

EFFICIENCY ASPECTS OF THE EDUCATION SYSTEM

INTERNAL EFFICIENCY

Curricula and Educational Technology

The nursery and primary school curriculum have been entirely revised after 1981. New subjects (e.g. environmental studies, health education and civil education) were introduced into the primary school curriculum. Since 1987-88, the teaching of foreign languages has also been available in a great number of primary schools. In the same year specialist secondary school teachers of arts and crafts and physical education undertook teaching in primary schools. In addition, all primary school textbooks were replaced. The methodology of teaching and the evaluation of pupils changed as well. The numerical marking system was supplemented by qualitative profiling evaluation techniques. However, pupils moved to the next grade regardless of their performance. Supplementary support for pupils with learning difficulties was provided in some cases.

Despite the educational reforms which have taken place recently, general education curricula still maintain, to a large extent, their academic orientation. Indeed, the whole school system is marked by its authoritarian and formalistic character. Many Greeks complain about the quality of education offered to young people and especially about their so-called linguistic poverty.

Curriculum development is a process that is carried out at a national level. Under the auspices of the Pedagogical Institute (PI), task forces that are specific to subject and level work out the basic curricula. These task groups, or working committees, are composed of members of the Pedagogical Institute. The resulting curriculum is further developed and refined by the Pedagogical Institute. Final approval rests with the MoE. Curricula are officially adopted through Presidential Decree and then published in the government newspaper. Curricula are disseminated to each school either through the local directorates or through the Ministry's Educational Books Publishing Organisation (depending on the specific form of publication).

Approximately the same process applies in the case of marginal adjustments to curriculum. These marginal changes are more or less a continuing process. Information on areas of the curriculum or textbooks that are problematic is acknowledged through the Annual School Advisors' reports. It is the responsibility of the Pedagogical Institute to make these changes which are then disseminated by circulars or decrees depending on the extent of the changes.

Directly linked to curriculum is the content of the textbook. With reference to instructional material there is a standard textbook for each subject. This is accompanied by a teacher's book (manual) and usually by a work book and an assessment test booklet. All students receive the standard books free of charge. The Pedagogical Institute has the responsibility of developing the textbooks with task forces of specialists in each subject and educators.

Information on necessary changes to textbooks and curriculum are gathered from the annual School Advisors' reports. Depending on the extent of the problem, either marginal adjustments are made which are disseminated through circulars or committees are nominated to work out new books and curricula.

Informal diagnostic testing is also linked to textbooks at the primary level since formative review tests accompany the standard textbooks.

There is no official requirement for updating of curricula, but in effect it seems that major revisions to curricula have occurred every ten years more or less. On the other hand, small adjustments to curricula and textbooks occur more or less continuously at the recommendation of the Pedagogical Institute.

A major revision of curricula is currently underway. The Pedagogical Institute has the responsibility of proposing the task groups and co-ordinating the work. The major thrust of this reform is to develop a comprehensive curriculum across both levels of compulsory education that is better co-ordinated between levels, e.g. removing redundant and outdated material, introducing new subjects, and more clearly specified in terms of standards, e.g. the comprehensive settings of educational objectives.

Many significant innovations have been initiated at the compulsory education level. The curriculum has been renewed and enriched with new subject areas, the school working hours have been adjusted to the school conditions, school work itself has been better organised. The same evaluation procedure has also been greatly improved. For instance, subject areas such as Art and Physical Education are now taught by subject specialists in the most, of the four – or more (*polythesia*) post schools. The compulsory teaching of English as a second language – starting in the 4th grade has been applied almost to all “polythesia” schools.

With regard to the teaching methods an emphasis is put on both the students' active participation in the teaching procedure and their critical thinking.

Special care for the improvement of the evaluation system during the compulsory education years (the first nine years of education up to the Lyceum). The establishment of an evaluation of the quality of teaching has only recently begun. A Section on Evaluation was stabilised in the Pedagogical Institutes in order to co-ordinate the educational evaluation. A significant move to that goal is the introduction of the following.

Descriptive evaluation

The establishment of the primary school descriptive evaluation makes it possible for the educators to keep themselves, the students and their parents informed about the effectiveness of their efforts at school, their abilities and inclinations as well as possibly what competencies have not acquired in certain sectors.

The class teacher keeps a record book in which a descriptive evaluation of each student is recorded, in accordance with the Pedagogical Institutes' instructions.

Thus the record book – which is only to be used within the school – becomes a source of information for all involved: the students, their parents, the class teachers, the School Principal, and the School Counsellors as well.

Marking scale

For the first and the second grade students only descriptive evaluation is used.

In the third and in the fourth grade, a descriptive evaluation, as well as a quantitative evaluation system, is used to express four levels of achievement: Excellent (A), Very good (B), Good (C), Fair (D).

The Fair (D) indicates below average achievement. It describes the students who have serious learning difficulties. Special reinforcement programmes are provided for them. This special reinforcement is given mainly to the first and second grade students.

For the fifth and the sixth-grade-students, beside a descriptive evaluation, a quantitative one is used to express four levels of achievement: Excellent (9-10), Very good (7-8), Good (5-6), Fair (4 and under).

For this last category must be offered special reinforcement programmes to meet the needs of these students.

Educational technology

The educational technology, integrated into the various levels for maximum efficiency of the education system, is very limited. Moreover, it does not correspond in most cases, to the objectives, content and methodology of the curriculum

applied. Educators however, are becoming increasingly aware of the contribution of educational technology, to the efficiency of the educational process.

A number of teachers at nursery and elementary schools in particular utilise educational technology. At the other levels such utilisation is limited. The application of appropriate curriculum design processes are needed in order to integrate educational technology into the curriculum. In addition, there is a need for teacher-training programmes, as well as for the application of appropriate educational administration policies in relation to educational technology.

