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INDUSTRIALIZATION AND EMPLOYMENT IN GREECE

Submitted by the Government of Greece

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1. Introduction and summary

The main theme of this paper is to discuss the employment lag in Greek manufacturing i.e. the small direct contribution of a rapidly growing sector to the overall employment situation. This is a problem faced by most developing countries who have achieved a satisfactory rate of industrial growth in the last twenty years but have attained no significant improvement in their employment situation. If past trends continue and massive unemployment is to be avoided, employment in the tertiary sector should rise fast enough to offset the shrinking opportunities on the land and to secure jobs for the growing urban labour force, while the secondary sector will have a neutral employment effect or, at best, make a marginal contribution to the creation of new jobs.

The Greek experience indicates that apart from the natural increase in labour efficiency, the principal cause of the employment lag is the lack of right proportions among the various labour grades which would make possible an acceleration of industrial growth and the use of less capital-intensive techniques. Another reason relates to the available technology which, developed in the advanced countries, is based on capital-intensive methods of production. The small average size of the industrial firm and its low labour productivity at the beginning of the period under examination, also play a part because output could grow fast through concentration and better use of existing resources without additional employment. Far from giving cause for concern, this last development is welcome if the rise in overall industrial efficiency raises activity in the economy as a whole and has an indirect effect on employment in other sectors.

2. The share of industry in overall employment

Between 1951-65 the output in Greek manufacturing increased three-fold at an annual compound rate of 8.2%, as against an increase of the gross national product of about 6%. This growth was primarily the result of productivity gains with a marginal increase in employment. The two population censuses in April 1951 and March 1961 recorded industrial employment of 426 th. and 444 th. respectively, and the two industrial censuses in November 1958 and September 1963 employment in industrial establishments of 441 th. and 494 th. respectively. Allowing for seasonality, these figures show that employment between 1951 and 1963 grew on average at an annual rate of about 1%. The same rate of growth took place in mining and quarring which employed about 23 th. persons in 1965. At the same time the population has grown from 7.650 th. in 1951 to 8.600 th. in 1966 or at an annual rate of 0,8%, the total labour force by about 0,9% and the non-rural labour force by about 1.5%. In other words employment in manufacturing and mining has simply kept pace with the growth of the labour force but their share in non-rural employment fell.

The balance-sheet of Greek labour has been as follows: Agricultural employment was increasing in the early 1950's, remained stable the years after and has been shrinking since 1961. It is now put at about its 1951 level of 1.800 th. persons. During the same period employment has increased by less than 200 th. persons in industry and construction and by about 300 th. in the tertiary sector. Since the labour force grew by about 700 th. and the reduction in unemployment was moderate, there has been a gap of over 200 th. persons which has been absorbed by external emigration.

Open unemployment amounted to 179 th. in 1951, increased to 215 th. in 1961 and is put at 120 th. for 1965. Since then it has been growing again due

to the abrupt curtailment of emigration to Western Europe. Besides, there has been considerable underemployment in the urban centers, especially in the service sector, and on the land which still provides employment for half of the labour force.

The high hopes of the early post-war years that industrial growth would solve the problem of unemployment have given way to disillusionment as to the contribution industry can make in creating new employment opportunities.(1) It is evident that despite the dynamism of this sector and the fact that its share in gross domestic product has approached that of agriculture, industry has not taken advantage of the apparent ample supply of labour and is not expected to do so in the coming years. The share in employment of food processing and textiles, the industries traditionally considered as labour-intensive, is still one third of total and if there is any indication as to the future trend, this points to the growth (more than proportionally) of capital-intensive industries. The structure of the Greek industry, the skill distribution of the industrial labour force and technological developments are the principal factors behind this employment lag.

3. The effective supply of labour

The large size of open unemployment and the small proportion of industrial employment to the labour force rule out the possibility that the limiting factor of industrial growth has been labour. Nevertheless, the analysis of the industrial labour force and of the skill requirements in manufacturing reveals imbalances in the demand for and supply of the various grades which have curtailed seriously the ability of industry to take on more labour. In particu-

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1 For a discussion on this problem see W. Baer and M. Hervé Employment and industrialization, The Quarterly Journal of Economics, Feb. 1966.

lar, the existing complementarity among the various levels of skill and the shortages in some of them have created employment bottle-necks in spite of the overall labour surplus. There has been an abundance of unskilled labour and an adequate supply of qualified engineers but firms encounter some difficulties in finding low-level skills, and face more serious shortages in the middle-rank and the managerial personnel. These conditions reflect the manpower situation in the economy as a whole.

