

# «STUDIES ON THE ECONOMICS OF EDUCATION IN GREECE»\*

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Throughout the world today economists have spent considerable time attempting to measure the economic contribution of Education and trying to discover the meaning of today's education and its influence on the economic, sociological and political Development of Nations.

This discussion started before the 1950's, but there have been very few economists who have looked upon human beings as capital. The meaning of Education and its effects on economics was realized by the first economist-philosopher Plato. For Plato, Education has high economic significance and a considerable part of the community's wealth must be invested in it.

In his work, *The Republic*<sup>1</sup>, he writes about the education and training of guardians, «. Their food, in the quantities required by men of temperance and courage, who are in training for war, they will receive from other citizens as the wages of their guardianship, fixed so that there shall be just enough for the year with nothing over. . . .» Plato's «general» education was necessary for all citizens to be reasonable men.

Although the economics of Education has Plato's heritage, the idea of using the education to train the labor force for economic development is relatively new in modern Greece.

The scope of this paper is to present a brief analysis of the existing work in the field of economics of Education in Greece, and present the new developments in the field with a latest study about the «free» tuition higher education.

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## I. Greece and Economics of Education

At the present, the economics of education\* is a relatively new field of economics, even, for most of the so-called «developed» countries. The subject is in its infancy for most of the developing countries, among them Greece.

There is a vast work after the 50's in this field among the western countries and especially in the U.S. The development of computerized statistics, was a «critical pilot» for more research. Analyzed data relating education to occupation and wages—as well as to sex, age, race, regions, education and family income, were at hand for the researchers.

There are very few studies carried out for the developing countries because of the absence of similar data. In most of them, including Greece, the effect of education on economic growth and development was unknown and accurate estimates would have been impossible until recently. In the early 60's there were changes in the structure and investments in education within Greece. During the academic years 1962-1963 and 1963-1964 there was an increase in government spending for education. In 1964-1965 the «tuition free» higher education «law» was passed, and in 1967 the «free books law» for all levels of education was enacted.

Generally, since the end of the civil war, (1944-1949) some efforts were made towards the improvement of the educational system, but they were not sufficient to improve and raise the quality of the three levels of education significantly.

## II. The Mediterranean Project by OECD

In 1965, a very significant attempt took place in the field of Economics of Education in Greece, with the publication by OECD of the Mediterranean Regional<sup>1</sup> Project report. The main objective of this project was to specify in quantitative terms the changes that must be introduced into the educational system in order to meet the needs arising out of population growth and structural transformation of the Greek Economy<sup>2</sup>.

The study goes through an outline of the economic framework and the role of Education in Greece.

At the beginning a detailed description of the existing educational system is given and the analysis of its main deficiencies. The basic study refers into setting the educational targets for 1974.

A. The main deficiencies can be summarized as follows:

1. The high teacher/pupil ratio in primary and secondary education, especially in the urban areas, with shortages of teachers and classrooms.

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\*Among the pioneers of the field is Professor George Koutsoumaris who has done related work, and has translated in Greek the Classical work of Prof. T.W. Schultz, *The Economic value of Education*, Columbia Univ. Press 1963. (Greek Publisher Papazisis Press, Athens 1972).

The result of these problems in public education was the enormous expansion of private education.

2. A similar situation was existing in higher education. A great number of Greek students studied abroad and many of them do not return to Greece after graduation.

The number of teachers, laboratory facilities and space per student were inadequate.

3. Technical and vocational education at the middle level presented the weakest point of the educational system. Low quality and extreme shortage of qualified teachers, workshops and laboratories were the characteristic of this part of education.

4. Educational facilities are concentrated in the urban areas with a high concentration of students in the greater Athens area.

#### B. The OECD targets for 1974

The educational targets were set to cover the future needs indicated by the economic and social development programmes.

1. Compulsory education was justified for an extension from 6 to 9 years.

2. Expansion and improvement of the technical and vocational schools at the secondary level and the organization of the sub-university technical education.

3. Reorganization, modernization and rational expansion of higher education. Post secondary education was an acute problem—and still is in 1976—and a strong pressure upon Institutions of higher education was the outcome of lack of non University level vocational and technical schools. «This pressure has always been heavy-according to OECD economists-owing mainly to the social prestige and advantage offered by a University degree»<sup>3</sup>. Later in the review of other studies will be shown that higher education «does pay off» while secondary education gives only certificates without future career or economic prospects.

