

***THE NATIONAL EXAMINATIONS IN GREECE AS A MECHANISM OF
SOCIAL SELECTION AND HIERARCHISATION OF KNOWLEDGE.***

A thesis submitted to the University of Manchester for the degree of Doctor of
Philosophy in the Faculty of Education.

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ABSTRACT

This study explores the relationship between various personal and social characteristics of Greek students in the last year of the upper-secondary school (lyceum), and their average school performance, score in the National Examinations, chances to enter higher education and the patterns of their distribution in various higher education institutes. The data concentrated on the case of the Greater Athens Area, which showed certain similarities and certain discrepancies to the picture emerging at national level.

So far, there has not been any in-depth empirical study - except some contributions in the theoretical debate - about the association between success in entering higher education and the pattern of allocation to the various disciplines, according to the individual's background, after the 1983 reform of the examination system. The main aim of the study was to explore the patterns of selection and classification of students through the National Examination system. Another aim was to highlight (if any) its function regarding the legitimation of the existing social hierarchies, as they are defined by, and interact with the labour market structures and the social power relationships.

A discussion on the theoretical debates about school assessment, selection and inequalities was attempted. This was followed by an extended reference to the educational structures of other European Union countries. Then, a presentation of the main research findings and theoretical debates in the existing Greek bibliography, and a more extended reference to the evolution of the Greek school system (from 1964 onwards) were made. There have been also made references to the Greek labour market characteristics, and how these relate the status of certain disciplines. Furthermore, statistical data referring to distribution of different social groups in Universities and TEIs at national level was used in order to highlight patterns of unequal access to higher education.

The main statistical analysis was based on a random stratified sample of upper-secondary schools located in the Greater Athens Area. From each of the 8 clusters resulted from the stratification of Athens (which was based on socio-geographical considerations), a 5% was randomly selected, and the school records of all the graduate students of the last school year before the data collection (1995-96) were examined. These records provided a number of personal, school and social characteristics, together with indicators of performance at school. Additionally, information for students, regarding their scores in the four subjects examined in the National Examinations, their average score in all the subjects combined, the department in which they gained a place and their order of entrance.

The statistical analysis which was carried out showed that, although inequalities in access to higher education have been considerably reduced in recent years, in the GAA, patterns of reproduction of social stratification still remains strong. There are always certain socio-economic groups, which are constantly excluded from higher education provision and certain occupations which are over-represented in certain Universities or University-faculties. At the same time, girls, while performing better than boys in school, lag behind them in the NE, and are placed in less prestigious higher education departments. It is argued that this system does not reinforce, or simply reproduce in a linear way inequalities, but operates as a legitimating factor for all the past and future social inequalities. Finally, by legitimising the current processes of selection, it conceals the fact that what counts as knowledge in any given society, school, or social site presupposes and constitutes specific power relations.

DECLARATION

I declare that no portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification, of this or any other University or other institute of learning.

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THE AUTHOR

After obtaining a Honour's Degree in Sociology from the **University of Crete** (Rethymnon, Greece) in 1993, Dionyssios Gouvias offered private tuition to secondary school students for almost a year. In 1995, he obtained an M.Ed. from **Manchester University, Faculty of Education**. In September 1995, he registered as a Ph.D. student in the **Research & Graduate School of the Faculty of Education, University of Manchester**.

He took part (during his undergraduate studies) in two research projects concerning the socio-economic transformation of certain regions in Greece, as a research assistant. He also participated in two Educational Conferences, one held in Athens (Greece), and one at the Birmingham University, School of Education, in 1996.

Last February (4/2/1998), he published an article in the 'Educational Policy Analysis Archives' (EPAA), a peer-reviewed electronic Journal, which is maintained by the American Educational Research Association (AERA), at the **Arizona State University** (the title was: *Comparative Issues of Selection in Europe: The Case of Greece*). A second article will be published in this September's issue of the 'British Journal of Sociology of Education' (Vol. 19, No. 3, 1998), under the title: *The relation between unequal access to higher education and labour market structure: the case of Greece*.

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Finally, I would like to dedicate this thesis to all those who dare to be 'different', in a world where conformity to standards is the rule, and caring, in a time when individualism, indifference and alienation prevail.

LIST OF ABBREVIATIONS

- DES:** Department of Education and Science (for England & Wales).
- GAA:** Greater Athens Area.
- GDP:** Gross Domestic Product
- HE:** Higher Education.
- HEFCE:** Higher Education Funding Council of England.
- IEK:** Greek abbreviation for the ‘Institutes of Vocational Training’.
- ILEA:** Inner London Education Authority.
- KEMME:** Greek acronym for the ‘Centre of Educational Studies and In-Service Training’.
- NCSR:** National Centre for Social Research (also referred to as *EKKE*).
- NE:** National Examinations.
- NSSG:** National Statistical Service of Greece (also referred to as *ESYE*).
- OECD:** Organisation of Economic Co-operation and Development.
- OEDB:** Greek acronym for the ‘Organisation for Publication of Textbooks’.
- OEEK:** Greek abbreviation for the ‘Organisation for Vocational Specialisation and Training’.
- PASOK:** Greek acronym for the ‘Panhellenic Socialist Movement’.
- SSFG:** State Scholarship Foundation of Greece.
- TEI:** Technological Education Institute.
- UNESCO:** United Nations’ Scientific and Cultural Organisation.

CHAPTER 1

INTRODUCTION

BACKGROUND

Greece has one of the most restricted higher education systems in Europe, not only because of the *numerous clausus* policy introduced by the State for the allocation of the University places, but also because of the lack of alternatives, that could seriously challenge the (state) Universities on the grounds of 'prestige', 'job security' and 'wage levels' that a University-degree holder can enjoy. The University-entrance examinations (*Genikes Exetasis*) constitute a highly selective procedure, taking place in just one day for each examined subject, and aiming at a prestigious place in the Greek Universities.

The changes that occurred during the last three decades in the educational system as a total, cannot - by any means - be considered as 'radical', or highly controversial. Their main characteristic was the gradual abolition of selection at the lower levels of the (public) educational system, and the introduction of new selective procedures at the end of the senior high school (*lyceum*). These changes were parallel to general reforms in the organisation of schools, and responded to: i) a climate of political freedom and democratic changes that favoured a more 'egalitarian' school structure, and ii) demands for alignment of the school functions with the needs of the developing Greek economy (i.e. the promotion and support of technical-vocational education, which have been neglected because of the highly selective examination system, and a dominant 'academic' curriculum).

As a result of those changes throughout the sixties and seventies there has been a 'growth' of popular demands for 'democratisation' of the system, from lower to higher grades. Thus, whereas in the past, winning a place in upper-secondary school had been considered a success, in the last decade there has been a strong public pressure for 'freer' access to Universities and other institutes of higher education. However, since the higher education places - given its 'free-of-charge' character, and the weakness of the Greek economy - were limited, Greece has experienced a situation where 'demand' exceeded 'supply'. This imbalance had - and still has - to be controlled by the system of National Examinations.

The most recent changes in these examinations were: a) in 1983 the introduction of a four-group examination system, according to which each candidate - in one of those four groups - had to be examined in four different subjects, and his/her overall score was the sum of each one of the examined subjects, plus his/her performance over the three years of the upper-secondary school, weighted according to time proximity (i.e. a higher weight was given to the third-year mean score, than to that of the first two years); b) in 1988, for the estimation of each candidate's final score (total points) his/her performance in the three years of the senior high-school ceased to be taken into account; thus, it was only the combined score in the four subjects that was counted as his/her performance indicator. The justification for that decision - as the government argued - was based on the effect that the examination process had hitherto on the curriculum and its (internal) assessment within the schools. However, the new system of selection has been accused of eliminating any incentive for a better school achievement, and of favouring the uncritical memorisation of the textbooks.

The University-entrance examination system became, undoubtedly, stricter than during the seventies and early-eighties - although far more egalitarian than the pre-seventies 'elitist' one - the number of entrees remaining at, more or less, the same level (see chapter 4).

Today, only a fraction of the candidates (18%, and if we include those gaining a place in the three-year Technological Education Institutes, the TEIs, around 35%) finally succeed in entering the Universities.

The most interesting aspect of this system is the strong social demand for higher education, which is linked to the considerable prestige that a University degree attaches to its holder. What I am most interested in is the study of the National Examination system as a complex system of selection and classification of students, and legitimation of the existing social hierarchies, as they are defined within the labour market structures and the corresponding 'outputs' of the higher education institutes. Thus, the selection process cannot be seen primarily as a reflection of class inequalities, but rather as a mechanism which generates quite different from the traditional, but still significantly strong social boundaries.

RESEARCH QUESTIONS AND HYPOTHESES

Taking previous research under consideration (Kasimati, 1991, Katsikas and Kavvadias, 1994, 1996; Kiridis, 1996; Polydorides, 1985, 1995a,b, 1996; Psacharopoulos and Papas, 1987, 1993) we conclude that a new attempt investigating the 'selection' character of the National Examination system should throw light on a number of unanswered questions:

1. Have the last changes (1983 and 1988) of the National Examinations' scoring-system contributed to a 'fairer' and more 'objective' system of higher-education selection? In other words, has the shift towards total reliance on the external assessment in one and only one day (three hours for each of the four subjects) decreased the inequalities nurtured by the school system?
2. What types of variables are more important in influencing graded performance, chances of access to higher education institutes and pattern of distribution across them? Has the family's socio-economic background retained its significance as an influencing factor in the chances of accessing higher education, and if not, in which 'routes of study' has its importance been diminished?
3. What is the role that TEIs have played in the allocation of higher-education places; have they offered an alternative path, or just reproduced the 'traditional' patterns of selection?
4. Are the TEIs still the hosts of low-achievers of high school, and if yes, are the patterns of inequality homogeneous among the various areas or the different disciplines?
5. What is the relationship between inequalities in access to higher education and the hierarchical division of knowledge, in a world of rapid technological developments?
6. What kind of new labour-market divisions - if any - correspond to the 'distribution' of the student population?

At the moment there seems to be no in depth empirical study - except some contributions in the theoretical debate - on the association between success in entering higher education and the pattern of allocation to the various disciplines according to individual background, the change in opportunities after the 1983 reform of the examination system, and the emerging picture of new 'prestigious' University departments - in contrast to the old ones - which attract progressively the 'elite' of the student population.

I hope that the present research on the selection role of the NE could throw light onto a number of aspects concerning the 'equalising' function of higher education, the problems of 'equal opportunities' in the Greek system, and the interconnection between educational policies, social demands and educational outcomes.

Keeping this in mind, I believe that certain variables need to be examined. Such variables would be 'gender', 'socio-economic and educational background' (parents' occupation and education), 'high school achievement', 'route of study', and 'type of University department' in which a place has been secured. I suspect that, even under the present system, which is claimed to offer equal opportunity for everyone through 'objective' National Examinations, there is a strong correspondence between the social background of students and their allocation to the various disciplines.

In addition, there are indications - such as the number of places available in different departments - revealing that a change in the hierarchical ordering of the professions is followed by a change in the social background of students in the corresponding disciplines (see also Polydorides, 1995a).

The allocation system operates in such a way that, the larger the number of preferences for a specific discipline and the higher the scores achieved, the more 'flexible' the system becomes by increasing the minimum score for entrance in that discipline. This is done in order to ensure the acceptance of so many students as the pre-determined quotas have defined. Thus, the selection system leads to a hierarchical ordering of the sub-levels, as well as the disciplines, of higher education, as a result of the large number of preferences which applicants may state in the application form.

Finally, and perhaps more importantly, the hierarchical ordering of the higher education institutes - something which affects and is affected by the labour-market structure - reveals a wider and decisive division of knowledge into 'higher' and 'lower'; knowledge that is worth-knowing and knowledge that is not. More specifically, a technocratic approach to knowledge is being progressively supported by formal schooling, and anything that is not easily measurable and quantifiable, is thought as 'unproductive' and 'useless'.

STRUCTURE OF THESIS

In the second chapter, a discussion on the theoretical debates and empirical research at international level is attempted. These debates are put into a historical context, research evidence is presented, and a preliminary evaluation of assessment methods used so far in education is attempted.¹ A link between assessment and selection is established, and a discussion on factors affecting school and examination achievement follows. At the end of the

¹ It must be said that, unfortunately, the discussion of the theoretical debates on assessment and selection heavily draws upon the developed Western countries' experiences.

chapter, the most influential - to the author - 'paradigms' are presented, and an explanation of the epistemological, as well as methodological, approaches to the research topic is offered.

In chapter 3, an extended reference to the educational structures of other European Union countries is made, and a sketch of the main selection pattern prevailing throughout the various levels is attempted. Then, a presentation of the main research findings and theoretical debates in the existing Greek bibliography is made. There is separate reference to debates on inequalities in schools (primary and secondary) and inequalities at the transitory point between secondary and tertiary education.

In chapter 4, a more extended reference to the evolution of the Greek school system (from 1964 onwards) and the changes in examination practices is attempted. Attention is paid to major educational reforms introduced during the last 30 years, and the most significant changes in curriculum content, pedagogic methods and, especially, examination arrangements is identified. In parallel, a critical review of introduced reforms is given, based on, either research findings, or a personal evaluation resulting from experience of various features of the system during the last 15 years.

In chapter 5, the structure of the school system is related to the main characteristics of the Greek job-market structure. Demographic and labour changes are highlighted, at national, as well as at local level (that is, the examined Greater Athens Area). Special attention is paid to occupational differentiation and unemployment levels. Additionally, a general comment on social stratification and educational inequalities in Athens is made. Finally, an examination of the connection between the requirements imposed by economic conditions on high-school or University graduates, and the status of certain disciplines (that is, certain higher education departments), are discussed.

Chapter 6 discusses a combination of general comments on school practices, system characteristics and analysis of statistical data referring to distribution of different social groups in higher education at national level. More specifically, the meaning of 'success' in Greek schools is elucidated, and the public image of the NE system as an objective judgement of the future performance of students is questioned. Then, the relative position of Greek higher education in a gradually 'integrated' Europe is outlined. Special reference is made to the very high rates of 'student emigration', and its underlying causes. Finally, by using national

statistics, some 'Indices of Educational Opportunities' are constructed, which illustrate the patterns of 'distribution' of students in the first year of their studies in various higher education institutes. The students are classified according to their parents' occupation and educational level (i.e., father's occupational category, and father's and mother's level of education achieved).

In chapter 7, the research methodology is outlined. More specifically, it is described how and why the specific sample was selected, and there is a general description of the stratification principles, as well as a more detailed description of the socio-economic characteristics of each one of the 'clusters' in which the total school population of the Greater Athens Area (GAA) was stratified. Then a presentation of the variables used in the statistical analysis is made. Special attention is paid on the problems associated with the classification of occupations, accompanied by a reference to international debates about class, occupational and wider social differentiation.

Chapter 8 aims to carry out the statistical analysis of the obtained data. By inserting SPSS-output tables and charts into the main text, a detailed analysis and commentary on the picture emerging from the statistics is attempted. First of all, a general picture of differentiation patterns is sought in order to assert if there are trends worth looking at. From the moment this is established, more sophisticated techniques and tests (multiple correlation analysis, linear and logistic regression models) are used to assess more accurately the strength of any relationships, and determine any possible causal links. In certain parts of this chapter, some elaborated statistical techniques are explained and - wherever possible - their underlying logic exposed.

Chapter 9 discusses and concludes the thesis. Initially, the most important variables, which influence school achievement, performance in NE and distribution patterns in higher education, are discussed and final conclusions about them are derived. Then, a short reference to recent educational reforms (only those directly related to selection for higher education) is made, their relation to already prevailing structures is discussed, and certain consequences (positive or negative) are highlighted. Finally, an overview of the thesis is carried out, and general patterns of selection and inequality are identified. Special reference is made to access and equality issues, on the one hand, and major implications for the hierarchisation of knowledge, on the other.

CHAPTER 2

EQUALITY OF OPPORTUNITY AND SELECTION

GENERAL FRAMEWORK

During the 1950s and 1960s, the study of education - until then dominated by the traditional 'individualistic' values of 'excellence' and 'merit' - became more closely associated to the social scientific approach. That is not surprising at all, if one considers the context of the education environment on a global scale, after the Second World War. All the disciplines included in the so-called social sciences domain (especially the sociology and psychology, and very often the economics as well) faced highly controversial problems concerning the consequences of the rapid growth in school enrolment rates which characterised most countries. The enrolment explosion at the secondary school level and the expanded admission to the University-preparing school as well as to the University itself has given rise to questions about the standard of the students processed through a system of mass education, as compared to an elitist one. In a selective system, by means of organisational differentiation at an early age children are allocated to different types of school, and also at an early stage of their school career, grouping practices are employed aimed at spotting those who are supposed to be particularly academically oriented.

Nevertheless, 'selection' is not - as it has been argued in the past - only about 'sorting out' the ablest or academically oriented pupils. At the same time it is a general social phenomenon, an indispensable aspect of the existence of human societies. From the employment of a job-candidate, to the election of a party-leader, selection procedures are always followed for the final choice. In that sense, not only is selection unavoidable, but it is also crucial for every social 'function'. Sociologists since Durkheim's age concluded that school contributes to the continuity of 'social balance', by transmitting to the new generations a certain amount of rules, principles and moral categories, which reflect the society's 'views' about what is good and bad, progressive and conservative etc. The controversy starts when one questions the legitimacy of those values and principles as serving specific interests of specific social 'groups', or 'classes', or 'layers'. In an ideal society, only the inherited abilities of an individual would define his/her position within the social system, and that could start from the very early stages

of his/her socialisation, including the school role. However, many factors other than the ability of the students influence their eventual educational experiences and attainments. These include differences in the level and quality of education available in the country, region, or community in which they live; differential access to educational facilities according to their social class status, religion, race and ethnic origins; differences in the willingness and abilities of their parents and others to provide the financial and psychological supports necessary for the maximisation of their potential talents.

THEORETICAL DEBATE ON THE RELATION BETWEEN ASSESSMENT AND SELECTION

Equal opportunities can be seen as: 1) equal life chances, 2) open competition for scarce opportunities, 3) equal cultivation of different capacities and 4) independence of educational attainment from gender, ethnic, language, social and other origins.

However, we could hardly ever argue that all the above dimensions of the notion of 'equal opportunities' were constantly taken under consideration in the policy-planning process of various European educational systems in the past.

In each country, there have developed different types of examination practices, at national or regional and local level, based on school or on external assessment, depending on the structural elements of each system, and on the relationship between education and society as a whole.

The move through the centuries, from the monastic discipline of the Middle Ages, to the refined and noble ideas of 'humanism' and 'cultivated spirit' during the Enlightenment, and then to the intensely competitive system of hierarchical organised instruction classes (initiated by the Jesuits in order to adapt their religious purposes to the progressively individualistic social climate of the Industrial Revolution) followed the patterns of the global societal changes. As Durkheim argued "it is no accident that competition becomes more lively and plays a more substantial role in society as the movement towards individualisation becomes more advanced" (Durkheim, 1956, p. 105).

Indeed, the 'industrialisation' of Western Europe, and the enormous expansion of trade on an international scale, influenced the educational systems, by 'injecting' into them a more

utilitarian set of values, and by making them more open to competition, which it was thought would enable the 'ablest' to prevail.

The unprecedented changes brought up by the Industrial Revolution had enormous economic, political and wider social effects. The great mass of people, rising from modest - though rarely very deep - poverty, and the even greater mass of those pressing below them out of the labouring poor into the middle classes, were too numerous to be absorbed. They recognised themselves increasingly as a 'middle class', and not merely as a 'middle rank' in society. They claimed rights and power as such; subsequently they were looking for better education for their children (see Hobsbawm, 1968, pp.79-96). Moreover, on clearly ideological grounds, liberal philosophers - like Adam Smith - from the 18th century had already been calling for reform in favour of the rising middle classes, and for selection by 'merit'. Thus, the most fair way to achieve it seemed to be the introduction of a widespread system of examination and certification, which would be monitored and controlled by various 'experts' bodies, at a local or national level.

In Britain for example, competitive examination systems had already existed - and eventually used as models - long before the government intervened at the end of the 19th century in favour of a mass-education enrolment program. Major sources of influence were, on the one hand, the Army and Civil Service Examinations - as a clear administrative device for the selection of the ablest military officers, civil servants and senior administrators - and, on the other hand, the demands of the prestigious professions, such as Medicine and Law, which were made apparent in their highly strict entrance examinations (Montgomery, 1965, pp. 31-33).

In other more centralised educational systems, such as those of Russia and France, any kind of school selection was - from very early - directly influenced and controlled by the State mechanism. In the former, the move from the Tsarist 'impenetrable polity' to the Bolshevic 'socialist' regime after the 1917 Revolution, ensured that political manipulation would remain the principal source of change, no matter how great the differences in social philosophy and political goals were (Archer, 1979, pp. 284-306). In the latter, the existence of a highly centralised bureaucracy from the time of Napoleon, not only offered the most prestigious professional opportunities, but also affected enormously the 'selection' practices, under a nationally homogenous system of organisation, supervision and certification; examination practices - as indeed most of the school practices - were "dictated by the *Baccalauréat*, circumscribed by the standardised curriculum and supervised by the *Conseil de l' Université* and the inspectorate". (ibid., p. 307)

Systematic criticism of the 'distortive' distinction between success and failure that the examinations produce, started very early in Europe, and it was reflecting functional, methodological and sociological concerns. (Ingenkamp, 1977) The target of that criticism was, mainly, the 'selection' aspect of examinations, and its 'side-effects' on the curriculum, the learning processes (i.e. promotion of uncritical memorisation) and the psychological development of each individual pupil (i.e. stress and confusion under a strong competitive environment).

As far as the curriculum was concerned, despite the widely accepted principle that the examination content should reflect the curriculum content, there have been numerous examples of the reverse happening in the past. It is true that the existence of 'subject groups' or 'branches of study', of the upper-secondary school in most of the European systems, reveals the 'dependence' of the curriculum on the examination requirements (Polydorides, 1990, p.87). In that sense, instead of having examinations assessing the (achievement on a given) curriculum, what happens is that the curriculum is 'adopted' to the specific requirements and limits that a certain assessment system imposes - usually as mandatory rules and guidelines.

In a few words, the advantages and disadvantages of the formal assessment systems (school-based or 'external'), as they have been identified by the international research community (see Broadfoot, 1979; Nutall, 1987; Gipps and Murphy, 1994) can be summarised as below:

Advantages

- elimination of lucky influences.
- adoption of different assessment procedures for different student potentials.
- homogeneity of practice, since the assessment is made according to common criteria.
- effective administration of procedures.
- smaller danger of confusion at school level.

Disadvantages

- lack of account of the internal school practices.
- very 'narrow' perception of the notion of 'adequate school achievement'.
- danger of prejudice against certain social and ethnic sub-groups.
- limited 'descriptive', and mainly 'interpretive' results, and therefore inadequacy on producing viable solutions.

In addition, there have been very strong arguments against the more extreme face of assessment: the standardised tests (SATs). As Wood points out, "the notion of the standardised tests as a way of offering impartial assessments is of course a powerful one, though if there is not equality of educational opportunity preceding the test, then the 'fairness' of this approach is called into question" (quoted in Gipps and Murphy, 1994, p. 15) One of the concerns expressed frequently by various researchers is that we are unlikely to know that we have provided equal opportunities until we get equal outcomes. But, if 'equal opportunities' relate to not putting obstacles in the way of particular groups, it does not follow necessarily that factors such as interest, diligence, relevant experience, socio-economic, cultural and linguistic environment will be equal among groups. In other words - and despite a lack of consensus - there seems to be a general understanding that formal 'equality of opportunity' is not sufficient to ensure fairness, neither that striving for 'equality of outcome' is sound, since "different groups may indeed have different qualities and abilities and certainly experiences" (Broadfoot and Murphy, 1994, p. 17).

It is these issues that often raise the problem of 'bias' and 'validity'. 'Bias' is generally taken to mean that "the assessment is unfair to one particular group or another" (ibid., p.18). Of course this very general definition does not necessarily object to the construction of the various standardised tests, but rather it stresses the unsuitability of some tests for specific measurements. In other words, differential performance on a test by different social groups, may not be the result of bias in assessment; it might have been caused by real differences in performance among groups, which may in turn be due to differing access to learning, or differing life experiences. If we accept that differences in interest and motivation are considered to be biasing factors, all tests or assessment methods may be said to have a certain amount of bias. This kind of dilemma was faced quite often in the past by the American policy makers, who, under the impetus of the 'affirmative action' of the last three decades, tried to manipulate test items and devise tests which favour blacks over whites (Goldstein, 1987). Certain problems were faced by their English counterparts, in the latter's attempts to deal with the increasingly controversial issue of 'adequately' - and at the same time 'fairly' - assessing the performance of ethnic minorities (Verma and Ashworth, 1986; ILEA, 1987; Mortimore *et al.*, 1988).

'Validity' is closely related to 'bias', although it has a more technical connotation. It is generally seen as the extent to which an assessment tool - usually standardised test - measures

what it claims to measure. In that sense we can easily have a test which, according to certain criteria ('criterion validation'), may be claimed to be 'valid', but at the same time it might be claimed inappropriate, or irrelevant, or meaningless, to a certain sub-group of test-takers (lack of 'content validity').

In general it should be said that, today, when there is on an international level a trend towards standardisation of assessment procedures we always need to keep something in mind one thing: differences in group performance may be due more to any of the environmental, psycho-social factors which impinge on groups of pupils, or considerably affect the content, administration and scoring of tests, rather than to any kind of hereditary ability.

FACTORS AFFECTING SCHOOL AND EXAMINATION ACHIEVEMENT

Apart from the considerations in inequalities in assessment practices, it should not be forgotten that selection is derived and defined by - and within - the wider social and subsequently educational system. The structure of the system, the constraints imposed by various social factors (labour market demands, interest groups, financial hardship, policy directives etc.) and the curriculum framework itself, have to be taken into consideration, if we seek to give satisfying answers to the questions of *who*, *why*, *when* and *how*, is selected. For example, it is beyond any doubt that the above questions will not generate the same answers when we examine the more de-centralised, 'flexible' and multi-directional structure of the Dutch secondary school, on the one hand, and the highly centralised, relatively 'monolithic' and uni-directional Greek system, on the other hand. It is of no use to claim 'superiority' of one system over another, especially before we define which factors play the most significant role in these systems, and - most importantly - before we accept a set of principles according to which we will make our judgement.

The focus on the most important factors for educational achievement has been widely influenced by large-scale research programs carried out in the 1960s and 1970s, and linked to general policy-making processes taking place throughout the Western World toward the reduction of 'inequalities' in the educational provision. The introduction of 'affirmative-action' programs in the USA, the movement towards 'comprehensive' secondary schools in Britain and the Benelux countries, and the strengthening of the 'dual' system (academic \neq vocational)

in the Federal Republic of Germany, are only a few of the examples highlighting the dimensions of the public debate at that time.

The debate on the inequalities of educational opportunities (in 'access' or 'outcome') is highly influenced by different theoretical perspectives and ideological standpoints.

The controversies derived from this debate are caused mainly by the fact that, very often, social phenomena are investigated, analysed and 'explained' under a deterministic model, which distinguishes between 'cause' and 'outcome'. Therefore, the presentation of theories that attempt to explain the 'differences' in access, treatment or achievement in school, should be regarded, not just as a result of an historical mixture of various theoretical and methodological principles, but also as a highly elaborated reflection of certain political goals.

1. Genetic origins of intelligence.

According to this group of theories, 'intelligence' and intelligence differences are - totally or mainly - biologically 'inherited', rather than socially determined factors which affect school achievement. The influence of the social environment is limited only to the extent to which it can handicap a 'bright' child who may not - under these external pressures - be able to perform according to his/her potential. At the same time, even a very favourable and resource-rich environment cannot overcome the pre-existed biological qualities of a child (see Jensen, 1969 ; Hernstein, 1973).

The concepts of IQ ('intelligence quotient') and IQ tests have been based on this kind of beliefs, but they were developed before rather than following a coherent theory of intelligence. In 1905 Binet, a French psychologist, published the first intelligence test which was for identifying children with special educational needs. Theoretical developments generated the concept of 'general intelligence', a cognitive quality which those tests were then assumed to measure.

However, we should not forget that Binet and other supporters of the IQ tests, initially, tried to identify those children whose poor performance in school suggested the need for special education. Beyond this Binet "did not define the meaning of the score he assigned to each child, nor did he give any theoretical interpretation to his scale of intelligence" (Gipps and Murphy, 1994, p. 67). The score in that scale was an empirical guide for a specific practical purpose, and Binet "was careful to make clear that the figure should not be given more credence than this since it was unwarranted and dangerous" (ibid.).

Although Binet is often referred to as the father of IQ testing, others who believed in a single underlying general ability, which could be measured on a scale, took the process a stage further. Among them, William Stern, a German psychologist, divided mental age by chronological age, multiplied by 100 and rounded off; the result was the 'intelligence quotient', and the IQ score was born.

The IQ tests were mostly developed in the USA and Britain, and have been continuously used from the second decade of the 20th century onwards, but mainly after World War II (see Burt, 1966; Jensen, 1969; Bagley, 1971; Eysenc, 1971; Vernon, 1975). They were used in intelligence measurement, not only in Western countries, but also in a number of international, intercultural studies (Irvine, 1966; Jahoda, 1966; Cole *et al.*, 1971 etc.), for different purposes, and each time with different types of implementation problems, concerning their validity, reliability and wider social implications.

Most severe was the criticism raised against IQ testing when it was used for the justification and legitimisation of politically motivated policies. For example, the widespread sterilisation of low IQ women and girls in the USA between 1924 and 1972, attracted a wave of criticism at a national and international level. In addition, the Nazis' atrocities before and during the World War II made the hereditarian and IQ arguments weaker. Studies reviewed in the mid-1940s indicated that, not only was measured IQ not constant as was generally believed at the time, but also that IQ development was closely related to factors in the social environment (Husen, 1975).

It has been argued that under the 'objective' cover of IQ tests there are a number of underlying assumptions that cause the unsuitability of these tests for measuring different social groups (Jencks, 1972; Vernon, 1975). One of the major assumptions is that those being tested have common experiences. The second assumption is that such tests sample 'intelligent behaviour', that is they cover only certain domains considered as the most important.

There has been, however, a much greater degree of sensitivity on this aspect of intelligence testing, from the 1960s onwards. Progressively psychologists and geneticists attempted to get away from the notion of intelligence as a definite entity and stressed the fact that intelligence structuring depend - in a much greater extent than it had been hitherto supposed - on various motivational factors, social drives, curiosity and interests which are channelled by family, cultural and educational pressures.

Subsequent research on the innate inferiority of children from certain racial and/or ethnic backgrounds showed that: 1) the relationship between IQ and genetic origin falls considerably

when other environmental variables are controlled (Bagley, 1971 and 1975) ; 2) some times the findings of research studies on IQ may be heavily influenced by the socio-economic background and personal experiences of the researchers themselves, so that they tend to be highly biased in cultural terms (Vernon, 1975, pp. 11-12; Bagley, 1975, pp. 36-37); 3) generalisations about differences in IQ scores made on the basis of standardised intelligence tests “may obscure some factors which many children share in their intelligent behaviour and which they possess at much more equal levels than is implied by IQ scores” (Bagley, 1975, p. 41).

2. Social factors affecting achievement.

I) *Traditional approach*

The key assumption that governs the traditional perspective is that education plays a fundamental role in maintaining the existing society (Parsons, 1959). Given their basic concern with consensus and stability, the traditional approaches accept the dominant societal values and norms, and are interested primarily in how they are actually taught in schools. Schools are places where students learn ‘valuable’ societal norms and skills they could not learn within the confines of the family.

Students get defined in reductionist behavioural terms, and learning is reduced to the transmission of predefined knowledge. Needless to say, knowledge is considered as ‘universal’ and ‘transmittable’, and assessment appears to be an ‘objective’ process beyond the somewhat questionable imperatives of capital and its underlying logic of class, race and gender discrimination. Students’ achievement is measured according to pre-determined criteria, and is mainly influenced by personal aspirations, values, potentials and targets.