Educational standards

Types of educational standards and how they are set

In the Greek education system, several types of educational standards are in effect which can be distinguished by the sectors to which they apply and by their conceptual underpinnings.

For primary and secondary education, the content of the national curriculum defines educational standards. The national curriculum specifies the body of knowledge and skills that all students should be exposed to. The approach to setting standards is identified with a cultural ideal model that draws strongly on the history and tradition of Greece. This model focuses on the knowledge that constitutes the ideal of an educated person and on the skills necessary for him/her to participate in contemporary society.

For certain subjects that have been the object of more recent curricular reforms, the curriculum is based on the level of competence that the average student should acquire. However, *the curriculum and standards overall, do not focus on learning outcomes and goals but rather on specifying content.*

Standards/curricula for secondary technical-vocational education are, in addition, shaped by a job-requirements approach. For those curricular areas and subjects which correspond to occupational specialisations, curriculum content is defined by the competencies required to successfully perform tasks in the respective fields.

Yet another type of educational standard refers to cut-off standard for entrants to tertiary education. The ability of tertiary institutes to take in students is limited, so that every year the Ministry announces the number of places available in each tertiary school. Candidates sit for a national tertiary education entrance examination and they are ranked according to their scores. When the number of openings is filled, the remaining candidates with lower scores are excluded. Thus standards are defined by the number of available places and not by a required level of competence among entrants.

Since tertiary education entrance examinations are the only form of external examination at a national level, a great deal of public discussion about standards and quality in education accompanies publication of the results. It is not often recognised, however, that the results of this competition have little to say about the actual levels of achievements and competence among the candidates.

Implementing and monitoring standards

Since the national curriculum and the school timetable are compulsory for both public and private education, the implementation of educational standards can be presupposed. Furthermore, a standard textbook based on the national curriculum and approved by the Pedagogical Institutes is compulsory for each subject so that in effect official standards prescribe a great deal of classroom practice.

Official decrees define the form and weight of yearly summative examinations in the secondary schools, but within this framework, classroom teachers define the content of examinations. Informal diagnostic testing is linked to the textbooks at the primary level since formative review tests accompany the standard texts. School leaving certificates for the secondary education levels are also based on end-of-year assessments conducted by classroom teachers.

Thus the monitoring of standards at the national level is identified with a process of regulating inputs in the form of standard curricula and textbooks. In evaluating the outcomes of education, individual classroom teachers are given a great deal of freedom; but there is no parallel system in place that would make possible the monitoring of progress towards meeting standards and would allow comparison of the regions of Greece. Moreover, the collection of data on educational inputs (such as enrolments and resources) is not geared to the purposes of monitoring, since publication of results is chronologically out dated. For example, the most recent published yearbook of education statistics refers to the 1984-85 school year (see Chapter 1).

Student flows of primary and secondary education

Table 7.1 gives the flow of the students of primary and secondary education in the Greek education system from 1970-71 to 1997-98, referring to 1 000 students, with reference to students who started the primary education at academic years 1970-71, 1975-76, 1980-81 and 1985-86.

Table 7.1. **Student flows of primary and secondary education**

A	Sixth	A'	C	A(1)	C(1)	Grad	Grad(1)
(70/71)	(75/76)	(76/77)	(78/79)	(79/80)	(81/82)	(1982)	(1982)
1 000	869	745	615	461	382	354	78
(75/76)	(80/81)	(81/82)	(83/84)	(84/85)	(86/87)	(1987)	(1987)
1 000	933	1 043	758	612	417	448	225
(80/81)	(85/86)	(86/87)	(88/89)	(89/90)	(91/92)	(1992)	(1992)
1 000	987	1 108	858	621	482	463	310
(85/86)	(90/91)	(91/92)	(93/94)	(94/95)	(96/97)	(1997)	(1997)
1 000	994	1 086	923	652	550*	539*	323*

Notes: A: first form of the primary education.
Sixth: sixth form of the primary education.
A': first form of the secondary education.
C: third form of the secondary education.
A(1): first form of the general lyceum.
C(1): third form of the general lyceum.
Grad: students who finish the general lyceum.
Grad(1): students who finish the other types of lyceum.
*: estimates.

Source: Stamelos (1993).

Student flows in higher education

The following figures show the flow of students and teaching staff of the AEI and TEI institutions (Mastoraki and Afentaki, 1993, 1994).

Note: In what follows the term "student" refers to anyone who has entered a higher education institution and has not obtained a degree yet. The term "active student" refers to a student who has been at the institution for a period that is required by the program.

