with the advances of industrialisation and co-operative farming and the achievement of the cultural revolution, has resulted in radical changes in the labour force structure. The exploiting classes have disappeared, and the members of the working class, intellectuals and peasants working in co-operatives have increased in number. At the end of 1965 there were more than 4,300,000 employees, 3,100,000 of whom were wage earners. The peasants in co-operatives have emerged as a new social class; at the end of 1965, 3.4 million peasant families worked together in 4,700 agricultural production co-operatives.

By degrees, as socialist production relations become more and more widespread, an increasingly large proportion of the population of working age has been absorbed by the socialist sector of the national economy. Where in 1950 the labour force employed in the socialist sector represented only 26 per cent. of the total, this figure stood at about 94 per cent. at the end of 1965, so that almost the whole of the economically active population can now be said to work in the socialist sector.

Table II shows labour force employment trends in the socialised sector, by field of material production.

Nationalisation, in 1948, of the major industrial, construction and transport enterprises meant that the great majority of the population

TABLE II. EMPLOYMENT IN THE SOCIALIST SECTOR, BY BRANCH OF ACTIVITY, AS A PERCENTAGE OF TOTAL EMPLOYMENT IN THE BRANCH, 1950 TO 1965 [1]

Branch of activity	1950	1955	1960	1965
Industry	81.1	89.4	94.8	98.6
Construction	92.6	95.8	96.5	99.3
Agriculture	4.3	14.5	84.0	90.1
Transport	75.8	83.3	88.2	97.2
Commerce	85.2	96.6	99.7	99.9

[1] End of the year.

employed in these fields in 1950 belonged to the socialist sector. The non-socialist sectors still employed appreciable numbers of manpower (about 19 per cent. in industry, 24 per cent. in transport, and 15 per cent. in commerce) but its economic power was negligible, consisting as it did of small craftsmen (industry and construction), carriers in rural districts (transport) and small shopkeepers (trade).

As regards agriculture, the labour force employed in the socialist sector represented a minute proportion, primarily made up of employees in state agricultural undertakings and in machine and tractor stations. As socialist production relations became increasingly important, owing largely to the growing number of agricultural co-operatives, the proportion of the labour force employed by the socialist sector went up steadily (small craftsmen also sought inclusion in production co-operatives or got taken on by state undertakings; and furthermore, ever-increasing numbers of peasants left the rural districts to swell the ranks of the urban working class). The co-operativisation of agriculture in 1962 did much to accelerate this process.

At the present time, 42.3 of the labour force in the socialist sector work in state undertakings, and the remainder in co-operatives. Viewed from the angle of social and sectoral structure, the pattern of employment appears as follows: 42.3 per cent. wage and salary earners (wage earners and technical and administrative staff), 47.5 per cent. peasants in co-operatives, 3.9 per cent. craftsmen in co-operatives, the rest being made up of peasants with their own holdings, craftsmen not in co-operatives, and other social categories.

A rapid increase in the number of wage and salary earners, especially the former, has been the salient feature of the labour force structure over the period in question. In 1965 the number of persons in the wage sector of the national economy was twice the 1950 figure and 3.1 times the 1938 figure. Between 1950 and 1965 some 2,200,000 persons became wage and salary earners.

Three stages can be marked out in this rapid growth. From 1951 to 1953 the average yearly increase in the number of wage and salary earners was fairly high—220,000 persons—and appreciably higher than the yearly increase in the total population (180,000 persons). Between 1954 and 1959 the increase was much smaller (40,000 persons), and must be set against a higher average yearly increase in the total population (230,000 persons). From 1960 to 1965, during the six-year national economic development plan, the average yearly increase in the number of wage and salary earners (210,000 persons) was once more appreciably higher than the figure for total population increase (110,000 persons).

These varying increases are due to economic conditions in each period. In the first years of national economic planning, the number of wage and salary earners rose sharply because of the expansion in industry and construction, fostered by a policy of massive investment. Fixed capital assets, however, were still far from adequate in the main branches of the national economy, but unemployment and agrarian overpopulation were being successfully done away with.

During the second stage, as a result of government measures to encourage consumption, the investment rate slowed down and opportunities for increasing the numbers of wage and salary earners decreased. Absorption of agricultural labour also became less feasible as a result of the predominance of low-productivity individual holdings requiring a great deal of labour.