II) *Liberal approaches and the ‘new’ sociology of education.*

Although the sociologists mapped out new unexplored areas by using terms such as ‘social class’, ‘occupational structure’, ‘family background’ etc., most of the approaches in the sociology of education - mainly in the Anglo-Saxon world - followed a somehow functionalist methodology, even when the theoretical perspective was ‘radical’. Functionalist theory, which has been the perspective of the majority of sociologists in the USA, presupposes at a very

general level an agreed set of societal values which define both the selection and organisation of knowledge in curriculum.

These 'agreed' principles on what is counted as 'valid' knowledge, and how this knowledge should be transmitted have come to be questioned, especially during the 1970s. By and large, the macro-sociological approaches, whatever their political and ideological correlates, had proved inadequate to the task of answering the above questions and explaining differential academic achievement.

In parallel to suggestions that "sociological investigation is essentially a topic of sociological enquiry" and that it is time to appreciate the ways in which "the problematic relationship between knowing rules and following them operates in the case of sociological practice" (Bloom, 1971, p. 129), new interpretive approaches focused directly on the internal operations of the schools themselves. M. Young, for example, stressed the "almost total neglect by sociologists of how knowledge is selected, organised and assessed in educational institutions" (Young, 1971, p. 19) and offered some useful insights about the ways the social environment as a whole imposes specific requirements on the content, transmission and evaluation of knowledge, as this is mirrored in the officially taught curriculum. He also posed questions about the 'neutrality' of the stratification of knowledge, and introduced the concepts of 'prestige' and 'property' as being basic components of stratification; the former is linked to the increasing differentiation of knowledge as a necessary condition for some groups to legitimise 'their knowledge' as superior or of high value, while the latter refers to the notion of 'ownership', of 'private property', property shared by "particular groups, or communally available on the analogy of 'common land'" (ibid., p.32).

The problem of classroom interaction has excited other British sociologists who used data from empirical research at school level. Keddie's study (1971) involved the systematic observation of teachers-pupils interaction within the classroom, and cast as problematic what counts as knowledge and ability, by using Becker's (1952) concept of the 'ideal pupil', she depicted the contradiction between doctrine and commitment, theory and practice, educationist and teacher. More specifically, she claimed that a teacher as an educationist may vigorously believe that ability is not an inherent, biological characteristic of each pupil. Therefore she will oppose any suggestion for introduction of *streaming* practices. At the same time, as a classroom teacher, she may act in a completely different way by categorising pupils into different ability-groups, that is by labelling them according to the presupposed concept of the 'normal pupil'. In other words, "although the teacher may be the same person in both contexts,

what he 'knows' as an educationist about pupils may not be that which he as teacher 'knows' about them" (Keddie, 1971, p. 139).

The above approaches, although they provided invaluable tools, especially towards the 'uncovering' of the 'hidden curriculum' of schools, have been criticised that they excluded the mediation of class from their analysis of 'hidden curriculum'. In this way, they tended to disregard that any kind of school discrimination (e.g., gender discrimination) "may have a material power base outside the schools, and that the resolution of such discrimination may be more than a ideological problem" (Giroux, 1983, p. 52). Moreover, "the one-sided emphasis on consciousness and the production of classroom meaning in the liberal approach exists at the expense of developing criteria by which to judge the adequacy of contradictory knowledge claims" (ibid., p. 55).

III) *Radical theories*

These approaches stress, above all, the limits that certain social characteristics place upon the opportunities that each pupil has in his/her way through formal schooling.

Factors such as gender, sibship size, birth order, parents' occupation and education, geographical location of family house or school building, school resources etc., were seen as playing the most significant role in the formation of the learning environment of each child, and affecting her/his achievement.

Progressively, a shift has been achieved from the traditional notion of the 'meritocratic' school, of the education for the few and 'most talented', towards a better understanding of the socially determined conditions of learning. The debate produced, especially in the 1960s and 1970s, questions about the neutral role of school in a given social context.

The Marxist tradition stressed the role of school as a mechanism of social reproduction, through which the capitalist system transmits those norms and values necessary for its existence. Marx's claim that education in a capitalist society is a 'tool' of ruling class interests has been of immense importance in that it drew attention to the relation between the interests of economically dominant groups and the prevailing ideas of education as 'good' or 'worthwhile' in itself. Gramsci (the Italian Marxist) in the inter-war period was among the first who were specifically concerned with education, and introduced the notion of 'cultural hegemony', in which he saw an attempt of the ruling class to impose its beliefs and values through the school curriculum. This hegemony does not simply refer to the content found, for

instance, in the formal curriculum of schools. It also refers to how such knowledge is structured and points to the notion of social structures as “natural configurations which both embody and sustain forms of ideological hegemony” (Giroux, 1983, p. 197).

A really notable impetus to the Marxist analysis of education was given by new contributions, not only at theoretical, but at empirical level as well. The vocabulary of the so-called ‘radical theorists’ became more sophisticated, as well as their methods of enquiry. Some of them (Williams, 1957; Anderson, 1968) emphasised the content of education, and especially of curriculum, suggesting that curricular changes have reflected the relative power of the different groups over the last hundred years. Others adopted a ‘holistic’ view of the social structure and assigned to the formal education the role of an ideological mechanism of the capitalist State (Althusser, 1971).

Following the same tradition, but at the same time deeply influenced by M. Weber’s ideas, Bowles and Gintis (1972, 1975, 1976), Jenks (1972) and Carnoy and Levin (1976) stressed the barriers that the labour-market structure and the status of various occupations erect against any attempt for high class mobility that could be caused by better schooling. They concluded that way the inevitability of the preservation of the educational inequalities as long as the ‘hierarchical division of labour’ remains unaltered.

What radical theorists have been accused of in the past was that “active agents disappear in their accounts, reduced to passive role bearers and products of wider social processes” there are not any “detailed studies of either racial oppression or gender discrimination” and “most of them stress social and cultural domination, while almost completely ignoring theories of cultural production and political struggle” (Giroux, 1983, pp. 59-60).

IV) Communication codes and educational inequalities

Most influential in the shift of attention towards more elaborated channels of cultural transmission than ‘values differences’ and ‘class interests’, is B. Bernstein’s work on the communication codes existing in a given social setting and, subsequently, in a given school environment. Bernstein’s explorations of the social basis of language, and his valuable contribution to the conceptual framework of the modern educational research (concepts of ‘code’, ‘classification’ and ‘framing’ of knowledge) have been imaginative. Despite the empirical difficulties in formulating the problem of the inequalities in ‘educability’, he has offered a useful theoretical tool for the description of a confrontation between a) the school’s

universalistic orders of meaning and the social relationships which generate them, and b) the particularistic orders of meaning and the social relationships which generate them, which the child brings with him to the school (Bernstein, 1970, p. 346). In addition to the above suggestions, he later (1977) concluded - based on recent research evidences in infant schools - that 'open-classroom' curricular and pedagogical arrangements reflect the life situation of a particular social group: the new middle class. By contrasting the 'visible' and 'invisible' pedagogies, he saw in the latter the 'natural expression' of a style of life that characterises - or is more familiar to - those children with a middle class background (Bernstein, 1977, pp. 116-145). These differences are not by any means 'innocent', in the sense that they denote a disadvantage of the working class children in realising the rules of the classroom environment, and subsequently of the dominant reward system. Using, at the same time, the concepts of 'classification' and 'framing' - concepts that both encompass elements of power and control - as his point of departure, he progressively stressed the class divisions within the school system, and accepted this way that strong 'classification' (boundary maintenance between contents) and 'framing' (degree of control over selection, organisation and timing of transmission of knowledge) do not refer only to school, but generally to class relationships (the term 'class' has a broader meaning than a mere reflection of 'economic' power).

Bernstein's work attempted to correspond the social relations of production to the social relations of classroom, in a period when there was, as he himself observed, "a very imprecise specification of what is called a new middle class" (Bernstein, 1977, p. 16). When later on Bernstein (1990) focused his analysis on the formation and the characteristics of this 'new middle class', his theoretical apparatus became more grounded in 'cultural reproduction' (see Atkinson *et al.*, 1995). By making the distinction between 'class structure' (objective position in a given socio-economic system) and 'class formation' (a complex of interactions between legal and governmental practices, development of social movements, relationship among class, race and gender, alliances, struggles, and so forth), he challenged a number of suppositions that lay behind some of his earliest approaches in the sociology of education. That way, he elaborated a theoretical framework which shifts the attention from the 'class location' as the most important factor of social position, to the growth of the multiple positions associated with postmodernism and poststructuralism.

V) The theory of 'cultural capital' and 'cultural reproduction'.

The growing interest in the 1970s on the 'new' sociology of education, as it has been suggested, reflects "the closer proximity of British sociologists to their German and French colleagues and in part their relatively greater philosophical sophistication in comparison to American sociologists" (Karabel and Halsey, 1977, p.48). The distance between the American 'functionalistic' approaches in the sociological research and the more 'interpretive' European approaches proved to be a decisive factor in the development of the so-called 'new sociology of education', since mainly European theorists and researchers identified themselves with the sociology of knowledge. Under the perspective of examining the process of cultural transmission, certain theories have been formed in the continental Europe, having as a goal to throw light on the processes that link social reproduction to the transmission of knowledge.

In Germany, for example, F. Ringer drew upon Max Weber's distinction between 'class' and 'status' with respect to higher education. By making extensive reference to the different social status of the educated groups in 19th century Germany - which had not been for most part of that century the federal entity we all are familiar with - he pointed out the very restricted access opportunities that 'outsiders' had to occupy a place in the higher elite, which was constituted by higher officials, secondary school teachers, judges, lawyers, doctors and University professors. He argued that the continuance of a unique group at the top of the social pyramid with a characteristic set of values that controlled for a large period of time the admission of 'new members' - predominantly through self-recruitment - was an illuminating example of the process of transmission and reproduction of 'cultural capital' (in Karabel and Halsey, 1977, chap. 31).

In France a very systematic attempt to trace the cultural sources of school inequalities, and to avoid the economic determinism of earlier 'radical' theories, was made possible thanks to the work of Bourdieu and Passeron. In their books, *Les Héritiers* (1964) and *La reproduction* (1970), they claimed it is the cultural rather than the economic inequalities that are reflected in the inequalities of access and achievement. In these two books, the concepts of 'social ethos' (*habitus*), 'cultural capital' and 'cultural reproduction' were the key elements of their analysis.

By examining data concerning the numbers of those entering in the various (French) Universities, the representation of different class groups in the various scientific disciplines, and

the effects of their 'cultural capital' and *habitus*¹ upon their achievements and future opportunities, they derived the conclusion that "the economic barriers are not sufficient by themselves to explain the big differences in 'school mortality' of the offspring of various socio-economic groups" (as cited in Milonas, 1984, p. 219). According to their perspective, attributing school inequalities only to economic disparities is what preserves and reinforces the dominant structure of social relations, since it implies that if, for example, some poor families improve their financial situation, or a system of generous financial support for working class pupils (i.e. studentships, grants) is introduced, then simultaneously all those mechanisms that cause the exclusion of the lower parts of the social strata will disappear at once (ibid., p. 220-222).

What is going on in the school is a very 'sophisticated' process of reproduction of the social inequalities through an 'exchange' of different - or differentiated - types of *habitus* and 'cultural capital'. The most 'favoured' social groups seek the legitimisation of their power by presenting their cultural privileges as personal merits and values. Through this reproduction of cultural inequalities, the objective interests (materialistic or symbolic) of the Establishment are reproduced too. In this way the social hierarchies are transformed into academic hierarchies and, as a result, educational systems fulfil a function of legitimisation that is more and more necessary to the perpetuation of the social order, especially in societies with a complex division of labour (Milonas, 1984, pp. 224-228; also in Karabel and Halsey, 1977, chap. 29).

In his own work about the relation between education systems and class cultures, Bourdieu - who apart from education, has published widely on the sociology of culture and art - referred to the 'unconscious' processes through which the dominant culture seeks to create those common and implicit axiomatics of understanding that form the basis for the logical integration of a society (see Bourdieu, 1984, 1990a,b). According to his ideas of 'cultural transmission' - and this is very important in everyone interested in the assessment and selection aspects of modern schooling - the school is a fundamental factor in the creation of a 'cultural consensus', in as far as it represents the sharing of a common sense which is the prerequisite for communication.

He - as Bernstein himself did - interpreted the concept of the 'code', as that common corpus of patterns of thought that enables all those possessing it to attach the same meaning to the same types of behaviour and the same works (the only difference between them, one might

¹ *Habitus* refers to a kind of disposition, by far not biologically inherited, but rather socially, and most of all culturally 'implanted'. In other words, it is a source of habits, orientations, values, aesthetic qualities and action strategies, that differ in time, place and (social) situation in which every action takes place.

argue, is that Bernstein placed more attention on the linguistic part of the communication codes, whereas Bourdieu included in his interpretation a whole collection of commonplaces, covering not only common speech and language forms, but also areas of encounter and agreement, common problems and common perceptions of the world). In addition Bourdieu stressed the reproductive implications, not only of the cultural differences - which are self evident - but of the aforementioned 'commonalities' too. More specifically, the order of exposition that the school imposes on the culture transmitted tends to gain acceptance, as being absolutely necessary, from those acquiring the culture through that order, but since this acquisition is indissolubly associated with the culture acquired, and because each individual's relationship with his culture bears the stamp of the conditions in which he acquired it, certain categories (social groups) will be ruled out from specific types of knowledge and specific social roles.

VI) 'Critical Theory' and post-modern theories in Education.

Rejecting the definition and role of culture found in both traditional sociological accounts and orthodox Marxist theory, the theoreticians of the 'Frankfurt School' (Adorno, Habermas, Horkheimer, Marcuse) have been noteworthy in developing a view of culture that assigned it a key place in the development of historical experience and everyday life. Within the Frankfurt School perspective, the role of culture in Western societies had been modified so as to be dominated by the so-called 'positivist rationality' (Adorno and Horkheimer, 1972), which expanded its influence to "spheres outside of the locus of economic production" (Giroux, 1983, p. 23). Thus mass-cultural institutions, such as schools, began to emerge and "took on a new role in the first half of the 20th century as both a determinant and fundamental component of social consciousness" (ibid.).

Unlike traditional and liberal accounts of schooling, with their emphasis on historical discontinuities and historical development, critical theory, as Giroux argued (1983), stresses the 'breaks' and 'tensions' in history, highlights the centrality of human agency and reveals to educators the "gap between society as it presently exists and society as it might be" (p. 36).

From this tradition of 'critical theory', originates the 'postmodern' movement. Although the eclectic concept of 'postmodernism' (or 'poststructuralism') was born in the 1950s and 1960s, mainly as cultural critiques of modernist forms of art, in favour of heterogeneity of styles, it soon became a wider theoretical movement which rejected structuralist explanations of society

(e.g. a social formation dominated by the capitalist mode of production, or patriarchy) and claimed the emergence of a multiplicity of power sites (see Cole and Hill, 1995, p. 166).

As Patti Lather put it, “the essence of the postmodern argument is that the dualism which continues to dominate Western thought ...” (such as social class) “.. is inadequate for understanding a world of multiple causes and effects interacting in complex and non-linear ways, all of which are rooted in a limitless array of historical and cultural specificities” (Lather, 1991, p. 21).

The starting point in linking the postmodernists claims to the role education plays in the contemporary societies, is their perception of knowledge and of the ways this is transmitted. As Lyotard - the French postmodernist philosopher who rejected any notions of overarching theories which can explain major changes in thinking or societies - claimed, knowledge is a question of competence that goes beyond the simple determination and application of the criterion of truth, extending to the “determination and application of criteria of efficiency (technical qualification), of justice and/or happiness(ethical wisdom), of the beauty of a sound or colour (auditory and visual sensibility) etc.” (Lyotard, 1984, p. 18). The distinct attribute of the knowledge transmission in postmodern societies (he obviously referred to the Western, industrialized and technologically advanced societies) in contrast to the ‘scientific’ construction of knowledge that characterised these societies, especially from the 19th century onwards, is that whereas the latter was - among other properties - based on its ‘verifiability’ and its ‘openness’ to new challenges, the postmodern knowledge, as it is transmitted through the various educational institutions, is affected by the ‘performativity’ criterion. In other words, the scientific rule “as long as I can produce proof it is permissible to think that reality is the way I say it is”, is being currently challenged by the rule “(valuable) knowledge must be considered only what can be applied and measured according to predetermined performativity criteria” (ibid., pp. 47-53). This creates a need for experts (that is, high and middle management executives, computer scientists, cyberneticists, linguists, mathematicians etc.) whom the educational institutions are called on to train. Outside the Universities, departments, or institutions with a professional orientation, knowledge will “no longer be transmitted *en block*, once and for all...rather it will be served *à la carte* to adults...for the purpose of improving their skills and chances of promotion” (ibid., p. 49).

Contemporary postmodernist theorists (Donald, Kenway, Giroux, Aronowitz, McLaren) diagnosed in education what - according to their view - prevails in the rest of the social environment: fragmentation, heterogeneity, end of mass control and lack of uniformity. Some

of them - given such a general social 'diagnosis' - resented any kind of emancipatory function of education, while others (Giroux, 1983 and 1992) stressed the new discourse that postmodernism provides educators with. In this attempt, what the postmodernism offers is the rejection of the model of a single group of 'oppressors' or 'oppressed', and the introduction of a model in which each one - depending on the 'context' s/he deals with - is defined as a single identity, and the domination becomes a 'matrix of domination' that makes certain dimensions relevant for particular individuals in particular struggles. In this way, as Giroux claimed (1992), any kind of systematic exclusion, selection, inequality and injustice should be dealt with in person, and students should be able "to create their own contexts" and "should be given the opportunity to engage in systematic analyses of the ways in which the dominant culture creates borders..." (p. 33).

VII) *The deschooling movement*

The most extremist movement against formal schooling and all its negative effects on the individual's freedom, has been the 'deschooling' movement. Radical thinkers and educators such as Illich, Freire, Goodman, Holt, Dennison and many others, - usually after a long time spent in a wide range of non-formal educational activities in deprived areas of western as well as Latin-american countries - suggested that formal education is a kind of indoctrination to a number of pre-determined and socially imposed values, goals, skills and methods of learning that are used to assign social roles. Curriculum and pedagogical methods in modern societies - including the developing countries around the globe which struggle to catch up with the technologically advanced western world - takes "the form of a ritual, of sequential sacred ordinations" and certification constitutes "a form of market manipulation" (Illich, 1971, pp. 19 and 22). According to the 'deschoolers', schools are much more like shopping malls where the curriculum is sold as 'a bundle of goods made according to the same process and having the same structure as other merchandise', and the role of the teacher is to 'deliver the finished product to the consumer-pupil' (ibid., p. 46).

They claim that most learning happens casually, and not as a result of programmed instruction and sequential schooling. As Freire said, any adult can begin to read in a considerably small amount of time, as long as s/he encounters situations charged with political meaning, and gets involved in meaningful discussion of various 'key words' that arouse social awareness (see Freire, 1970 and 1973).

Although the ‘deschooling’ movement, since the 70s, has had a notable effect on the proliferation of new, more child-centred - or learning-centred - methods of teaching and on the development of curriculum material more sensitive to problems of relevance with the social experience of the learners, at the same time it lacked the theoretical and epistemological ‘armoury’ to challenge the advantages of formal schooling in a rapidly changing world. Moreover, being themselves - at least most of them, like Illich - the ‘products’ of that formal schooling they were accusing, they often made contradictory statements. For example, Illich (1971) sounded, on the one hand, nihilistic, by recognising no liberating effects of the schooling, and therefore calling for the disestablishment of schools, and, on the other hand, moderate when he admitted that the strongly motivated student may benefit from the traditional way of teaching, and that there are many skills which can be mastered easily “if taught in this traditional way” (p. 20). Additionally, they seemed unable to question basic assumptions of the given social reality, such as when they questioned the term ‘necessary education’, but leave aside the issue of the reproduction requirements imposed by the current (capitalist) mode of production; or when they criticised obligatory schooling, and did not provide any feasible (alternative) solution for someone to meet the living standards in a ‘monetarised’, highly competitive and increasingly volatile labour market (a picture tending to be common to an increasing number of countries, due to the global accumulation of capital).

VIII) *Rational Action Theory*

Rational Action Theory was originally applied in the education context by Boudon (1974) as “an alternative to culturalist explanations of the ‘secondary’ effects of social class” (Hatcher, 1998, p. 10). A more elaborate theoretical model, however, was proposed by Erikson and Jonson (1996) and Goldthorpe (1996).

Erikson and Jonson (1996) rejected the view that differences in attainment can be explained by class differences in the values attached to education. For them, parental cultural capital is crucial for the probabilities of pupils to succeed - at least in primary and secondary levels. Since some parents - usually the ‘middle-class’ ones - are in a better position to assess their offspring’s potentials and are more effective in helping them with school work, actual probabilities for success are higher for them. This notion of better ‘positioning’ of some pupils in comparison to some others is therefore relative to what Bourdieu and Passeron (1977) argued about the power of cultural capital. However, it should be noted that Erikson and

Jonson (1996) paid more attention on the importance of rational decision-making and social networking rather than on the overtly implicit and often unconscious mechanisms of social reproduction.

Goldthorpe (1996) paid more attention to the relative cost-benefit balances for different classes. He viewed education as an investment good and argued that families with less advantaged class position and less ambitious for future education prospects of their offspring (the 'wage-earning working class' as opposed to the 'salaried service class'), education options would maintain class stability, while still providing the chance of some upward mobility. Because "the consequences of a failed attempt" would be more serious for working class parents, at the key transition points (e.g., after completing secondary schooling) they "are more likely to choose the less ambitious option than the middle class" (Hatcher, 1998, p. 11).

Critiques of the Rational Action Theory argued that "RAT has no conception of a multiplicity of historically-constructed social identities" and it "counterposes rational choice to culture, rather than seeing it as one element in a culturally-shaped repertoire" (Hatcher, 1998, p. 16). Moreover, the RAT proponents incorrectly identify educational calculations as being the outcome of 'rational choice', because these calculations are often inevitably 'irrational', in that "they are based on insufficient and/or inaccurate information" (ibid., p. 17). Finally, RAT tends to disregard choices which are based not on any 'rational principle', but only - or partly - on irrational aspirations.

This last observation is especially important for the Greek case, where decisions about higher education studies have been made so far - usually by the less advantaged strata - mainly on the basis of the 'symbolic' meaning of a higher degree, and its almost 'fetishistic' identification with social status and a more 'respectful' life. If, additionally, we take into account the difficulties in drawing up boundaries between 'middle class' and 'working class' in the Greek social context (see chapter 7 for more details), it can be said that RAT is an insufficient exploratory and explanatory tool for - at least - educational decision-making in Greece. However, with recent changes in the labour market - especially regarding the unemployment rates of certain occupations - and the structure of the educational system itself, we might derive that RAT could be proved very useful in analysing access patterns and corresponding inequalities in the future.

SCIENTIFIC 'PARADIGMS' MOST INFLUENTIAL TO THE THESIS' AIMS

My main approach to society as a whole, and the education 'system' (I do not generally employ the 'Parsonian' meaning here) is one that emphasises the complexity of 'interests', 'power relations' and 'negotiation mechanisms', through an indefinite process of interactions, changes - in quality and in quantity. My view of education has been influenced by :

- a) Theories of structural interaction, either in a neo-marxist form (Althusser, 1972; Poulantzas, 1973), or in the form of more 'typological' analyses of the educational system (Hopper, 1968; Archer, 1979), which perceive education as a system of interdependent power 'blocks'. Especially the work of Margaret Archer, *Social Origins of the Educational Systems* (1979) has been very influential on me, because it gives a detailed insight into the way various types of educational systems (centralised or not) operate, and how these reflect, in a way, the existing balance of power not only in purely educational but also in generally social grounds. However, we should be very cautious when we apply these theoretical concepts, especially in the case of certain social formations - as the Greek one - which have been characterised by a model of 'dependent development', and in which the non-correspondence of the capitalist mode of production to the pre-existed social structures, has been evident (see Tsoukalas, 1977; Mouzelis, 1978). In other words, reducing real group structures to an aggregation of isolated individuals suppressed by the 'dominant' mode of production (e.g. the social-stratification approach of Althusser), entails the danger not only of dismissing altogether the possibility that in certain types of society political cleavages are closely linked with developments in the religious, ethnic, cast or patronage spheres, but also of neglecting to answer questions about the transitional periods and the developmental processes that have been witnessed in the evolution of the examined systems throughout the centuries.² Therefore, these theories can help us to put education 'in context', rather than discover the 'content'; to generally 'describe' what is going and (sometimes) by whom, rather than discern how it is done, or what should be done.

² M. Archer (1979), in her analysis of the 'collective interests' in the social and educational systems, succeeded in not being either over-deterministic in the structural models she proposed, or a supporter of 'atheoretical' empiricist approaches.

- b) 'Conflict' theories (Williams, 1957; Anderson, 1968; Bowles and Gintis, 1972, 1975 and 1976; Carnoy and Levin, 1976;) which show that the educational system is a crucial element in the reproduction of the division of labour. Although the concept of the 'capitalist class' has been repeatedly contested, especially in the last two decades when an unprecedented wave of technological development and structural economic changes made the definition of clear-cut class boundaries difficult, numerous empirical studies have shown the persistent patterns of social reproduction across the globe. For example, the Coleman Report (1966) showed clearly that any nationally set up 'equalising programme' can not remedy the prevailing inequalities of the society as a whole. I believe that even when schools on the base of individual IQ scores - the flagship of the 'meritocrats' around the world, and subsequently the main argument of the socio-economic power-elites - treat students of varying social origins differently, reinforce those class-based personality traits that, much more than cognitive differences, explain why the children of the privileged tend to occupy the higher positions in the social division of labour.
- c) Theories of 'cultural reproduction' and works on ideological and cultural domination have also been very influential in my approach on issues surrounding the specific research topic. Notions such as 'cultural capital', 'systems of meaning', 'social competencies', 'social styles' and 'group dispositions' (Bourdieu), have proved of immense importance in analysing the 'map of inequalities' existed in the Greek - and indeed in any - educational system.
- d) 'Critical Theory' and certain post-modern approaches to education - which are not by any means contradictory to theories of cultural reproduction - helped me to avoid the 'trap' of economic, ideological, or cultural determinism, and to stand critical against perceptions which place emphasis on the overwhelming and one-sided nature of mass culture as a dominating force. The subsequent examination of the Greek educational system, as well as the statistical analysis of data, will show how unsound, trivial and obsolete - in theoretical, epistemological and methodological terms - such an approach would be.

It is true that, apart from theoretical tools necessary to understand the interaction between social context and educational system in a macro-level - which presupposes an 'abstract' way of thinking - it is also important to perceive education in a more 'pragmatic', 'descriptive' and policy-focused framework. In other words, I do not believe that knowledge is objective and tangible, and the researcher is required to take an observer role, using the methods of the natural science. It is also true that research in the post-war years - primarily concerned with the structural problem of the relation between the educational system and the system of social stratification - has had little to say about the content of education, and the relation between educational policies, curriculum design and pedagogical methods.

However, this is not the case in the approaches mentioned above - at least for those contributions that influenced my research - despite the criticism by some of the proponents of the so-called 'new sociology of education' (see Karabel and Halsey, 1977, pp. 52-62). In my approach to the educational system of Greece, I decided not to attempt a 'microcosmic' analysis because of two essential considerations:

- ◆ The centralised nature of the Greek educational system and the inertia - at national as well as at local level - characterising every reform attempt in the past, do not allow for the inclusion of school-based strategies and initiatives in a wider analytical framework that could elucidate the evolution of the system. It is rather in the field of 'political manipulation' processes (Archer, 1979) and their interactions with the State mechanisms, that we can trace any noticeable change in the basic components of the Greek educational system.
- ◆ I believe that the mainly 'interpretative' approaches in social sciences - which unavoidably deal with the 'micro-level' interactions - somehow lack of theoretical imagination (Mills, 1959). For example, a case study that examines the behavioural problems of an ethnic minority in an urban secondary school - through the use of, say, observation - although it would probably be proved invaluable for the identification of some problems faced by the specific minority pupils, at the same time it would certainly focus on a very narrow research context, defined by the characteristics of the individual school (school environment, resources allocated, curriculum content, pedagogical methods adopted, parental contribution, community ties etc.). That means, that it would, quite possibly, lack 'generalisability', which I think is crucial to any kind of meaningful social research, and not research *per se*. In other words, although the proliferation of highly elaborated - in terms of

both quantitative and qualitative methods used - studies at micro-level lead to significant advances in educational research, very often tend to pay more attention to the 'technician' side of the researcher, rather than her/his 'social scientific' image. As Mills stressed along time ago, "as control of the process of social scientific research shifts from the individual craftsmen to organised, and more or less bureaucratised public and private agencies, educational researchers, as well as other social scientists are in danger of being 'expropriated' from their means of intellectual production" (as quoted in Karabel and Halsey, 1977, p. 76). Additionally, by giving little or no concern on the ways in which powerful institutions and groups influence the knowledge, social relations and modes of production, there seems to be an indifference to how and why particular constructions of reality dominate, and how feasible it is to resist submission.

CHAPTER 3

COMPARATIVE ISSUES OF SELECTION IN EUROPE. THE CASE OF GREECE

SCHOOL STRUCTURES IN EUROPE

Despite the fact that we cannot possibly talk about a unified whole under the name Europe, today - in the middle of a process of socio-economic unification for its western part and a desperate struggle for national identification for its eastern and south-eastern parts - it is of great importance for one to see how selection mechanisms operate in this greater - at least in geographical terms - whole. From this brief account a lot of useful conclusions could be derived about the context in which the Greek educational system developed and currently is influenced by, not only in terms of clarification of its various elements, but also as a guiding tool for future analysis.

Unavoidably, we will focus on Western Europe, due to the availability of data and the possible familiarity with some of the relevant educational systems, and also on how the guiding principles of those systems affected - at least formally - to a great extent the decision-making process and the orientation of the Greek educational policies in the last century.

Reform movements in (Western) European education have gradually gathered momentum throughout the 'region'¹ since the stock-taking days of the immediate post-war period. All countries without exemption found themselves faced with the same problems. These problems all derive from the single fact that the number of children seeking some form of post-primary education has grown out of all proportion due to the birth rate bulge of post-war years. As technological developments progressively took place, the need for greater social mobility was recognised. It was thought that - in addition to a 'basic' schooling, linked to primary education provision - there must be an "undifferentiated secondary education to as late as possible, with an integrated curriculum to replace the former crazy patchwork of differentiation" (Mallinson, 1980, p. 67).

Traditional secondary academic schools might be able to withstand change so long as they still recruited from the same 'upper-middle' and 'bourgeois' class, but even then - as student protests of the late 1960s demonstrated - they were compelled in some measure to conform.

There have been many common features in how these systems evolved to the present. For example, fees in publicly maintained secondary schools - at least for their compulsory part - were abolished, and many independent institutions came to arrangements whereby they also, in certain circumstances, could provide free secondary education. All post-primary schools which hitherto had continued to function as a reminder of the old 'dual system' ('dual' in technical, as well as in social terms) were upgraded to secondary level. Flexible arrangements - under local, regional or national initiatives - based on the principle of popular 'enlightenment' through liberal studies, have been made in relation to adult education, and measures have been taken for the examination and certification of people who had never before had a formal schooling. In response to pressures from industrial and commercial organisations for improved links between the formal educational instruction and the requirements of a very demanding working environment, a number of *apprenticeship* schemes (in-work training, with part-time attendance of a vocational course in school) have been set up. Last - but not least - examination hurdles formerly used on the completion of a child's primary school course to decide what type of secondary education s/he should proceed to, were, from a very early stage, abolished. Everybody now was to have the right to some kind of secondary education, at least up to the end of compulsory schooling.