AEI

Total number of students for the academic year 1992/93

Men: 105 272; Women: 107 473

Total number of "active" students for the academic year 1992/93

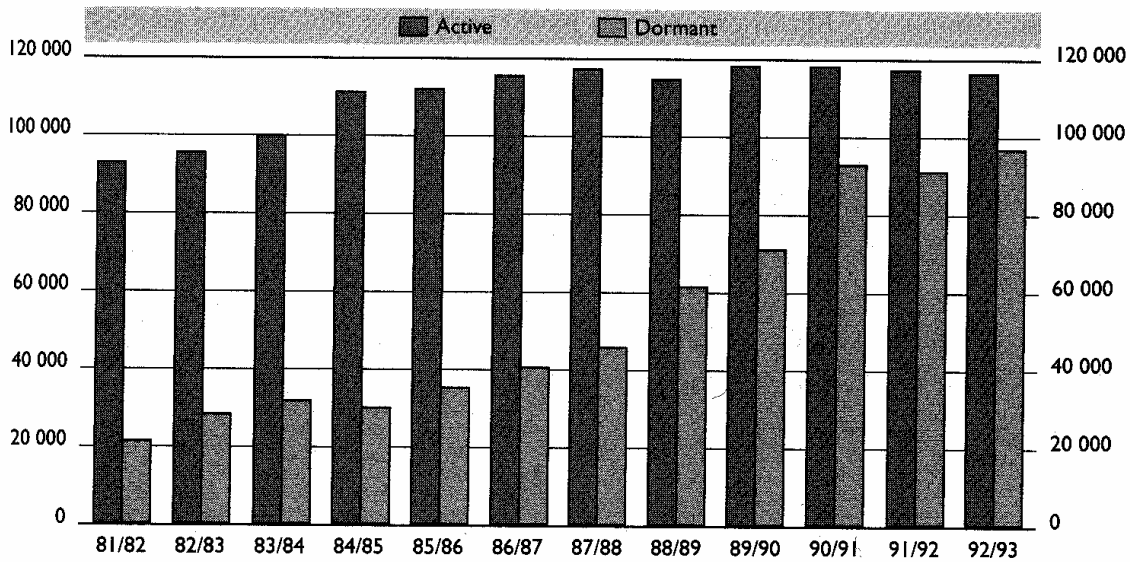
Men: 53 136; Women: 63 431

Total number of graduate students for the academic year 1992/93

Men: 8 268; Women: 11 143

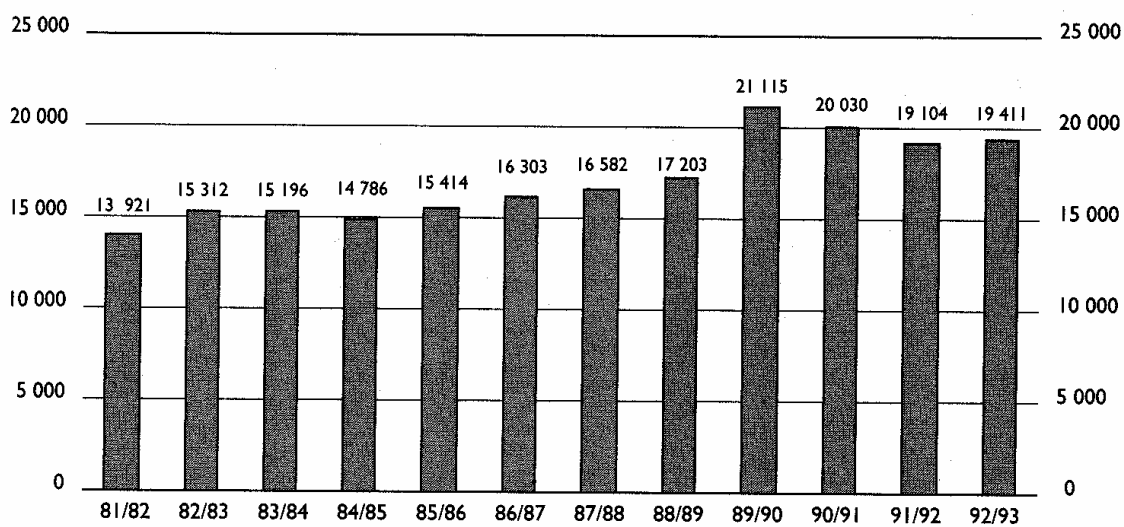
Increase of graduates in academic year 1992/93 compared with the academic year 1981/82: 39%

◆ Figure 7.1. **Number of students in universities**



Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.2. **Number of students graduated from universities**
(for academic years 1981/82 to 1992/93)



Source: Mastoraki and Afentaki (1993, 1994).

Increase of "active" students in academic year 1992/93 compared with the academic year 1981/82: 28%

Department of AElS where women have more than 90% for the academic year 1992/93

Kindergarten: 95%

French literature: 93%

English literature: 90%

Department of AElS where men have more than 85% for the academic year 1992/93

Mechanical engineering: 90%

Electrical engineering: 89%

Electronic engineering: 88%

TEI

Total number of students for the academic year 1992/93

Men: 44 868

Women: 40 200

Total number of "active" students for the academic year 1992/93

Men: 27 573

Women: 28 757

Total number of graduate students for the academic year 1992/93

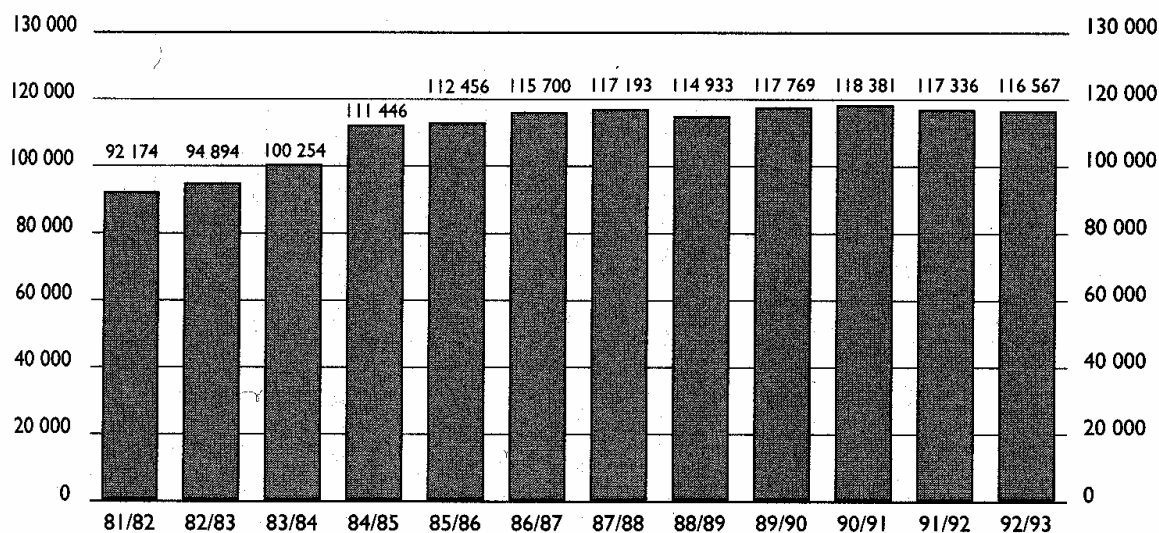
Men: 3 458

Women: 4 054

Increase of students in academic year 1992/93 compared with the academic year 1984/85: 11.8%