### III. Schooling and Economic Growth

During the early 60's and especially in the period 1961-1966, broad research took place by the Greek Center of Planning in cooperation with the University of California at Berkley. In 1966 an agreement was concluded with Harvard University for advisory assistance. One of the projects undertaken during 1961-1966 was to identify the sources of the rapid growth during the 50's and to indicate what could be done to maintain this rate of growth—and to increase it. One of the factors of economic growth that was identified was that of human resources. The contribution of the labor force to economic growth was first estimated by Samuel Bowles<sup>4</sup> in two papers done during 1966 and published beginning in 1967. The author gives an application of planning models to the Greek educational system and he tries to identify the sources of Greek economic growth over the period 1951-1961. As

a part of his work he investigated the educational level of the labor force which (he finds) has favorably changed. One purpose of his working paper was «to provide an estimate of the expected number of employed workers as a fraction of those terminating their schooling at each educational level», the results summarized below influence future plans by developing countries for education and training of the labor force.

1. A low rate of growth of the labor force is due to the low rate of increase in population and to a rapid increase in emigration. Male employment raised more than female.

2. Total employment as a fraction of total population fell as well as the employment of population over 10 years of age, not enrolled in school.

3. During the decade 1951-1961 Greece experienced a remarkable increase in the average schooling of the employed labor force.

4. The increasing age of the labor force and the fall in employment as a fraction of total population can be explained by the emigration of young people and by the «spread of education», which has the effect of withdrawing labor (i.e., students) from employment<sup>5</sup>.

5. During the examined period the level of schooling in the labor force raised considerably and parallel to this, enrollment in institutions of higher education increased for both sexes. Generally the new entrants to the labor force were on the average better educated than those who retired.

6. The rate of increase in the level of schooling of the female labor force was higher than that for males.

Professor Bowles in another report<sup>6</sup> investigated whether the hypothesis of Denison, Schultz and Harberger, (that «the growth contribution» of the improved educational level of the labor force should be quite considerable), could be proved in the case of the rapid economic growth in Greece.

After an extensive research he finds that the results for Greece do not support the «hypothesis».

These results indicate that the growth contribution of changes in the educational composition of the employed labor force is very small. The contribution of the increase in the capital stock, even on conservative assumptions, is considerably higher than that found in similar studies of other countries. Unexplained sources of growth amount to 43 % of the measured change of output<sup>7</sup>.

His estimates of growth contribution of capital are considerably larger than the estimates for eight European countries, the U.S. and Chile.

Harberger and Selowsky<sup>8</sup> estimates, derived from the model similar to bowles, consider that the contribution to economic growth of the increased schooling of the labor force is remarkably high in *Chile* with 15 %. In Greece the contribution is considerably smaller than all other countries except Germany with 2 %.

Professor Bowles gives some explanations about the high contribution of capital stock and the low contribution of the level of schooling of the labor force, to the overall growth rate in Greece.

These are :

1. The large contribution of capital can be explained by the relatively high rate of investment over the period 1951-1961.
2. The contribution of the increased schooling in the Greek labor force is found to be very small for two related reasons :
  - a. The transformation of the educational composition of the labor force is not «particularly marked».
  - b. The increase in productivity, because of increase in schooling, is relatively small except of that in higher education<sup>9</sup>.

These findings of Greece «feed» the controversy about, the contribution of schooling in economic growth, and support the idea that «we're a long way from understanding the effects of education on economic growth<sup>10</sup>.»

The failure of the Greek schooling to contribute significantly to economic growth is not viewed by Bowles as «a general indictment of the system or of the content of the courses offered»<sup>11</sup>.

He explains the small contribution to economic growth by the Greek education as «may be the result of a perfectly rational decision to use the school primarily as a vehicle to transmit the nation's cultural heritage to the new generation and to include other values thought to be socially important, or it may simply reflect the fact that a relatively small quantity of resources were devoted to education over this period<sup>12</sup>.»

A few months after the publications of the reports of Samuel Bowles by the Center for International Affairs of Harvard University, another report came out by Professor Harvey Leibenstein of Harvard University, September, 1967, about the returns to education in Greece for the period 1960-1964. Explaining the high rate of economic growth during 1951-1964, he writes : «by comparative European standards Greek economic and educational performance gives the impression that there is little need for concern that lack of education inhibits growth, the rate of economic growth has been one of the highest in Europe<sup>13</sup>.»