Of course, differences between the various systems never ceased to exist. For example, there were a multitude of: alternative 'paths' after basic schooling, definitions of what constitutes 'primary' and 'secondary' levels, starting and leaving age for compulsory schooling, possible charging of fees at a certain level of schooling, opportunities for apprenticeships, degree of centralisation of control on administration or curriculum policy etc. These issues had to be dealt with by each country individually and as quickly as possible since two major problems arose:

- a) The post-war baby-boom in connection to the aforementioned public measures caused pressing demands for new buildings, teaching materials and enough teachers to deal with the varying needs of the new influx. Whilst, in the past, children who had not properly mastered certain 'basic skills' by the end of primary school, either never sought secondary education, or were held back until the skills had been mastered, it was now thought that the 'mass' secondary school had to be remedial and make good deficiencies in such skills before any secondary course could be of any worth.

¹ The term is rather simplistic, and it is used purely for a minimum level of descriptive precision.

b) Most children would abandon school as soon as they reached the compulsory age limit.

Therefore, attention should be paid in preparing those children for the world of work.

How the above issues have been dealt with by the various school systems, and how the selection mechanisms have been modified in order to satisfy the post-war pressures for better schooling (qualitatively and quantitatively) and equal opportunities, will shortly be discussed below.

1. The Scandinavian system

The model of schooling in these countries (including Denmark) is characterised by the promotion and - to a large extent - implementation of the 'comprehensive' ideal. This ideal entails a dynamic approach to the fast-growing needs created by the 'triple explosion' of population, of knowledge and of aspirations, which in turn were the results of an "exceptionally rapid urbanisation which all too soon revealed how under-developed and uneducated" the people were during the 1920s and 1930s (Mallinson, 1980, p. 173). The essentially pragmatic and materialistic approaches that the Scandinavian countries had towards schooling, was partly due to the rather secular modes of instruction that had prevailed throughout the centuries. The simple, unintellectual faith of rural communities had bolstered the situation, and as a consequence, none of these countries underwent any kind of bitter religious controversies which were to affect almost every Western European power.

Having as guides the Swedish and Danish systems we could point out some characteristics of the 'Scandinavian' school system - although we must be very careful about generalising our observations.

One of the paths created is the one in which primary education is linked to the lower-secondary one in forming a somehow unified and extended nine-year 'elementary' school (*folkeskole* in Denmark). The role of this school is the integration of basic schooling (teaching of 'arithmetic/mathematics', native, and in the later stages, one foreign language, religious education, familiarisation with modern literature) with an introduction to vocational studies (see Elvin, 1981, pp. 48-52)

The upper-secondary school - which usually starts at age 16 - is then divided into a general education section (*gymnasium*) and a vocational education and training path. The former

traditionally prepares students for higher education, and the latter qualifies them for work in trade and industry.

The most impressive element of the system is the interrelation of the various paths. In Denmark for example, at the end of the seventh year of the *folkskole* a pupil can register to the so-called *real* section, which runs parallel to the *gymnasium* and offers early familiarisation with more demanding curriculum, and which comprises subjects such as “Danish, English, German, mathematics, physics, chemistry, history/civics, geography, music and gymnastics” (Mallinson, 1980, p. 179). In this way, students are permitted to transfer from one type of instruction to the other, more smoothly - albeit in an early stage, because the structure and contents of general and vocational upper-secondary education are different, making it that way a late change from one type to another very difficult.

At the same time, a number of vocational training schemes outside the school have been progressively developed, according to which a student signs a contract with an employer who is responsible for his training, for a period of up to four years. In parallel to that, recent reforms required that an *apprenticeship* should be complemented to a great degree by part-time theoretical instruction in a day or evening vocational establishment. These reforms came as a result of widespread scepticism, in the early 1970s, about the apprentice rights, the lack of co-ordination between school knowledge and practical training in employment, the dangers inhibited in an early decision for life employment in a radically changed world etc. (see Elvin, 1981, p. 62-63).

Another aspect of this model is that the *gymnasium* is not the only way to higher education. In Denmark, there is another type of preparatory course for entry to higher education, the ‘Higher Preparatory Examination’ course, which takes two years (the former takes three) and entitles anyone who attended it - even in a county adult centre - to participate in the relevant examination. Thus, we conclude that apart from the traditional way of gaining access to higher education, these reforms (the HF was established in 1966) permitted more mature students “who have already experienced the employment market” to share the opportunity for tertiary education studies (Winther-Jensen, 1994, p. 53)

In Sweden there is no longer a school-leaving examination or test for entry to some form of higher education, since they were all replaced by a certificate (*slutbetyg*) which lists the average mark per subject (out of a maximum of 5) attained by the student. As Mallinson informs us, in the early 1980s this was followed by an increased number of graduates of *gymnasium* who entered some further study, representing 40% of the total number of graduates, although “the Universities account for 24%” (Mallinson, 1980, p.177).

2. The 'Benelux' countries

The structure of the educational systems of these countries is characterised by an influx of interconnected and balanced pathways towards, either academic higher education, or adequate preparation for the working life. The distinction between general and technical or vocational education is rather blurred, since, not only do the different sub-types of secondary school offer a number of 'specialisations' from a very early stage (immediately after the completion of primary school), but also there is the existence of a kind of 'transition' period that enables the administration - as well as the pupils and their families - to decide with better precision the 'best' way forward.

In Belgium, after the reforms in 1969, secondary education (6 years) was divided into 3 cycles, each of two years' duration, the first cycle to constitute a period of observation, the second a period of orientation and the last a period of specialisation. This change - which was to apply equally to general as well as technical education - put pressure on the most popular academic-school types hitherto existed (i.e., the *école moyenne*, the three-year lower-secondary school, the *athénée*, the six-year secondary school for boys, and the *lycée*, the six-year secondary school for girls) to include in their programs of study more 'practical' subjects and integrate them into a curriculum where there would be more than one 'sections', or 'pathways' related to pupils' aspirations (Mallinson, 1980, pp.183-184; also Rochette, 1994, pp. 26-28).

Formally, there are four modalities in the (revised) secondary education system: general (ASO), technical (TSO), vocational (BSO) and artistic (KSO). All of them - in theory at least - are of equal prestige, but in practice the vocational system stands quite apart from the other alternatives, and once the pupil has decided to attend it, there is no option but to move up in the same system (Rochette, 1994, p. 29).

Entry in a higher education institute is achieved on the basis of a passing-out examination after the completion of a full six-year course, and a subsequent special examination in certain subjects. The former is internally administered by the school but controlled by a special jury to ensure uniformity of standards throughout the country - something extremely difficult, given the multilingual, and subsequently multicultural character of Belgian society. The successful candidate is then awarded his/her *certificat d'humanités* which confers on him the right to

present him/herself for an *examen de maturité* in three subjects related to the field of study s/he wishes to pursue at the University.

In the Netherlands, the development of a 'pluralistic' system of educational instruction has been striking, because it comprises a multitude of sub-types within each type of educational establishment.

More precisely, the pre-University general education is subdivided into four types of secondary school: a) the first one, known as VWO, covers the ages 12-18 and consists of three kinds of schools, that is *gymnasium*, *atheneum*, and the integrated VWO; b) the 'senior general secondary education', known as HAVO, covers the ages 12-17, and it is primarily designed to prepare pupils for higher vocational education; c) the 'junior general secondary education' (MAVO) covers the 12-16 age range, and prepares pupils for the b type; d) finally there is also the 'elementary general secondary education' (LAVO), which used to cover the 12-14 age range, but over the years have been absorbed into larger combined schools.

The same divisions, more or less, are applicable to the vocational schools too, with the essential difference that they offer a purely practical training, in a wide range of technical subjects (from 'domestic science' to 'nautical training'). After the completion of the lower levels of these vocational courses (e.g., the LBO, the 'junior secondary vocational education') there is an opportunity to pass on to other schools for general secondary education. These vocational types of school have been playing an important role in the Dutch education system, with a very high proportion of the primary school graduates enrolling in every year (Elvin, 1981, pp. 210).

There is also a fee-charging system after the first four years of the secondary school, and the same applies to the higher education institutes, although the amount paid is considerably low. (ibid., p. 206)

Higher education is itself fragmented in numerous establishments, representing a wide diversity of school types. Thus, whilst University-entry is possible only after completion of the six-year 'pre-University' course (VWO), admission to other higher education institutes is based on the successful completion of a cycle of studies in a relevant technical-vocational secondary school. The students are required (the same applies to Belgium too) to "have an adequate knowledge of the basic subjects: mathematics, physics, chemistry and biology" (ibid., p. 214).

3. The French system

Tension between individualist and collectivist strands in French educational ideologies can be traced in the concepts of the famous revolutionary slogan 'Liberty, Equality and Fraternity'. With the pass of years we could claim that the first two concepts 'stepped back' in favour of the last one. That is due to the fact that, although the idea of universal education as the basis of a democratic State of autonomous individuals who were equal before the law has been fundamental to the public Statements about education since the 1789 Revolution, only the duties, rather than the rights, were emphasised. Government Statements of educational aims frequently appear contradictory. The individual rights aims of the 1975 Law (known as 'Haby Reform'), which among else guarantees "respect for the personality of the child" and admits that "equality of opportunity which should make it possible for everyone, according to his ability to have access to different types or levels of schooling" (McLean, in Holmes, 1985, pp.63-64), in practice has not stopped the emphasis on the principle of selection. The "according to his ability..." part can be easily followed by a Statement declaring that "...each child is channelled to different educational paths, and has different future options". Only that the word 'ability' might be easily replaced - depends on the point of view - by any kind of personal or social characteristic of that child.

The 1975 injection that education "should prepare children for working life" can be seen in the context of the transformation of France from an agricultural society into one of the most advanced industrial countries in the world.² Since the end of the Second World War, but particularly after of the Gaullist government in 1958, a manpower planning approach has influenced the establishment of educational priorities. The growing importance of individual rights justifications for education in the post-war period has been tempered by the priority given to an economic, society-centred aim.

Like the education systems of most countries at some point in their history, there was a distinction in France between mass elementary schooling and 'elite' secondary education (*lycée*). Primary education has been free, universal and compulsory since the 1880s. Up to 1959 "elementary education was terminal for the majority of pupils" (McLean, in Holmes, 1985, p. 77). Lower secondary schooling (in the form of the *collège d'enseignement secondaire*, or CES) became available to all children in 1959, although there was also a restriction in that the allocation to the post-primary education was decided on the strength of

the primary school records, and in a type of examination by a commission which included parental representation. The outcome of those selection procedures was the allocation of pupils to three different streams (*filières*) in the CES. From those streams the more prestigious were undoubtedly the first two, which had a basic common curriculum in the first two years, and then for the remaining two years, they were divided in two sub-streams, one for classics and the other, the 'modern' one, which gave more intensive study to the first modern language and to French (Mallinson, 1980, p. 194).

Strict examinations led - and still do - to the upper three-year cycle (*class de seconde*). Those who succeed in entering this cycle are bound, after three years to sit the one of the various *baccalauréat* examinations which lead to University training. Those who fail follow a 'short' course of further training. However, one of the major changes in the *lycées* since the 1960s has been that new branches of the *baccalauréat* have been introduced, which have a technological orientation alongside the traditional academic course. The 'improved' *baccalauréat* has been achieved by restructuring the exam to incorporate three different streams - the academic 'baccalauréat général', the technical 'baccalauréat technologique', and the vocational 'baccalauréat professionnelle'. The *baccalauréat professionnelle* was intended to suit the less academically able students and prepare them for employment. The *baccalauréat technologique* and the *baccalauréat professionnelle* are of a lower standard than the *baccalauréat general* but convey the same right of entry into higher education. This has reduced the currency of the *baccalauréat* examination as a whole, and has raised serious questions about standards (see Broadfoot, 1996, chap. 6).

Increased participation in Higher Education has therefore been achieved through the creation of lower standard *baccalauréates* which have resulted in more of the less academically able students entering higher education courses which they find too difficult to complete. When they fail, the system provides them with an opportunity to either retake the year or change their course of study. This raises the cost of their education to all stakeholders: the students, their families, employers and the nation as a whole. Formally, selection for higher education has been ruled out but there is already a significant amount of 'unacknowledged selection' which takes place at the time of admission and by later examinations in order to ease the strain on resources, especially within the first two years.

Despite such developments - especially after the 'Haby Reform' emphasis in the modification of the curriculum and the restructuring of the secondary schools - the process of selection remained well defined and rigorous. It is reinforced by a rather centralised

² We should not forget her role as a founder member of the EC, the EURATOM and the ECSC in the 1950s.

administration system, which devolves responsibilities to regional and local bodies only in matters such as management of funds, social welfare, monitoring of conformity to rules regulating formal schooling and apprenticeship system (Elvin, 1981, pp.116-117). Opportunities for entry to higher education are affected considerably by selection decisions made at earlier ages.

Vocational, as well as continuous education have suffered for a long time, not only because of a lack of adequate public funding³, but of a clear inability of the 'social partners' (State, employers and unions) to form, develop and support an effective apprenticeship system.

In higher education, reforms after the 1968 social unrest - and the subsequent feverish debates it generated - made bold steps towards a system that could secure more autonomy to Universities, reduce the privileges of certain academic faculties, and broaden studies and student participation in University government.

Access to University has been widened to include students from more 'disadvantaged' backgrounds. Central allocation of resources has reduced the geographical inequalities found in some other educational systems. Even if it is argued that the position of certain establishments (i.e. the *Grandes Écoles*) "has been little threatened by educational reforms" since "the elite of French society was educated outside the mainstream University system" (McLean, in Holmes, 1985, p. 91), it should not be forgotten that the prestige of such establishments is being tested everyday in the highly competitive system of a 'global market' of higher education services.

4. The German and Italian systems

Until the beginning of the 1960s, the extension of State activity in the direction of an 'active intervention' faced strong opposition in the Federal Republic of Germany so that planning was not then an issue. At the same time, we should not forget that the responsibility for the school system - according to the Basic Law of 1949 - does not lie with the federal government. The individual federal States (*Länder*) are independent in educational and cultural matters. In other words, planning in the educational sector took place at the level of the individual State, with planning efforts at the federal level centred upon regional development and medium-term fiscal planning, and co-ordination measures taken by the Standing Conference of Ministers of Education of each *Land*.

³ The considerably high tax rates, which for so many years supported a generous 'social welfare system' seemed unable to reduce the unemployment rate - not to mention their impact on public deficit - which is today at about 12% of the total workforce. (OECD, 1995)

As far as general education is concerned, the development of the system is bound up with socio-political change. The first move towards democratisation arose from the first German democracy, the 'Weimar Republic', which made primary schooling compulsory to all children. Later on, it replaced the old class-oriented school system for the lower, middle and upper classes. The school system introduced in 1920 has been maintained structurally until today⁴. It consists - apart from the four-year primary school and the two year orientation level - of three branches: a) the five- to six-year extended primary school (*Hauptschule*), b) the six-year secondary school (*Realschule*) and c) the nine-year grammar school (*Gymnasium*) (see Mallinson, 1980, pp. 242-244; Elvin, 1981, pp. 96-98).

In addition to this element of co-ordination between autonomous administrative entities within the federal level, what strikes the reader of the German - at least the western part, during the pre-unification period - is the emphasis placed on the 'manpower' approach in the design of education, that is a deep concern about the alignment of the school structure to the labour market demands. Some even argue that in the post-war period "equality of opportunity was a secondary concern" and the analysis of educational issues "has been dominated by economic human capital perspectives, in which the relationship between education and paid work have been seen in the purely functionalist and instrumentalist terms of supply and demand" (Chisholm, 1995, p. 142).

What counts as the biggest single scheme of all - and main characteristic of the German model - is the highly regarded 'dual-education system', that is the remarkable attention paid on the provision of academic as well as vocational curriculum, in secondary and tertiary level. Under the system of apprenticeship, most German 16-year-olds, who decide to follow the vocational path, sign an apprenticeship contract with a local firm to work part-time, for below entry-level wages, in return for (two- to three-year) training at the firm. The rest of the time they go to a vocational school (choosing from a wide variety of offered vocational courses, run usually by the local government). When the apprentice-pupils finish most get jobs, either with their employer, or at least in their field.

Training in a recognised occupation concludes with a final examination administered "by the Chambers of Crafts and Trades in the case of craft occupations, by the Chambers of Industry and Trade for industrial and trade occupations, and by the Ministries of Food and Agriculture in some *Länder*, or by the Chambers of Agriculture in others, in the case of occupations in agriculture" (Elvin, 1981, p. 102).

⁴ The 'comprehensive' type of school prevailed in the former GDR - with its core of a ten-year high school and two 'extended' two-year branches - seems rather impossible to be preserved in the reunified Germany.

That way, the participation of the market in the formal educational system has contributed to the creation of a highly trained and specialised labour force, which subsequently played a major role in the impressive rise in industrial growth and the economic 'miracle' of the late 1970s, when Germany could boast of a system that based its success on a very effective economic management and a highly 'co-operative' working environment. Nevertheless, after increasing foreign competition in industrial products, an unprecedented flow of immigration from low-income countries during the last two decades and the shock of unification in 1990 - with the enormous bills it has entailed - caused a crisis, not only in the social welfare system of the country, but brought into question the effectiveness of the vocational system itself, given the high rate of unemployment (at about 11% in the late 1995). In addition, the employers - hitherto very supportive of the apprenticeship system - started to complain that, in the wake of technological change, they would need more less-skilled but flexible workers, able to switch easily from one task to another (see 'The Economist', 6/4/1996, p. 23; also 4/5/1996, pp. 11-12 and 21-23).

Admission to Universities is made on the basis of the secondary school leaving certificate (*abitur*), as well as the University-entry examinations (*hochschulreife*).

According to some scholars, the existence of the aforementioned dual system weakened the value of the *abitur*, since it provided a worth-taking and credential-awarding alternative path, something that is being also manifested by the "increasing numbers of *abitur* holders turning towards apprenticeship or technical training rather the academic careers" (Noah & Eckstein, 1993, p. 185).

The system of higher education is highly differentiated. Classical Universities compete with colleges of advanced technology and teacher-training colleges, as well as with private Universities and technical colleges. There are no tuition fees at German Universities or tertiary colleges. Here it must be noted that an increase in the demand for higher education, during the 1960s and 1970s caused the foundation of 13 new Universities, which not only satisfied the public pressure for higher education, but in addition introduced a number of innovative schemes. An example was the creation of an experimental comprehensive school attached to the University of Bielefeld (founded in 1967) in order to serve as preparatory stage for the first year of University study (Mallinson, 1980, p. 235).

A relatively similar system to Germany has been developed in Italy - and in Switzerland also. Especially as far as the technico-vocational education is concerned, arrangements have been

made to promote a sound basis for large-scale industrial development.⁵ As a result of centrally initiated efforts - albeit with the full co-operation of the regional administrations - technical and vocational education have enjoyed comparatively favoured treatment. It is of particular interest that, as Mallinson (1980) revealed, in the early 1980s from the graduates of the *scuola media* (the four-year compulsory 'intermediate' school, following the five-year 'elementary' school) 34% entered the five-year *istituto tecnico*, which awards his/her holder with a 'mature diploma', enabling him/her to "either go directly to some form of tertiary education at the University level, or to enter into higher grades of management" (p. 248). This kind of school - and indeed any other type of higher secondary (non-compulsory) school - charges fees. However, the inequalities are not so profound since the disadvantage can be minimised by the attachment of 'equal status' and relatively equal opportunities for access to higher education using all the pathways.

In the Italian model the concept of 'higher education' is virtually identical with that of 'University'. During the last 30 years the intake of the Universities has been increased dramatically. This is due, not only to the increased internal demand for higher education (after all, the proportion of the higher secondary school graduates who register in Universities remained quite low, at 30%), but also to an impressive inflow of foreign students, who were encouraged by the rather loose criteria concerning the admission policies, especially as far as EC citizens were concerned. Thus, the number of students entering a University was still increasing, at an estimated rate of about 27% between 1986 and 1990 (Monasta, 1994, p. 172; also UNESCO, Statistical Yearbooks of respective years).

5. The 'Iberian' system

In the educational systems of Spain and Portugal, there are clear boundaries between the different types of secondary schooling, as well as between primary and secondary level. Basic education in both of these countries is free of charge and compulsory, and lasts for nine years. Secondary education is divided into academic and vocational branches without any interconnection between them. In addition, there is a large number of private schools run mainly by the Church, which plays - given the high religious solidarity characterising the Catholics - a very important role in educational policy-making.

⁵ Indeed, the country's annual industrial production is among the highest in Europe, despite the wide disparities between North and South, and its long tradition of political instability.

Although Spain has a more decentralised administrative structure (it is divided into 17 autonomous communities), we could claim that both of these two countries 'designated' the State to ensure the basic unity of education and guarantee equal conditions for all in the exercise of their rights (Esturla and Bragado, 1994, 264-265).

In Portugal, University entry is achieved through the leaving-certificate of the general secondary school. In contrast, in Spain there is a transitional year linking school and University, at the end of which students are evaluated, and then a University entrance examination, more commonly known as *Selectividad* (Belard ad de Matos, 1994, pp. 244-246).

The two systems are relatively 'selective' from very early in a pupil's life by distinguishing between the more and the less 'academically-oriented' children. The percentage of those gaining access to University education in Portugal is quite small, and far below the European Community average, although there are clear governmental short- and long-term objectives for balancing the disparities in the distribution of students in regional institutions, promotion of short-cycle polytechnic education and compensatory measures for the underprivileged students (Belard ad de Matos, 1994, p. 246). In Spain the participation ratios are far larger (some 78% in 1987-88), although there is a system of University fees, depending on the course.

6. England and Wales

The education system of England and Wales (there are certain features in the administration and structure of the Scottish and North-Irish systems that do not justify talk about the system of the United Kingdom as a whole) has witnessed a lot of radical changes in the last fifty years, especially in the administration of the schools, the curriculum content in the State-maintained secondary schools and the post-compulsory schooling options.

The traditional belief in the academic excellence of a few 'bright' pupils, which has been reflected in the existence of the so-called *grammar* school, was fiercely challenged in the post-war period, although the 'tripartite' system of secondary provision - with the passing of the 1944 Act - reinforced this picture.

Grammar schools have taken the General Certificate of Education at 16-plus and an advanced certificate at 18-plus to gain access to Universities and colleges of education. The second type, the *technical* schools have tended to follow the same pattern as the grammar schools, with an emphasis on the less prestigious technical and commercial subjects. The third type, the *modern* secondary school was the least prestigious of all, and accepted the bulk of the

student population, who - according to the standards of the time - were the 'late developers' and the 'less inclined' to academic instruction. In essence the whole system of selection was designed to meet the needs of the top 20-25% of the student population, which were children from the most privileged socio-economic backgrounds.

The whole structure of the secondary and post-secondary schooling has been repeatedly revised, and numerous experiments took place during the 1950s and 1960s, either in local or national level, and included the State-run (public funded under the administration and supervision of the local authorities) as well as the privately-run establishments. On the whole, controversy about the structure of the system, political and ideological claims contradicted those for 'equality of opportunity', on the one hand, and 'high standards' on the other, have dominated the agenda. Initiatives - not always derived from purely educational considerations - have been taken in different places of the country, due to the decentralised nature of the educational decision-making, as well as the lack of a nation-wide consensus on what constitutes an appropriate secondary schooling.

From the mid-1960s onwards, the dominant type of secondary school became the so-called *comprehensive* school, albeit with great variations and also many implementation problems. This kind of 'integrated' school, which combined elements of traditional academically oriented curriculum as well as vocational instruction, was persistently under attack, especially during the 1970s, when the global economic crisis caused deep concern about the 'effectiveness' of the system in a world of undeniable financial stringency. The famous 'Great Debate' - typically initiated by the then Prime Minister, J. Callaghan, in 1976 - raised questions about the relation between the educational system and the wider society, and advocated the strengthening of the power of the central government. Given the small amount of consensus within society at large, and the increasing financial hardship faced by the public authorities, a machinery was created by the government in order to: on the one hand, strictly monitor the 'standards' of the publicly-funded schools, and on the other hand, establish a parallel system that could secure support and sponsorship for a curriculum designed with economic productivity in mind

As far as the former was concerned, the introduction of a 'National Curriculum' in 1988, created 'core' and 'foundation' subjects, in relation to which each pupil in State schools would be expected to have a certain amount of 'knowledge', 'skills' and 'understanding' at the end of pre-specified age-related levels (*key stages*) (See DES, 1988, section 2). At the same time, standardised assessment practices - under the auspices and encouragement of the central government - were proposed and tested in various experimental programs, all over the country. The agencies developing these tests (the so-called *Standardised Assessment Tasks* or SATs)

were expected to negotiate with schools the assessment arrangements, which in combination with a number of curriculum-content and teaching-methods standards produced by national bodies (e.g. the School Examination and Assessment Council or SEAC), would constitute the framework of a centrally supervised system that has been accused of 'instrumentalism', 'commercialism' and 'elitism' (Kelly, 1990, chap. 3).

As far as the parallel to the general secondary and post-secondary schooling system is concerned, the focus of the State policies has been on the enhancement of further education, which has increasingly been seen as embracing the 14-18 age group. There has been an introduction in the 1970s of vocational certificates like the GNVQ, the HNC the HND and many more, awarded not only by the State and the local authorities, but also by independent professional bodies. In addition, an influx of new schemes such as the Youth Opportunities Program (YOP), the Youth Training Scheme (YTS) and the Technical and Vocational Initiative (TVEI) have led "to schools being funded from sources with very clear strings of an instrumental and vocational kind, and thus to a shift of emphasis within the education system back to that of the 'industrial trainers'" (Kelly, 1990, p. 39).

The distinction between the old GCE (General Certificate of Education) O level and the CSE (Certificate of Secondary Education) survived until the 1980s when these two types of qualification were integrated into the GCSE (General Certificate of Secondary Education) O level, after widespread criticism for inefficiency. However, the GCE A level examinations remained the number one factor affecting University admission, with new subjects added during the last few years, which quite often constitute an inter-disciplinary approach in the various areas of knowledge. That, in combination with the establishment of new Universities (among which there is a number of the former *Polytechnics*, known in the past as Colleges of Advanced Technology) led to an expansion of higher education, something that has reversed direction lately, since the government funding - that covers over 90% of the Universities' recurrent and capital expenditure - has been dramatically reduced.

GENERAL TRENDS OF SELECTION IN EUROPE

Although there is no single pattern of selection procedures throughout Western Europe - the former 'socialist' countries of Eastern Europe deserve a separate examination - it is possible to trace in the systems examined above certain characteristics that reveal common elements and mechanisms, which, far from constituting a starting point towards a "policy of harmonisation"

(Mallinson, 1980, chap. 10), at least offer a comparative view of the context in which the Greek system develops and of the influences that are being exercised on its structure.

As we will refer extensively to the Greek educational system, we will notice, for example, that these systems offer more flexible arrangements in the school life of children, better developed branches of vocational and technical training and wider opportunities for adult and continuous education. This does not mean that these systems are heading towards a more 'democratic' and 'equal opportunities' future. Despite politically coloured declarations about "educational provision for everyone" under an environment that "favours the individual's aspiration" and "respects his/her socio-economic background", we must not forget that in a world of global competition and market domination, concepts such as inequality and social justice give way to the notions of individual success, value for money and monitoring of standards.

As many international studies - in our case mostly those concerning Europe - showed, in some countries an 'equalisation' among socio-economic strata has emerged, while in others virtual stability is the case.

Although Bourdieu's (1977) study in France found correlations between students' family background and their possession of 'cultural capital', and between cultural capital' and educational achievement, in general, such findings have not yet been reconfirmed in the international bibliography. For example, Robinson and Garnier (1985), in a study which contradicts Bourdieu's work, found that in France cultural capital had little effect on class reproduction, even though they used educational attainment itself to measure cultural capital.

In a comparative study made by Shavit and Blossfeld (1993) in various countries with different socio-economic systems and levels of industrialisation, the expansion of secondary education has been accompanied by a growing differentiation into academic and vocational tracks or programs. The expansion of vocational, non-college education enabled these systems to incorporate growing proportion of lower strata who would complete secondary education but would not be considered for further academic education. As a consequence, they have witnessed an opening up of secondary education without disturbing the basically exclusive character of higher education (see also Shavit & Blossfeld, 1993, pp. 20-22).

The general pattern observed in some of the comparative studies that examined patterns of selection in Europe, is that, as successive generations go through the education filter, the proportion of those gaining a place at a level which would have been inconceivable two or three generations before has been considerably increased, especially in the lower socio-economic strata. The effects of social origins are - generally - stronger "at the beginning of the

educational career and then decline for subsequent educational transitions” (Shavit & Blossfeld, 1993, p. 18). These findings relate more to the so-called ‘life-course’ hypothesis, which states that “if primary and lower secondary education become universal and lead to a decrease in the effect of social origin at these earlier levels, then the effects of social origin on higher grade progression will stay small across cohorts because older pupils are less dependent on the preferences and the economic conditions of their families than younger ones” (ibid., p. 9).

This, far from suggesting that there has been a drastic reduction in the association between social origins and any of the educational transitions, presents a trend in highly developed (post)industrial western countries showing that inequalities in the transition stages throughout the various education levels have been progressively more complicated than before. Whereas in the past it was relatively easy to define what the class boundaries were, or which particular types of educational instruction were the more prestigious ones, nowadays different independent variables other than the socio-economic status (traditionally measured as the parents’, and specifically, the father’s occupation) contribute to the opportunities of ‘success’. Such variables could be the attainment of private tuition classes, the multiplication of scientific disciplines in higher education, the changing status that different professions have in a rapidly advanced modern society, the emergence of new youth cultural stereotypes etc..

In addition, in countries, such as the Netherlands, or Sweden, the existence of so many vocational paths in parallel to the general education network, has offered a widening of opportunities for those hitherto deprived from access to modes of further qualification to enrol into a course with promising future prospects. Some research evidence claim a considerable decline in the effect of social origin on educational attainment in these countries (Shavit & Blossfeld, 1993, chap. 5).

Clearly this is not the case in the overall picture of the educational opportunities in the European context. While there has been a slight narrowing in rates of participation, the proportion of students from higher socio-economic backgrounds have not changed radically, especially in higher education, which is the most important - given the opening up of access in the lower levels - factor of measuring the persistency of inequalities. More importantly, when increases are recorded in the participation rates of students from the ‘disadvantaged’ social groups, they tend to occur mainly in the less prestigious programs of the higher education sector.

There are of course variations that stem not only from the University admission policies, but also from the structure and organisation of the secondary school. In systems with tradition in

'open access' to higher education, on the basis of minimum educational qualifications (e.g., France, Germany) the selection procedure starts very early - as we saw - in the children's school life, under a very elaborated selection mechanism which sorts out progressively the 'best performers' towards academic education. If one takes into account the financial squeeze of the recent years in these systems, then in practice, the 'open system' policy is being progressively replaced by the introduction of a *numerous clausus* provision, which has the effect of making students compete for entry.

In systems where selection is made on the basis of scholastic achievement (e.g., Sweden, Spain and partly Britain) the selection is made relatively late, and there is also a tendency for standardised and externally administered procedures of assessment (Christie and Forest, 1981). This approach to selection (reliance solely on performance in an external examination) as a basis for school certification, is increasingly being questioned, not only on the ground of its unsuitability for assessing individual needs, interests as well as varied curriculum areas (Ball, 1990; Kelly, 1990), but also its 'failure' to change the prevailing pattern which is summarised in the fact that "those whose fathers (sic) were highly educated and had high prestige jobs more often obtained tertiary qualifications" (Kerckhoff and Trott, in Shavit and Blossfeld, 1993, p. 151; also Halsey *et al.*, 1980). The effects of father's occupation or educational level on the transition rates from one level of school system to the other - as they were examined over successive cohorts in various longitudinal studies - have not showed a considerable change, in either direction (negatively or positively), especially when access to a University degree is concerned (see Kerckhoff and Trott, for the case of England and Wales, and Cobalti and Schizzeratto for the case of Italy; in Shavit and Blossfeld, 1993).