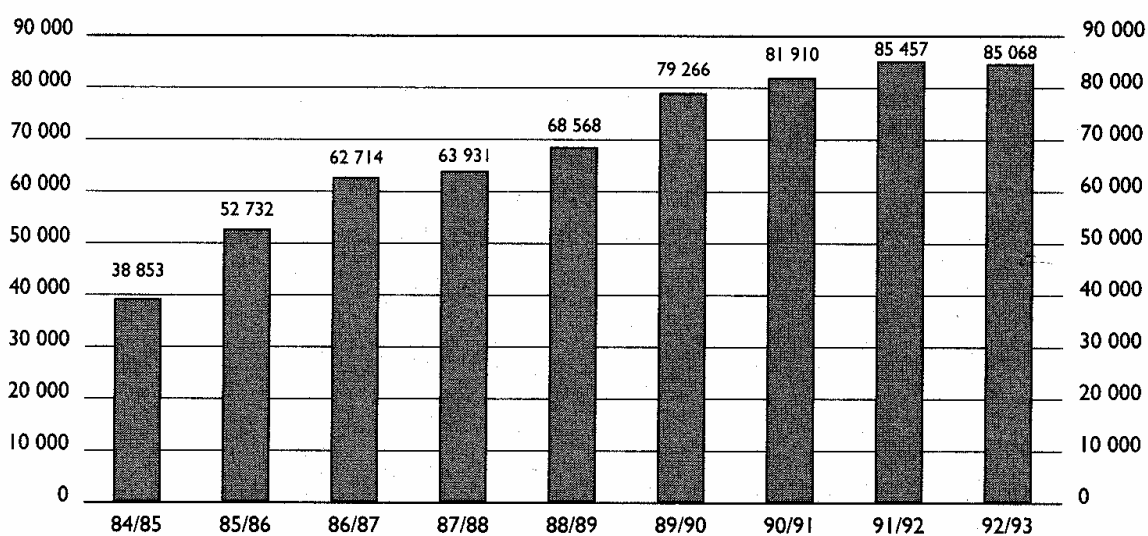
Increase of graduates in academic year 1992/93 compares with the academic year 1984/85: 29%

◆ Figure 7.3. **Number of "active students" in universities**
(for academic years 1981/82 to 1992/93)



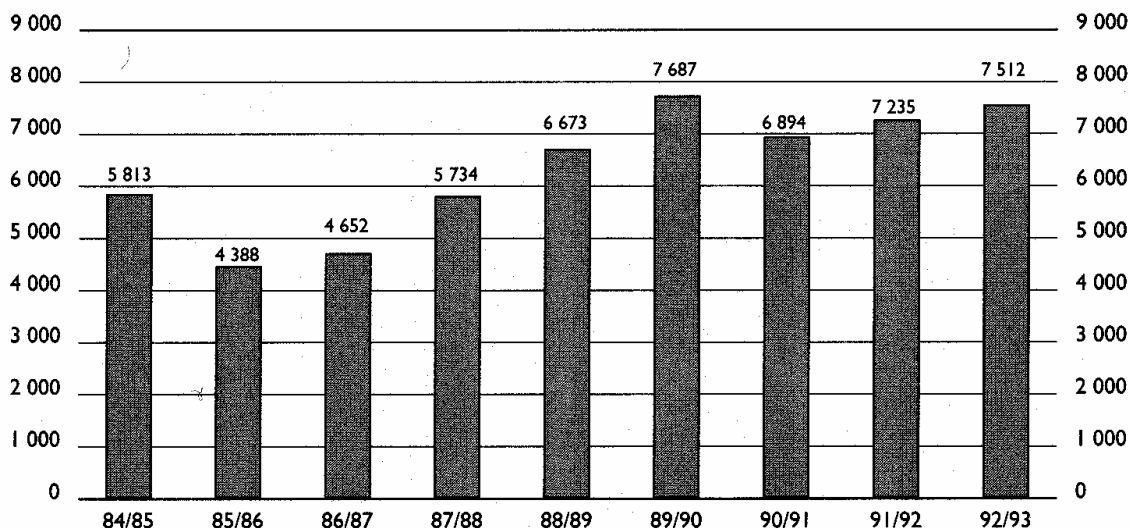
Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.4. **Number of TEI's students**
(for academic years 1984/85 to 1992/93)



Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.5. **Number of students graduated from TEI**
(for academic years 1984/85 to 1992/93)



Source: Mastoraki and Afentaki (1993, 1994).