Unskilled labour. The predominance of agriculture in the employment of the labour force and the relatively rapid productivity growth in that sector have resulted in a large flow of unskilled manpower (20 th. annually on average) from the land to the urban centers. Manufacturing, along with construction and mining is their first stage of employment in the urban sector. Wages for these workers have been low but, due to minimum wage legislation, considerably above the level which would express the existing supply and demand conditions. (the minimum wage and the employer's social insurance contributions which are about 17% on earnings are fixed by law). Considered in relation to their low productivity and the relative scarcity of complementary skills, increased employment of these workers could hardly be recommended on efficiency grounds. On the contrary, other strong factors which will be examined below, have made the application of capital-intensive techniques more advantageous to the entrepreneur.

The supply of unskilled labour has thus faced a sluggish demand from industry, limited mainly to replacements through intersector mobility and promotion, and the ratio of unskilled workers to overall employment which is put at one to five for the early 1960's[1], has been falling. Consequently, not only has

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1 see Mediterranean Regional Project, 1965, OECD, and Draft of the Five Year Economic Development Plan for Greece, 1966-70, CPER, 1965, pp. 46-47

manufacturing made a very small direct contribution to overall employment but also it has employed no additional labour of the kind which has been more abundant.

Employment in construction has followed different patterns. Labour productivity in that sector increased more slowly than in manufacturing and therefore the employment lag was substantially smaller. Besides, complementarity did not limit the effective demand for labour. The ratio of unskilled labour to other grades is relatively high, about one to one, the obsolescence of skills has been slow because of the relatively smooth change in production techniques, and long tradition has created adequate channels for the supply of the required skills. In addition, by the very structure of the sector and a market for output not exposed to foreign competition, its growth did not rely to any considerable extent either on scientific managerial efficiency or on dynamic entrepreneurship. As a result, employment rose from 70 th. persons in 1951 to 170 th. in 1961 and was about 190 th. in 1965. However, even in that sector there has been a considerable slow-down in the rise of employment although this is still growing faster than in industry.

Low-level skills. About three quarters of all industrial employment belongs to this category whose mild shortages are due to three destinct factors. The first is the upward shift in demand as a result of the rise in overall employment and of the technological developments which have increased more than proportionally the requirements for these skills. The second is the fact that new skills have to substitute for the ones which are rendered obsolete and useless by technological advance. In the traditional tobacco, food processing, shoe and clothing industries new categories of competence have come to the fore replacing traditional skills and changing the overall skill distribution. The third is a supply factor and relates to the slow response of both industry and

the educational system to the changing skill requirements. Manufacturing in particular, had neither the tradition nor, because of the predominant small size of the industrial firm, the ability to train systematically its own personnel. Before the early 1960's when the apprentice schools of the Ministry of Labour made an impact on the market, low-level-skills were supplied through the old system of long apprentiship which did not provide for any formal classes, and whose output was relatively small and of low quality.(1)

The upward shift in demand and the sluggish response of supply have resulted in higher wages through collective bargaining and the wage drift. This has increased labour costs without a corresponding rise in productivity and has cautioned entrerpeneurs as to the new orders for equipment and the choice of techniques. The largest part of the low-level skills is used in repair and maintenance work as well as in the handling of relatively simple machinery. Higher wages have made the use of old equipment uneconomic and the introduction of expensive semi-automatic machines quite profitable. Following similar experience in many developing countries, the Greek industry has found that these machines are on the whole better adapted to the Greek labour force conditions, than older models of multi-purpose machines. Apart from the fact that they can be handled by unskilled labour, semi-automatic machines raise labour productivity sharply. Therefore, at one stage of capital intesity requirements for low-level skills increase but the next stage toward which industry is now striving, is to reduce substantially reliance on labour of all grades. A typical example is the tobacco industry. Through reorganization and the appli-

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1 It is interesting to note that nearly half of the trainees of the Intergovernmental Committee for Emigration (ICEM) whose intention was to emigrate abroad, changed their mind as soon as they picked up some low-level skills and were offered satisfactory jobs by employers at home.

cation of new techniques in the handling, storage and processing of the raw meterial, labour was reduced gradually from 27 th. persons in 1958 to 17 th. in 1963, while value added per person employed increased by about one third.