Furthermore, as Jonsson observed in the case of Sweden (in Shavit and Blossfeld, 1993), educational reforms - including assessment - do not guarantee equalisation. Even when the latter becomes evident, this is mainly attributable to "an equalisation of living conditions, either in terms of decreasing income differences, or in terms of welfare State redistribution... and changing incentives for labour market participation", and therefore, the challenge for future research would be to "examine the question of the extent to which such changes in the labour market can account for changing, or persisting, educational inequality" (pp. 126-127).

On the other hand, an entirely school-based assessment, despite its suitability of involving a wide sampling of student achievements, is not very popular in most countries, because of comparability problems, which have arisen, specifically when the results are used for qualification or selection purposes in highly competitive labour markets.

Having the above evidences and considerations in mind, it is difficult to distinguish a single selection system, and characterise it as more or less 'fair'. In response to the needs of the changing workplace, as well as to accommodate the needs of students, curricula contents and school structures are already changing in secondary and tertiary institutions. It will be a daunting task to devise selection procedures that do not have a serious negative impact, not only on teaching and learning in schools, but also on social differentiation.

The introduction of modern methods of teaching - and subsequently, learning - has not yet brought any significant change to the opportunities for access to higher education, and the relatively 'open' school environment remained a 'privilege' of the younger age-cohorts, in a period when the selection processes, considered important in the European educational systems, preserved their exclusiveness only at the end of the secondary school.

Despite the progress made so far in the school systems around the globe, by the introduction of new practices and modern pedagogical methods based on group-learning principles, really noticeable changes have not occurred, especially in the upper levels of secondary schooling. In other words, although the curricular structure and the pedagogical framework at the lower levels can be quite 'elaborated' (to use a 'Bernsteinian' term) at the upper levels, only individual effort and performance are rewarded. This becomes clearer and more decisive at the transition period between secondary and tertiary education. Thus, we could argue that at those levels of the educational 'ladder' where the degree of specialisation and the need for individual selection is insignificant, the collective learning flourishes. At the upper levels, and especially as the time to enter - or to be trained to enter - to the labour market comes closer, the student depends his/her success entirely on his/her school - and examination - performance and the collective learning disappears. As Blossfeld argued for the German educational system (in Shavit and Blossfeld, 1993, chapter 3), "there has been a shift in the overall selectivity of the educational system... selection processes that took place before the educational reforms at an early stage in the life course (between the ages of ten and twelve) shifted after the educational reforms to a later stage in the life course (between the ages of eighteen and twenty)..." (p. 73).

A number of 'technocratic' solutions supported in recent years by policy-makers, either in the direction of 'maintaining high standards' (e.g., introduction of *numerus clausus* policies), or of 'comparability' of the various systems (e.g., use of 'standardised' testing methods), present the selection as a 'need' and, most of all, as an objectively assessed procedure, according to universally accepted principles. The role that social factors (such as class

interests) play in the definition of a 'worthwhile corpus of knowledge' is being continuously undermined.

MAIN RESEARCH ON GREEK SELECTION SYSTEM

The development of the educational system and its selection functions

Despite the crucial role that the National Examination system has on the allocation of students into higher education, and subsequently its significance on the future prospects - professional and social - of each candidate, few researchers attempted an in-depth investigation of its selection patterns. That is true especially in recent years (after the 1987-88 change), when the performance in the National Examinations became the sole determinant for the allocation of the higher education places. Thus, the allocation process has - at least formally - been completely 'disembodied' from the high school grades. In addition, no, or minor, attention has been paid to the role the TEIs play in the process of entering higher education, and the link between opportunities available to each social group and future job-prospects.

Tsoukalas (1977), attempting to establish links between the socio-economic conditions and the formal educational system of Greece, from her independence in 1821 to the present system, claimed that formal schooling from the very early days of the newly formed Greek State played a significant role in the class division.

He traced the first signs of the formation of a tertiary-sector-based middle class who were heavily dependant on the merchant marine, as well as the State mechanisms that mainly contributed to the creation of a system of political-clientele relations, developed within the borders of big commercial centres throughout the country. This specific social group - given the progressive decrease in the number of big agricultural properties, and subsequently in the importance of the rural upper-class in the late 19th and early 20th century - aligned their interests: a) with the functions of a highly bureaucratised State mechanism, which initiated, monitored and encouraged the fragmentation of land and the development of an almost unregulated credit system, with enormously high interest rates charged for money borrowing; b) with the creation of a school system that was generally seen as a way of upward social mobility.

That system - which was originally financed from the contributions of wealthy Greek communities of Europe, and later on, from an increasingly intervening State - stressed, through its curriculum, the meritocratic principle of 'individual ability'. That was a principle highly compatible with the current of internal migration towards the big urban centres.

He also pointed out the importance of classical studies as the dominant element of the school curriculum, and its role as an ideological tool for the preservation of class balance (see esp. chapter 3). This element, in conjunction with the lack of a dynamic industrial sector - for the greater part of the country - provides us with a useful hint as far as the under-development of technical and vocational education are concerned.

In a historical analysis of the secondary school curriculum from the early 1930s to the early 1970s, C. Noutsos (1979) claimed that all the attempted reforms in the examined period were characterised by the absolute control of the curricular content and the pedagogical methods by the central government. This control was achieved through a number of legal requirements imposed by laws, Presidential Decrees and Ministerial Regulations. That framework resulted in a strong 'classification' (Bernstein, 1977) of the subjects which were hierarchically organised and rated as 'essential' (*protevonta*) and 'non-essential' (*defterevonta*), and a homogenous pedagogic environment in which the teachers were not allowed to take any kind of initiative (Noutsos, 1979, pp. 144-151).

The basic element of evolution of the Greek school system - according to Noutsos - is, on the one hand, the stress on the 'individual success' (pp. 152-160), and on the other, the importance given to the written forms of assessment (p. 161-162). In addition to the organisation of school knowledge, he also examined the administrative structure of the system, which created inertia and did not support radical reforms, even when the wider socio-economic conditions would permit it (pp. 168-185).

Finally, Noutsos challenged the 'neutral' role of the school, and concluded that the framework (curricular and pedagogical) in which the knowledge that is 'transmitted' serves a particular social order and balance of power. This order in Greece has not necessarily been identical to the productive relations of the economy (capitalism), but rather has reflected the conviction shown by the policy-makers - and in particular, a specific administrative elite - that the preservation and reproduction of the values of the 'glorious' past (the so-called 'helleno-cristianic' civilisation) are vital for the development of the nation. No matter how much isolated from the social reality that had generated them those values were, they have been propagated throughout the last century and a half (pp. 201-213).

A historical review of the main reform attempts in the Greek educational system from the formation of the first independent Greek State to the present was made by A. Dimaras (1974, vols. 1, 2). In his books Dimaras examined the way in which different school structures and curricular contents introduced throughout the years corresponded to the balance of political power and the needs of the dominant economic groups.

He observed - as the two aforementioned scholars - the implicit assumption, hidden in every school system of the period examined, that the invocation of the 'glorious' past would enable the nation (given its position in a strategic geographical location, and its numerous conflicts during the turbulent early 20th century) to survive and develop. Based on this crucial starting point, he highlighted three major reform attempts in the 20th century, which failed to bring the desired results: the first in 1913-17, the second in 1929 and the third in 1964 (see Bouzakis, 1986, chapters 5,6 and 8). All of those reform attempts were linked to a general reform movement on economic and political levels, under the encouragement and support of (short-lived) centre-wing-party governments. He attributed the failure of those attempts, not only to the strong opposition of the traditionalists in the education hierarchy, but also to the "inability of the Greek *bourgeoisie* to perceive a popular educational reform" as imperative (ibid., p. 79). Only when after closer links of Greece with other western countries were established, and the international context of the new labour market relations was realised (see OECD, 1965 and 1980), the policy-makers took measures towards a 'modernisation' of the system.

According to Bouzakis (1986), all the reforms, introduced mainly after 1976, were already late in relation to other European countries (e.g., introduction of the vernacular as language of instruction, compulsory 9-year schooling, establishment of central advisory expert bodies) and destined to suffer from fragmentation and lack of orientation and resource-allocation (e.g. attempts in the 1970s for promotion of technical and vocational education) (see chap. 9). Moreover, he too pointed at the inequalities that the new system (1976 reforms) failed to reduce, and stressed the lack of alternative pathways for the majority of the 'underprivileged' social strata, whose offspring seek to follow - although they do not succeed very often - the 'academic' senior high school and compete with one another in an agonising attempt to gain a place in a higher education institute, and subsequently to have a chance for a better future (see pp. 116-123).

In one of the few surveys conducted at school level, correlating the relationship between social origin and school achievement, P. Papakonstantinou (1980) took a sample of primary and lower-secondary school children, according to various socio-economic indicators of the area in which the schools were located. He concluded that, even in this early stage of schooling, there are wide disparities between the achievement of children from different family background, especially in the last grade of primary school (school year 6), and in the last grade of the lower-secondary school (school year 9, which is the end of compulsory schooling).

Another interesting research finding comes from T. Milonas (1984), who examined the inequalities in secondary education, not according to socio-economic groups, but to geographical areas, although the classification was made in relation to a number of socio-economic indicators. By distributing questionnaires to a sample of pupils from different areas within a prefecture, he paid attention to the transition rates (pupils entering from a lower to a higher level of schooling, i.e. from primary to lower-secondary, and then to upper-secondary schooling) between pupils from different areas. Given that at the time of the research (1977-78) there were examinations in each of the above transition stages⁶, his data showed a real 'disadvantage' in the opportunities of pupils from rural origins to proceed to a further stage of schooling (Milonas, 1984, esp. pp. 141-157).

M. Eliou (1976) had already drawn a 'map of educational opportunities', according to geographical area, which showed that in the past there have been - although these are now becoming less sharp - considerable disparities between the participation rates in education among the various regions of the country, with the big urban areas being more 'privileged' and the north-eastern rural areas being less 'privileged'.

Polydorides referred extensively to the inequalities of the Greek educational system, and made useful observations on the changing patterns of how these inequalities apply. Especially in her research on behalf of the Ministry of Education (see Polydorides, 1995b and 1996), she examined the variables that affect the educational achievement in school or the University-entrance examinations (the latter we will discuss at a later stage). Among the factors examined were, parents' occupation and education level, gender, birth-place, location of school, and achievement in lower grades of the secondary school. In general she reached the following conclusions: **a)** the effect of the parents' occupation on the high school achievement and the

transition rates of pupils has been diminished over the years - due to 'equalising' policies of the State - but still remains a significant factor of inequality, mainly in the internal assessment of schools; **b**) considerable influence during the early 1980s (the time of the research) was exercised by the parents' education, and especially by the educational qualifications of the mother (pp. 41-42); **c**) there is a positive trend for the achievement of girls as compared to that of boys, especially in humanities and social science subjects; **d**) the geographical area of origin or birth plays a very small role in school achievement; **e**) pupils' performance in the upper-secondary school strongly correlates to that of the lower-secondary, showing this way the cumulative effects of the 'profile' that a certain individual carries with him/her throughout the school grades, and subsequently his/her (possible) classification as a 'good' or 'bad' pupil; **f**) the school resources and the size of the classrooms - in a period of rapid expansion of secondary education, as the late 1970s and early 1980s have been - play a significant role in the school achievement only when they are linked to the general standards of living of the respective community (p. 43 of the report); **g**) finally, the systematic attendance of private cramming institutes was considerably increased in the early 1980s, not only with respect to the number of attendees, but also to the time length of attendance. This was something that influenced positively their chances for entry into higher education (e.g., in her 1981 sample, from those who succeeded entering into a University department, 32% had been attended a cramming institute for a period of 9 to 24 months, in comparison to a proportion of 24% in her 1980 sample) (see table 12.38 of the report).

More focused with issues concerning gender differences was her article about women's participation in the Greek educational system (Polydorides, 1985). By focusing on the evolution of the distribution of females in every level of the system, and using data collected from the National Statistical Service of Greece (NSSG) and from the aforementioned research, she reached the following conclusions:

- 1) Participation rates of girls in all levels of compulsory schooling have not only been increased, but also taken that of boys after the 1976-77 reform (pp. 229-230 and tables II, III and IV).
- 2) Women are less likely to follow the technical and vocational track, since "educational and work prospects in that track are considered 'better suited' to men rather than women" (pp. 230).

⁶ In the late 1970s and early 1980s both of them were abolished.

- 3) The level of women's performance in secondary education has been improved dramatically, and is higher than that of men, in terms of proportion achieving an 'excellent' or 'very good' score (table VI).
- 4) Their distribution in higher education is following the 'traditional' pattern, that is, they increased their participation rates considerably only in the Humanities, Art and Architecture (p. 236 and tables IX, X).
- 5) Finally, she claimed that demands for equality of women's participation in the educational system "are not justified", and proposed that "all emphasis of researchers and women's organisations' activity should be shifted towards equality in the status of women in the workforce and in academia" (p. 238).

In her more recent book about the theoretical and practical aspects of educational policies around the globe, Polydorides (1995a) adopted a model of schematic representation of the selective role of the Greek educational system similar to that of Bowles and Gintis. Specifically, she concluded that an increase of the participation rates in the lower levels of the educational 'pyramid', thus broadening the 'equality' of opportunities in those levels. This broadening, which has been, mainly, the result of an increasingly high social pressure for mass schooling, created a situation when the lower school-levels ceased to play the reproductive role they had hitherto played. That way, the main reproductive role through selection has been shifted towards the later stages of formal schooling, the most important one being, today, the transition period between secondary and higher education (see pp. 366-370).

Mattheou (1980), examining mainly the legal framework and the political controversies of the historical evolution of the Greek school system in the post-war period, identified a very 'narrow' circle of interest-groups which affected the formulation of the system, with most prominent among them the various bureaucrats of the Ministry of Education (the 'managerial' group, according to the Parsonian terminology) and the academic establishment of the last forty years, mostly represented by the School of Philosophy of the University of Athens (pp. 65-74). He observed a long delay in the implementation of major reforms because of the political structure of Greek society and the powerful anti-reformist, conservative movements - usually coincided with certain fractions within the political parties - which generated a climate

of inertia in the initiation and implementation of policies, even when a minimum consensus in crucial aspects had been already reached among groups with different position in the social pyramid (pp. 203-204).

Nikta, on the other hand, looked at the major curricular reforms from the 1974 to 1989, and she argued that the Greek educational system had become more 'efficient' and 'modern' than before, but the changes have been proved less bold than the needs of the Greek society, in a climate of a rapidly advancing western world. The main reason for that was the bureaucratic and political inertia that kept back every attempt for:

- dramatically increased expenditure,
- full compulsory education,
- special attention to the promotion of 'technical-vocational education',
- the in-service training of teachers,
- the re-organisation of compensatory education
- the provision of buildings, classrooms and equipment.

She also traced the seeds of failure in the fiscal crisis of the Greek State since 1979, and the very demanding nature of the (enrolment) expansion of public education in the 1970s and 1980s. Following periods of austerity budgets during the 1980s, educational expenditure declined in real terms, and as a result major structural reforms of the system - especially in the promotion of vocational alternative paths - have remained mostly ineffective (pp. 210-216 and 385).

She claimed that the reform in examination and curriculum matters came as a response to the general climate of political freedom and democratic changes - after the 1974 fall of the 7-year dictatorship - and the general feeling that the formal educational system was obsolete and maladjusted in relation to the rapidly changing Greek society. Nevertheless, she pointed out that 'education was not seen by the Greek policy-makers as the transformer of society - even if such an aim was sometimes implied - but rather as an institution that maintained the inequalities, legitimated social roles and the ideology of meritocracy, and preserved the power structure of the centralised State' (p. 386).

Katsillis and Rubinson (1990) argued that the Greek system, due to its 'free' character, "from elementary school through University (including free books for all University students and

meals for the economically disadvantaged) ... lacks the simple direct mechanism of reproduction ... which is present in the United States and other countries” (p. 271). However, they concluded socio-economic background and status seems to play a significant role on achievement and “the [school] reproduction that occurs does so mainly through the differential ability and effort of students from different socio-economic backgrounds” (p. 276).

A recent attempt to assess the Greek educational system as a whole, adopting a rather ‘radical sociological’ approach, is the work of Katsikas and Kavvadias (1994, 1998). Examining data secondary from a variety of sources - mainly official statistics of education, and reviewing previous research in the field - they argued that the Greek educational reality resembles to that of every modern capitalist society, in that here too the dominant ideology is the bourgeois ‘myth’ of ‘social mobility’ through formal schooling (Katsikas and Kavvadias, 1994, chap. 1). They presented figures showing the immensely unequal distribution of the ‘cultural capital’ (Bourdieu) and the importance that financial resources have on the school performance, even in the lower levels of the system, where - supposedly - a ‘universal’ schooling has been achieved (*ibid.*, chapters 2 and 3). They also claimed that the school itself reinforces the inequalities, by treating ‘equally’ pupils with different socio-economic and cultural backgrounds, and different aspirations and abilities (*ibid.*, pp. 77-84). Moreover, they found wide geographical disparities in the educational provision, not only between the big urban as contrasted to the rural areas, but within the Greater Athens Area, where the demographic characteristics of the various municipalities justify the distinction between two different ‘capitals’: the eastern and north-eastern part, with low population growth and high-status occupations, and the western and south-western part, with high population growth and low-status occupations. As far as the parity of esteem between general and technical education is concerned, they seemed not to have illusions about, either the social background of the pupils ‘attracted’ by these two types, or the opportunities given for higher education, and subsequently for better future prospects (as we will discuss later).

The most recent significant macro-level studies concerning the relation between social and educational inequalities, were carried out by the Greek Institute for Social Research (Karagiorgas, 1990, vol.2; Kasimati, 1991).

* In the first work, the debate is developed around the social problem of ‘poverty’ (according to the definition of the Institute, as well as that of the National Statistical Service of Greece,

which includes a number of indicators, such as 'family income', 'occupational category', 'standards of living', 'house location', 'social security status', 'family size' etc.), and shows the wide disparities in educational opportunities between 'poor' and 'non-poor' families. The examination of the existence of certain educational characteristics of these two distinct groups, with the help of 'Indices of Inequality and Deprivation'⁷, reveals a persisting pattern of unequal 'distribution' of the educational 'goods', among different socio-economic groups, despite the improvements made in the provision of public schooling. The study identifies the age-range 20-39 as the most vulnerable in this situation (pp. 350-351), and claims that even for graduates of the same educational level (e.g. primary school) the chances of someone belonging to this category are considerably lower in a 'non-poor' family than in a 'poor' one (pp. 337-339).

In addition, through an intergenerational examination of the inequality patterns, the study shows only a little improvement in the possibilities of 'poor' people to gain access in the higher levels of education. That is, even if an increasing number of students from 'disadvantaged' families have succeeded to get a higher degree, their proportion - as a percentage of the respective age-group - has been relatively small, when compared, either to other socio-economic groups, or to the mean figures of the whole population (see pp. 395-402).

Finally, when the occupational mobility rates are examined (as measurements of the probabilities of a given child acquiring a profession in a higher class-group than that of his father), then it is claimed, not only that there are differences between 'poor' and 'non-poor' children - with the latter showing higher mobility rates - but, in addition, the former's mobility is of a more 'structural' nature, in the sense that their occupational chances are mainly determined by general changes in the structure of the labour market (see pp. 439-466 and 498-504).

* As the second study, focusing mainly on the case of Athens, showed (Kassimati, 1991), the socio-economic and cultural 'capital' of a given family influence not only the level of education attained by a person, but also the direction or specialisation which s/he will choose. It is not surprising that 32% of the Medical Schools graduates have a father who holds a University degree, compared to only 5.5% for those whose father has not completed primary education. The corresponding figures for those graduating from Social Sciences departments are 13% and 14.5% respectively (p. 169). At the same time, 37% of graduates from Medical Schools, 31%

⁷ The general formula for such an index is: $IID_{j/k} = IPEL_j / IPEL_k$ where j represents the 'poor' group, k represents the 'non-poor group', $IPEL_j$ is the percentage of those in the 'poor' group having a certain characteristic, multiplied by 100, and $IPEL_k$ the percentage of those in the 'non-poor' group having the same characteristic, multiplied by 100 (see Chrisakis, in Karagiorgas, 1990, p. 342).

of Engineering department graduates and 28% of Law or Mathematics departments graduates have fathers who work as independent professionals with a higher degree, as compared to 3.6%, 2.9% and 3.3% (respectively) for graduates whose father works as middle and low-level personnel in the service sector. If we examine those graduating from Social Sciences departments, the figures are quite different: 45% have fathers who work as skilled or unskilled industrial workers and agricultural labourers, 6% have fathers occupied as middle and low-level personnel in the service sector, and 20-24% (depends on the department) have fathers who work as independent professionals with a higher degree (ibid., p. 173).

Selection for higher education

Research particularly focusing on this field is relatively rare and concerned with the presentation of a general picture of the distribution of places in higher education institutes, without a contingency in the presentation of the most important factors affecting different opportunities, and most of all, a broad consensus on the general principles that 'should' govern the transition process from secondary to higher education, causing that way a lack of propositions for a new policy framework, and creating a situation which everyone seems dissatisfied with, but nobody is ready to give a viable alternative.

However, nobody could argue that such a task is easy to deal with, since there are three main - and often contradictory - social demands concerning the function of further and higher education in Greece. One is the popular demand for 'democratisation' of the system from the lower to the higher grades, especially after an expansion of the participation of pupils in the primary and secondary education, and in relation to the growing needs of modern capitalism, where success is generally seen as dependent on long-term investment in education. Thus, whereas in the past, winning a place in the upper-secondary school had been considered a success, in the last two decades there has been a strong public pressure for "freer" access to the Universities and the other institutes of higher education.

At the same time, the belief in meritocratic principles (everyone must be educated, employed and rewarded according to his/her abilities, aspirations etc.) is still strong in Greek society, and makes the debate about *who, how and when*, should be selected, very controversial. On the one hand, the meritocratic ideology is 'coloured', under a functionalist perspective, as support for an 'equalisation' of educational provision, so that the most 'talented' and 'clever' will not be deprived from a better future solely on the ground of socio-economic origin. This kind of claim - given the existing social imbalances - ignores that the

assessment of the individual abilities is already socially determined according to certain norms and values, which are not neutral and universally accepted. Therefore, what is 'desirable' in a certain educational system, in other words, a certain social system (e.g., from what counts as 'valid' knowledge, to which disciplines are 'worth' being studied, and subsequently what kind of occupations are highly valued) is more than a belief in personal characteristics, and unavoidably contradicts any argument in favour of equal opportunities.

Finally, since the places in higher education - given its 'free-of-charge' character and the weakness of the Greek economy - are limited, Greece has experienced a situation where, on the one hand, the 'demand' exceeded the 'supply', and on the other hand, there is scarcity of funding resources necessary for the maintenance of a high level - and in fact of every level of - post-secondary public education. This imbalance in the 'supply-demand' relation had - and still has - to be controlled by the system of the National Examinations, while the financial constraints of higher education institutes make 'unwelcome' any proposal for an 'open-access' admission policy.

The above controversies become more complicated if we examine the high expectations about the prestige that higher education degrees attach to their holders, which many researchers have indicated as a unique characteristic of Greece (Tsoukalas, 1977; also Mendras, 1961, as cited in Fragoudaki, 1985, p.186). These high expectations are reflected in the common practice in Greek rural areas, where parents are - or at least have been until very recently - so confident about the advantages of a higher education degree that they usually sell part of their property (i.e., land) in order, either to prepare their offspring for the National Examinations with private lessons, or to cover the cost of living when they succeed in gaining entrance to University and leave home.

As the study of M. Drettakis (1979) revealed, the increasing number of higher education candidates is due not only to the respective increase in the number of high school graduates, but also due to the fact that there is a considerable number of candidates who sit the exams more than once (pp. 63-640). As far as the 'social background' of the student population is concerned, there have been few research attempts in the past, most of them with limited sociological insight and lack of in-depth and extensive analysis of primary sources, apart from a few notable exceptions.

For example, Lambiri-Dimaki (1971) studied the inequality of the Greek higher educational system as far as student recruitment was concerned. The study showed how an inequality in

educational chances is related to such things as the student's family environment, his/her geographical origin, the social origin of the father etc. (see pp.80-109). She also used socio-psychological terms in order to explain the villager's urge to leave the village, his/her ignorance of job opportunities, and his/her greater appreciation of jobs that require a University degree (see pp.127-130).

Meimaris and Nikolakopoulos (1978), after a factor analysis examining all the student population of the country, pointed at the over-representation of the less privileged social classes and of the female gender in the 'low-prestige' humanitarian and social sciences academic departments, with the more privileged students enrolling into engineering and medical courses. Fragoudaki reached the same conclusions (1985) through a very short account of the national-level data on the first year students of the country's Universities in the early 1980s (pp. 189-195).

Polydorides (1985, 1990, 1995a,b, 1996), together with Psacharopoulos (1985, 1987, 1989) have the more extensive record of being involved in the research about the relation between the various types of University-entry examinations and inequality of opportunity:

* Based on the findings of a research study ordered by the Ministry of Education Polydorides (1985, 1995a,b and 1996) - findings which, it should be noted, referred to the pre-1983 era, when the four routes of the N.E. system had not yet been established - she identified the formulation of a new hierarchy of professions in the division of labour, with traditionally prestigious scientific disciplines being in 'decline', and concluded that "a change in the hierarchical ordering of the professions is followed by a change in the social background of students in the corresponding disciplines" (Polydorides, 1995a, chap. 2). Employing as independent variables characteristics of the examined sample of the above study, such as gender, parents' occupation and educational level, previous school attainment, academic track, geographic origin and other socio-economic and educational indicators, and using multiple-regression statistical analysis, she found that the most important factors determining achievement in the University-entry are previous achievement (at junior and senior high school) and curriculum track (study route) (1995, chap.3; 1996, chaps. 1, 4). However, she noticed a crucial effect of the variable 'father's occupation' on the stratification of students in University disciplines, on the one hand, and on achievement in the previous grades of high school. She argued that independent variables, such as parental occupation or education, are 'mediated' by,

and 'filtered' through other variables relating to different 'educational strategies' (e.g., duration and cost of private tuition) (1996, chap.1). That way her study confirmed the widespread belief in the sociological research community that factors such as 'curriculum track' or 'attendance of private cramming institutes', or 'previous achievement', underline the influence that the family exercise on the choices made, on the one hand, and on the resources used for ensuring eventual success, on the other. Nevertheless, by comparing the differentiated achievement that the various socio-economic groups had in, the 'internal' assessment of the schools, on the one hand, and in the 'external' assessment of the N.E., on the other hand, she stressed the 'equalising' effect that a more 'objective' system of assessment - such as the latter - might have on the traditionally 'unequal' Greek secondary school (1996, chap. 4).

In her study of women's participation in the Greek educational system (Polydorides, 1985) she found a great progress in relation to the past, but stressed - as other scholars did - the 'preference' of women for disciplines such as Humanities, Art and Architecture, and their obvious under-representation in technology and science (p. 236). Nonetheless, she believed that this was not a problem attributed to any kind of unequal University-selection mechanism, but rather to the differentiated socialisation process for the two sexes, both in the school classroom and in society as a whole. Therefore, she urged for further research activity towards "equality in the status of women in the workforce and in academia" (p. 238).

Attempting a study looking for trends in the relationship between the system of National Examinations and the structure of the labour market Polydorides (1995a, chap. 4) argued that in Greece there has always been, and still is, a surprising channelling of higher education candidates to departments with rather 'gloomy' job prospects. This kind of 'fetihistic' - on a first view - attraction is mostly connected to an evaluation of the working conditions that a holder of a secondary-school certificate will have to deal with. The system itself creates and reproduces the demand for the specific departments, since - apart from the factor 'luck', which plays a significant role in the allocation of the higher education places - it supports a whole network of preparatory cramming institutes, in which most of those students, when they graduate from University, will seek employment. Most of the above departments tend to operate as 'producers' of future teachers, in the respective speciality (pp. 82-83). So, there is a vicious circle that reinforces the degree of in-school selection between those 'capable' of studying the most prestigious academic disciplines (i.e., Medicine, Science and Technology) and those 'destined' to be enlisted in the catalogues of the Ministry of Education for a future appointment in a public school, working in the meantime in cramming institutes and 'preparing' younger generations for the same vicious circle.

* Psacharopoulos and Papas (1987) tried to identify and analyse how aspirations are formed, and what factors lead to University entry. By using a baseline and a follow-up questionnaire, they collected information on the students' plans and aspirations, especially regarding the type of post-secondary institution the graduate would attempt entry, and the graduates' labour market perceptions, respectively. In addition an especially designed ability test was administered to the students who were in their senior class. Their findings can be summarised in the following conclusions:

- 1) The University-entry aspirations of males are higher than those of women, and become higher with each additional year of their father's education.
- 2) The student's grade in the senior high school class is a significant factor determining University entry, and the same counts for attendance at a private school and homework time. (We must not forget that the study had been made before the last major change in 1988, when entry into higher education was now based solely on the overall score of the candidates in the National Examinations).
- 3) Family background - measured by the length of parents' schooling - and University aspirations jointly determine the type of secondary school attended. More specifically, it was argued that "families that have already instilled in the student University aspirations will attempt to place him/her in the most suitable type of school - e.g. a selective one - in order to maximise the chances of later success in the University" (p. 490).

Taken these points into consideration, we can see that the authors - despite not considering the crucial factor of parents' occupation in their analysis - claimed that the present system is unfair and "favours high income groups" (Psacharopoulos and Papas, 1987, p. 494). However, they did not propose any type of measures to cure this inequality. Instead, they blamed the limited availability of places in higher education - which creates excessive demand for it - and argued in favour of the possibility for the establishment of private - or generally 'fee-paying' - Universities in Greece (p. 495; see also Psacharopoulos, 1990, and Papas and Psacharopoulos, 1993).

In the aforementioned study conducted by the National Social Research Centre (NSRC, or *EKKE*), Kassimati (1991), focused on University graduates and identified factors that mostly affected their decision to follow specific courses. It showed that from the total number of those asked to express their opinion, less than 50% declared that they chose a course because they liked it. Most of them said that other 'external' factors, such as family pressure, job prospects, financial restraints, and chance - because of the system of allocation of places - played the most significant role. This trend was more clear in the students from low socio-economic groups, who usually entered into low-prestige academic departments (see Katsikas, 1994, pp. 111-113).

Kiridis (1996) in a study of the inequalities prevailing in the Greek educational system, and the distribution of students in higher education, referred to the new system of National Examinations (the book was based on his older Ph.D. thesis), and concluded that the present system cannot remedy the inequalities already existing within schools. On the contrary, it reproduces and legitimises them.

In their latest book, Katsikas and Kavvadias (1998) criticised the educational reforms in the nineties as an attempt to adjust the school system to the 'directives' of International Capital. As far as the University-entrance system is concerned, they accused the Ministry of Education that, by increasing the number of (nationally administered) examinations - through the recent introduction of 'summative' assessment procedures - they turn schools into 'competitive enterprises', where knowledge is treated as 'consumable' product (see chapters 3 and 4).

CHAPTER 4

CURRICULUM AND EXAMINATION REFORMS FROM THE 1960s.

The changes which have taken place in the last thirty years in the Greek educational system - and subsequently in the examination system - cannot be considered as bold and radical, despite the political arguments in favour of such changes. The evolution of educational policies during this period reflects the 'backwardness' in pace of wider political, institutional and economic reforms which characterised Greece at the same period.