Teaching staff flows in higher education

AEI

Total number of the teaching staff for the academic year 1992/93

Men: 6 149

Women: 2 345

Increase of teaching staff in academic year 1992/93 compared with the academic year 1981/82: 13%

TEI

Total number of the teaching staff for the academic year 1992/93

Men: 1 660

Women: 708

Total number of the non-permanent staff for the academic year 1992/93

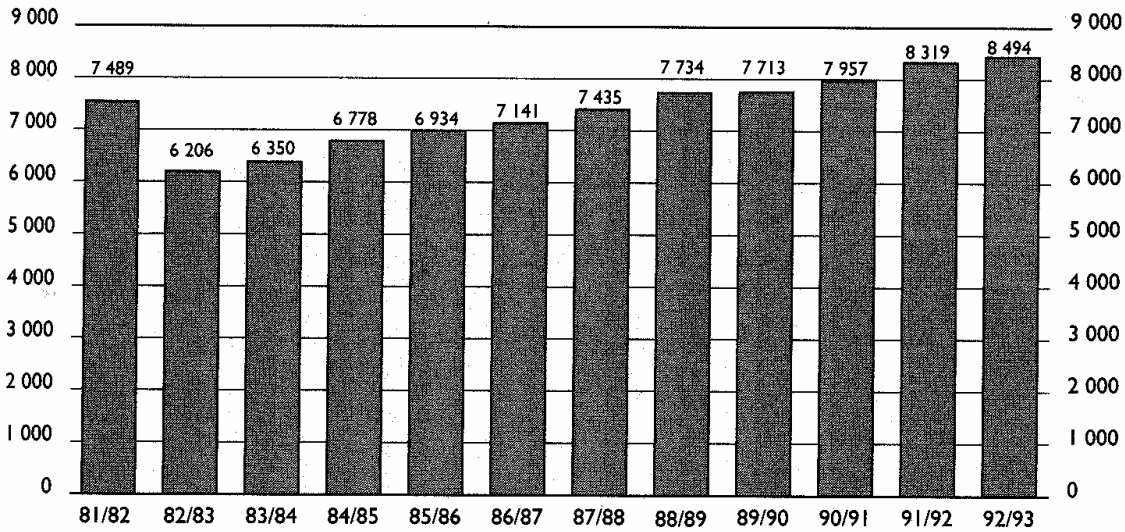
Men: 1 754

Women: 1 453

Increase of teaching staff in academic year 1992/93 compared with the academic year 1984/85: 54.8%

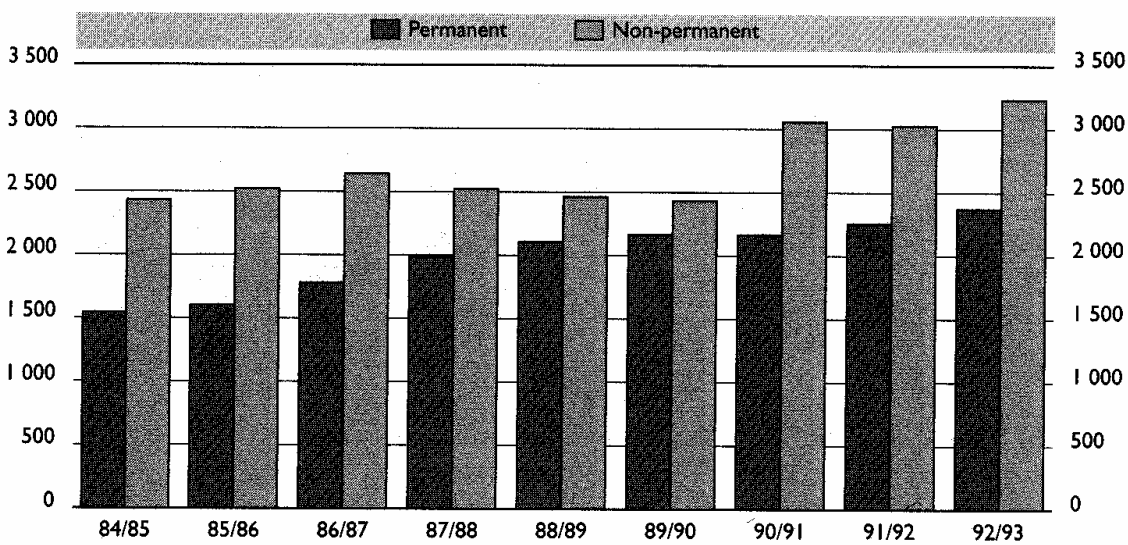
Increase of non-permanent staff in academic year 1992/93 compared with the academic year 1984/85: 32%

◆ Figure 7.6. **Teaching staff in universities**
(for academic years 1981/82 to 1992/93)



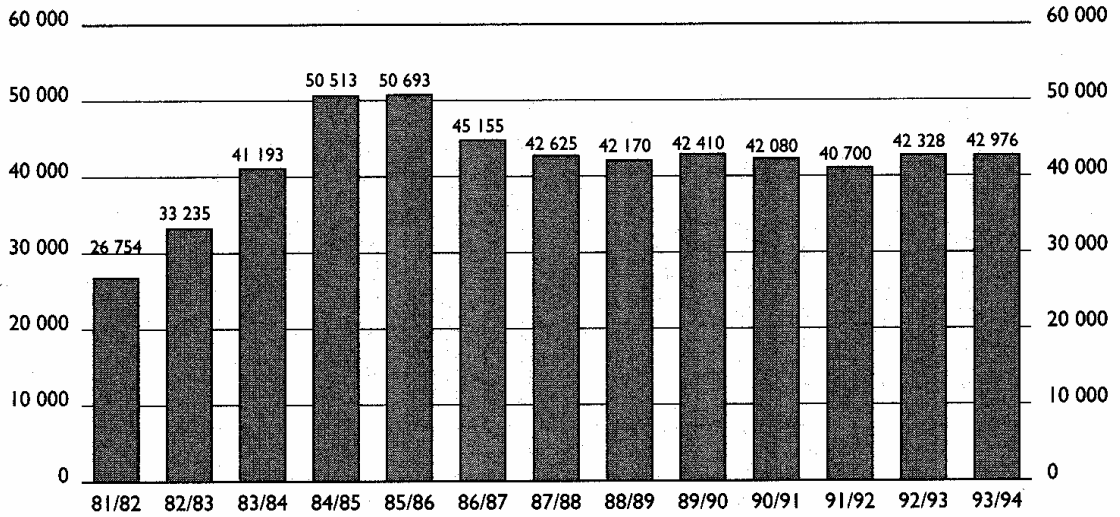
Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.7. **Permanent and non-permanent staff for TEI's**
(for academic years 1984/85 to 1992/93)