Middle-level skills. (Persons with secondary technical education, foremen and experienced operators of complex machinery).

The personnel of this group holds the important position between management and the broad basis of the semi-skilled and the unskilled workers, but has been found to be very limited in size (about 2% of total numbers in manufacturing).(1)

As in many other developing countries, inadequate supply in Greece is due to a lag in the realization of the importance of these jobs and the resulting lack of training facilities and social status for them. This kind of personnel either comes from the lower ranks through promotion or it is supplied from technical schools which require secondary education for admission. In Greece secondary education is mainly of a classical orientation and its graduates prefer clerical jobs to industrial occupations. Whatever interest is shown for middle-level industrial skills comes mainly from the children of the unskilled workers and other low income groups of the urban centers.

Since well equipped st te schools are few all over the country, the interested groups resort to private, ill-equipped colleges with the result that their training leaves much to be desired. Therefore, not only numbers are limited but quality as well is low. The two combined form a serious constraint to industrial growth because a) inadequate supervision results in mishandling of equipment and low overall efficiency, b) complementarity i.e. a certain optimum

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1 Mediterranean Regional Project, 1965, OECD, and Draft of the Five Year Economic Development Plan for Greece, 1966-70, CPER, 1965, pp. 46-47.

ratio between middle-level skills and lower grades, does not allow higher employment of the latter which are more abundant. This prejudices entrepreneurs against "operator-paced" processes and prevents full utilisation of the existing capital stock (work on a second shift, etc.), and c) the managerial personnel are taxed heavily on responsibilities and their energy is diverted to duties other than those of a manager.

Managerial personnel is a case similar to the middle-level skills. Greek schools of higher education have no proper management courses. These were not taught at all a few years ago but have been introduced recently to various schools and special seminars organized by State Institutes and Industrial Organizations. The small average size of the Greek industrial firm, the family character of it and the mentality of many industrialists who are reluctant to delegate responsibility to professional managers, have also been responsible for the slow growth of the managerial class. In conditions of intensified competition within the framework of the European Economic Community, of which Greece is an associate member, well-trained and experienced managers are indispensable in order to ensure the rational use of available resources.

The demand and supply analysis of the various grades of industrial labour leads to the conclusion that there is a serious problem of lack of complementarity in the labour force. This lack encourages capital deepening in industry and has an unfavorable effect on output growth. Both work against the rise of industrial employment.

Labour is dear because of its low productivity and not because wages are unduly high. Greek unskilled labour emigrating to Western Europe is employed at a wage rate which must at least equal its marginal product. This is twice as high as in Greece and can be paid mainly because the right proportions be-

tween the various labour grades in those countries allow better utilisation of resources, making Greek labour twice as productive as in its homeland.

3. Implications of the low employee-employer ratio in manufacturing

The number of industrial establishments increased from 108 th. in 1951, to 122 th. in 1963, while the ratio of persons per establishment remained about the same, at 3.8. However, the distribution of the industrial establishments by size of employment presents a different picture. In 1963 about one half of overall employment i.e. 234 th. persons, was in 116 th. industrial establishments giving average employment of two persons per establishment. There has been very little improvement over the years in these ratios which, among others, show the small handicraft character for half of the Greek manufacturing employment. The other half however was in 5.9 th. establishments at an average ratio of 40 persons per establishment, although its overall improvement over the years was also very small. Nevertheless, important developments are taking place in large scale industry. Firms employing 200 persons and over numbered 107 in 1963 and 123 in 1965 and employed 61 th. and 71 th. persons in the two years respectively.[1] Similar developments took place in other groups.