As the transfer to co-operation in agriculture progressed, and as the level of mechanisation and of labour productivity in agriculture rose, rural workers became available for employment in other sectors, especially industry and construction, in which considerable investments were made during the period of the six-year plan. Of all the changes in the structure of the labour force that occurred during this period, the continuing increase in the number of wage earners is the phenomenon most favourable to progress.

Based as it is on industrialisation, the steady expansion of the economy will be accompanied by great increases in the number of wage and salary earners. It is estimated that between 1966 and 1970, whereas the total population and the population of working age will increase respectively by 650,000 and 580,000 persons, the number of wage and salary earners will increase by about 900,000 as a result of normal population growth and of the transfer of some 450,000 persons at present occupied in agriculture.

Changes in labour force distribution by field of social activity

A planned economy ensures a more rational distribution of labour between the two sectors of social activity: that of material production and that of non-productive activities.

Practically and socially, the importance of such distribution is obvious. It determines the rate of growth of labour productivity, the economic development of the country, the amount of savings, the quantity and quality of vocational training, the standard of living of the people, etc. Of course, there could be no question of allocating the labour force once and for all between the two sectors, since material and especially economic conditions vary at every stage, and science and technology are constantly progressing.

Before the Second World War, the major part of the labour force engaged in non-productive activities in Rumania was in government employment which was considerably inflated. During the period of economic planning, the distribution of labour between the productive and non-productive sectors, and between the different branches in each, has taken on a new pattern.

TABLE III. INDICES OF GROWTH OF THE LABOUR FORCE IN THE PRODUCTIVE AND NON-PRODUCTIVE SECTORS, 1950 TO 1965 [1]

Sector	1950	1955	1960	1965
Material production	100	111.6	112.1	111.4
Non-productive activities	100	113.2	135.8	167.8

[1] End of the year.

Table III shows that while there has been a fair increase in numbers of the labour force engaged in material production, the increase in manpower employed in the field of non-productive activities has been even more striking, especially if the two growth percentages (11.4 and 67.8 per cent.) are compared with that of the total labour force (15.6 per cent.). Up to 1955, the growth rates remained more or less equal for the two sectors but subsequently, and particularly from 1960 to 1965, this ceased to be true. In effect, the great advances made in material production generally, and more particularly in industry, created a need for expansion in some of the non-productive branches such as education and the sciences, while the rise in the people's standard of living entailed a corresponding expansion in other non-productive branches such as the protection of health, medical welfare, physical culture, sport, culture and the arts, community and housing services, etc.

This situation is hardly surprising, since the expansion of production capacity, the adoption of modern techniques and rising productivity (assisted by a higher level of vocational and technical training) mean that the labour coefficient in productive industries goes down considerably and at an increasing rate.

The data given in table IV are indicative in this respect.

TABLE IV. INDICES OF CAPITAL-LABOUR RATIO AND OF LABOUR PRODUCTIVITY IN THE PRODUCTIVE SECTOR, 1950 TO 1965

Indicator	1950	1955	1960	1965
1. Labour force employed in the productive sector	100	111.6	112.1	111.4
2. Fixed capital	100	137.0	179.0	264.0
3. Capital-labour ratio (2/1)	100	123.0	160.0	238.0
4. National income	100	192.0	268.0	411.0
5. Labour productivity (4/1)	100	172.0	239.0	370.0

It should be noted that technical progress entails the training of a quantity of specialists, which in its turn necessitates expansion in secondary and higher education, and increased numbers of teaching staff. Thus the figures for manpower employed in teaching, culture and the arts have risen from some 200,000 persons in 1950 to 326,000 in 1965. The growth of the national economy opens up increased activity both in cultural and artistic organisations and in institutions for social and health protection, so that here too an increasing number of persons are being employed—the number of persons working in scientific institutions had risen in 1965 to about 2.7 times the figure for 1950, and the number of those working in health protection, social welfare and physical culture to 2.2 times the 1950 figure.

Not all the non-productive branches have shown the same rate of increase in the numbers they employ; in some cases there has even been a reduction. For example, as a result of simplification of the government machinery and improvement of its working methods, the number of government employees fell from 138,000 in 1950 to 95,000 in 1965, i.e. by 31 per cent.