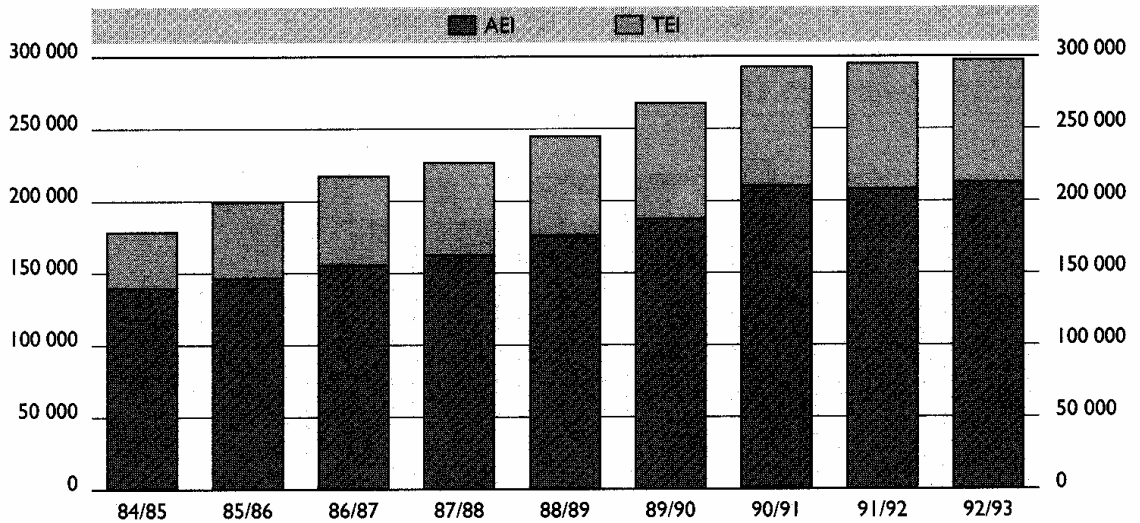
Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.8. **Number of entrants in AEIs and TEIs**
(for academic years 1981/82 to 1993/94)



Source: Mastoraki and Afentaki (1993, 1994).

◆ Figure 7.9. **Number of students in AEI and TEI**
(for academic years 1984/85 to 1992/93)



Source: Mastoraki and Afentaki (1993, 1994).

EXTERNAL EFFICIENCY

Education and employment

Post-war Greece, up until the beginning of the 1970s, faced a serious problem of structural unemployment. The chronic surpassing of the job-seekers by the supply of work (*i.e.* greater supply of work than demand) was gradually diminished as a result of the following reasons: *a)* the steady high economic development which prevailed during the post-war period until 1973, and which was concentrated mainly in the traditional work intensive sectors, such as textiles, food, construction, transportation and tourism; *b)* the substantial emigration, which accelerated in the 1960s and took away in total about one million people, mainly in their productive age; and *c)* the general expansion of the education system and especially that of secondary education participation.

Employment was kept at an increasingly high level while unemployment was fairly low until the end of the 1970s (end of the second oil crisis), even though since 1974 the emigration flow rate has reversed and there has been a net repatriation. Nevertheless, during the beginning of the 1980s, unemployment began to increase again and in 1984 reached 8.1 per cent, a level which remained until 1991. From this year on, unemployment displays another increase. This is obviously due to the economic stagnation which has characterised the economy since 1979. The 1.3 per cent increase of the NGP in the 1980s, is concentrated mainly in the services sector, while industrial production remained stagnant and decreased during the first years of the 1990s. In addition there was an inflow of workforce from abroad, due to repatriation of Greek nationals from the Soviet Union in Northern Epiros, etc. Finally, the currently high unemployment rate may also be attributed to the increasing participation rate of women in the economy, who claim the largest unemployment share. It is also interesting to note the special characteristics of unemployment. It seems that the unemployment is found mainly in the urban areas. One out of two unemployed (47.1 per cent) is found in the Attica Prefecture and this percentage is much higher for those who are over 30 years old (Kanellopoulos, 1994). In contrast, other regions such as Southern Aegian, Crete and Ionian Islands display unemployment rates around 4 per cent which may be considered fractional. High unemployment rates in 1991 are found in Epiros (9.9 per cent), Attica (9.8 per cent), Northern Aegian (8.9 per cent) and Western Greece (8.6 per cent). With regard to age, unemployment is concentrated mainly among the young. Almost one in three unemployed (31.1 per cent) is found in the age group 20-24 years. It is interesting to note that, unlike the trend in most of the other countries, the unemployed rate and the number of unemployed are decreasing steadily as the age increases, which means that unemployment is mainly attributed to hiring deficiencies rather than increases in the release of workers.

Graduate unemployment, mismatch

With regard to graduate unemployment it must be noted that the fact that the unemployed youth (*i.e.*, all those who have not had a job previously) in 1981 were 29 per cent of all unemployed, while in 1989 they were 52.4 per cent! In contrast with other European countries, youth unemployment is concentrated among secondary education graduates (12.9 per cent), as well as to the two categories of tertiary education graduates (9.8 per cent of TEI and 6.6 per cent of universities), while it is characteristically lower for the rest (Kanellopoulos, 1994).