One of the persistent criticisms of the Greek education system, particularly at the secondary and post-secondary level, has been its inefficiency as regards its perceived educational and socioeconomic functions. For example, in the 1950s and 1960s, large numbers of students dropped out before completing secondary school (the six-year *gymnasium*) without possessing the appropriate skills for entry into the labour market. Even those who managed to finish school were poorly prepared, either for work, or for further education. This contributed to the growth of cramming institutes (the so-called *frontisteria*) and other para-educational activities, unemployment among graduates of the *gymnasium*, or the need to seek supplementary practical training for employment.

In addition regional and gender differences existed, with Greater Athens (metropolitan area) showing the highest participation ratios in secondary education. In 1960-61, for example, the lower-secondary-school enrolment ratio in this area was 60.9 (51 for girls), whereas in other Greek regions the ratio ranged from 15.3 (girls in Thrace) to 45 (boys in Crete). In upper-secondary education too there existed considerable regional variations and differences according to gender, ranging from 11% (girls in Epirus) to 43.9% (boys in Greater Athens). (OECD, 1980: 120)

THE 1964 REFORM

Reforms in examination and curriculum matters came as a response to the general climate of political freedom and democratic changes, and the feeling that the formal educational system was obsolete and maladjusted in relation to the context of a rapidly changed, and technologically advanced 'Western World'. Not surprisingly, the general system of schooling,

especially at its basic levels (primary and secondary) was the first target of the reform policies of the various governments.

Although the most fundamental changes to the system were introduced after the re-establishment of democracy in 1974, the 'seeds' for these changes had existed in the mid-sixties, when the liberal party of George Papandreou was in office. Amongst the changes brought about by this government - which attempted in an unfavourable social climate to attack the 'classicism', 'conservatism' and 'intellectualism' of the precedent right-wing governments - the most important were the follow:

- free education at all levels of public education
- nine-year compulsory attendance instead of the six-year system that existed
- restructuring of secondary schools into three-year *gymnasium* (lower) and three-year *lyceum* (upper); the latter would include general and technical-vocational types.
- *demotiki*, the vernacular, would be the language of instruction in primary schools and taught along with *katharevousa* (a simplified form of ancient Greek) in secondary schools.
- at the end of secondary education the pupils would sit special examinations to get the 'Academic Certificate' that would allow entry to the Universities.

As far as the last change is concerned, it can be argued that it was actually the first official step towards the introduction of a National Examinations System. In other words, whereas in the past, each higher education institute had conducted its own entry examinations, now the Ministry of Education was responsible for these examinations on a national level. The examinations for the 'Academic Certificate' (something analogous to the French *baccalaureat* and the German *abitur*) were to be conducted on specific dates in various cities of the country, based on the subject matter taught in the *lycea* and marked by secondary school teachers, not University professors.

In order for a candidate to get the 'Academic Certificate', s/he had two alternative 'types of schools' to choose from. The first one included the so-called 'liberal' disciplines (Law, Literature, Theology, Economics, Political Science and Teacher-training Colleges), whereas the second one included 'applied' disciplines (Natural Science, Mathematics, Medical Science, Engineering, Architecture etc.). However, even the latter was affected by the traditional orientation of the whole system, since among the examined subjects were 'Ancient Greek', 'Modern Greek' and 'History', although for the calculation of the final grade they were multiplied by different coefficients as compared to those of the type A subjects.

It was not the first time that a nation-wide educational reform had been attempted. Actually it was the third attempt in the same century (the previous ones had been made in 1913 and in 1929, both under centre-wing, liberal governments) to insert a new way of thinking in the conservative and classicist Greek educational structure. The new liaisons between the country and the EEC - from 1961 - urged for radical economic restructuring, something that required an equally radical reform of education. This would eventually bear the duty to train the necessary work-force. The shift to technical-vocational education, was thought capable of creating a multi-leveled network of practically-orientated middle schools, which would run in parallel to 'general' secondary education, enabling Greece to keep pace with the educational systems of more advanced capitalist countries (Bouzakis, 1986, pp. 104-105). In addition, measures such as the free education at all levels of public education, the nine-year compulsory attendance, the introduction of *demotiki*, the improvement of teacher-training etc., generated a sense of 'justice' and 'equality', especially in the lower social strata, where economic and other reasons prevented the provision of even the most basic forms of education.

The introduction of compulsory nine-year schooling considerably raised the participation rates, especially in secondary education throughout the 1960s. For example, overall participation in secondary level, from 33% of the relative age group in 1960 went up to 56% in 1970. The corresponding figures for girls' participation showed an even more impressive trend, with an increase from 28% to 54% (OECD, 1980, p. 121). In fact, the participation of the female population in general secondary education almost equaled that of males - with slight regional differences (see Table1). One could even argue that girls were more favoured than boys as far as the general education was concerned.

Nevertheless, the reverse was found when technical-vocational and higher education were included in the estimates. When this was carried out, the participation of girls in the former, and of lower socioeconomic strata in the latter, was quite low.

Especially in technical schools the girls' level of participation - although the overall enrolment increased dramatically - remained far below that of boys. In 1975-76 (10 years after the introduction of the reforms), there were only 6,863 girls registered in secondary (middle) technical schools out of a total of 55,503 students (12.3%), and 2,607 in lower technical schools out of a total of 60,119 (4.3%). In contrast, their participation in vocational schools was significantly higher (middle level: 7,892 out of a total of 16,969, or 46.5%; lower level: 1,168 out of 1,308, or 89.2%) (Ministry of Education, 1975, table 2.101). However, the relatively high proportion of girls in vocational education may be explained by the fact that this

type of education, in contrast to the technical type, leads to occupations which are socially accepted as 'women's jobs'.

TABLE 4.1

Participation of Population aged 16-18 in Upper-Secondary Education, by Region and Gender, in 1960-61 and 1970-71.

| <i>Region</i> | Boys | Girls | Boys | Girls |
|--|------|-------|------|-------|
| <i>Total</i> | 30 | 23.5 | 35.8 | 38 |
| <i>Greater Athens</i> | 43.9 | 42.1 | 38.2 | 43.8 |
| <i>Rest of Central Greece & Euboea</i> | 24.1 | 15.5 | 29.8 | 30 |
| <i>Peloponnesos</i> | 31 | 25.3 | 36.9 | 41.9 |
| <i>Ionian Islands</i> | 28.5 | 21 | 38.8 | 31.8 |
| <i>Epirus</i> | 29.6 | 11.1 | 36.2 | 32.7 |
| <i>Thessaly</i> | 23.8 | 13.4 | 40.7 | 38.2 |
| <i>Macedonia</i> | 24.8 | 19 | 33.1 | 36.6 |
| <i>Thrace</i> | 13.9 | 11.6 | 27 | 23.5 |
| <i>Aegean Islands</i> | 27.3 | 20.4 | 39.2 | 32.1 |
| <i>Crete</i> | 29.7 | 24.6 | 38.1 | 42.7 |

Source: **Ministry of Education**, *Statistics of Education*, 1970-71.

On the other hand, in higher and University education, in the 1960s the over-representation of social groups which were very high in the occupational ladder, was obvious. For example, students whose parents were holders of 'professional', or 'managerial and administrative' jobs - in relation to the respective occupations' representation in the whole population - had on average from two to four times more chance of securing a place than the offspring of 'blue-collar workers' and 'farmers' (OECD, 1980, p.126). Nevertheless, the gap in the opportunities tended to narrow, not only in socioeconomic, but also in gender and geographic terms, as time moved towards the 1970s (Polydorides, 1995a, chap. 5, 13). This was due to the

compensatory measures following the 1964 reform, and the greater State intervention in the reorganisation of all levels of education after the delay caused by the seven-year 'break' of the dictatorship, as we will discuss now.

REFORMS UNDER THE 'JUNTA' REGIME

The 1967 'junta' brought to a halt every reform attempt, and reinforced the conservatism of the 'traditionalists'. Among the counter reform measures of the period 1967-74, was the reduction of compulsory education from 9 to 6 years long, the abolition of translated ancient Greek literature texts, and the replacement of social sciences in the new curriculum. The teaching of *demotiki* was restricted to the first 3 grades of primary school. Secondary education remained 'integrated' in the form of the six-year *gymnasium*. In general, in those years, Greek education was more classics-orientated, bookish and old-fashioned than in the previous decade. The most important changes were to be observed in the 'hidden curriculum' (Young, 1971) of schools and the disciplinary environment in which teaching was taking place. The regime attempted to turn the attention of pupils towards values of the past, especially through emphasis on ancient Greek and its simplified form of school instruction, the *katharevousa* (the pure language).

The paternalistic attitude of the dictators in 'saving' education can be seen in the will of the regime to maintain education free of charge at all levels, and to replace the old textbooks with new ones, aiming at imposing the new Helleno-Christian ideals.¹ A quick review at, say, the textbooks of civil education of that period, would reveal feverish (State-guided) attempt to restore - if it ever existed - the self-confidence of the 'nation', through the invocation of the old virtues of the glorious 'helleno-cristianic past', the condemnation of communism, and the undisputed conformism to the formal guidelines. In a period when political radicalism was increasing, traditional ideologies were tested and criticised, and new social movements were formed, that kind of official educational policy could not in any way produce a viable and long-term manifesto of national identity. However, it could - and it actually did - halt a wave of educational reforms of great importance to the administrative structure, the curriculum content and the pedagogical framework of Greek schools.

Nevertheless, it seems that, even in the period 1967-74, there existed the political will - after insisting recommendations by international organisations, like the World Bank - for a

¹ Here we should note that all the following governments used the distribution of textbooks for strengthening the control over knowledge.

restructuring of higher education and a promotion of technical-vocational education on a higher level. Thus, although there existed a widespread bias against technical and practical studies in the curriculum-orientation of schools, at the same time, the lack of balance in the provision of school knowledge started to be realised. The output of graduates from secondary schools and Universities was growing more rapidly than the capacity of the economy to create new jobs. In contrast, the output of graduates from technical schools could not meet the shortages of the labour market. It becomes reasonable to assume that the need to raise productivity and improve the overall performance of the economy, gradually prevailed over the 'liberal' orientation of the Helleno-Christian tradition.

To argue that big improvements have been brought, however, would be rather naïve. If we consider that in the Greater Athens area there was - and still is - half the population of the country, as a result, the increased enrolment as a proportion of the respective area-population represented a very small improvement in real figures.

Moreover, if we take into account the unsystematic methods of collecting data or keeping school records at that period, and the high drop-out rates - especially in the country-side where the contribution of the younger members of the family in agricultural work was considered essential - then it is easier to realise the little improvement achieved in the reduction of the regional differences (Eliou, 1976).

In the technical field, while secondary education was marked by the total reverse of the 1964 reform, a new type of educational-development plan emerged under the auspices of foreign guidelines. It was part of a long-term plan of economic development, called 'Model for the Long-term Development of Greece, 1972-1987'. The Plan projected the mass movement of labour force from the primary sector (agriculture) of the economy to the secondary (industry) and the tertiary (commerce, services), and in addition an increase in the graduates of technical-vocational education, from 335,000 in 1971 to 1,600,00 in 1987 (Bouzakis, 1986, p. 111).

This Plan was criticised, either in terms of its sociopolitical effects - since the low-skilled graduates of the aforementioned technical schools would constitute an easily exploitable labour force for the various multinationals, which were hunting for cheap labour - or in terms of the general economic dependency that it was bound to create, since it meant the abandonment of a strategic sector of the economy (agriculture), which subsequently would cause the increase of basic-food-product imports, and the deterioration of trade balance and exchange rates (Vergidis, 1982; Bouzakis, 1986).

The flow of internal migration toward the big urban centres - taking place in the last three decades - was not the intended outcome of a macro-level manpower planning, but rather the result of the complete absence of regional policies throughout the period examined. Moreover, the distribution of the labour force to the secondary and tertiary sectors has been proved highly unequal in favour of the second, something that is revealing of the imbalance that characterises, not only the productive base of the Greek economy, but also of the curriculum content of schools and the attention paid to technical-vocational education.²

It is true that the increase in enrollment and output ratio of technical education during the 1967-74 period was of an unprecedented level for Greece. While the output of the six-year gymnasium increased between 1968 and 1974 at a rate of 37.6%, that of the (lower and middle) technical-vocational schools increased at a rate of 78.8%. The graduates of the latter were about 42% of those of the former (15,898 as compared to 37,844) in 1968, but in 1974 the proportion was 58% (28,657 and 49,183, respectively), although it started to fall again in the following years (OECD, 1980, p. 132). Despite the improvements, the importance given to the 'helleno-cristianic tradition' and the mainly classics-oriented curriculum of the Greek schools at that period affected, not only the content of technical education and the resources allocated to it by the government, but also its status in the eyes of the public (see Drettakis, 1974; Dimaras, 1975; Noutsos, 1978; Nikta, 1991). As a result, secondary technical-vocational education continued to attract the type of pupil with no hope of having access to 'prestigious' occupations, that is those who were expected to benefit by a vocationally-oriented educational provision (blue-collar workers, office clerks, farmers etc.).

That was the case also with the participation in higher education by different socioeconomic groups. According to OECD calculations, in the years before the 1976-77 reform, participation in higher education was highly unequal when examined on the basis of the father's occupation. Although the situation from the 1950s to the 1970s had been changed in favour of the 'lower' professions, in the mid-1970s there were still wide differences of access in certain University departments. In 1975-76 for example, Humanities was the only field where all occupational categories were represented almost 'equally', whereas Law was "over-represented by professionals and managerial personnel", Social Sciences and Teacher-training were "over-represented by people in agriculture and by blue-collar workers", and the more elite occupations were "concentrated in the more 'elite' fields of study, e.g., Medicine" (OECD, 1980, p. 121).

² The proportion of those occupied in the primary sector has been diminished dramatically during the last 40 years. From about 54% in 1961, it fell to 29% in 1985, and 21% in 1994. At the same time, the figures for the

The restructuring of higher education was initiated with the introduction of various ‘Cycles of Schools’ for National Examinations purposes, corresponding to a very ‘specialised’ classification of academic disciplines (see Box 1).

The promotion of technical and vocational education at a higher level was characterised by the establishment - in 1969 - of the ‘Centres for Technical and Vocational Education’, known by the Greek acronym ‘KATEE’. These Centres were created to provide technical education and training for middle-level manpower at the higher technician level, and have been considered as equivalent to the ‘Community Colleges’ in the USA. The major reason of their existence was that they catered for those students “whose initial educational aspirations was a University degree”, but “having failed to enter Universities, they were obliged to pursue their education elsewhere” (Kalamatianou *et al.*, 1988, pp. 272). The first five KATEEs were established in 1974 in Athens, Thessaloniki, Larissa, Patras and Heraclion (Crete), covering 21 faculties with 74 specialised departments.

BOX 4.1

EXAMPLES OF ‘CYCLES OF SCHOOLS’

| <u>Cycles of University Schools</u> | <u>Subjects Examined</u> |
|-------------------------------------|--|
| A. Literature | ‘Written expression’, ‘Ancient Greek’, ‘History’, ‘Latin’ |
| B. Law | (The same) |
| C. Physics-Mathematics | ‘Written expression’, ‘Mathematics’, ‘Physics’, ‘Chemistry’. |
| | |
| H. Economics | ‘Written expression’, ‘Mathematics’, ‘Geography’, ‘History’. |

secondary sector were 19%, 27% and 24%, and for the tertiary sector 27%, 44% and 55%, respectively.

THE 1976-77 REFORM: MAIN CHANGES

When democracy was re-introduced in 1974, the climate was in favour of major political, social and educational reform. The recommendations of international bodies, such as World Bank and OECD, pointed out to the great need of support for technical education, while they commented on the great 'inequalities' in educational opportunities, prevailing in the 1970s, in relation to gender and socioeconomic status. (see OECD, 1980)

In the process of formulating new ideas for educational policies, what was sought by the government was not the advice of individual Minister-appointees or associates, but rather the establishment of a body of experts who would formally operate as part of the 'managerial' group of the State organisational mechanism (see Parsons, 1959). The function of this group was perceived as crucial because of, not only the complexity of educational innovation at international level and the example of other European countries, but also the need to achieve consensus in such highly controversial reform attempts. This required the participation of experts of as many different scientific disciplines as possible, contrary to the past when the School of Philosophy of the University of Athens had been the main agent of policy-planning in school matters. Therefore, the existence of an anti-reformist alliance - which consisted of MPs belonging to the governing right-wing party, individual University professors, appointees of the dictatorship in the State mechanism, and conservative religious pressure-groups - despite the causing of delay in the approval of the reform legislation, did not decisively affect the proposed changes (see Mattheou, 1980, chap. 5).

As a consequence of this rationale, in 1975, the Centre of Educational Studies and In-Service Training (KEMME) was established. Its main tasks were defined as: "a) the systematic scientific study and research of educational matters, b) advise on any law draft proposal by the Minister, c) the design of textbooks and timetables and d) the in-service training of teachers" (Nikta, 1991, p. 63).

Here it should be remembered that the centralised nature of the administrative structure of the Greek system could not - and indeed did not - allow KEME to be involved in essentially political decision-making procedures, neither did it leave any doubt about the real influence this body of experts had on the educational goals that each political party in power had already set up according to its own ideological principles and political interests. Although it can be asserted that, after 1974 the 'Political Centre' (Ministry of Education) with its affiliated agents - operating under the financial constraints imposed by the government's budgetary policies - was no longer 'impenetrable' from 'external' influences (see Archer, 1979), at the same time

it was far beyond any doubt that all the initiatives for educational reform have been - and actually still are - channelled through various patterns of 'political manipulation' occurring between the governing-party elite and the different interest groups (Mattheou, 1980; Eliou, 1986).

One of the main focuses of the debate at that period, was the structure, content and orientation of the pre-University level of general education, and especially the undifferentiated general secondary school. The concern over this stage of schooling was decisively influenced by the progressive integration of Greece into a system of international cooperation, particularly after the build of closer ties with the European Community, of which it would become a full member in 1980. Thus, in a climate of debates about the fundamental aims and goals of education, the Greek policy planners could only observe that all the other (Western-) European countries adopted - some of them many years ago, and others not until recently - a variety of multi-purpose types of secondary-level curriculum, fitted to the needs of the highly sophisticated and changing post-modern Western societies (see Brock and Tulasiewicz, 1994). Moreover, it was soon realised that the aim for an improved vocational and professional readiness of school leavers in a development environment would stress, above all, the economic priorities of the Common Market, rather than the interests of each individual country.

Under the laws 309/1976 (for general education) and 576/1977 (for technical-vocational), secondary education was split into two independent 'cycles', the 3-year comprehensive *gymnasium* (13-15), and the 3-year selective *lyceum* (16-18). Examinations from primary to secondary school were abolished, and strict examinations at the end of *gymnasium* were introduced, in order to allocate pupils to the new diversified senior high school. Those who performed better in these examinations were accepted in the 'prestigious' general *lyceum*, whereas those who performed 'poorly' were allocated either to the 3-year technical-vocational *lyceum*, or to the 2-year technical-vocational *school* (for details see diagrams 1 and 2 of the Appendix).

The curriculum of the general *lyceum* was orientated toward higher education. The subjects taught in the first year of this school were common for every pupil. In the second year there was a distinction between common and optional subjects, the latter leading at the end of the third year to one out of two types of certificates (*apolytirion*), which corresponded to two different groups of academic disciplines. The old classical and practical directions were reshaped into two groups of selectives: a) ancient Greek, history, Latin and b) mathematics,

physics and chemistry. Ancient Greek was the subject that all students had to attend for the most hours every week.

The first of the other two alternatives (the one- to two-year technical-vocational school) was of admittedly lower esteem, and it offered, mainly, a preparation stage for the labour market, after specialised training. For those studying in this type, there was the choice - instead of starting work immediately after graduating - to sit special examinations in order to gain a place in the second year of the technical-vocational *lyceum*.

The latter was formally considered as having the same status as the general lyceum. It was not only meant to prepare the students for the labour market, but in addition for the 'ablest' of its graduates to enter higher technical education. For that reason a proportion of the entrees to the KATEEs (32%) were allocated into the technical lyceum graduates, according to their school achievement. Thus, we see that, whereas entry to higher education (Universities, teacher-training institutes and KATEEs) was allowed only after examinations at a national level, the government decided to give a small incentive to those attending technical secondary schools, trying in this way to attract more students who liked to pursue a more vocational type of study, but at the same time were willing to continue their studies in a higher level (Bouzakis, 1986, pp. 112-115).

As far as University-entrance examinations were concerned, the Ministry of Education in 1980 abolished the old system of 'Cycles of Schools' and re-introduced the system of two-directions certificate - mentioned above. There were two kinds of certificate (the participation in examinations was compulsory in order to graduate): one (Type A) for those wishing to study Humanities, and another for those who chose the 'positive' track (Type B). The innovations of this system were:

- a) the subjects examined in the Type B examinations, were now more related to the 'applied' character of the respective scientific disciplines, in contrast to the previous similar system of 1965 where dominance of 'liberal' studies was obvious.
- b) the examined matter was selected solely from the curriculum of the last year's taught curriculum.
- c) the selection of students for Universities was made according to the preference of the candidates and their scores. The scores would determine whether a candidate would study in the more prestigious schools within the group that s/he selected. The score was the weighted mean of the total of grades on their certificate, (second-year achievement + last-

year achievement), their grades in composition in modern Greek, and in selective courses at the examinations multiplied by a different component for each school.

d) the graduates of technical-vocational *lycea* could sit in the examinations if they had chosen the additional courses of the second (type B) group of electives.

The examinations were called 'Panhellenic' (national) because they were taking place simultaneously throughout the country with common subjects selected by a special committee of the Ministry. Examination papers were marked by two secondary school teachers, and in case of a great gap in their marks, the paper was re-evaluated.

Critical Assessment of the Reforms

The 1976-77 reform did not radically affect the prestige of the traditional 'academic' subjects. The aim of the lyceum was quite similar to that of the upper level of the old 6-year *gymnasium*, in the sense that it was perceived as a preparatory stage before the tertiary education, despite the official declarations that it meant "to provide an education that is richer and broader than that of the *gymnasium*" (see Law 309/1976, article 29).

The official importance given to the educational reorganisation was manifested on every occasion by the government. The Prime Minister himself chaired in January 1976 a conference at the Ministry of Education with academics and educationists in order to discuss the possible alternative solutions to the problems facing the structure of the educational system. The final Bill, presented to the Parliament the next year had many similarities to that proposed by the centre-wing party of G. Papandreou in 1965. The only difference now was that the right-wing party was in power, whereas 10 years previously, it had been the opposition and had strongly objected to the then proposals. This is revealing of the highly controversial political interests associated with every attempt for educational reform in the modern Greek history.

Assessing the 1976-77 reform, we must first summarise the major considerations embodied in the laws 309/1976 and 576/1977:

- The raising of the school-leaving age, which was a constitutional mandate (article 16 of the 1975 Greek Constitution), ranked as a very important precondition for the goals of democratisation and modernisation. Compared to other Western societies, especially those of the European Economic Community, Greece had the fewest years of compulsory schooling (6 compared to generally 9).

- Selection through examinations at the end of compulsory schooling (age 15+), and the reorganisation of upper secondary education, would deflate the increasing bulge of aspirants for admission into the Universities and other post-secondary institutions. At the same time, they would alleviate the problems of under-employment and psychological frustration.
- Related to the above was a concern to make the education system more efficient and capable of satisfying the economic needs of a 'modernising' society.
- A strong desirability of maintaining control over educational standards, such as the attainment of certain levels of knowledge and the 'screening' of the most 'talented' for the few places that were - and still are - of necessity available in the Universities.

The problem of language had to be solved. Among educational reformers, the 'language question' was not merely an issue over what form of Greek should be taught in school. It represented basic differences in Greek social and educational philosophy. The introduction of the modern Greek language would help open up new cultural and intellectual horizons, those grounded in the contemporary socioeconomic needs of Greece. It would also arouse pupils' interest in learning, and, ultimately, it would develop more versatile, responsible and democratic citizens.

Despite the declarations, the general *lyceum* kept its role of training pupils only for the Universities and providing general culture without any considerations for the labour market. The 'shadow' of the entrance examinations to *lycea* affected the study of pupils and the curriculum balance in favour of modern Greek, mathematics, history and physics, that were conducive to their success in passing examinations.

The arguments in favour of the economic profit of education were applied only in the case of technical education. In this direction there have been relatively rapid changes. First of all, the law 576/1977 abolished all the lower-secondary technical schools - as uneconomic and unpopular - and set the priorities for an extensive program of building construction throughout the country, in order to meet the needs of a sound technical education provision. Thus, in parallel to the general *lyceum*, there was the technical *lyceum* - which, officially, granted its graduates the same status - and the technical school, representing previous types of technical provision. The latter's existence revealed the financial stringency, within which the reform attempts had to be implemented.

The vocational part of the above schools grew at a relatively high speed between 1970 and 1974, and between 1974 and 1976. One notable advancement was the increasing participation of girls in these type of courses - as of course is the case for the other types of school, only in a

lower degree. In 1979-80, girls represented 64% of total student enrolment, with variations as high as 68% in Greater Athens, as low as 13.5% in Epirus, and zero in Thrace and Crete. Nevertheless, if we include in our estimates the technical schools, their participation remained disappointingly low, with a percentage of only 20% of the total (see Ministry of Education, 1977).

Nevertheless, the main obstacle to vocational education was the reluctance of parents to accept non-traditional orientations for their children and the reluctance of pupils to abandon the dreams of a job in the public sector. Such attitudes were deeply rooted in their minds since, from the 19th century, the school certificate - and later on - the academic degree had been inextricably linked to a kind of occupational security and social success (Tsoukalas, 1977).

Despite the consensus that these reforms sought to create among all interested parties, there was still a widespread skepticism about some aspects of the new framework. For example, although the extension of compulsory schooling and the apparent solution of the problem of 'diglossy' were both heralded as important steps in the modernisation and democratisation process, at the same time, the system of examinations for the *lyceum* was perhaps the single most troublesome aspect of the reform for a wide segment of the public.

Another issue - although not politically controversial - was the opportunity cost that the poor peasant families had to bear after the raising of the school-leaving age from 6 to 9 years. A minimum schooling of 9 years would oblige farm children to spend 3 more years in school, whereas in the past they could contribute to the family's income by taking part in farming work. Thus, despite the fact that it was more of a problem of social perception of schooling in general, it generated a debate about the 'gap' in educational resources between urban and rural areas. This forced a number of researchers to propose that the State "should subsidise the families affected by the new system, by lowering the marginal cost of schooling for farm families" (OECD, 1980, p. 157).

In general, that it could be said that the reform efforts in the secondary stage, despite the big improvements they brought, lacked two things: a) the proper timing, in the sense that the State authorities tried after considerable delay to implement a number of changes, many of which could - and should - had been initiated decades ago (Bouzakis, 1986, pp. 121-23), and b) adequate infrastructure and resources that could effectively support a 'shift' to the technical education. The conditions for the success of the new system were far below the very promising official rhetoric, especially as far as the training and continuous support of teachers responsible to teach a new vocationally-oriented curriculum was concerned. The overwhelming majority of students in the lower-secondary school (*gymnasium*), still preferred the more prestigious

lyceum path, in even higher proportions than those witnessed hitherto. Thus, in the school-year 1976-77 93.5% of the *gymnasium* graduates participated in the qualifying examinations to *lyceum* (general or technical), instead of applying for a place in the two-year technical-vocational school; in 1977-78 the respective figure was 97.2% (Bouzakis, 1986, p. 122)

In higher education, the most important aspect of the new system was the 'homogeneity' it brought with it, as far as the characteristics of the student population in each institute are concerned. More specifically, the abolition of the previous 'cycles of schools', and the grouping of different disciplines together resulted in: a) a very high proportion of candidates entering academic departments completely irrelevant to those that they had been their initial choice, and therefore plenty of them, either were unsatisfied with their studies, or decided to sit National Examinations again next year; b) there seemed to be a kind of 'social mixing' going on in the various academic departments, in the sense that now students coming from 'lower' socioeconomic strata (e.g. the offspring of manual workers and peasants) gained - often accidentally - a place to the prestigious disciplines of Technology, Law and Medicine, whereas in the past they were forced to choose one particular group ('cycle') of academic departments. In other words, a kind of 'equalising' mechanism appeared to affect the distribution of higher education places - especially in the Universities - by allowing candidates with a socially 'inferior' background to attend courses previously dominated by the more 'privileged' groups (civil servants, self-employed professionals etc.), although the reverse did not happen.

It is important here to stress the selective and credentialising role which examinations performed in Greek education, in a period when the high social demand for general education and for University degrees was running against every attempt to control educational standards, and output. Revealing of this demand was the increased proportion of entrees in the late seventies and early eighties - although it still remained relatively low. In 1974 the number of entrees in higher education (Universities and KATEEs) was 16,025 in a total of 68,063 applicants (23.5%), in 1978 21,375 out of 84,417 (25.3%), in 1981 26,754 out of 75,206 (35.5%) and in 1982 33,235 out of 78,708 (42.3%) (Katsikas, 1994, p. 136). The need to screen the 'intellectually most capable' for the few places that were of necessity available in the Universities and other higher institutions (the prevailing principle was that of 'meritocracy') was indisputable, but, at the same time, the highly selective procedure raised questions of 'equity' and 'social justice'. Especially the educational opportunity within higher education was found to favour students with fathers in the highest places of the occupational pyramid, and that was a conclusion derived not only by Greek researchers (Eliou, 1976; Drettakis, 1979;

Milonas, 1984; Fragoudaki, 1985; Polydorides, 1995a,b), but also by international organisations like the OECD (1980).

CHANGES IN THE 1980s AND 1990s

Social and Educational Context

After the general elections in 1981, PASOK, the socialist party of the opposition - formed only 7 years ago - came into office.

We should not forget that the new government came to power in a period of radical sociopolitical and economic transformations. Apart from the first signs of the collapse of the 'Eastern Block' in the mid- and late-eighties, Western Europe was experiencing an unprecedented movement for economic integration, through the EEC operation and its expansion southwards. Greece, as a new member of the EEC was being tantalised by problems of imbalances in the structure of the various sectors of the economy. Despite the fact that Greek per capita GDP jumped from one-quarter of the OECD average in the mid-fifties to almost one-half in 1979, it continued to have a narrow industrial base and a large inefficient agricultural sector. It was this which accounted for 18% of GDP and 30% of employment in 1980 (OECD, 1993, p. 14). At the same time, the country faced - due to the promising industrial growth of the sixties and early seventies - a dynamic internal migration. The urban population increased, from 43% of the total in 1961, to 58% in 1981. A dramatic shift in the distribution of the labour force showed a progressive decline in the primary (agricultural) sector. This decline, however, favoured the tertiary (service) sector, instead of the secondary sector (industry and construction). The distribution of the labour force in 1961 was 53.8% in the primary sector, 19% in the secondary and 27.2% in the tertiary one; in 1981, the figures were 30.7%, 29% and 40.3% (NSSG, 1981).

The socialist ideology supported by the government of PASOK - though not resembling in any way the communist model - justified the State's intervention in the socio-economic sphere, in a period when the 'thatcherist' model of 'privatisation', 'deregulation' and 'free-market ruling' was still shocking the Greek people. Additionally, the European Community was being perceived as a mechanism of dominance of the 'international capital'.

The general context of the policy of PASOK government was aiming at “national independence, the sovereignty of people, social liberation and the socialist transformation of society” (PASOK, 1981, p. 13).

Among the measures taken by the PASOK government was the reinforcement of compensatory education. A new institution of post-lyceum preparatory centres was established, which aimed at offering free training for examinations on selected subjects for all pupils. The aim of these public institutions was to provide tuition to poor pupils who could not afford private tuition, and to reduce the inequalities of the private cost of exam preparation, especially in the countryside.

From 1982 already, the entrance examinations to the *lyceum* were abolished, and a new type of *lyceum* was introduced in 1984 at the post-compulsory level. This was called ‘multilateral’ *lyceum*, and it combined characteristics of the general and technical-vocational types.

The direction of this school was the integration of general and vocational education, and the elimination of the “prejudice against manual work, the ‘offering of scientific and technological knowledge, and the methodology of acquiring this knowledge” and the “offering of equal opportunities to all young people, and helping pupils to become democratic citizens...” (Ministry of Education, 1987, pp. 19-22).