He finds that the educational standards in Greece compared with that of Europe «look very good indeed». A large number of people have been educated inexpensively. The GNP spent on education was about or less than  $2\frac{1}{2}\%$ . But the large «output» (educated people) contradicts with the low «input», «low investment» and he explains that fact with two alternative conjectures :

1. That Greece has been exceptionally efficient in allocating its resources to education or,
2. While the quantity has been ample, the cost has been low, because the quality of it has also been very low.

The main results of Professor Leibenstein's research can be summarized as follows :

- a. The findings give little «comfort» to supporters of the thesis that expansion of education is always desirable on economic grounds. «However, education does

pay if there is a continuation of recent rates of growth, and if education is deemed to be responsible for a proportionate share of growth<sup>14</sup>»

b. Comparisons between secondary and University (higher) education makes it clear that the second does «pay off»<sup>15</sup> while the first does not. There is an obvious fact that the rates of return to higher education are significantly greater than the return to investment in secondary education. So secondary education as an investment for economic growth is not «a good bet». It can only be seen as a «vehicle to university admission». Explaining further the low contribution of increased schooling to economic growth, Professor Leibenstein writes, that... «secondary education may reflect the very low quality of that education as a preparation for employment...»

During his research he did not take into consideration either the *consumption value of secondary education* or the 1960-1964 period of gradual change in secondary education. Either of these factors may be sufficient to change the above conclusions.

#### IV. Education and Socio - Economic Life in Greece

One of the very few works done about any level of education and its relation to economic and social life of Greece is a pioneering work by Dr. Jane Lambiri-Dimaki in 1971 about «the social inequality that exists in higher education».

Dr. Lambiri investigated the question : What are the probabilities for male and female graduates of high school that they will follow higher studies in Greece? The research is based on statistical data on higher education for the academic year 1963-1964. She investigated the social background of the freshman students based on their father's occupation.

According to her findings there is considerable inequality between the social classes as well as between sexes. Dr. Lambiri points out that the social research is based on 1971 social criteria and it is applied to data of 1963-1964. However, despite that fact, that after 1964 higher education was tuition-free, and after 1967 books were provided by the State, these two factors only had a marginal effect upon the make up of the social classes participating in higher education.

Tables (1) and 1A) present a classification of students participation in higher education according to their father's occupation, which also provides a schema of social classification of the students' families.

There is an increase in the participation of students of middle (6 percentage points) and lower income classes (9 percentage points) from 1963 to 1969. However, there is a reduction of (12 percentage points) in the participation of students with fathers of «no specified occupations». This category includes students without father<sup>16</sup> and in a broad sense those students can be classified among the lower social classes.

To give emphasis to the structure changes of the lower social classes we classified the students into two social classes, higher and lower (table 1B).

There is strong indication that there is an increase in participation by the students of higher social classes. Thus, despite the fact that students from the families of laborers and craftsmen increased from 10 % to 15 % in the overall, no significant changes took place in the social structure of student participation in higher education during the academic years 1963-1964 and 1969-1970.

Making the assumption that social structure in Greece as in most of the developing countries is an index of the income and wealth structure, it was further assumed that there is a stability in the relative *income structure* among the families of students in higher education.

## V. Education and Income Distribution

The distribution of income is generally considered «a multidimensional one»<sup>17</sup>. The causes which have produced the current pattern of income distribution are complex.

They may be classified into two broad classes : Those which explain the differences in earnings arising from different kinds of work and those which explain the differences in the amount of property owned by individuals. Education has been recently recognized as an important determinant on the pattern of income distribution. Spending for Education is part of the Government Public Subsidies Program which has been used lately as a means of income redistribution policy.

The above issue has been researched in a broad extent in U.S.A and other developed countries, but only few years ago some interest was paid by the developing countries too.

The author of the present paper was concerned, in a latest study<sup>18</sup>, with determining the effects of the incidence of taxation and availability of public higher education in Greece.

«Among the main objectives of this study was to make a systematic analysis of the impact of Public higher education on income distribution. Emphasis was also given to the distribution of benefits as well as the incidence of taxation among the students' families».

The basic hypothesis tested was : «Does the Public financing of higher education represents a subsidy of higher income classes by lower income classes»?