Table V shows changes in the distribution of the labour force between the productive and non-productive sectors from 1950 to 1965.

TABLE V. PERCENTAGE DISTRIBUTION OF THE LABOUR FORCE BETWEEN THE PRODUCTIVE AND NON-PRODUCTIVE SECTORS, 1950 TO 1965 [1]

Sector	1950	1955	1960	1965
Total labour force	**100.0**	**100.0**	**100.0**	**100.0**
Population employed in material production	92.6	92.5	91.1	89.2
Population employed in non-productive activities	7.4	7.5	8.9	10.8

[1] End of the year.

Whereas the percentage of the labour force employed in each of the two sectors remains substantially the same from 1950 to 1955, after that —and especially between 1960 and 1965—a considerable change in distribution emerges, which is the more remarkable in view of the fact that from 1950 to 1965 the proportion of the labour force employed in the public service fell from 1.7 to only 1 per cent.

The prospects for the national economy, committed as it is to development via industrialisation, make it a matter of certainty that these trends can only strengthen over the years to come.

Changes in labour force distribution by branch of material production

The country's constant policy of industrialisation has entailed major changes in the distribution of the labour force between the various branches of productive employment, especially industry and agriculture, which between them take up four-fifths of the whole labour force.

Formerly agriculture occupied the huge majority of the productive labour force. At the time of the 1930 population census, almost 77 per cent. of the country's economically active population were engaged in agriculture, as against only 7.9 per cent. in industry. (Only about 1,063,000 employees were engaged in industry, transport and commerce, 616,000 of whom were in industry.)

Given the situation at that time, it could hardly be otherwise, with industry scarcely developed and extensive agriculture where the greater part of the land belonged to big owners while millions of small peasants had little or no arable land and agricultural machinery was limited and primitive. There was a large permanent surplus of labour unable to get work on the peasant holdings, so that the countryside suffered from chronic overpopulation which industry was in no position to relieve, given its small capacity to absorb the surplus rural or even urban labour force. The resulting waste of labour was enormous.

The industrialisation of the country and the intensive and multilateral development of agriculture have between them transformed the situation. The spread of mechanisation and the introduction of artificial fertilisers and other chemical products into agriculture, the increasingly intensive use of modern rational methods of agriculture and stockraising, and the resulting increase in productivity have set free great numbers of the labour force who have been absorbed by the growth of industry and the construction of new plants and factories.

Another result of this transformation has been the slackening of rural as opposed to urban population growth. Thus, while the total population in 1964 had risen by 19.2 per cent. as compared with 1948, the towns showed an increase of 70 per cent. as against an increase of only 3.7 per cent. in the countryside.

Available statistics show that between 1948 and 1964 the towns absorbed over 1.2 million people from rural areas, who had been set free by the modern equipment and rationalisation of agriculture. In 1948 the urban population represented 23.4 per cent. of the total; by 1964 this proportion had risen to 33.5 per cent.

TABLE VI. TRENDS IN LABOUR FORCE EMPLOYED IN INDUSTRY AND CONSTRUCTION, AND IN AGRICULTURE AND FORESTRY, AND SHARE OF THESE SECTORS IN TOTAL LABOUR FORCE, 1950 TO 1965 [1]

Sector	1950	1955	1960	1965
1950 = 100				
Industry and construction	100.0	136.9	161.0	208.3
Agriculture and forestry	100.0	104.9	100.4	88.3
Total labour force = 100				
Industry and construction	14.2	17.4	20.0	25.5
Agriculture and forestry	74.2	69.7	65.5	56.7

[1] End of the year.

The figures in table VI show that the labour force employed in industry and construction has more than doubled between 1950 and 1965, while in agriculture and forestry it has fallen by nearly 12 per cent. In spite of the strong growth in industry, construction and the other non-agricultural branches of the national economy, however, it proved impossible up to 1960 to employ the whole of the surplus population of working age who had become available in agriculture and forestry. The numbers employed in agriculture and forestry in 1960 were still higher, although only very slightly so (0.4 per cent.), than in 1950. Subsequently, however, the extraordinary development of the national economy under the-six year plan, and in particular the leap forward in industry and construction, have created a need for a greatly increased labour force, which has been available only because a good number of agricultural workers were set free by the progress of co-operatives and by mechanisation. This, too, is shown by table VI; between 1950 and 1960, the numbers employed in industry and construction rose from 14.2 to 20 per cent. of the labour force, a rise of nearly 6 points; in the next five years alone, there was an increase of 5.5 percentage points; in contrast, agricultural manpower fell by 8.7 points over the first ten years of the period, and has fallen by a further 8.8 points over the last five years.