Pupils in these schools had - and still have - a compulsory core curriculum at the first grade, with very little scope for selection. At second grade they can choose one of six ‘cycles’ that are connected to some of the seventeen specialisations at the third grade. That means that one ‘cycle’ of the second grade leads to various specialisations in the third grade. For example, “cycle 1 - ‘man and society’ - leads to the following specialisations: either academic option 3 to the University faculties of Humanities and Law, or other vocational specialisations such as office tasks, librarians, computing, social services and applied arts” (Nikta, 1991, p. 241). Thus, the options are built up and developed along with grades. The fact that only at the third grade there are vocational specialisations similar to those of technical-vocational *lycea*, justified the additional fourth year of practice in the specialties of some lines, such as agriculture, secretarial, car engineering etc. (Ministry of Education, 1984, pp. 839-46). The statistics, however, showed that in 1989 only 400 out of 6,130 graduates (of multilateral schools) attended the fourth year (NSSG, 1991).

On the whole, the curriculum of this *lyceum*, rather resembles the curriculum of the general *lyceum*, with a few additional subjects, rather than that of the technical-vocational one. It seems that - although there are no specific surveys on the balance between theory and practice

in the vocational courses of these schools - the new *lyceum* is an improved version of the general (academic) *lyceum*, with pre-vocational subjects at the first two grades, and theoretical vocational training at the final grade.

The technical schools, on the other hand remained 'low-prestige' institutions throughout the eighties. According to various reports by the School Advisers (former Inspectors) of technical education, the 'overlap between the specialisations' offered at the two-year schools and three-year *lycea*, the 'old fashioned curriculum content' that lacked connection with production, and the complete absence of visiting or training of the students in the industrial environment, so that the existing programs "do not prepare them for the labour market" (Nikta, 1991, p. 108). These schools are mainly attended by boys, since the social division for women and men is still very strong, despite the numerous campaigns initiated by the socialist government, during the eighties, about gender equality. Kokkos (1982) had proved that the technical lyceum is the 'refuge' of pupils from non-privileged social strata, who are forced to seek employment after 18.

The Greek experience showed that for this situation it is not only the government to be blamed for its reluctance to design better strategies and pay the real cost of vocational education, but also the high expectations that the Greek families have towards general secondary and higher education. Job insecurity, exploitation by the employers, poor payment, bad conditions of work etc., are societal factors which greatly affect their decisions, and credit general education with the highest prestige.

Law 1566/85

The most important legislation concerning the organisational structure of the general education system was the law 1566/1985. As far as the curriculum was concerned, new textbooks were published by a State agency called 'Organisation for Publication of Textbooks' (OEDB). These books were more 'updated' and 'critically written', in relation to the traditional and old-fashioned ones. For example, the History textbooks examined a greater part of the modern Greek and World History, in contrast to the previous books which were oriented towards the 'classicism' and 'paid tribute to the Greek-Orthodox tradition'.

However, blockages to the innovation of the textbooks were to be found in the mechanism of selection for University-entry purposes. Thus, while the official guidelines of the 'Pedagogical Institute' - which replaced the KEMME, and serves the same purposes - emphasised the creative and critical assessment of the historical events and the avoidance of

by-heart memorisation, the examination papers imposed absolute memorisation and the reproduction of the school textbook.

As far as the organisational structure is concerned, the new law created an administrative system was characterised by a higher degree of “democratic planning and decision-making” (Bouzakis, 1986, p.127), since it supported the participation of wider interest groups in the official administration mechanisms. More specifically, it distributed power to regional and municipal level, with the establishment of special committees and councils responsible for the implementation of the educational policy, and it allowed the participation of parents and pupils and local authorities in various advisory bodies (ibid., pp.127-30, esp. diagrams 9 & 10). However, the partial ‘decentralisation’ of the administrative powers and the participation of various interest groups in advisory bodies, does not necessarily imply an actual devolution of the planning and decision-making processes to the lower levels of the hierarchy. The replacement of individual administrators by collective bodies did not create an enhancement of the virtue of ‘local democracy’, but rather it operated - and still does - as an attempt to legitimate the government policies, under the cover of the social ‘consensus’ that the participation of the above groups meant to secure. Since the most important elements of the system remained under absolute ministerial control (i.e. curriculum, allocation of funds, teacher employment, detailed guidelines on pedagogical methods and every-day running of school, manipulation of input-output of higher education institutes) it is doubtful that what was sought by the government was the active participation in the decision-making. Instead it seems that the State power discovered new ways of legitimation for its policies by using the ideological weapon of the so-called ‘collective responsibility’.

The introduction of the IEK

In 1991, the right wing government (party of *New Democracy*) introduced a new educational institution, the so-called *IEKs* (Institutes of Vocational Training), which are State post-secondary education institutions (something like the FE Colleges in Western Europe) and entitle their graduates to a diploma recognised across the European Union. In parallel, it offered the opportunity to already operating private colleges of Further Education to upgrade their services and apply for approval of their status as private *IEKs*. At the same time, it established the *OEEK* (Organisation for Vocational Specialisation and Training), a supervisory body which would ensure the maintenance of standards in teaching and certification procedures across the country, as far as *IEKs* are concerned. This government decision follows the

European trend for specialised post-secondary education and aims at filling the gap identified between tertiary and secondary education by authorising private and state-funded educational institutes to deliver state-recognised vocational education. Although it is very early to evaluate this new type of post-secondary training institution, certain advantages and disadvantages can be clearly highlighted from their operation so far.

Among the advantages of the IEKs is that they offer a specialised (usually) two-year curriculum, either to those youngsters who fail to enter higher education, or to those adults who wish to get a further vocational training, in a rapidly changing labour market. Especially for the latter, the timetable is very flexible because teaching is mainly done during the afternoon and early evening, something that seems to benefit working people. Finally, through the establishment of a national supervisory body (i.e., the OEEK), many hope that higher quality standards will be achieved in an educational sector (post-secondary) where the hitherto 'anarchic' expansion of private provision had often raised questions of 'profiteering' without provision of 'value-for-money' services at the expense of thousands of families.

On the other hand, there are certain handicaps in the effectiveness of these new institutes. First of all, there does not seem to be a clear idea of what the main aims of the IEKs would be, and what level of official recognition of professional status could secure for their graduates, at national, as well as at European level. Secondly, although they are co-financed (the State-run ones, at least) from European Community funds, they proved very costly for the (already overburdened) public budget, since they require high investments in technical resources and laboratories. In addition to this, there is a widespread concern that the secondary technical and vocational schools will loose resources and be subjected to severe financial constraints. Moreover, the great variety of student intake (teenagers as well as mature working people) demands a very sophisticated planning of curriculum and teaching arrangements. Finally, it often becomes obvious that the admission policies for a restricted number of places in the State-run IEKs, as well as the recruitment of teaching staff (all of them are employed in a part-time basis, and get paid per hour), raise questions of 'social networking', political favouritism (a very common feature of the centralised Greek education system) and of exploitation of: a) the strong demand for public employment by thousands of unemployed graduates; b) the hopes and aspirations of many families to provide their offspring a better future through vocational training, given the restricted access to higher education.

Examination changes

The examination system itself, has been changed in many ways. In 1983, a new 'four-track' system was introduced, and, in 1988, the higher education entrance examinations were separated from the graduate certificate. Pupils were no longer obliged to sit the examinations in order to graduate.

Those wishing to sit the examinations had - and still have - to attend one of four 'tracks' ('groups of specialisation', or 'study routes'):

1. The first track leads to University departments of Science and Technology and higher technological institutes, and the examined subjects are composition in modern Greek, Mathematics, Physics and Chemistry.
2. The second track leads to medical and biological departments, and comprises the subjects of Composition in Modern Greek, Physics, Chemistry and Biology.
3. The third track offers opportunities for entrance in departments like Philosophy, Law, Modern-ancient Literature, Education. The subjects examined are Composition in modern Greek, Ancient Greek Literature and Language, Latin and History.
4. The fourth track leads to departments such as Political Science, Economics, Administration, Sociology, and includes the subjects of Composition in Modern Greek, Mathematics, History and Sociology.

The new system did not wipe out examinations to tertiary level as the socialist party had promised. It, nevertheless, offered a more rational distribution of higher education and a greater variety of channels as well as the chance of limitless attempts for the candidates. It also eliminated the stress of these crucial examinations from the secondary grade of *lyceum*, since - from 1988 - in the calculation of the final score for the national examinations, the results of the first and second grade of lyceum do not have to be taken into account. In contrast, in 1983-87 these results accounted for 25% of the total score. Thus, in the University-entrance examinations (*Genikes Exetasis*, as they were named) each subject is examined on only one day of the year, and this is predetermined by the Ministry of Education. This change separated completely - at least formally, because in essence the links have remained unbreakable - the

performance of the students in high school and the national examinations. This caused criticism because it did not provide any incentive for better school achievement, while it exposed the whole process of the assessment in various accidental factors (psychological stress, memorisation, luck, technical problems). The justification for that decision - as the government argued - was based on the effect that the examination process had on the curriculum and its (internal) assessment within the schools. It was argued that a 'distorted' competition had been going on in the school classes between students, something that also raised questions about 'commercialisation' of the assessment system.

In the meantime, candidates competing for a place in the University schools increased three fold between 1974 and 1986. In contrast, the number of those successful in entering only doubled (see Chart 1 below).

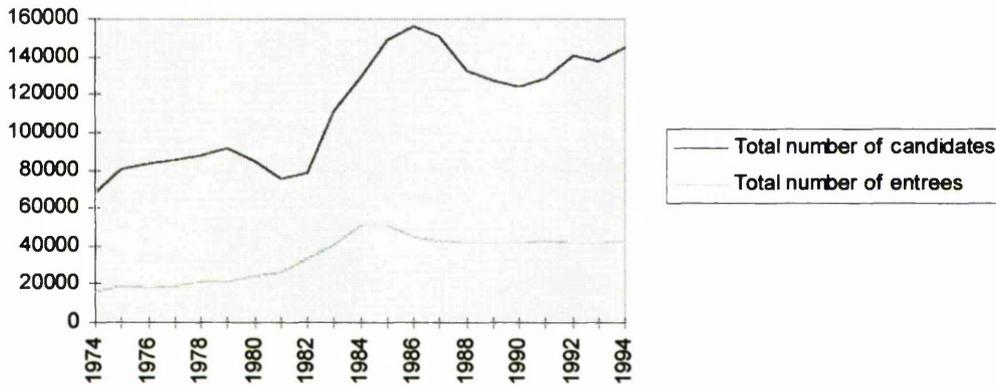
The introduction in 1983 of the three-year Technological Education Institutes (TEIs) - which replaced the KATEE - has been seen, not only as an attempt at improving standards in the provision of higher technical and vocational knowledge, but also as a way of diminishing the trend for higher competition in University examinations. The reduction of chances and the high competition for University places forced the less successful applicants to turn towards the TEIs. While University has become more inaccessible for the majority of the secondary school graduates, the number of students entering TEIs kept increasing (See Chart 2).

The most important differences between TEIs and Universities derive from their - officially stated - educational objectives. The TEIs aim to "provide education in the classroom and in the 'real world' (laboratories, business, experimental fields, organisations and other public or private establishments linked with the TEIs) for technologists" (Kalamatianos *et al*, 1988, p. 273). To respond to these objectives, TEIs run programs which lead to a first degree (*ptychio*) after at least six semesters of classroom instruction, plus one or two additional semesters of practical training. In contrast, Universities offer programs which lead to a first - but not necessarily final - degree (also called *ptychio*) after eight semesters for all departments, except for engineering and dentistry which require 10 semesters, and for medicine (12 semesters).

Despite the popularity that TEIs have gained during the last decade, there are still problems of 'equitable' distribution of higher education places, because the percentage of candidates accepted has been remained low (about 18% of the total for Universities, and 17% for TEIs). Also, many people still consider University places as highly prestigious in relation to the TEIs, and the allocation of their places "is very inequitable and favours high income groups" (Psacharopoulos & Papas, 1987 and 1993).

CHART 4.1

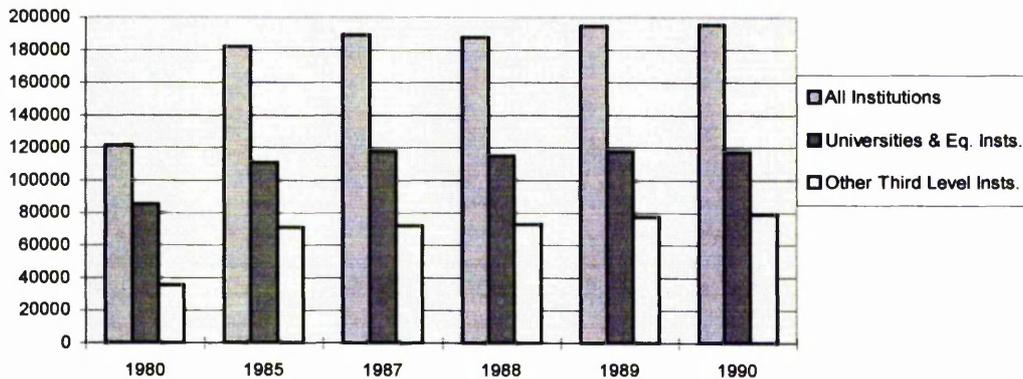
The higher education intakes between 1974 and 1994



Source: Katsikas and Kavvadias, *Inequality in Greek Education*, 1994.

CHART 4.2

Third-Level Enrolments in the 1980s



Source: UNESCO, *Statistical Yearbook*, 1994.

SELECTION AND EDUCATIONAL CHANGES

The education-reform attempts have not been quite bold and radical as would be expected in a country which - officially at least - belongs to the 'West', and is considered as an 'upper-middle-income economy' by all major international organisations. The move from goals and legislation to school outcomes was blocked by political inertia and the fixed processes of

Greek schools, in a period of decreasing economic growth and austerity budgets. The constraints of the inherited institutions and the goal conflict between equality of opportunity and excellence should not be ignored. Despite the relative success of the reforms in expanding secondary education, Greek schools are still plagued by drop-out rates, the lack of fit between curriculum and job requirements and inequalities in the distribution of educational opportunities.

Many of the innovations brought (mainly) by the governments of the 1970s and the 1980s did not create the necessary consensus among professional groups, political parties and education planners. The main innovation of the PASOK government, the 'multilateral school', (see the Appendix-diagram 3 for the present form of the system) has not yet been expanded as expected, mainly because of the enormous financial and technical resources required, in a period of very stringent fiscal policies, implemented by the State in order to meet the criteria for monetary unification of the European Union.

In addition, the monopoly of decision making by the top hierarchy of the Ministry of Education was - as has been proved by experience - the primary goal of the policy makers. This was the framework in which the reform was initiated. Examples such as the central control of the content of textbooks - and even of teacher's manuals - or changes of educational hierarchies and priorities according to the changes of Minister, are very revealing of the intentions of the past governments.

The historically established access of a wide strata of the Greek population to University education has been hindered by the *numerus clausus* policy. It is important to stress the shift of public pressure for 'equal opportunities' in access to educational provision, from the lower to the higher levels of the system. These changes went parallel to general reforms in the organisation of schools, and responded to: i) a climate of political freedom and democratic changes that favoured a more 'egalitarian' school structure, and ii) demands for alignment of the school functions with the needs of the developing Greek economy, - i.e., the promotion and support of technical-vocational education, which has been neglected because of the highly selective examination system, and a dominant 'academic' curriculum.

The old 'classical' and 'practical' orientations were reshaped, in an effort to keep up with the radical changes in the socioeconomic conditions and technological advancements. These were experienced throughout the so-called 'Developed World', part of which Greece has always struggled to be. The Greek educational system has been dominated - from the very beginning of the existence of the modern Greek State - by a very centralised structure, which enabled the governments and the various politically influential groups to impose organisational

and financial restrictions on the 'democratisation' of decision-making. At the same time, the orientation of the curriculum towards the 'classical tradition', crossed out - for a very long time - any possibility for introduction of a broader and more balanced content, based on modern pedagogical methods. Revealing of the conservatism characterising the curriculum policies during the last one and a half century, has been the prominent and persistent involvement of the School of Philosophy of the University of Athens in the planning and implementation of every major curricular change. Its members have repeatedly opposed every attempt to reform (Dimaras, 1975; Mattheou, 1980).

The dominant ideology has always been that of 'meritocracy'; the 'few', the most 'capable', the most 'intelligent' could and should have access to the highest educational levels possible, and enjoy the privileges and social status that the most prestigious academic disciplines can secure, despite some radical reforms in the 1980s.

The lack of adequate provision of technical and vocational education was only an indication of the wider weaknesses of the system, and the inequalities (re)produced by its existence. The very restricted access to the higher levels of secondary, and later of University, education must not be attributed only to the hostile attitude of the 'traditionalist' policy-makers against the reforms, nor to the financial stringency and lack of resources. It must be searched in the deep-rooted cultural values and principles of the Greek society. These reveal the relationship between the dependent character of the country's economic structure and the sociopolitical context of its recent history. The educational mechanisms were designed and controlled by the State, in every single detail. Thus, it seems reasonable for them to have served a dominant ideology which praised non-manual and intellectual work, and a labour market system where the only secure and well-paid job was that of the white-collar, public sector employee. Job insecurity, exploitation by the employers, poor payment, bad conditions of work, are all societal factors that pushed - and still do - graduates towards the more advantageous public sector. The fact that the public sector has been the biggest employer of graduate labour in the past has had a great impact on the prestige of general secondary or University education, and the 'inferiority' of technical-vocational education.

Changes - slow and controversial as they have proved throughout the sixties and seventies - were the result of a growth of the popular demand for democratisation of the system, from lower to higher grades. Whereas in the early sixties the highest enrollment ratios achieved in the country had been 61% (Athens) in the lower-secondary school, and 41% (Athens) in the upper-secondary school, in 1989 an almost universal secondary education was achieved, with a national second-level (gross) enrollment ratio at 98% (UNESCO, 1995, table 3-61). That, in

combination with increasing unemployment rates, and the demand for a more skilled and adaptable - in technological changes - work-force, undermined the importance of the high school (*lyceum*) certificate and increased the social aspirations associated with the University degrees. Students expected on average a sizeable rate of return on their investment of four years foregone earnings, plus incidental expenses related to University studies. Such a 'stake', along with the social prestige associated with University education, makes families willing to invest a considerable amount of resources to make sure that their offspring will succeed in National Examinations.

Various studies (see chapter 3) have shown that the allocation of University places is very inequitable and favours high income groups, or groups with high social status. Even when the research findings claim that performance in National Examinations - and subsequently success in entering the University - is not directly affected by the "family socio-economic background", there is, nevertheless, always an indirect influence through various other factors (Polydorides, 1995a,b and 1996). Factors such as 'curriculum track' or 'attendance of private cramming institutes', underline the influence that the family exercise on the choices made and on the resources used for ensuring eventual success. The ability to finance preparatory classes and enter selective private schools, results in that "...sons and daughters of managers, executives and professionals are four times as likely to enter the University on their first trial relative to the offspring of manual workers" (Papas and Psacharopoulos, 1987, p. 494).

CHAPTER 5

LABOUR MARKET CHARACTERISTICS, OCCUPATIONS AND THE ROLE OF HIGHER EDUCATION

TRENDS IN NATIONAL LEVEL

Inextricably linked to the inequalities of the educational system is the social structure itself, and subsequently the labour-market structure, which - although in the Greek case has hardly played any important role in the structure of the educational system in the past - determines to a considerable degree the expectations that the higher education candidates have for their future prospects, as job-seekers.

With the changes that occurred due to the unprecedented development of information technology around the globe, the Greek labour market was considerably affected by the rigidities of international competition and structural weaknesses of the national economy. Despite the fact that Greek per capita GDP jumped from one-quarter of the OECD average in the mid-1950s to almost one-half in the late-1970s, the country continued to have a narrow industrial base and a large inefficient agricultural sector, which accounted for 18% of GDP and 30% of employment in 1980 (OECD, 1993, pp.12-14). Greece has been accused of a lack of high rates of GDP growth and also a very small labour productivity. In conjunction with 'protectionist' macroeconomic State policies, those factors have held back the expansion of the local industry, and also made and increased the trade imbalance of the country, which for decades has been a net importer, especially of capital goods. The inherent structural defects of the Greek economy, an unfavourable international economic climate in the mid-seventies, an increase in the demand for various durable goods (linked to the improvement in the standards of living) and the lack of macro-economic discipline and political consensus, that characterised the subsequent governmental policies, created most of the handicaps, which the country is still trying to recover from. What Greece lacked in the 1970s and 1980s was not basic-food products, but - as it has been proved - investment in the secondary sector (industry, and especially high-tech manufactories). This was due to misinterpretation of investment priorities from the private and public sector (Fotopoulos, 1986). Additionally, the economy dependency on State intervention worsened the government's budget deficit and 'rocketed' the public

borrowing requirements, something that inevitably affected - among other things - spending for (public) education.

The (officially recorded) unemployment rate progressively increased in the 1980s, and in 1994 was 9.6% of the economically active population, as against 9% in 1991 and 8.2% in 1990. The worst hit areas were the prefecture of Attika (part of which is the Greater Athens Area) and the western parts of Greece (NSSG, 1995; Stavrou, 1995, p. 13). The long-term unemployment (more than 12 months) increased from 46% of the total in 1988, to 50% in 1990 and to 52% in 1994 (NSSG, 1995, table 5). Young people and women are the more vulnerable groups, whilst a higher education degree is now highly unlikely to improve job prospects in an increasingly competitive labour market (more details later).

Without detailing other macroeconomic factors - since we are only interested in the effects of the labour market on the 'distribution' of the opportunities for studies in higher education - Greek society's response to the aforementioned pressures will be examined. Also the changing socio-economic conditions and the identity of various interest groups, will be determined. More specifically, we need to briefly examine: 1) the composition of the Greek labour force and the representation of different groups (defined according to gender, geographical location, position in the working place, occupational category etc.) in it; 2) the proportion of the youngest age-groups in the economically active population and their distinct socio-economic characteristics; 3) the demands that current trends in the labour market impose on education, and specifically on the higher-education system; 4) finally, the way that the allocation of places in higher education is being carried out, and how this might create 'privileged' and 'unprivileged', 'prestigious' and 'non-prestigious' students, academic institutions, occupational categories, or even scientific disciplines (for the last one, see next chapter).

In this attempt, the main sources of evidence will be, for the first three aspects, the various Labour Market Researches, conducted by the National Statistical Service of Greece (NSSG or *ESYE*) in the last few years, and for the last of the above aspects (i.e., the distribution of students in higher education), the statistics from the Greek Ministry of Education, referring to the student intake in the various Universities and (Higher) Technological Education Institutes (*TEIs*). Special reference will be made to the case of Athens, the capital, since most research has been conducted there, and the data will be more directly related to the socio-economic situation of this area, despite the fact that a generalisation of the findings to the rest of the country, as far as the education system is concerned, will be sought.

Demographic and Labour Changes in the past.

Internal migration towards big urban centres - taking place in the last three decades - was due, not only to diminishing returns of a technologically obsolete and less advanced agriculture sector, but also to the complete absence of regional-development policies during the post-war period. The proportion of those occupied in the primary sector has been diminished dramatically during the last 35 years. From about 54% in 1961, it fell to 29% in 1985, and 21% in 1994. At the same time, the figures for the secondary sector were 19%, 27% and 24%. The most dramatic change, however, has been witnessed in the tertiary (service) sector, which accounted for a mere 27% of the total labour force in 1961, which rose to 48.4% in 1990, and reached 55.5% in 1994. Thus, we see that the distribution of the labour force previously working in the primary sector, has been mainly absorbed in the tertiary sector.

Consumer goods industries have, and still do employ most of the nation's industrial labour force, as opposed to the intermediate goods and capital goods industries. The geographical breakdown of industrial employment reveals the persistence of excessive regional disparities. There is a disproportionate growth in the Athens area together with lack of progress, and even decline in certain deprived areas.

Officially recorded employment and unemployment ratios, according to a study carried out by the OECD in the mid-seventies (Germidis, 1975), were invariably misleading. Taking account of changes in the country's GDP growth and the annual increase of the active population, it was estimated that "the official unemployment figures account for only half the total estimated under-employment (i.e. official unemployment plus estimated under-employment)" (Germidis, 1975, p. 101).

As far as the functional distribution of incomes is concerned, it should be noted that, especially during the '60s and '70s, there has been a very small increase in the number of wage earning and salaried workers. In contrast, there has been a marked uptrend in the number of entrepreneurs. The distribution of income, however, has not been excessively unequal, especially when compared with the distribution in other countries of a comparable or even higher level of economic development (see OECD, 1996). Germidis (1975) even argued that "Greece has managed to go through the decisive stage of its development without encountering dangerous pressures as a result of pronounced disparities in income distribution", but promptly warned that "a substantial slowdown in emigration ... might cause, not only a decrease in relative average incomes of wage earners, but also a drop in farmers' living standards, were the agricultural sector to receive most of the returning emigrants" (p.199).

That projection has (partly) proved accurate, and, in combination with the absence of any solid industrial-decentralisation policy, caused a wave of internal migration towards the big urban centres, and this forced a considerable number of farmers to seek a better future by shifting to the other two major economic sectors - especially to the service sector. This squeezed the salaries in certain economic activities, as a result of increasing demand for salaried employment.

There have also been some radical developments on the participation of the female population in the labour market - although their overall activity rates, as compared to those of the males are still very low. As the summary table below shows, the absorption rate of women in the tertiary sector is much higher than that of men.

TABLE 5.1

Distribution of active population across sectors, according to gender and year.

| <i>Sector of economic activity</i> | <i>Gender</i> | <i>1985</i> | <i>1990</i> | <i>1994</i> |
|------------------------------------|---------------|-------------|-------------|-------------|
| Total | Total | 3588,5 | 3719,1 | 3789,6 |
| | Male | 2371,0 | 2409,4 | 2452,2 |
| | Female | 1217,0 | 1309,7 | 1337,4 |
| Primary | Total | 1036,9 | 889,2 | 789,7 |
| | Male | 576,1 | 492,7 | 457,4 |
| | Female | 460,8 | 396,5 | 332,3 |
| Secondary | Total | 981,7 | 1031,4 | 895,2 |
| | Male | 780,1 | 802,9 | 705,8 |
| | Female | 201,6 | 228,5 | 189,4 |
| Tertiary | Total | 1569,3 | 1798,5 | 2104,7 |
| | Male | 1014,8 | 1113,7 | 1289,0 |
| | Female | 554,5 | 684,8 | 815,7 |

Source: NSSG, 1995, table 3.

The tertiary sector has worked as the 'safety valve' against the pressure of internal migration. New models of social life in a big city - with all the underlying values of mass consumption and 'modern life-style' - and the insecurity of the labour market emerged in a country which until four decades ago was primarily agrarian.

One of the characteristics of these changes is the gradual decrease in the proportion of the total economically active population which young people have (age-ranges 15-19 and 20-24). Table 5.2 shows that an increasing proportion of youngsters go out of the active labour force,

something that should be primarily attributed to a relevant increase in those deciding to study in a higher education institution in order to enjoy later a better working environment. The same is true for the unemployed young population, whose figures present a misleadingly optimistic picture about the unemployment rate among young people; the numbers have come down, not because of more promising job prospects for the younger labour force, but because of the fact that more and more high-school graduates choose to follow a course in higher education - although this trend is not so dramatic as was the case in the 1980s.

This occurred in a period (1990s) when the demographic problems of the country had already started showing the first signs of the effects that the decline in birth-rates have on the balance of the labour market. As table 5.2 reveals (especially the figures for the non-active population), the proportion of elderly people is continuously increasing, while the younger population, either remains stable or is falling. There are still high proportions of people in the 19-24 age-range who have not completed the lower level of secondary schooling. This is despite the fact that the attendance of lower level became compulsory after 1976, and that is in the period when those persons went through formal schooling. In other words we face a situation where, while there is an increasing - albeit not so dramatic as it was in the 1980s - demand for higher education. In contrast, as many analysts of the Greek educational system claim, there are people who lack even the basic education (see Katsikas and Kavadias, 1994). In this case, what are the prospects of high-school graduates who do not succeed in securing a place in higher education?

Youth employment and earnings. Trends in international level.

The impact of sharp increases in unemployment in the OECD countries - including Greece - during the 1970s fell with three- and fourfold force on the younger members of the labour force (15-24) compared to older and more experienced workers. By far the hardest hit were those with an incomplete secondary education, whose unemployment rate reached, in certain cases, 47% (See Coombs, 1985, pp. 185-186).

The main reasons for the persistent rise in youth unemployment during the 1970s, was partly attributable to the sluggish overall economic growth rates in the OECD countries. However, it was mainly due to the results of technological and structural maladjustment in these economies and changes in their international markets.

**TABLE 5.2
EMPLOYMENT STATUS ACCORDING TO AGE GROUP (FOR THOSE OVER 14)**

| | | National Level | | | | | | | | | | | |
|--------------|------------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| | | Economically active | | | | | Unemployed | | | | | | |
| | | 1991 | 1992 | 1993 | 1994 | 1991 | 1992 | 1993 | 1994 | 1991 | 1992 | 1993 | 1994 |
| Total | % | | % | % | % | % | % | % | % | % | % | % | % |
| Total | 8,295,800 | 383912 | 8491620 | 8491620 | 8615605 | 3933500 | 4034329 | 4118379 | 4193390 | 301100 | 349829 | 398200 | 403781 |
| 14 | 153400 | 6729 | 141391 | 141391 | 151843 | 6000 | 5412 | 5936 | 4497 | 1800 | 951 | 1120 | 1046 |
| 15-19 | 739000 | 37594 | 731521 | 86146 | 728497 | 139700 | 133261 | 130573 | 120844 | 38000 | 41032 | 46584 | 41506 |
| 20-24 | 664800 | 45713 | 695862 | 81947 | 673282 | 400300 | 405488 | 422679 | 407162 | 93900 | 104225 | 114142 | 112135 |
| 25-29 | 625500 | 32328 | 690043 | 81262 | 670693 | 469900 | 475410 | 532701 | 551121 | 54300 | 61730 | 74657 | 83718 |
| 30-44 | 1996200 | 97861 | 2030892 | 23916 | 2055782 | 1476300 | 1518898 | 1562906 | 1594687 | 77900 | 92961 | 107936 | 107456 |
| 45-64 | 2612400 | 108832 | 2584244 | 30433 | 2604049 | 1334900 | 1375837 | 1350196 | 1387941 | 34400 | 47834 | 52841 | 57126 |
| 65+ | 1504500 | 54855 | 1617688 | 1905 | 1694459 | 106400 | 120023 | 113389 | 127137 | 800 | 1097 | 920 | 794 |
| | | | | | | | | | | | | | |
| Total | 3632400 | 111173 | 3720179 | 4816 | 3789609 | 301100 | 349829 | 398200 | 403781 | 1800 | 951 | 1120 | 1046 |
| 14 | 4200 | 0 | 0 | 0 | 3452 | 1800 | 951 | 1120 | 1046 | 38000 | 41032 | 46584 | 41506 |
| 15-19 | 101700 | 2852 | 83989 | 22577 | 79338 | 38000 | 41032 | 46584 | 41506 | 93900 | 104225 | 114142 | 112135 |
| 20-24 | 306400 | 14994 | 308636 | 82936 | 295027 | 93900 | 104225 | 114142 | 112135 | 54300 | 61730 | 74657 | 83718 |
| 25-29 | 415600 | 17700 | 458044 | 12312 | 467403 | 54300 | 61730 | 74657 | 83718 | 77900 | 92961 | 107936 | 107456 |
| 30-44 | 1398400 | 51929 | 1454970 | 39111 | 1487230 | 77900 | 92961 | 107936 | 107456 | 34400 | 47834 | 52841 | 57126 |
| 45-64 | 1300600 | 23259 | 1297365 | 34873 | 1330815 | 34400 | 47834 | 52841 | 57126 | 800 | 1097 | 920 | 794 |
| 65+ | 105600 | 439 | 112489 | 30232 | 126344 | 800 | 1097 | 920 | 794 | 0.2657 | 0.314 | 0.231 | 0.196641 |
| | | | | | | | | | | | | | |
| Total | 4362200 | 253869 | 4373242 | 442215 | 442215 | 4362200 | 4373242 | 442215 | 442215 | 4362200 | 4373242 | 442215 | 442215 |
| 14 | 147400 | 6656 | 135455 | 30974 | 147346 |
| 15-19 | 599300 | 32547 | 600948 | 13741 | 607652 |
| 20-24 | 264500 | 24429 | 273183 | 62467 | 266120 |
| 25-29 | 155500 | 11776 | 157342 | 35978 | 156572 |
| 30-44 | 519800 | 40300 | 467986 | 10701 | 461095 |
| 45-64 | 1277500 | 83745 | 1234048 | 28218 | 1216107 |
| 65+ | 1398100 | 54416 | 1504279 | 34397 | 1567322 |

Source: NSSG, 1995

In many countries, youths work in different economic sectors than do adults. They are more likely to be found in retail trade and hotels or restaurants than in utilities, education or public administration. Differences in the industrial distribution between younger and older workers imply a separation between the youth and adult markets. In a study conducted by the OECD (1996), in order to see which industries use youths disproportionately, the 'employment coefficients' for certain industries, for all the OECD countries were calculated. These were defined as "...the ratio of the share of young workers' employment by industry to the share of workers aged 25 and over by industry" (OECD, 1996, p. 133). When the ratio exceeds one, an industry employs disproportionately more young workers than it does older workers, while when the ratio is below one, the industry employs relatively few workers. The results revealed that, despite the fact that the magnitude of differences between the distribution of youths and adults across industries differ among countries, there was an impressive uniformity of distribution patterns across countries. More specifically, it was found that, in every country, youths are disproportionately represented in hotels and restaurants, and wholesale, retail trade and repairs. Greece showed relatively low ratios, due to the aforementioned importance placed upon the higher education by Greek families, and the subsequently delay of high-school graduates to participate in the labour market (*ibid.*, p. 135).