The unemployment rates of university and TEI graduates raise more serious questions regarding the benefit of tertiary education and the context of their curricula. It is evident that more and more of these graduates are concentrating on gaining a civil service position and until they are successful they remain unemployed, underemployed or mismatched. Their aspiration, considering the prolonged economic recession, may be considered as a rational strategy. However, it results in a waste of human resources and into delayed economic recovery. Nevertheless, during the last three years because of the implementation of a conservative policy regarding wages and job creation in the public sector, especially among executives, this trend seems to be diminishing.

Table 7.5 shows the employment structure in accordance with economic activity and the educational level of the employed. As it may be seen, sectors of economic activity such as industry and agriculture, employ manpower with relatively lower educational background. In contrast, the services sector and especially civil service and banks attract high percentages of university graduates. Some figures in this table are characteristic of the situation. Out of 100 employed university graduates, 59 work in "other services" (the majority are civil services), 17.7 in banks-insurance, 7.4 in industry and only 0.7 in the primary sector (agriculture, mines). In contrast, those who did not complete primary education (six years) are found in large numbers in agriculture (62.2 per cent), in industry-manufacturing (9.7 per cent) and commerce-hotels-restaurants (10.6 per cent), and only 6.5 per cent work in services. If one considers the fact that the largest banks are controlled by the State and this is also true for transportation and communications (Tel. Co., Railroad, Airline) it is estimated that at least 80 per cent of university graduates are employed in the public sector, in one way or another. Finally it should be mentioned, that this trend toward the public sector for higher educational levels is more common for women.

Manpower planning

It has been documented consistently in the past (e.g. Psacharopoulos and Soumelis) that any efforts to implement manpower planning are overturned by the prevailing social demand for higher education and consequently, for all academic paths which lead to it. In addition, all formal educational advisory bodies, entrusted by the state to propose rational manpower planning strategies, remain generally inactive and strangled by a bureaucratic central administration. Such bodies which include all educational stakeholders and the social partners, as well, are:

For primary and secondary education:

- the National Council of Education (Law 1566/85);
- the Prefectural and regional education committees (Law 1566/85);
- the Pedagogical Institute (Law 1566/85);
- the Centre for Economic Planning and Research.

For tertiary technological education:

- the National Council for Education (Law 1566/85);
- the Council for Technological Education (Law 1404/83);
- the Institute for Technological Education (Law 1404/83);
- the Centre for Economic Planning and Research.

For university education:

- The National Council for Education (Law 1566/85);
- The Centre for Economic Planning and Research.

In addition, manpower planning has been hindered by the ineffectiveness, so far, of the school-vocational orientation program (SEP), established by Law 1566/85, and by the inelastic teacher recruitment and promotion-tenure system. The SEP program, in spite of good planning and support has not been able to win any credibility among the teachers, students and their parents, and the public in general. On the other hand, the inelastic vocational education teacher recruitment-promotion-tenure system does not allow any drastic changes, especially in occupation specific curricula and courses, thus making very difficult any linking of the education system with the labour market (for more details on this matter see Chapter 3).

The consequences of the overturning of manpower planning strategies are evident and have already been manifested in Table 7.5. This sectoral classification of employment by educational level, determines the limited possibilities that exist for organisation and development of the Greek industry and agriculture in order to compete effectively internationally. The civil service, on the other hand, limits its activities to bureaucratic procedures at the expense of producing exportable prod-

ucts. This manpower allocation reflects the development level and structure of the Greek economy, which is characterised by many small production units with traditional activities, unable or unwilling to hire managerial and technical personnel with higher educational background, and by an extended and growing services sector, especially the public sector.

Finally there is a need, if the country is expected to participate on equal terms in the European Union, for the education system to become more efficient, more effective and more flexible in order to generate individuals with adequate up-to-date knowledge and key qualifications in accordance with the requirements of the labour market. The absence in the education system of a mechanism which monitors developments of the labour market, makes this task even more difficult to be fulfilled.

Rates of return of the educational investment

There have been several attempts to provide answers to a paradox regarding the expansion of education in Greece. This is the phenomenon according to which a strong demand for higher education coincides with low private returns to educational investment. As it has already been illustrated in this report, the educational level of the population has increased significantly, manifested by a dramatic reduction of those with less than primary education in the composition of the labour force and a tripling of those with university degrees. With a competitive labour market, one would expect a fall in the earnings differential associated with higher education, provided there are no shifts to offset the demand for labour with higher education qualifications. The evolution of earnings differentials by level of education as estimated in a recent study (Lambropoulos and Psacharopoulos, 1992) shows that the earnings advantage of higher education graduates has been reduced to nearly half its size between 1960 and 1987 (see Table 7.2).

However, since the majority of university graduates are employed in the public sector, one wonders whether this decline is the result of a public-sector incomes equalisation policy, rather than market forces.

Additional data which make a distinction between the private and public sector (Table 7.3) show that the higher education earnings advantage of university graduates has been squeezed much more in the public than in the private sector. This could mean that competitive employers continue to value the productivity differential associated with employing a higher education graduate rather than a secondary school graduate.

The rates of return to investment in higher education has fallen in the 1977-85 period. Demand for university graduates has not kept up with the increased supply documented earlier, hence the returns to higher education have fallen, regardless of the sector of employment.

Table 7.2. **Earnings differentials by educational level, 1960-87**

Educational level	1960	1964	1975	1977	1981	1985	1987
Primary	81	77	106	88	101	95	83
Secondary	100	100	100	100	100	100	100
Higher	204	183	201	123	162	138	125

Note: Index base: secondary education = 100

Source: Lambropoulos and Psacharopoulos (1992).

Table 7.3. **Earnings differentials by educational level, private and public sectors**

Educational level	Academic year 1977		Academic year 1985	
	Private	Public	Private	Public
Primary	86	97	99	93
Secondary	100	100	100	100
Higher	162	153	143	134

Note: Index base: secondary education = 100.