During the six-year plan, it has become increasingly possible for industry and other branches of non-agricultural activity to employ surplus agricultural manpower, primarily because of the huge investments allocated by the State for the construction of big industrial under-

takings. General surveys carried out by the Central Statistical Board show that between 1960 and 1965 some 650,000 persons from rural zones (exclusive of persons from rural zones who had completed courses in secondary or higher vocational schools) took up wage-earning employment for the first time, particularly in industry and construction.

For a true comprehension of the profound changes that have accompanied the redistribution of the labour force between agriculture on the one hand and industry and construction on the other, it must be remembered that in 1950 the agricultural labour force was about 5.2 times larger than that in industry and construction, whereas in 1965 it was only 2.2 times larger. Where industry employed only 12 and construction only 2.2 per cent. of the country's labour force in 1950, these figures stood respectively at 19.2 and 6.3 per cent. in 1965.

In the last five years the growth of large industry has steadily accelerated this trend: between 1951 and 1960 the number of industrial workers increased at a yearly average of 44,000 persons; during the six-year plan the annual increase was 80,000, i.e. 1.8 times as high.

All these positive aspects in the redistribution of manpower should not be allowed to obscure the fact that the current distribution of manpower still bears the marks of the difficulties which the country inherited. In accordance with the recommendations of the Rumanian Communist Party's Ninth Annual Congress, the figures for agricultural manpower must fall, between 1966 and 1970, to an ultimate figure of about 50 per cent. of the total labour force. This will be achieved by degrees over the next few years as the national economy develops.

Raising the level of skill of the labour force

The country's industrial development and the increasingly intensive use of modern technical processes have entailed major changes in the field of technical and vocational training of the labour force, since the previous backwardness of the national economy had a profound effect also on the level of vocational skills.

The general population census of 1930 shows that more than 62 per cent. of industrial workers and 78 per cent. of construction workers were unskilled, a natural enough situation, given that the figures for the same year show a high proportion of illiterates (about 39 per cent. of the total population, and 47 per cent. of the total labour force). Education was a privilege of the rich, especially higher education, which was practically inaccessible to the huge majority of working-class families since they were unable to support the expenses involved in university studies; as a result, in the 1943-44 academic year only 1.5 per cent. of the students were workers' sons.

Furthermore, education was so organised as totally to ignore the real needs of production; although the petroleum industry and forestry

played a major part in the national economy, there was no higher education establishment for specialist training in these fields. The following figures give a very clear picture of the nature of higher education at that time: in 1938 only 14.7 of the total number of students were attending courses at technical institutes and 4.8 per cent. at agricultural institutes, while 43 per cent. were enrolled in the arts and law faculties. The number of vocational and technical schools was so restricted, moreover, that they could not train more than a small number of pupils.

The advent of economic planning brought about a great cultural revolution, which takes into account the strong growth of new forces and production relations, and within the framework of which special emphasis is laid on training the labour force and raising its cultural, vocational and technical level.

The first step was a systematic and sustained campaign to wipe out illiteracy, followed by expansion in elementary, secondary and higher education, particularly in technical schools and institutes. Two years ago an eight-year period of general education was made compulsory throughout the country.

The number of high-school pupils has increased correspondingly; during the 1965-66 academic year, there was a total of 360,000 of them as against only 29,000 in 1938-39. In 1938-39, out of the total population, there were only 19 high-school pupils per 10,000 inhabitants; in 1965-66 this figure stood at 190. The result is significant.

In order to keep pace with the changes in the national economy, technical and vocational training has also been greatly extended to train the skilled workers and technicians required for economic progress in all fields of activity. Thus there are currently 4.6 times more pupils at vocational schools, and five times more pupils at technical and foreman training schools, than in 1938.