It was also shown that estimated trends for employment rates of men were negative - revealing a general trend for decline in the specific rates - whereas for the women the trends were positive. That was a proof that "the gap between the proportion of young women employed and the proportion of young men employed is declining over time" (*ibid.*, p. 145).

In sum, it was argued that "the employment and unemployment probabilities of youths are highly depended on the overall rate of unemployment, particularly younger youths and, importantly, those out of school", and that "youth employment and unemployment are very sensitive to aggregate labour market developments". It was mainly noted that, if the labour market is considerably slack, that might prove to be "especially detrimental for out-of-school youths, particularly young men" (*ibid.*, p. 146).

As Coombs (1985) noted, apart from the general economic structures around the globe, a variety of "built-in institutional obstacles" have been the main handicap for young job-seekers entering most labour markets, especially in less 'advanced' western countries. Such obstacles are general preferences of the employers "for mature and experienced job applicants", higher costs and risks that young recruits might generate, and the "seniority and other job protection

provisions for existing workers, established by legislation and by collective bargaining agreements” (p. 188).

Given the structural deficiencies of the Greek labour market, the lack of an effective - and ‘popular’ - system of vocational instruction, and the loose links between schools and industry, it is of no surprise the fact that the above conclusions have their implications for the Greek situation as well.

Graduate prospects

Where do those who succeed in getting a university degree actually go after graduation? As table 5.3 shows, a considerable proportion of university graduates are absorbed in the education system, either as teachers in State and private schools, or as tutors in cramming institutes and private lessons (the latter group is immensely difficult to be tracked and recorded in official statistics because of the informal working conditions prevailing in these type of practices). This is a general trend in the Greek labour market, since insecurity, exploitation by the employers, poor payment and bad conditions of work, force many graduates to seek employment in the public sector. In the case of education, revealing of the importance of public-service employment is the phenomenon of the *epeterida* (seniority list), that is, “the legal provision for the appointment of primary and secondary school teachers from a waiting list of names of graduates, which is drafted mainly on the basis of the criterion of the date of graduation” (Persianis, 1998, p. 79).

We also see a considerable number of graduates occupied in finance, or the public-service sector, the latter being the most popular - although underpaid - job among young people, especially from the moment a tenure has been secured. The secondary sector (manufacturing, energy generation etc.) does not ‘attract’ so many university graduates, either because the employers prefer low-skilled cheap workers, or because the intake and output of the relevant university departments is still very small. This is, however, something that is changing, especially as the number of TEIs’ graduates increases.

Those with only a secondary-school certificate (six-year or three-year attendance) do not have many job prospects and are forced to work, either in commerce (especially the retailing sector), or in manufacturing as semi- or unskilled workers, and suffer from underpayment, bad working conditions and a very low social status (see table 2 for respective figures).

TABLE 5.3

DISTRIBUTION OF POPULATION ACCORDING TO ECONOMIC ACTIVITY AND EDUCATIONAL LEVEL

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--|---------|-------|--------|------|--------|--------|--------|---------|--------|-------|
| TOTAL | 3789609 | 11482 | 495492 | 4668 | 249955 | 978016 | 341289 | 1502976 | 149906 | 55824 |
| Agriculture, cattle-raising, hunting, forestry | 774741 | 74 | 2599 | 74 | 4088 | 46810 | 39039 | 544229 | 98301 | 39528 |
| Fishery | 14959 | 0 | 178 | 0 | 405 | 1549 | 1424 | 9854 | 1097 | 452 |
| Mining | 15601 | 0 | 812 | 0 | 696 | 3124 | 2189 | 8198 | 212 | 371 |
| Manufacturing | 577791 | 836 | 34043 | 550 | 35146 | 167072 | 76399 | 249887 | 11126 | 2733 |
| Energy generation (electricity, gas, water) | 40638 | 221 | 4359 | 33 | 5229 | 18971 | 4678 | 6924 | 149 | 74 |
| Constructions | 261166 | 0 | 4346 | 148 | 7529 | 44406 | 33697 | 160530 | 8311 | 2200 |
| Commerce | 602203 | 1033 | 43322 | 1345 | 38381 | 236760 | 74712 | 191796 | 11131 | 3721 |
| Hotels and restaurants | 211960 | 74 | 4844 | 267 | 10280 | 59884 | 27694 | 100077 | 6755 | 2085 |
| Transportation and communication | 252259 | 334 | 14543 | 595 | 28057 | 95922 | 26033 | 82131 | 3646 | 998 |
| Financial sector | 89588 | 1033 | 23276 | 295 | 7013 | 48292 | 3963 | 5350 | 291 | 74 |
| Property business | 141379 | 2657 | 68937 | 148 | 16463 | 39418 | 4254 | 8964 | 357 | 180 |
| Public service, army, social security | 284189 | 1082 | 62677 | 281 | 32427 | 121232 | 20803 | 42397 | 2801 | 490 |
| Education | 213846 | 2641 | 164521 | 638 | 12994 | 20390 | 2231 | 9216 | 882 | 333 |
| Health and welfare | 161244 | 1171 | 53615 | 0 | 36091 | 31197 | 6627 | 30849 | 1272 | 421 |
| Other services | 115429 | 326 | 11159 | 221 | 14050 | 36634 | 13907 | 36302 | 1619 | 1210 |
| Private households employing personnel | 31155 | 0 | 2039 | 74 | 738 | 5544 | 3640 | 16270 | 1896 | 954 |
| Various institutions | 1462 | 0 | 221 | 0 | 369 | 812 | 0 | 0 | 60 | 0 |

1=Total

2 = Doctoral or Post-graduate Degree

3= University degree

4 = Not-completed University studies

5= Degree in a Technological Institute (TEI)

6= Six-year secondary education

7=Three-year secondary education

8 = Primary education

9 = Not-completed primary education

10=No formal education at all

Source: NSSG, 1995

Occupational differentiation

In addition, within each category of economic activity there is a hierarchy between various occupations. Thus, although the top managerial and technical professions, have always enjoyed a better status than the 'lower' (in the occupational ladder) ones, today there is an even more rigorous differentiation. This is not only a financial and administrative, but also - mainly, some would argue - a social one. Since the possession of a (first) university degree is not considered anymore as something unusual or hard to achieve, the competition becomes stronger day by day, and there is a greater need now, either for post-graduate specialised studies, or - if the former cannot be achieved - for a broad range of skills that would potentially enable the individual to be more 'flexible' and 'adaptable' in a rapidly changing working environment.

As we see in table 5.4.1, the more prestigious occupations, such as 'professionals' (from an artist to a corporate firm's chief executive), 'scientific occupations' (mainly degree-holders in law, medicine, science or engineering), 'higher technical personnel' (including graduates from TEIs, or those who play a mediating role between the top managerial groups and the rest of a company's workforce), are small in number in relation to the other occupations, something which is reasonable; the smaller the number of a group, the higher their prestige in the occupational - and subsequently - social ladder. The economic activities with the biggest number of high-prestige occupations are the commercial sector (in which there are great disparities of status, not only within each firm, but between the various firms, since there is a wide variety of large, medium and small-size firms, labelled as 'commercial') and the manufacturing industry, whilst the education sector attracts many scientists (mainly teachers, researchers and academics).

As far as gender differences are concerned, we see that the vast majority of females have a low occupational status and, in addition, they are mostly employed in commerce, education (mainly lower levels, such as primary and secondary schools), agriculture and the tourist industry (hotels and restaurants) (see columns E, F, G and rows 2, 8, 9, 14, in table 5.4.3). Those who work in manufacturing are mostly office clerks (see row 5, column E). In contrast men have a more 'balanced' distribution between, either the various socio-economic activities, or the different occupational categories, with the most 'popular' among the less prestigious jobs being 'farmer ...' and 'skilled technician' (see categories G and H in table 5.4.2).

The dominant position in the workplace is that of a salaried employee. However - as table 5.5 and chart 5.1 reveal - the numbers in this category diminish as we descend the educational-

qualifications ladder. This means that people with a low educational level tend more frequently than the well-educated ones to establish their own enterprise. Those that never had formal schooling are much more likely to work in a family business than any other group with some level of schooling. Thus, although we cannot clearly reach any general rule, we might suggest that in Greece the small family firm is the dominant type of enterprise for less-educated people. In contrast, those who are self-employed, but manage to employ office personnel, have gone through higher levels of educational provision than the former. In addition, the majority of those having a university degree, or who followed post-graduate studies find it much easier to secure a salaried job, than those with fewer years of schooling, who in most cases are forced to become small entrepreneurs - very often having no, or insufficient financial viability - in order to deal with the gloomy prospect of unemployment.

Unemployment

Indeed, unemployment (more than 10% in 1995) is an increasingly frightening prospect for everyone, and especially for younger generations. As charts 5.2, 5.3 and 5.4 show, among most educated people (higher education degree and above) the worst hit by unemployment are younger people. This might be attributed to the long time spent studying instead of attaining job experience in a highly competitive labour market. At the other extreme, of the less educated people (those with secondary or primary schooling only), those who suffer most from unemployment are the older age-ranges (45-64 and 65+), something that might be explained by their relative 'inflexibility' in acquiring new knowledge and skills, necessary to respond successfully to the new technologically advanced production modes.

Job insecurity and bad working conditions hit also those who already possess a job. By examining chart 5.5 we clearly see that most of young people are looking for another job because the working conditions are not satisfactory. As we go up the age ladder, there is more concern for the danger of losing their present job. This is a factor that is linked to their inability to adapt their skills to new technologies and working environments, in some cases.

TABLE 5.4.1
DISTRIBUTION OF POPULATION ACCORDING TO ECONOMIC ACTIVITY AND OCCUPATIONAL CATEGORY
 Both sexes

| | A | B | C | D | E | F | G | H | I | J | K |
|----|-----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 1 | 3,789,609 | 377,918 | 420,999 | 198,466 | 396,281 | 430,846 | 773,295 | 643,341 | 256,258 | 255,680 | 36,524 |
| 2 | 774,741 | 691 | 430 | 163 | 708 | 1,238 | 751,959 | 637 | 1,785 | 17,091 | 38 |
| 3 | 14,959 | 256 | 0 | 283 | 72 | 70 | 13,427 | 352 | 32 | 467 | 0 |
| 4 | 15,601 | 277 | 624 | 756 | 832 | 74 | 114 | 5,361 | 6,101 | 1,463 | 0 |
| 5 | 577,791 | 35,799 | 21,135 | 20,314 | 44,291 | 9,157 | 533 | 64,667 | 81,447 | 300,374 | 74 |
| 6 | 40,638 | 623 | 2,946 | 2,881 | 13,858 | 125 | 60 | 13,941 | 2,964 | 3,240 | 0 |
| 7 | 261,166 | 13,306 | 2,052 | 1,968 | 2,044 | 221 | 106 | 207,149 | 17,482 | 16,837 | 0 |
| 8 | 602,203 | 227,696 | 17,038 | 16,836 | 50,961 | 190,801 | 977 | 63,940 | 14,079 | 19,876 | 0 |
| 9 | 211,960 | 64,794 | 786 | 1,315 | 13,539 | 100,864 | 603 | 1,881 | 1,115 | 27,063 | 0 |
| 10 | 252,259 | 8,811 | 5,753 | 26,072 | 57,907 | 12,752 | 105 | 22,053 | 104,485 | 14,173 | 148 |
| 11 | 89,588 | 5,586 | 9,023 | 16,733 | 50,752 | 829 | 144 | 1,474 | 442 | 4,605 | 0 |
| 12 | 141,379 | 7,068 | 67,191 | 25,483 | 28,030 | 2,811 | 74 | 3,762 | 2,084 | 4,876 | 0 |
| 13 | 284,189 | 4,433 | 33,699 | 24,656 | 91,218 | 46,001 | 2,637 | 13,022 | 10,081 | 22,251 | 36,191 |
| 14 | 213,846 | 1,478 | 182,651 | 5,926 | 10,265 | 2,118 | 148 | 1,170 | 2,078 | 8,013 | 0 |
| 15 | 161,244 | 1,312 | 53,677 | 38,241 | 16,304 | 29,991 | 263 | 4,411 | 3,660 | 13,310 | 74 |
| 16 | 115,429 | 5,684 | 22,843 | 16,512 | 14,540 | 28,092 | 1,214 | 2,888 | 8,201 | 15,453 | 0 |
| 17 | 31,155 | 31 | 929 | 253 | 148 | 5,701 | 872 | 927 | 74 | 22,220 | 0 |
| 18 | 1,462 | 74 | 221 | 74 | 812 | 0 | 60 | 0 | 148 | 74 | 0 |

| | | | |
|-----|--|-----|--------------------------------------|
| 1 = | TOTAL | A = | TOTAL |
| 2 = | Agriculture, cattle-raising, hunting, forestry | B = | Professionals |
| 3 = | Fishery | C = | Scientific occupations |
| 4 = | Mining | D = | Higher-technical personnel |
| 5 = | Manufacturing | E = | Office clerks |
| 6 = | Energy generation (electricity, gas, water) | F = | Service sector employees |
| 7 = | Constructions | G = | Farmers, cattle-breeders, fishermen |
| 8 = | Commerce | H = | Skilled technicians |
| 9 = | Hotels and restaurants | I = | Operators of manufacturing machinery |
| | | J = | Unskilled workers |
| | | K = | Un-classified individuals |

Source: NSSG, 1995.

TABLE 5.4.2
DISTRIBUTION OF POPULATION ACCORDING TO ECONOMIC ACTIVITY AND OCCUPATIONAL CATEGORY

Males

| | A | B | C | D | E | F | G | H | I | J | K |
|----|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1 | 2452205 | 292068 | 237536 | 112378 | 188312 | 223996 | 448142 | 546143 | 233191 | 137162 | 33277 |
| 2 | 443594 | 617 | 323 | 105 | 462 | 1112 | 428313 | 489 | 1726 | 10408 | 38 |
| 3 | 13763 | 214 | 0 | 283 | 0 | 70 | 12345 | 352 | 32 | 467 | 0 |
| 4 | 14789 | 277 | 550 | 536 | 498 | 74 | 76 | 5214 | 6101 | 1463 | 0 |
| 5 | 398550 | 29936 | 14414 | 13162 | 21891 | 4630 | 442 | 38843 | 63888 | 211269 | 74 |
| 6 | 34768 | 550 | 2577 | 2200 | 9767 | 125 | 60 | 13748 | 2964 | 2778 | 0 |
| 7 | 257724 | 13131 | 1904 | 1650 | 1510 | 221 | 0 | 205635 | 17423 | 16248 | 0 |
| 8 | 383110 | 169117 | 10732 | 10761 | 17341 | 83984 | 919 | 61314 | 13841 | 15100 | 0 |
| 9 | 124500 | 50229 | 491 | 950 | 6132 | 60730 | 603 | 1881 | 781 | 2702 | 0 |
| 10 | 219715 | 7833 | 4276 | 24122 | 37475 | 9524 | 105 | 21832 | 103038 | 11363 | 148 |
| 11 | 53493 | 4702 | 6890 | 9718 | 27886 | 797 | 144 | 1474 | 442 | 1439 | 0 |
| 12 | 87920 | 5458 | 48572 | 14381 | 10113 | 2272 | 74 | 2990 | 1800 | 2259 | 0 |
| 13 | 197618 | 3612 | 21225 | 15085 | 41139 | 42770 | 2563 | 12687 | 10006 | 15514 | 33017 |
| 14 | 85867 | 1062 | 75033 | 2562 | 1779 | 471 | 148 | 1050 | 2078 | 1685 | 0 |
| 15 | 62352 | 576 | 33309 | 4923 | 5064 | 7710 | 263 | 3580 | 3286 | 3640 | 0 |
| 16 | 70492 | 4648 | 17033 | 11865 | 6959 | 9431 | 1156 | 2590 | 5563 | 11247 | 0 |
| 17 | 3227 | 31 | 132 | 74 | 0 | 74 | 872 | 38 | 74 | 1932 | 0 |
| 18 | 724 | 74 | 74 | 0 | 295 | 0 | 60 | 0 | 148 | 74 | 0 |

| | | | | | |
|-----|--|------|--|-----|--------------------------------------|
| 1 = | TOTAL | 10 = | Transportation and communication | A = | TOTAL |
| 2 = | Agriculture, cattle-raising, hunting, forestry | 11 = | Financial sector | B = | Professionals |
| 3 = | Fishery | 12 = | Property business | C = | Scientific occupations |
| 4 = | Mining | 13 = | Public service, army, social security | D = | Higher-technical personnel |
| 5 = | Manufacturing | 14 = | Education | E = | Office clerks |
| 6 = | Energy generation (electricity, gas, water) | 15 = | Health and welfare | F = | Service sector employees |
| 7 = | Constructions | 16 = | Other services | G = | Farmers, cattle-breeders, fishermen |
| 8 = | Commerce | 17 = | Private households employing personnel | H = | Skilled technicians |
| 9 = | Hotels and restaurants | 18 = | Various institutions | I = | Operators of manufacturing machinery |
| | | | | J = | Unskilled workers |
| | | | | K = | Un-classified individuals |

Source: NSSG, 1995.

TABLE 5.4.3
DISTRIBUTION OF POPULATION ACCORDING TO ECONOMIC ACTIVITY AND OCCUPATIONAL CATEGORY

Females

| | A | B | C | D | E | F | G | H | I | J | K |
|----|---------|-------|--------|-------|--------|--------|--------|-------|-------|--------|------|
| 1 | 1337404 | 85850 | 183463 | 86088 | 207968 | 206850 | 325153 | 97199 | 23067 | 118518 | 3247 |
| 2 | 331147 | 74 | 107 | 58 | 246 | 125 | 323646 | 148 | 60 | 6684 | 0 |
| 3 | 1196 | 42 | 0 | 0 | 72 | 0 | 1082 | 0 | 0 | 0 | 0 |
| 4 | 813 | 0 | 74 | 220 | 334 | 0 | 38 | 148 | 0 | 0 | 0 |
| 5 | 179241 | 5863 | 6721 | 7152 | 22399 | 4527 | 91 | 25824 | 17559 | 89105 | 0 |
| 6 | 5870 | 74 | 369 | 681 | 4091 | 0 | 0 | 193 | 0 | 462 | 0 |
| 7 | 3442 | 174 | 148 | 319 | 534 | 0 | 106 | 1514 | 60 | 589 | 0 |
| 8 | 219093 | 58579 | 6306 | 6075 | 33619 | 106817 | 58 | 2625 | 238 | 4776 | 0 |
| 9 | 87460 | 14565 | 295 | 365 | 7407 | 40134 | 0 | 0 | 334 | 24360 | 0 |
| 10 | 32543 | 978 | 1477 | 1950 | 20432 | 3229 | 0 | 221 | 1447 | 2810 | 0 |
| 11 | 36095 | 884 | 2133 | 7015 | 22866 | 32 | 0 | 0 | 0 | 3166 | 0 |
| 12 | 53459 | 1610 | 18618 | 11102 | 17917 | 539 | 0 | 772 | 284 | 2617 | 0 |
| 13 | 86570 | 821 | 12474 | 9571 | 50079 | 3231 | 74 | 335 | 75 | 6737 | 3174 |
| 14 | 127980 | 416 | 107618 | 3364 | 8486 | 1647 | 0 | 121 | 0 | 6328 | 0 |
| 15 | 98891 | 736 | 20368 | 33318 | 11240 | 22281 | 0 | 830 | 373 | 9671 | 74 |
| 16 | 44937 | 1036 | 5810 | 4648 | 7581 | 18661 | 58 | 298 | 2638 | 4207 | 0 |
| 17 | 27929 | 0 | 797 | 179 | 148 | 5627 | 0 | 889 | 0 | 20288 | 0 |
| 18 | 738 | 0 | 148 | 74 | 517 | 0 | 0 | 0 | 0 | 0 | 0 |

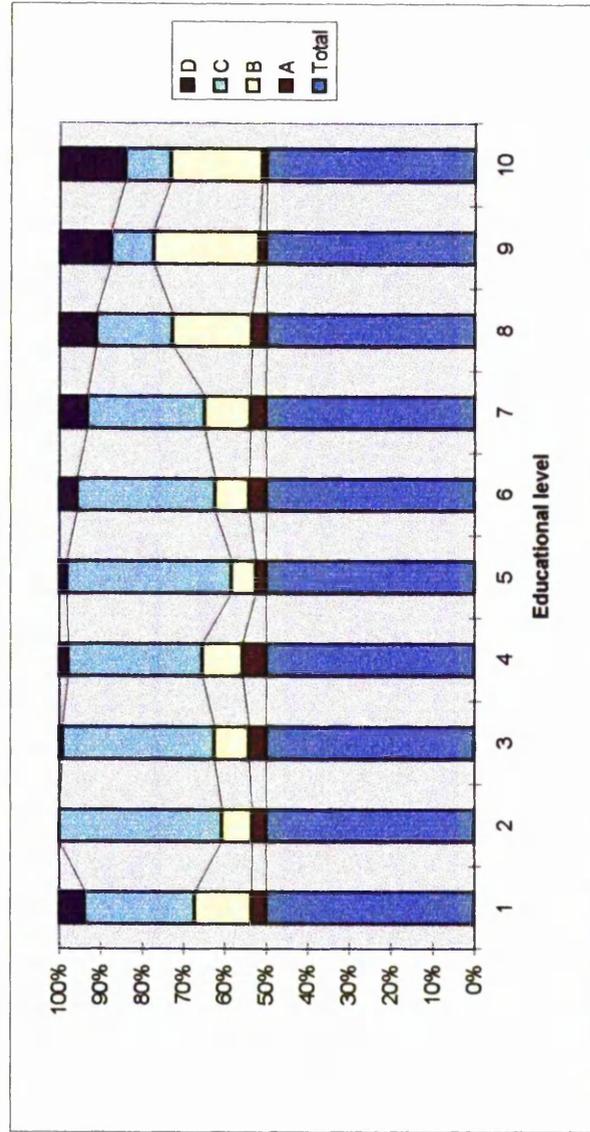
| | | | |
|------|--|-----|--------------------------------------|
| 1 = | TOTAL | A = | TOTAL |
| 2 = | Agriculture, cattle-raising, hunting, forestry | B = | Professionals |
| 3 = | Fishery | C = | Scientific occupations |
| 4 = | Mining | D = | Higher-technical personnel |
| 5 = | Manufacturing | E = | Office clerks |
| 6 = | Energy generation (electricity, gas, water) | F = | Service sector employees |
| 7 = | Constructions | G = | Farmers, cattle-breeders, fishermen |
| 8 = | Commerce | H = | Skilled technicians |
| 9 = | Hotels and restaurants | I = | Operators of manufacturing machinery |
| | | J = | Unskilled workers |
| | | K = | Un-classified individuals |
| 10 = | Transportation and communication | | |
| 11 = | Financial sector | | |
| 12 = | Property business | | |
| 13 = | Public service, army, social security | | |
| 14 = | Education | | |
| 15 = | Health and welfare | | |
| 16 = | Other services | | |
| 17 = | Private households employing personnel | | |
| 18 = | Various institutions | | |

Source: NSSG, 1995.

TABLE 5.5
DISTRIBUTION OF PEOPLE (19+) ACCORDING TO EDUCATIONAL LEVEL AND POSITION IN WORK

| | Total | A | B | C | D |
|----|---------|--------|---------|---------|--------|
| 1 | 3789609 | 266265 | 1038044 | 2017698 | 467602 |
| 2 | 11482 | 748 | 1694 | 9040 | 0 |
| 3 | 495492 | 39561 | 84059 | 364689 | 7183 |
| 4 | 4668 | 517 | 919 | 3025 | 207 |
| 5 | 249955 | 12182 | 29758 | 198881 | 9135 |
| 6 | 978016 | 79333 | 161456 | 654614 | 82613 |
| 7 | 341289 | 25257 | 76793 | 193037 | 46201 |
| 8 | 1502976 | 102357 | 581872 | 551179 | 267569 |
| 9 | 149906 | 5239 | 76594 | 30989 | 37083 |
| 10 | 55824 | 1072 | 24899 | 12244 | 17610 |

CHART 5.1



1=Total
 2= Post-graduate degree
 3=University degree
 4= Not completed University studies
 5=Degree in a Technological Institute (TEI)
 6=Six-year secondary education
 7= Three-year secondary education
 8= Completed primary education
 9=Not-completed primary education
 10=No formal education at all

A=Self-employed with office personnel
B= Self-employed without office personnel
C= Employed with salary or weekly wage
D= Working in family firm

Source: NSSG, 1995.

CHART 5.2

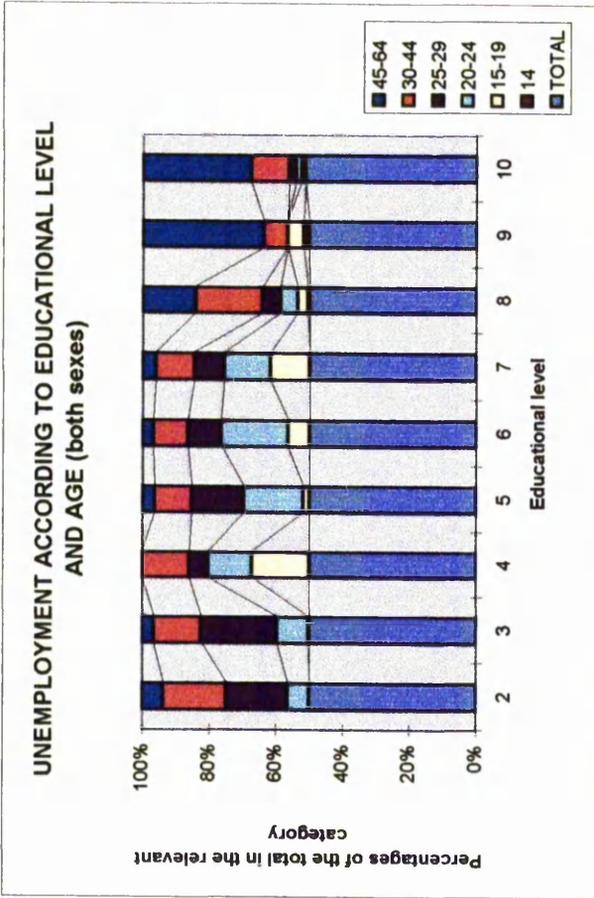


CHART 5.3

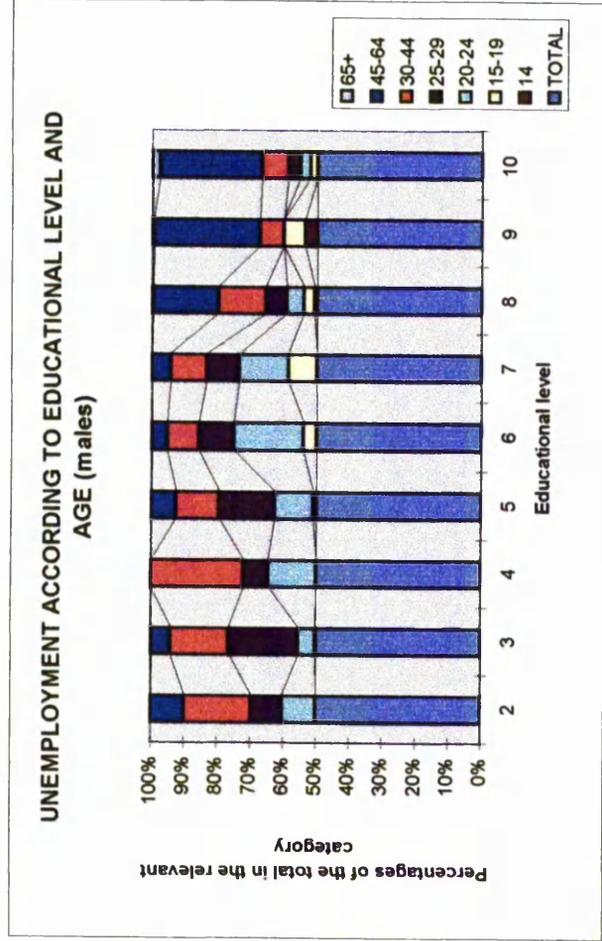
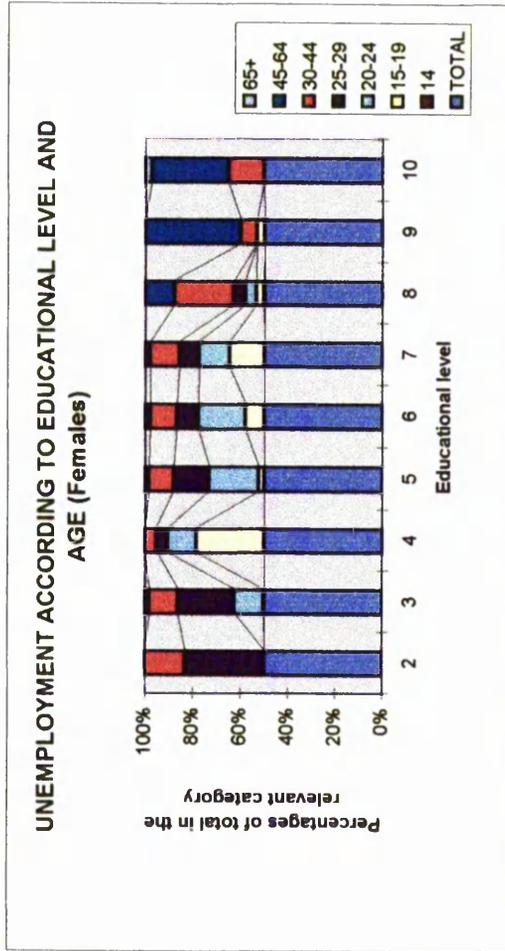


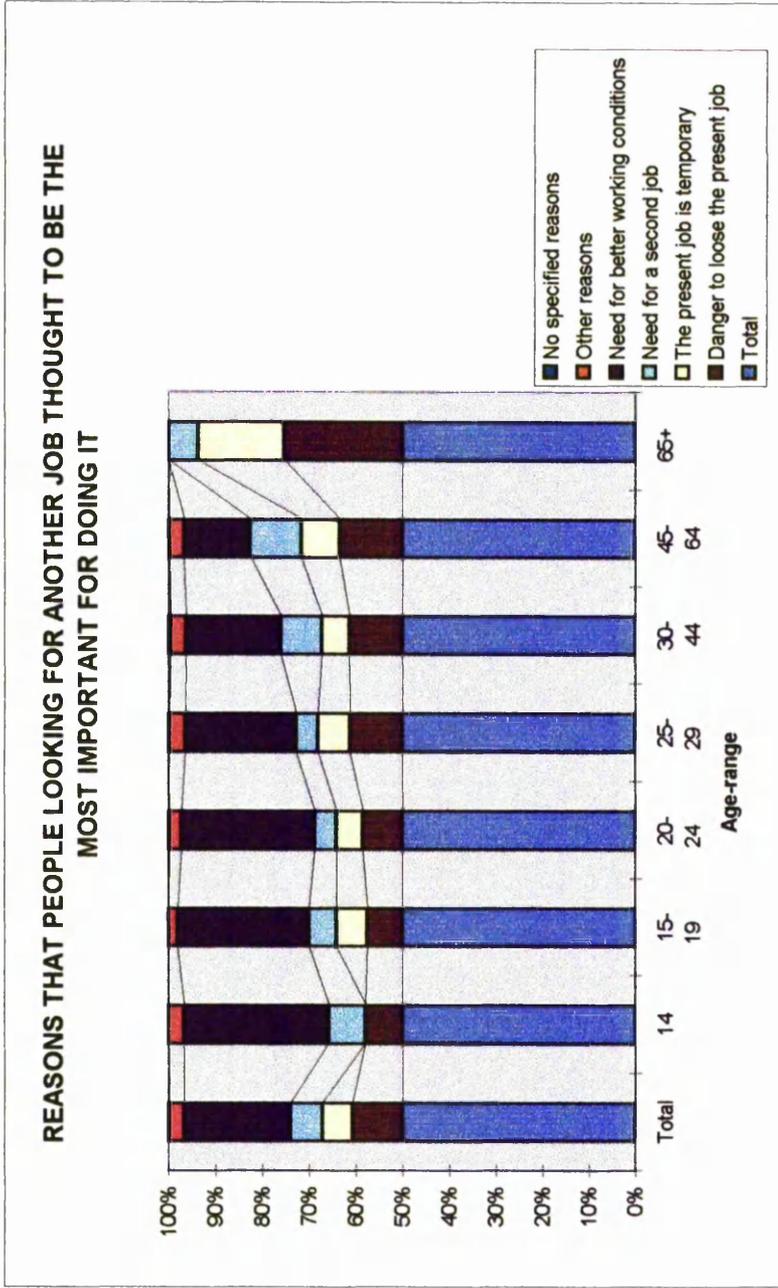
CHART 5.4



- 1=Total
- 2= Post-graduate degree
- 3=University degree
- 4=Not-completed University
- 5=Degree in a Technological Institute (TEI)
- 6=Six-year secondary education
- 7=Three-year secondary education
- 8= Completed primary education
- 9=Not-completed primary education
- 10=No formal education at all

Source: NSSG, 1995.