Related tested hypotheses were :

«Do students from lower income families have less likelihood of attending highly subsidized schools? Does the present system of subsidies allocation and admission lead to perpetuation of existing income inequality»? (Students from higher income groups attend highly subsidized schools and go on to more prestigious and better-paying employment after graduation).

The findings of this study can be summarized as follows :

Distributional effects of the tax and educational structure are determined by comparing the proportion of taxes paid by student families in each income group

to support higher education, the average indirect benefits, —public subsidies— received, and the direct benefits that the student and their families will receive from employment after graduation. Lower income families pay higher percentage of their income in taxes and yet students from these families receive education oriented toward lower-paid occupations. Thus the educational system seems to perpetuate the unequal distribution of income<sup>19</sup>.

Public financing of higher education through taxation in Greece does not provide equal opportunities for the poor, indeed, it fails as a means of a policy of income redistribution and creates further income inequalities by restricting lifetime employment opportunities. The system of allocation of public funds to the institutions with subsidies differing for different types of institutions, discriminates against low income students who attend mostly low subsidized institutions, i.e., there is a high percentage of enrollment of students from poor families in low subsidized colleges of education who subsequently receive smaller incomes from employment after graduation;<sup>20</sup> the study provides evidence that the tax structure and education subsidies serve to perpetuate existing income inequalities.

Study results show that not only are the poor subsidizing the non-poor today, but they are also supporting a specialized education which offers differential access to low income and high income students with consequent restrictions on careers open to graduates from low income families.

The study also provides policy recommendations that might be implemented to yield a more equitable incidence of taxation and Public subsidies to the different institutions and to eliminate career restrictions on students from low income groups as well as some suggestions for further study in the area.

## VI. A final Note

This paper has dealt with outlining the basic research in the field of Economics of Education in Greece. There is a general belief that education provides considerable benefits—economic social cultural—to society at large. These benefits are not achieved without significant cost. Students (or their parents) and taxpayers bear the cost of Education. Since resources are scarce and total cost of Education are increasing at a rapid rate, concern has been developed, in most of the Western countries, about the Educational policy to be followed and the complexity of the problems, many of which could be measured only after a great deal of effort and expense.

The purpose of this paper has been to familiarize the reader with the existing literature-related to Greece-on the field of Economics of Education. It should be noted that we do not claim to have given an exhaustive treatment of the field, but a «guide» to the existing literature and work, useful for further research and study.



## FOOTNOTES

1. PLATO, *The Republic*, translated by Francis M. Conford, Oxford University Press, 1940, p. 108.
2. OECD, *Mediterranean Regional Project*, Greece, OECD, Paris, 1965.
3. OECD, *Mediterranean Regional Project*, p. 26.
4. SAMUEL BOWLES, «Changes in the structure of Employment in Greece, by Age, Sex and Education 1951 - 1961», Economic Development Report № 66, Center of International Affairs, Harvard University, February 1967, p. 1.
5. S. BOWLES, p. 29.
6. S. BOWLES, «Sources of Growth in the Greek Economy 1951-1961», Economic Development Report № 27, Center for International Affairs, Harvard University, April 1967, pp. 1-2.
7. S. BOWLES, «Sources of Growth in the Greek Economy 1951-1961», p. 24.
8. HARBERGER A. and SELOWSKY M. «Key factors in the Economic Growth of Chile : An analysis of the sources of past growth and Prospects for 1965 - 1970», 1966 (mimeographed).
9. H. LEIBENSTEIN, comes to the same conclusion in his research about «The rate of Return to Education in Greece», Economic Development Report № 94, Center for International Affairs, Harvard University, Cambridge, Massachusetts 1967.
10. S. BOWLES, Report № 27, p. 26.
11. S. BOWLES, Report № 27, p. 27.
12. S. BOWLES, Report № 27, p. 27.
13. H. LEIBENSTEIN, Report № p. 2.
14. » » » » p. 39.
15. » » » » p. 40.
16. NSSG (National Statistical Service of Greece) «Statistical Bulletin of Higher Education 1963-64» Athens, 1966 p.9 (in greek). During that year students without fathers constituted 37 % of the so-called class of «no specified occupation».
17. S. BHALLA, «The Education Income Connection», Princeton University Research Progress in Economic Development, October 1973, (mimeo).
18. For more details and analytical work see, Petros P. Papageorgiou «The incidence of Taxation and the availability of higher Education in Greece», unpublished Ph. D. thesis, Boston University, Boston Massachusetts, 1975.
19. PETROS P., PAPAGEORGIU, For details see ch. V, VIII, table 7-13.
20. » » «SPOUDAI» Quarterly Economic Journal, Published by the Piraeus Graduate School of Industrial Studies, Vol. KET' № 4 1976. pp. 878-879 (in Greek).