Between 1949 and 1965, 600,000 students completed courses at vocational training schools to become skilled workers; 44.3 per cent. specialised in heavy industry (mainly engineering), 12.6 per cent. in light industry, 17.7 per cent. in agriculture and forestry, 5.6 per cent. in transport and telecommunications. Over the same period, 199,000 trainees successfully completed their studies in secondary technical schools, and have become technicians in various fields of activity.

In addition to the vocational training offered by educational establishments, there are various systems for training at the actual place of employment, with or without release from work. Between 1950 and 1965 nearly 1.3 million wage earners became skilled workers by such means, and 900,000 wage earners specialised in some way or were able to increase their skills.

In agriculture also, efforts have been made to broaden the channels for vocational education so as to give maximum assistance to the functioning of agricultural production co-operatives. Courses in agronomy

and animal husbandry have therefore been organised for peasants in co-operatives and permanent agricultural workers in state agricultural undertakings and machine and tractor stations, particularly oriented towards enabling them to apply modern scientific methods, thus contributing to the modernisation of agricultural techniques, increasing production and raising the level of labour productivity.

There was also special concern to extend higher education, so as to provide the national economy with the highly qualified manpower it required. During the 1965-66 university year, 131,000 students (as against only 26,500 in 1938-39) attended 47 institutes of higher learning, in which 183 specialised subjects are taught.

The major changes which have taken place, during the period of economic planning, in the distribution by subject of students taking degree courses, are shown in table VII.

TABLE VII. DISTRIBUTION BY SUBJECT OF STUDENTS TAKING DEGREE COURSES, 1948-49 AND 1965-66

Subject	1948-49		1965-66	
	Number	Percentage	Number	Percentage
All students	**48 676**	**100.0**	**130 614**	**100.0**
Technical subjects	12 712	26.1	52 265	40.0
Medicine and pharmacology	10 020	20.6	9 345	7.2
Economics	8 294	17.0	12 866	9.9
Law	5 534	11.4	4 534	3.5
Academic and teaching subjects	9 071	18.6	47 470	36.3
Art	2 302	4.7	2 419	1.8
Other subjects	743	1.6	1 715	1.3

It can be seen that the greatest increase has been in the number of students taking technical, academic and teaching subjects, and that these accounted for 76 per cent. of the total number of students in 1965-66.

From the year of educational reform (1948) to 1966, higher education has provided the national economy with 190,000 highly skilled specialists. Out of all those who received advanced vocational training during this period, 37,600 have gone into industry, 9,600 into construction, 3,300 into transport and telecommunications, 21,000 into agriculture and forestry.

Particular emphasis was laid on the training of teaching staff for schools and universities. Between 1949 and 1965, more than 60,000 people completed courses in university and school teaching.

Industrialisation and the steady raising of the technical level of production in all branches of the national economy, together with this tremendous activity in the vocational training of the labour force, have brought about fundamental changes in the level of skills and the occupational distribution of both wage earners and high-level manpower.

Among wage earners, the ratio of skilled to unskilled has radically altered. The 1930 census showed that only 39 per cent. of all wage earners were skilled, as against about 80 per cent. today. In industry, which is the dominant branch economically, the general proportion of skilled workers is 80 per cent., and the figures are still higher in electric power, the petroleum industry, engineering and chemicals.

Moreover, the establishment of certain branches of production which did not exist formerly (petroleum equipment, electronic equipment, tractors and agricultural machinery, machine-tools, chemical fertilisers, synthetic yarns and fibres, plastics, etc.) has led to radical changes in the occupational distribution of the labour force: comparison of the 1956 population census figures with those for 1930 shows 50 times more welders, 15 times more wire-drawers, 14 times more sheet-mill workers, 10 times more foundrymen, 9 times more turners, and so on.

At the same time, the construction of new machinery and plant, the adoption of advanced mechanisation and automation, and technical improvements in all fields, have brought new occupations into existence and eliminated others. New occupations have been especially to the fore in engineering and chemicals; and all branches of modern industry comprise occupations which are not to be found in the occupational nomenclatures and statistics of Rumania before the Second World War.