The proportions above are closely related to the employment lag. Large scale industry accounts for the largest share of industrial investment, output growth and new employment opportunities. Modelling itself on the patterns of large scale industry in the developed countries from which it buys equipment and technical know-how, it can raise its output through mechanization, continuous adjustment in methods of organization and the resulting rise in labour productivity, with little resort to additional labour.

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1 Confederation of the Greek Industrialists: Information bulletin Jan. 31,1967

4. The choice of technology

During the period under examination only one tenth of the total fixed capital formation went to manufacturing. For all sectors, gross fixed investment in machinery and equipment was 4.2% of GNP, as against 10.4% in the countries of the European Economic Community.(1) Combined with the prevailing high interest rates, these percentages are a clear indication of the existing scarsity of industrial capital in Greece.

Faced with this scarsity, entrepreneurs would be expected to choose labour-intensive processes in new investment. That was not quite so. Although there has not been a rush to introduce automated processes and the very latest labour-saving techniques, they have established new capital-intensive industries such as steel and chemicals, and have advanced mechanization rapidly in all existing industries. Endeavouring to achieve the lowest cost per unit of output, they have thus chosen capital- intensive techniques against the apparent factor availability in the country, i.e. the relative scarsity of capital and the abundance of labour.

It has been estimated that for each net new employment opportunity in industry an investment of $15,000 takes place. This is the incremental capital to labour ratio which is about five times above the average and shows that the labour-saving part of new investment, directed to the modernization of established firms, is considerably bigger than the rest which is directed to the creation of new employment opportunities in expanding or new firms.

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1. See G. Kalamotousakis, Economic Integration and Economic Development, unpublished Ph.D. dissertation, New York University, 1967, pp. 58 and 65.

A partial explanation of this situation is that industry applied the only available technology, developed by the economically advanced countries which are interested in labour-saving rather than labour-intensive techniques. To the extent that imported machinery and methods rendered themselves to alternative uses with more labour intake, this was taken advantage of. But the margins were limited. For example, a more intensive use of machinery through better maintenance, quick repairs, additional shifts and regular flows of materials presupposes a high degree of organization and availability of all complementary factors within the firm and its economic environment.

The importation of second hand machinery has also been tried but only to a limited extent. This was cheaper to buy so that interest and depreciation costs were lower, and having been built a few decades past, it needed more labour to operate. But maintenance and repair costs were high, even when spare parts could be found and cheap labour be secured, which was not always the case. Besides, Greek industry had the common experience of other countries, i.e. it found that output per unit of existing labour-intensive capital stock was marginally above that coming from the use of up-to-date, capital-intensive equipment. Other factors also played a part: young technicians were better trained and psycologically well inclined to handle up-to-date equipment, capital-intensive industries attracted more dynamic entrepreneurship, firms attached prestige value to new machinery, etc. On the whole however it was sea, air and land transport which made ample use of second hand equipment because it was both easier to transfer, having no dismantling and reinstallation costs, and its rate of economic obsolescence was slower than that of plant machinery.

6. Concluding remarks and suggestions for further research

In conclusion, the odds have been against higher employment in industry be-

cause capital-intensive industries and rapid mechanization in all industries have been favoured by the pattern of economic growth and the factor endowment in the country. Nevertheless, more emperical research needs to be done on the relationship between employment and industrialization, and especially in two of its aspects. The first is the case of accelerated industrial growth, its potentialities and economic implications. International experience shows that in developing countries
/productivity in that sector rises by about 7% annually. It follows that sustained output growth at a rate in excess of this rise will result in proportional increase in labour requirements.

The second aspect is the employment effect of industrial output growth on other sectors. The evidence suggests that industrialization is accompanied by new employment opportunities in construction and the service sector, either through the rise in incomes and the consequent increase in effective demand or through complementary activities to industrialization. It is quite possible that increased employment in other sectors depends on the techniques of production used in industry, the capital-intensive kind having a stronger employment effect, i.e. calling forth a greater amount of employment, than the use of labour-intensive techniques. The stage of development and the structure of the economy may also play an important part. In Greece the relationship between industrialisation and employment cannot be simple and straightforward. About two thirds of fixed capital investment during the period under examination went to construction, half of it to residential housing. That was bound to augment output and employment in that sector. In the service sector, on the other hand, two major branches, namely tourism and shipping, have grown quite independently from the performance of manufacturing industry.