TABLE 1  
STUDENTS PARTICIPATION IN HIGHER EDUCATION (CLASSIFIED) ACCORDING TO  
THEIR SOCIAL CLASSIFICATION (1963 - 1964) (1969 - 1970)

	Higher education enrollment 1963 - 1964	% of total		% of enrollment 1963 - 1964
Professional and technical workers	5,553	12.8		
Administrative executive and managerial workers	1,052	2.4	Higher Class	15.2
Clerical workers	4,421	10.2		
Tradesmen and sales workers	4,668	10.7	Middle Class	20.9
Farmers, fishermen	10,888	25.1		
Miners, etc.	24	0.1		
Workers in transportation and communications	1,002	2.3	Lower Class	39.6
Craftsmen, Laborers, etc.	4,280	9.9		
Service and sport workers	960	2.2		
Unclassified workers	7	0.0		
Armed forces <sup>1</sup>	365	0.8		
Pensioners, rentiers	4,670	10.8		
No fathers' occupation classification <sup>2</sup>	5,521	12.7	Other Classes	24.3
TOTAL	43,411	100.00		100.0

TABLE 1A (CONTINUED)

STUDENTS PARTICIPATION IN HIGHER EDUCATION (CLASSIFIED) ACCORDING  
TO THEIR SOCIAL CLASSIFICATION (1963 - 1964) (1969 - 1970)

	Higher education enrollment 1969 - 1970	% of total		% of enrollment 1969 - 1970
Professional and technical workers	7,594	10.0	Higher Class	12.2
Administrative executive and managerial workers	1,614	2.2		
Clerical workers	10,534	13.8	Middle Class	27.2
Tradesmen and sales workers	10,090	13.2		
Farmers, fishermen	20,518	26.9		
Miners, etc.	57	0.1		
Workers in transportation and commun- ication	2,769	3.6	Lower Class	48.2
Craftsmen, Laborers, etc.	11,095	14.6		
Service and sport workers	2,253	2.9		
Unclassified workers	103	0.1		
Armed forces <sup>1</sup>	1,056	1.4		
Pensioners, rentiers	7,294	9.6	Other Classes	12.6
No fathers' occupation classification <sup>3</sup>	1,204	1.6		
<b>TOTAL</b>	<b>76,181</b>	<b>100.0</b>		<b>100.0</b>

TABLE 1B (CONTINUED)

COMPARISON TABLE OF STUDENTS PARTICIPATION IN HIGHER EDUCATION  
(CLASSIFIED) ACCORDING TO THEIR SOCIAL CLASSIFICATION  
(1963 - 1964) (1969 - 1970),

		Combined enrollment upper and lower classes	
		1963 - 1964	1969 - 1970
Professional and technical workers			
Administrative executive and managerial workers	Higher Class	36.1	39.2
Clerical workers	Middle Class		
Tradesmen and sales workers			
Farmers, fishermen			
Miners, etc.			
Workers in transportation and communica- tions	Lower Class	63.9	60.8
Craftsmen, Laborers, etc.			
Service and sport workers			
Unclassified workers			
Armed forces <sup>1</sup>			
Pensioners, rentiers			
No fathers' occupation classification <sup>2</sup>	TOTAL	100.0	100.0

1. Armed forces can be included in the Higher Class.

2. During the late 50's and early 60's students were reluctant to inform statistical services about their father's occupation. Thus many of the students with this attitude belong to no father's occupation classification. Also many of them don't want to give the information for the reason that they think this information can be used for tax purposes. Therefore, these students can be spread even in the higher groups. The decrease in the percentage of this group from 1963 - 1964 (12.7%) to (1.6%) during 1969 - 1970 could be explained by the fact of improvement in the method of statistical collection by NSSG and relationship by the student's families that this information would not be used for tax purposes.

SOURCE :

1. NSSG «Statistical Bulletin of Higher Education 1963 - 1964, 1969 - 1970», Athens, Greece.

2. Petros P. Papageorgiou «The incidence of Taxation and the availability of higher Education in Greece», unpublished Ph. D. Thesis Boston Univ. Boston, 1975.