We have already seen how the remarkable expansion of secondary and higher education has led to a rapid increase in high-level manpower. On 1 June 1964 nearly 17 per cent. of the all wage and salary earners (i.e. 670,000 persons) had completed full secondary or higher education. This figure was 43.8 per cent. above that for 1958 (49 per cent. for secondary education and 33 per cent. for higher education). Table VIII shows

TABLE VIII. DISTRIBUTION BY MAIN BRANCHES OF ECONOMIC ACTIVITY OF EMPLOYEES WITH SECONDARY OR HIGHER EDUCATION, 1 JUNE 1964

Branch	Employees with secondary education		Employees with higher education	
	Number	Percentage increase on figures for 15 Dec. 1958	Number	Percentage increase on figures for 15 Dec. 1958
All branches	**457 316**	**49.3**	**210 230**	**33.1**
Industry	108 499	73.9	34 005	21.4
Construction	25 330	67.3	10 737	23.2
Agriculture	17 219	43.3	14 051	98.2
Transport	20 352	20.0	3 840	31.8
Commerce	38 922	55.5	11 927	33.7
Education, culture	123 752	32.1	57 181	43.8
Health, social welfare	40 965	118.5	24 141	21.6
Administration	23 163	−1.1	23 217	29.6

the distribution, by main branches of economic activity, of employees with secondary or higher education in 1964.

The table shows a specially sharp increase in employees with advanced training in agriculture.

Of all those with a higher education on 1 June 1964, 35.2 per cent. had had technical training, 12 per cent. had had training in economics, 10 per cent. in law, 15.5 per cent. in medicine or hygiene, 24.7 per cent. had had academic or teaching training, and 2.7 per cent. had had artistic or cultural training.

The number of engineers also increased rapidly during the period of economic planning: on 1 June 1964, about 74,000 engineers were employed in the national economy, i.e. 8.5 times more than in 1938. Simultaneously, there were considerable structural changes in the distribution of engineers, by field of specialisation. Out of nearly 37,000 engineers with an industrial specialty in 1964, some 67 per cent. were in metallurgy, engineering and chemicals. In other words, these branches employed 34 per cent. of all engineers, as against only 17 per cent. in 1930. The number of agricultural

TABLE IX. EMPLOYEES WITH SECONDARY OR HIGHER EDUCATION, BY SUBJECT OF SPECIALISATION AND BY YEAR OF COMPLETION OF STUDIES, AT 1 JUNE 1964

(Percentages)

Level and field of studies	Year of completion of studies				
	All years	Before and during 1948	From 1948 to 1955	From 1956 to 1959	After 1959
Secondary education :					
All fields	**100.0**	**26.7**	**31.5**	**16.4**	**25.4**
Technical studies	100.0	21.7	39.8	15.1	23.4
Economic and administrative studies (including general culture studies)	100.0	27.9	24.4	17.1	30.6
Studies in the field of health protection, social insurance, physical culture and sport	100.0	2.8	37.5	24.8	34.9
Studies in the field of arts, culture and education	100.0	41.0	38.3	11.9	8.8
Higher education :					
All fields	**100.0**	**28.6**	**26.7**	**23.4**	**21.3**
Technical studies	100.0	16.7	30.1	31.2	22.0
Economic or legal studies	100.0	48.6	21.6	16.1	13.7
Studies in the field of health and sport	100.0	34.6	29.5	17.5	18.4
Studies in the arts	100.0	40.1	22.3	18.4	19.2
Academic or teaching studies	100.0	23.0	24.9	23.1	29.0

and horticultural engineers was also greatly increased (from 1,200 in 1938 to 10,800 at the end of 1963), while that of zootechnical engineers and veterinarians rose, over the same period, from 697 to 4,800. By the same token, the number of mechanical engineers was ten times greater in 1963 than in 1950.

Table IX shows that these specialists received their secondary or higher education almost entirely during the period of economic planning.

It will be seen that nearly three-quarters of all employees with secondary or higher education acquired it after the reform of education; and that the proportion of specialists trained after that time is extremely high (78.3 per cent. of all those with secondary technical training, and 83.3 per cent. of all those with higher technical training). Since some branches of industry have called for entirely new fields of specialisation, there is a preponderance of certain specialists trained during this period: thus 93 per cent. of engineers in metallurgy and engineering completed their studies after 1949.

Rumanian specialists, on average, are very young; 60 per cent. of those with higher education are less than 40 years of age (72.3 per cent. if those with training in technical subjects are considered alone).