Source: Lambropoulos and Psacharopoulos (1992).

Table 7.4. **Evolution of the educational level and rate of return to education, 1977-87**

	1977	1981	1985	1987
Mean years of schooling				
Population	6.4	6.9	7.4	7.7
Labour force	6.5	7.9	9.3	10.0
Percentage with higher education				
Population	4.6	5.9	7.1	7.7
Labour force	8.6	10.9	13.2	14.4
Rate of return to education (%)				
Overall (Mincerian)				
Private sector	6.8	4.3	3.9	n.a.
Public sector	7.3	4.0	3.3	2.7
Higher education				
Private sector	10.5	13.6	10.2	n.a.
Public sector	9.8	10.7	7.4	3.3

n.a.: not available.

Source: Lambropoulos and Psacharopoulos (1992).

Table 7.5. **Employment by sector of economic activity and educational level, 1990**
 In thousands

	Total population	Labour force	Unemployed	Participation of labour force %	Unemployment %
Total 14+	8 146	399.8	280.8	49.1	7.0
Post-graduate title	19.5	16.7	0.9	85.6	5.4
University degree	578.5	459.0	30.1	79.3	6.6
Attended or are attending university	170.8	27.5	6.8	16.1	24.7
Non-university tertiary ed. degree	290.4	239.8	23.4	82.6	9.8
Secondary education leaving certificate	1 475.9	877.7	110.9	59.5	12.6
Certificate of lower secondary education	938.0	352.2	31.9	37.5	9.1
Primary school leaving certificate	3 410.5	1 727.4	68.1	50.6	3.9
Certificate of 1st grade of primary school	873.2	236.3	6.5	27.1	2.8
No school at all	388.5	63.1	2.1	16.2	3.3

	Absolute number of employees (in thousands)				
	Agriculture	Mines	Industry	Electrical energy	Construction works
Total 14+	889.2	22.6	719.8	36.5	252.3
Post-graduate title			1.3	0.1	0.1
University degree	2.7	0.6	31.9	2.7	4.2
Attended or are attending university	0.3		2.8	0.2	0.2
Non-university tertiary ed. degree	3.7	0.9	41.6	5.5	7.1
Secondary education leaving certificate	33.4	3.3	165.1	16.0	29.4
Certificate of lower secondary education	39.2	1.8	98.1	3.8	30.4
Primary school leaving certificate	626.1	13.9	352.0	7.4	164.4
Certificate of 1st grade of primary school	142.8	1.8	22.3	0.6	14.9
No school at all	41.0	0.2	4.7	0.1	1.8

	Trade Hotels	Transportation Communication	Banks Insurance	Other services	Government Services
	Total 14+	653.9	249.4	184.1	709.5
Post-graduate title	1.7	0.4	3.2	9.1	1.5
University degree	42.2	14.8	76.1	253.2	59.2
Attended or are attending university	5.5	1.1	3.7	6.9	2.0
Non-university tertiary ed. degree	33.7	29.2	17.7	76.9	23.0
Secondary education leaving certificate	206.0	73.7	67.5	171.8	89.6
Certificate of lower secondary education	72.1	25.1	5.9	43.7	15.8
Primary school leaving certificate	259.9	96.6	9.2	129.4	33.6
Certificate of 1st grade of primary school	24.3	7.4	0.7	15.0	1.8
No school at all	8.5	1.1	0.1	3.3	0.4

	Education	Medical services	Research	Did not answer	Total number of employed
	Total 14+	180.1	123.1	3.6	1.5
Post-graduate title	4.7	2.0	0.4		15.8
University degree	138.0	38.0	1.6	0.3	428.9
Attended or are attending university	2.3	0.4	0.1		20.7
Non-university tertiary ed. degree	10.8	24.9	0.1		216.4
Secondary education leaving certificate	12.7	24.8	0.6	0.6	766.8
Certificate of lower secondary education	1.8	7.2	0.1	0.1	320.3
Primary school leaving certificate	7.5	24.1	0.6	0.5	1 659.3
Certificate of 1st grade of primary school	1.6	1.6			229.4
No school at all	0.5	0.1			60.9

Source: Kanellopoulos (1994).

Data exclusively from the public sector show a further deterioration of the returns to education in 1986 and 1987. According to the Mincerian estimate, the overall private return to investment in education for those employed by the public sector is approximately 2-4 per cent. Possession of a university first degree is associated with the (relatively) highest rate of return, ranging from 3 to 5 per cent. The tertiary non-university education (technological institutes) is associated with returns below 2 per cent. Moderate returns are also shown for those who hold postgraduate degrees.

Given the above figures, one might expect that the demand for a university degree would be extremely low. However, as it has already been reported elsewhere in this report, higher education enrolment trends show exactly the opposite. The strong demand for higher education has found an outlet abroad. The number of Greek students in foreign universities between 1970 and 1982 had the world record (after Hong Kong) in terms of the ratio of students studying abroad relative to domestic enrolment. Foreign enrolment started to decline since 1982, reflecting perhaps the deteriorating economy and the increase in costs of European universities, especially in the UK. This decline became even stronger in the near past (Lambropoulos and Psacharopoulos, 1992).

Another interesting table from the study by Lambropoulos and Psacharopoulos (Table 7.4) is used to conclude this chapter. It presents a grand summary of rates of return over time, in juxtaposition with the changes of the educational composition of the population and the labour force. The trend is clearly downward. As educational intensity increases, the relative "price" of education – as measured by the rate of return – falls. And yet, despite the spectacular drop in the profitability of educational investment, individual demand substantially exceeds the availability of places (see also Table 7.5).