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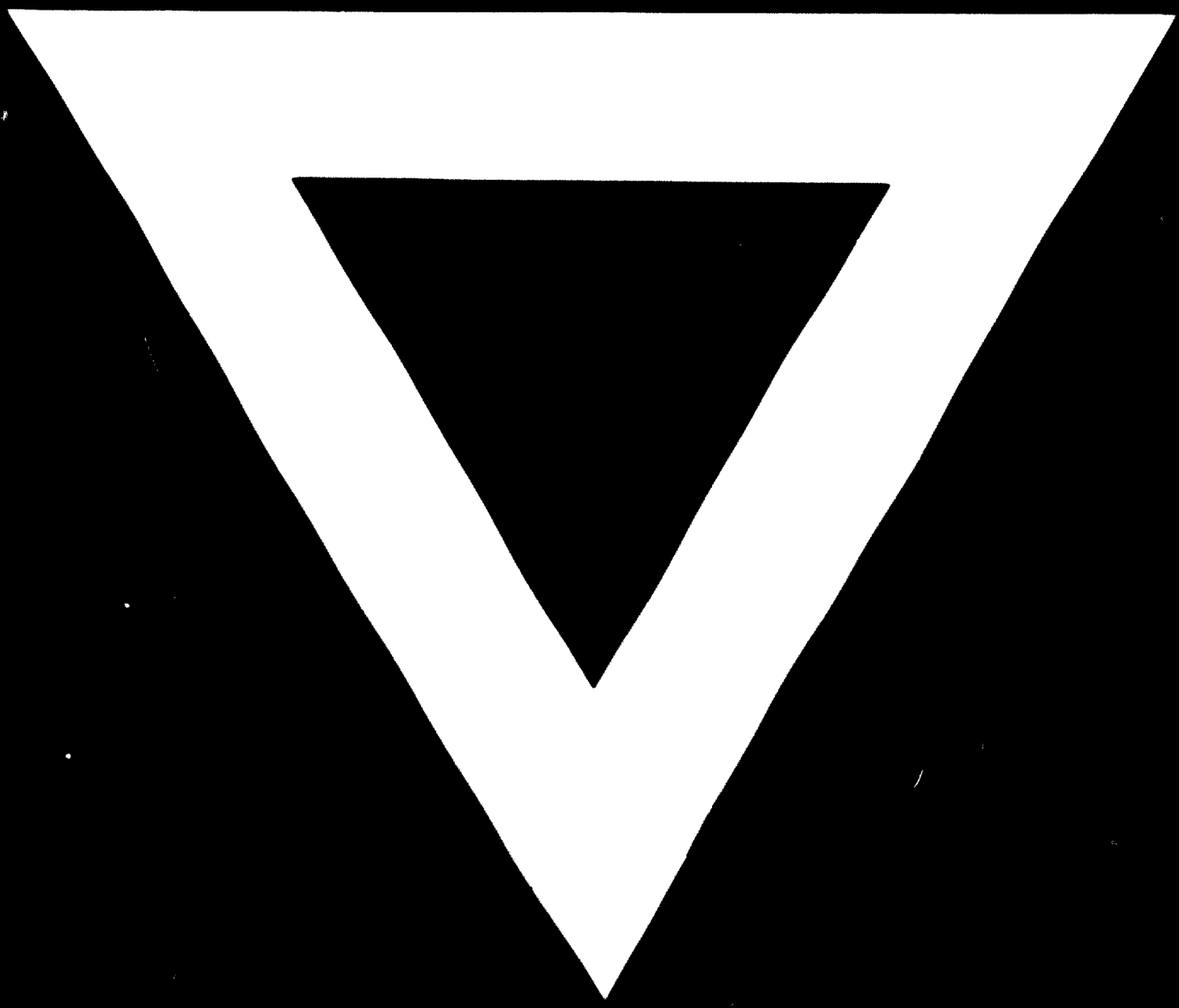

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