CHART 5.5



Source: NSSG, 1995

THE GREATER ATHENS AREA

A general picture

The bulk of all economic - apart from political and administrative - activities has been, and still is in the capital, Athens. In the forty years between 1951 and 1991, while the total population increased at a rate of little more than 45%, the capital (the Greater Athens Area) more than doubled, and reached a threshold of around four million inhabitants (*National Population Census*, 1991).

A 30% of the national population are concentrated in 3.3% of the country. This justifies an enquiry into its socio-economic characteristics and makes any potential observations about social inequalities 'reliable' enough to generalise and produce a broad picture of the situation at the national level.

Although many of the basic conclusions on the labour market structure are valid for this area too, there are clearly some special elements that distinguish the Greater Athens Area from the rest of the country - if not qualitatively, at least quantitatively. In a research study conducted in 1983 by the Social Research Institute of Greece, Pantazidis and Kasimati (1983), analysed data from the 1981 Population Census and the annual Labour Surveys of the NSSG, which pointed at some of the most characteristic elements of the capital's population.

Among the main conclusions drawn from that study, was that in the period between the early 1960s and early 1980s, there had been a progressive increase in the proportion of the older people (age-range 65+) in the total population and a decrease of the proportion of the younger ones (namely age-ranges, 15-24 and 25-44).

In addition, although the number of men in the capital's - as well as the national - population was lower than that of women, as far as the economically active were concerned, the reverse happened. Men considerably outnumbered women (Pantazidis and Kassimati, 1983, p. 36). Male participation in the labour force has been reduced in relation to participation rates in the early 1960s, whereas that of females has been dramatically increased (*ibid.*, pp. 37-40; for more recent data, NSSG, 1991-1994). However, that progress did not change at the same dramatic level the status that women have in the labour market, since they have been mainly absorbed into low-prestige jobs (Pantazidis and Kassimati, 1983, chap.3, tables 4-7).

As far as job opportunities are concerned, we have already mentioned that the Greater Athens Area (GAA) is among areas with the highest unemployment rate (12% in 1994). The

dominance of the service sector, with low qualification requirements (see chart 5.6 and 5.7) in the capital has not led to a satisfactory level of employment, not only for the younger generations - who, as we have claimed, prefer to 'postpone' their entrance into the labour market by following higher studies - but for older people too. It is very revealing for this, the fact that in 1983, for every thousand individuals looking for a job in the 45+ age-range, 103 were doing this for the first time in their life (Pantazidis and Kassimati, op.cit., p. 41). That reveals vividly the job insecurity that affected all the population in a climate of economic stagnation during the late 1970s and most of the 1980s.

The very high unemployment rates reached in the late 1980s by some occupational categories, such as those working manually in the lower levels of the service sector (mainly sales personnel in retailing and self-employed providers of personal services), are sharply contrasted to the relatively low and steady rates of occupations which require certain technical skills, even if the educational qualification required are not generally very demanding. For example, according to a study examining the time change of unemployment in the central boroughs of the Greater Athens Area (TEDKNA, 1994), the mean annual rate of applications for unemployment benefit was about 7% of the total applications for middle and low-level sales personnel in retailing, but only 2.5% for certified electricians, 2.4% for carpenters and 1.5% for typists (pp. 64-65). The above situation illustrates the heavy influence of the labour market structure on unemployment rates and future job prospects, especially in the case of Athens, where competition is at its highest in almost every sub-sector of economic activity.

Social Stratification and Educational Inequalities in Athens

Education, occupation and social background

It must be remembered that the aforementioned problems do not apply equally to all inhabitants of the GAA, since social differentiation is a crucial factor that determines job prospects and life standards. All the demographic and socio-economic research evidence during the last thirty years showed that there are wide deviations in the distribution of economic and cultural 'goods' in this area. A general pattern emerged from these studies, and revealed that the low-income households were concentrated in the western and south-western parts of the GAA whereas the high-income households were in the northern and north-eastern parts (see Pantazidis and Kassimati, 1983; Panagiotopoulou, 1993).

CHART 5.6

NATIONAL POPULATION (14+) ACCORDING TO AGE-RANGE AND OCCUPATIONAL CATEGORY

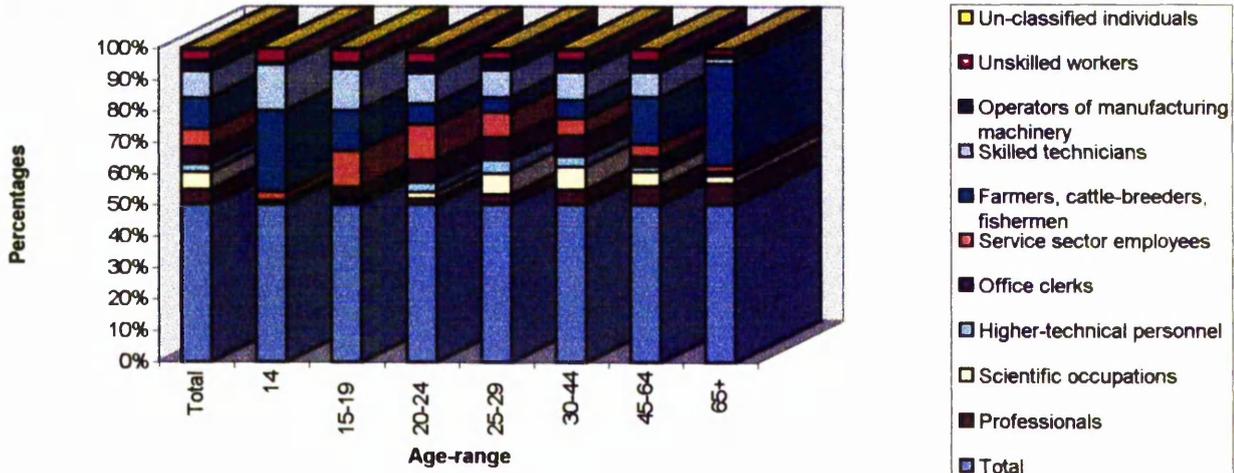
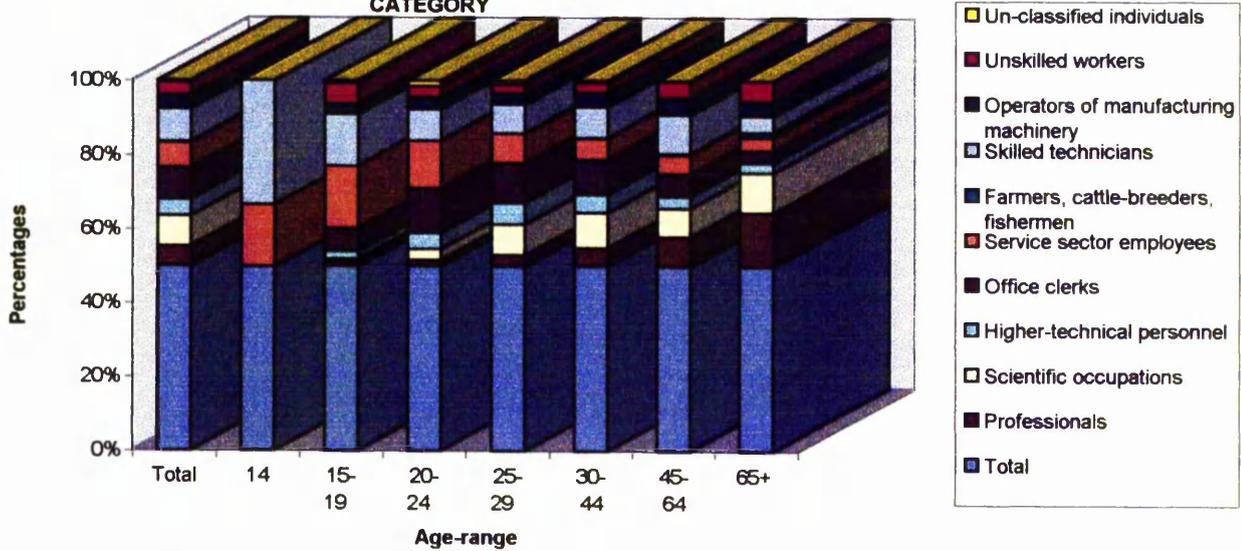


CHART 5.7

GREATER ATHENS POPULATION (14+) ACCORDING TO AGE-RANGE AND OCCUPATIONAL CATEGORY



Source: NSSG, 1995

For example, in 1983, while for every thousand persons above the age of 14 in the northern and north-eastern areas 39 were looking for a job, the respective figure for the western areas was 71 and for the area of Pireas (the capital's port) 82 (Pantazidis and Kasimati, 1983, p. 89). Moreover, while the former concentrated the 23% of the holders of a higher degree, the latter concentrate only the 7% and 7.2%, respectively (*ibid.*, pp. 97 and 106).

The distribution of the social 'goods' in the post-war GAA has not been marked by excessively unequal supply of services or institutional arrangements that could denote a certain degree of 'favouritism' towards specific social strata.

The effect of family background is more noticeable among the higher education graduates (see Kasimati, 1991). The inequalities that prevail in the university-sector of higher education are considerably reduced when we deal with technical and vocational education, either at higher, or at middle (i.e., secondary and post-secondary) level. In these levels, however, it is not the socio-economic and cultural background of the family, or the gender differences that matter, but the fact that they constitute the last resort of the 'failures' of the educational system. It should be noted that in very few circumstances the final qualification is a product of firmly based value orientation or any other intrinsic motivation, but rather a forced decision within the limits of the social reality, and under the pressure of a number of micro and macro-social factors (Kasimati, 1991, pp. 54-67 and 187-230).¹

The most profound indication of this 'forced-decision' situation is, above all, the personal evaluation - and 'valuation' at the same time - of the present qualification level or job prestige. When asked about the degree of satisfaction with the present occupation, or the degree of relevance of it with the qualifications acquired, or even the time lapsed between graduation and entrance into the labour market, the picture revealed is quite different. More specifically, students graduating from university departments of Social Sciences, Economics, Humanities, or TEI departments, express less satisfaction with their past and present job, often assess their job as irrelevant to their qualifications, and usually spend a longer period of time searching for the job, as compared to those graduating from the more prestigious university faculties (Medicine, Engineering, Law, Natural Sciences) (Kasimati, 1991, pp. 196-214 and 239-330). If we take into account the representation of various socio-economic groups in the corresponding disciplines (discussed in detail in chapter 6), the picture of the relation between social stratification and educational opportunities becomes clearer.

¹ For theories that interrelate personal values and aspirations with 'social class', 'occupational position' and 'cultural background', see Boudon, R. (1974, pp. 22-24).

The 'map' of inequality

Population expansion following the post-war reconstruction era caused - and at the same time was the cause of - an uneven expansion of the housing market, which has been inextricably linked to aspirations for upward social mobility (see Tsoukalas, 1986; Maloutas, 1990).

The State's intervention in the housing sector of the economy has been based upon a model of political manipulation, partisanship and electoral short-term interests. The lack of distinct boundaries between areas with different socio-economic content (model which characterised the more 'developed' Western World) must not, however, be solely perceived as the outcome of an unplanned and often contradictory Welfare-State policy-framework, but also as a combination of a number of other factors. Such factors might be the large internal migration - particularly after the 1922 disaster in Asia-Minor - the existence of numerous small land properties, which encouraged the booming of the construction sector without prior urban-development projects; or the total absence of significant and profitable land-property corporations, and the prevalence of a system of inter- and intra-familial financial assistance (Maloutas, 1990, chap. 1; also, Maloutas and Economou, 1992, chap.5).

Nevertheless, the economic growth of the last forty years, the increasing intervention of the State - either in urban planning and industrial development, or in provision of welfare of citizens - and progressive 'satiation' of free land around the GAA, resulted in the creation of a new socio-geographical 'map'. This map, although it cannot imply a clear correspondence between the area of living and social or occupational status, suggests a certain uneven distribution of various economic and cultural 'goods', that is, certain patterns of access-opportunities to various categories of private, as well as 'collective consumption' (see Carter, 1981; Maloutas and Economou, 1992).

From the 1970s onward, there has been a notable concentration of more privileged (according to their occupation, status in this occupation and the respective economic sector) social strata on the northern and north-eastern suburbs of Athens. (For a preliminary grouping of the various municipalities of the GAA, according to certain socio-economic indexes, see Appendix...)

This concentration reflects the accumulation, not only of economic, but of 'cultural capital' as well (Bourdieu, 1976 & 1990a), something that has been argued to present a "middle-class model of social reproduction" and a distinct type of "cultural segregation (Maloutas & Economou, 1992, pp. 78-79).

From the occupational point of view, there is a clear over-representation of the top-managerial and scientific occupations in the northern, north-eastern and south-eastern parts of the GAA. In these parts, we also see very high concentration rates of employers of the tertiary sector of the economy (see NSSG, various years; also Maloutas and Economou, 1992, pp. 75-79). Clearly, these areas can be viewed as more 'advantaged' in relation, not only to the occupational status of their population, but to a number of variables constituting the so-called 'collective consumption'. From the existence of private-sector educational establishments with better and abundant resources to the proximity to public-transportation networks, and from the distribution of health- and welfare-service establishments to the opportunity of access to various kinds of cultural products, these geographical entities have more or less the relative advantage in contrast to those from the rest of the GAA (see Maloutas & Economou, 1992, chapters. 5-10).

In contrast, there are working-class areas (roughly the western and south-western suburbs) where the indices of 'concentration' for the salaried employees are higher than the average level in the whole GAA (Maloutas and Economou, 1992, p. 88).

The western part of the GAA mainly absorbed the flow of internal migration during and after the 1950s. These over-populated areas are inhabited by people working mainly in the service or manufacturing sectors in very low-paid jobs. The standards of living there are often described as intolerable and below the poverty line (Katsikas, 1994, pp. 88-90). This has effects, not only on the general well-being of the people living there, but on the educational provision available to their children.

For these children even access to basic education is sometimes hard to achieve. Lack of buildings, school resources and well-motivated teachers have resulted in a general degradation of the educational environment and decrease in the performance of students (Katsikas, 1994, pp. 93-103). For them success in the National Examinations for entry to higher education is hard to achieve and, if we examine the chances of entering into a prestigious university department then it becomes almost impossible (*ibid.*, p. 92).

Somewhere in the middle - but with high degrees of heterogeneity - there are areas on the eastern, southern, south-eastern and north-western parts of GAA which show a significant increase in the representation of middle and upper levels of the service sector, and of those who can be identified as 'self-employed' (Maloutas & Economou, 1992, pp.101-105). In those areas, the tertiary-sector economic activities seem to gradually replace the secondary-sector ones and, in conjunction to the absence of secondary-sector activities in the northern areas - apart from the use of those areas as places of living for the 'top men' of that sector -

contributes to a kind of functional 'division between East and West' (Maloutas & Economou, 1992, p. 123).

From the above we can conclude that disparities exist, not only on a nation-wide level, but also on a regional or local level. These disparities are foremost social, and cannot be explained by purely economic indicators and statistical figures. They should be examined in conjunction with the broader cultural settings that the specific conditions have created, and always taking into account values and principles according to which any educational policy is assessed.

The policy of admission in higher education need to be viewed within the socio-economic framework described here, the structure of the education system - and not only its formal representation, as this is reflected on 'technical' arrangements, such as examination results, achievement records and certificates. It also needs to be always cross-checked with the aims and goals of the enquiry in question.

CHAPTER 6

DISTRIBUTION OF STUDENTS IN HIGHER EDUCATION: PATTERNS OF INEQUALITY

DIFFERENTIATION ON THE WAY TO HIGHER EDUCATION

As various research evidence has proved (Meimaris and Nikolakopoulos, 1978, Fragoudaki, 1985, Chrisakis, 1991; Kasimati, 1991; Polydorides, 1985 and 1995a,b and 1996), representation of various socio-economic groups in higher education is relatively unequal, despite the progress made during previous decades in the direction of a more 'fair' balance of the student population.

Thus, patterns of unequal access opportunities survive and can even be generally traced just by looking at the composition of the student population in various departments. Figures representing the distribution of higher education places (might) provide us with a general framework, a starting point for further exploration, some general trends which should be followed in order to discover 'causes', 'outcomes' and 'links' between them.

The most recent change in these examinations was introduced in 1987. For the calculation of each candidate's final score his/her performance in the last three grades of high school was no longer taken into account. The justification for that decision - as the government argued - was based on the effect that the examination process had on the curriculum and its (internal) assessment within the schools. The new system of selection has been accused of eliminating any incentive for a better school achievement, and of favouring the uncritical memorisation of the textbooks.

The University-entrance examination system became undoubtedly stricter than during the seventies and early-eighties, with the number of entrees remained at, more or less, the same level.

Today, only a fraction (35%, and if we exclude those gaining a place in the Technological Education Institutes, only 18%) of candidates finally succeed to enter Universities.

During the last decade some University Faculties have retained their 'elitism', regarding class composition of the student body. Children of the higher occupational strata are over-represented at the expense of the children of farmers and workers, not only in certain Faculties, but in higher education as a whole. For example, in the academic year 1989-90, students with

fathers in 'managerial and professional' occupations represented 18% of the total student population, whereas those with fathers in the 'agricultural sector' represented only 10.5% (Ministry of Education, 1991). At the same time - according to Labour Market Statistics published by the National Statistical service of Greece - the proportion of the two categories in the whole population is 12% and 25%, respectively (NSSG, 1989). The representation of socio-economic groups in the various academic disciplines is even more 'unequal', with the 'prestigious' departments (Engineering, Computer Science and Medical Schools) 'accepting' the sons and daughters of top managers, executives and specialists, and those of 'low status' and uncertain future prospects the offspring of the 'lower layers' of the social strata (farmers, manual workers, skilled technicians, office clerks, salesmen, retailers etc.) (Ministry of Education, 1994).

A very interesting aspect of the recent trends is the fact that some traditionally prestigious disciplines (Law, Philosophy, History, and Political sciences) have lost their popularity considerably, but at the same time absorbed the vast majority of the lower-strata students, because of the allocation system of the National examinations. Thus, despite the fact that these disciplines are not ranked high any more in the preferences of the University candidates, the relative departments experience every year *en mass* enrolments of new students, partly because they usually prefer the security of a University place, rather than the uncertainty of re-sitting the examinations next year, with very small chances of success (the latter, however, is very common for those entering the low-prestige TEIs). The more prestigious departments offer a very limited number of places, encouraging that way a highly competitive examination environment, which no doubt favours those with more financial resources and better educational backgrounds.

Of course such a general overview is not by itself capable of dealing with the question of *why* and *how* this differentiation occurs. We should therefore be very cautious about using mathematical formulae for the purpose of summarising the raw figures in the official statistics. First of all, most of the current researchers use somewhat different indices (see Chrisakis, 1991 and Polydorides, 1995a) for the representation of the same thing. In addition, even the public authorities (e.g., NSSG and Ministry of Education) use different classification systems for the various socio-economic categories, not of course to a degree that considerably affects the validity of the statistics, but at a level where some valuable information might be lost, or misinterpreted.

The meaning of 'success'

The 'school investment' in purely financial terms - including the 'opportunity cost' of the three-year upper-secondary education, the financial cost that parents have to bear for the purchase of educational goods, the payment for private tutors or private cramming institutes, and other minor expenses - in the case of the preparatory (for the NE) period could explain only a minor part of the total cost that burdens an average Greek family (psychological, bodily, of time etc.).

Despite the fact that educational provision in Greece is considered mainly as a 'public good', the current public - and private as well - expenditure on it has been, and still is very low, compared to other countries of the EC (Pesmazoglou, 1987; UNESCO, various years). That, in effect, instead of discouraging the less privileged sections of the population from having aspirations - 'illusions' one might argue - for higher studies, on the contrary, it reinforced increased spending in private tuition, which in turn - so it was hoped - would ensure an upward social mobility.

Even international agencies inspecting the Greek educational system, admitted a strong impressions for the immense importance that the Greek families place upon the opportunity for higher education degrees, as well as for the political manipulation with which the past governments have handled State education (see OECD, 1982).

Two basic elements can clearly advocate the above arguments. The first one is the increasing flow of 'student emigration' towards Western Europe or northern America, from the early '70s onwards. The number of students in foreign Universities and H.E. institutes - according to UNESCO figures - reached in the mid-eighties a third of the relative number in the Greek Universities (UNESCO, various years). The second - which is connected to the first one - is that this flow of 'emigration' is the largest in the world, not only in relation to its population size, but in aggregate numbers too! That is because the *numerus clausus* policy adopted by the Ministry of Education left the success rates of the candidates - and subsequently, the 'absorbency rates' for each HE institute - in roughly the same level during the eighties and early nineties (see also the last part of the 'Historical Background'). As a consequence, a continuously accumulated number of high-school graduates have been forced to look out of the country for an alternative way to attain higher studies.

Material resources necessary for the accommodation of an increasingly demanding and ambitious student population remained an invariably discouraging obstacle for many families in

the lower levels of the social 'ladder'. A number of economic and cultural - in its widest meaning - factors intervene and, as a result, some families, either simply cannot accommodate their children's 'aspirations', or they spend a disproportionately high - according to their income level - amount of money, with, often, negative effects on the financial, as well as psychological 'balance' of the family.

Furthermore, as B. Karapostolis (1983) noticed, from the early '70s onwards, the trends for occupational upward-mobility have shown signs of satiation, partly because the spread of salaried-employment created a more or less permanent situation of social fragmentation in the secondary and tertiary sectors of the economy. Whereas in the past "investment in education was considered as a guarantee for a future career", today the social structure is becoming less 'flexible' - albeit in a less heterogeneous labour-market - and "the chances for class diffusion diminish" (p. 247).

Another important aspect - very revealing of the interconnection between 'aspirations' or 'individual capacities' and 'social environment' or 'objective obstacles' - is also the correlation between the differences in the hierarchisation of the various disciplines (i.e., the social prestige enjoyed by them), on the one hand, and the self-valuation expressed by the individuals, when it comes to matters of capability, or need to enter and attend successfully courses corresponding to these disciplines.

For example, in a research-study carried out by the National Centre of Social Research (see Kassimati, 1991), when some University graduates were asked how they had originally found themselves in the departments they graduated from, those having studied in Medicine, Natural Sciences, Technology or Military Academies, answered that it had been their 'own decision', in proportions ranging from 52% to almost 61%; below them were those who had followed Law studies, with 47%, and at the end were graduates from Economic or Social and Political Sciences faculties, with 26%-29%. In addition, the last group represented the highest proportion among those who 'blamed' the system of the NE itself for the final 'allocation' to their departments (Kassimati, 1991, p. 175; also Kyprianos, 1996, pp. 240-241). Furthermore, to the question 'how helpful has your degree been in getting your present job?', whereas most of the other graduates' answers were almost unanimously affirmative (more than 82%), in the case of those graduating from the departments of Economics or Political and Social Sciences, the respective figures were 54.5% and 56.2% (Kassimati, 1991, pp. 266; see also chapter 3 of the thesis).

This case demonstrates what has been repeatedly argued in the past by various scholars who studied the relation between education, achievement and social mobility (see Bowles & Gintis,

1976; Boudon, 1973 and 1974; Banks, 1976; Karabel & Halsey 1977, etc.). Despite different opinions on the extent to which educational expansion has in itself produced greater equality of opportunity, there is a widespread conviction that individuals - through the intervention of various social and personal factors - construct their own educational 'strategies' according to criteria which, although may vary considerably, all have a 'common denominator': the ambitions and aspirations that each child might have for his/her future studies are formed on the basis of how and to what extent s/he will be able to achieve some socially pre-determined targets, that is to conform with a given value system of socially 'desirable' orientations. In this attempt the child will be forced to deal with some 'objective' obstacles, which are mostly perceived by him/her as personal ability limits. Several studies in the international bibliography suggest that there is little difference between social classes in the importance they attach to 'getting ahead', and that, if anything, it is the working class to whom occupational success is the most important. However I would agree with studies which stress that in an education system where there is "overt selection there is evidence that both aspirations and expectations are likely to be influenced by the allocation procedure itself" and that "working-class children and their parents are more likely to rely on school assessment of their abilities and aptitudes than middle-class students" (Banks, 1976, p.80).

This is not to say that the aforementioned example presents a clear-cut resemblance to an old-fashioned distinction between working-class and middle-class. Nevertheless, given the crucial role that National Examinations play in the allocation of places in higher education - after the gradual shifting of the selection mechanisms towards the end of secondary school - the accumulated effects that obsolete and textbook-based assessment has on the aspirations of children from less prosperous family backgrounds and, finally, the representation patterns in the various HE institutes (which will be demonstrated later) it may be argued that in the Greek case as well, there is an empirical grounding for Hopper's conception of the regulation of ambition. That means, in his own words (as cited in Banks, 1976, p. 79), "at every level and through every route within its total selection process, an educational system must strive, on the one hand, to 'warm-up' some of its students, and, on the other, to 'cool-out' those who are rejected for further training".

Additionally, this 'cooling-out' process usually (as some research studies in Western countries showed) forces students with poor grades to attribute their performance to "external factors to avoid the embarrassment of academic failure", in contrast to the high-scoring ones, who "attribute good grades to their own effort or ability to create the impression of competence" (Forsyth, in Feldman, 1986, p. 21). It is beyond doubt that these explanatory and

adaptive attributions suggest the formulation of a number of strategies, not only for improvement and maintenance, but also for adjustment into a competitive environment which has already 'stamped' them as 'successes' or 'failures', as individuals 'with' or 'without potential'.

Curriculum implications

Apart from the fact that the National Examinations take place at the end of secondary schooling, and therefore one would expect that the examination period comes as the next step in a progressive process that starts at the beginning of the upper-secondary school (*lyceum*), the truth is that the only legitimate function of this school - some argue that this is the case for the lower-secondary school too - has been, and still is the preparation for the final exams (at the end of June of the last *lyceum* year).

The demand for better preparation for only the four examined subjects of a certain 'track', puts pressure, not only on pupils, but on administrators, teachers and parents as well. Subjects not examined in the NE remain a 'second-class' supplement to the former. Nobody is interested in studying something that is not going to help him/her to gain a place in a HE institute. The only effort made is limited to just securing a 'pass' in those 'insignificant' and 'useless' subjects or subject areas.

Progressively performance in the NE has resulted in - almost absolute - memorisation of the textbooks¹ - especially in subjects related to humanitarian and social studies, where there are 'official' guidelines, published by the Central National Committee in charge of the Examinations, that prescribe the exact pages in which the 'right answers' should fall! (This 'over-prescription' of curriculum content did not 'save' the Greek primary and secondary school children, who scored considerably low in the Third International Mathematics and Science Survey, carried out by the International Association for the Evaluation of Educational Achievement, and made known internationally in November 1996²).

Curriculum practice experienced today in the Greek secondary school - and indeed in every system that maintains, or moves towards, national standards - is constituted by what Habermas (1973) described as 'technical' interest, that is, by action which is governed by technical rules based upon empirical knowledge, and which (action) is directed towards certain goals. It is these pre-determined (by the Ministry of Education and its various consultative bodies) goals

¹ There is only one textbook per subject, approved by the Ministry of Education for school use.

² See Persianis, 1998, p. 78; also Zoulas, 1997, p. 22.

that represent the objectives of the curriculum development, and subsequently the curriculum practice. The detailed guidelines on, not only the content of the curriculum, or the pace of teaching it, or even the 'appropriate' procedures for assessing the pupils, but the classroom settings and the pedagogical framework in which the learning experience will take place, are essentially the theoretical statements or principles which stand in a deterministic relationship to the world of practice. This last argument, far from advocating the need for a radical turn towards a 'critical pedagogy' (Freire, 1972), or a 'emancipatory-interest-oriented curriculum practice' (Grundy, 1987), points at the implicit power relationships that an over-prescribed, examination-oriented, technically informed curriculum implies within the learning environment. It is not 'bad' per se, for example, a 'panoptic' system of whole-class teaching; it may indeed be useful and informative for numerous of reasons. However, where a 'technical' interest is at work in the learning environment the pupil will have virtually no power to determine his/her learning objectives, so s/he will be totally dependent on the expert's assistance or guidance (the X teacher during the school life, and the Y professional in the rest of his/her life). That is why the lack of, say, well equipped and regularly used laboratory equipment to carry out chemistry experiments - to bring a very common example of the scarcity of resources in the Greek schools - and the absolute reliance on the textbooks and their abstract concepts, is a characteristic feature of over-dependency in the learning process. This does not necessarily imply suspicious intentions on the part of the teacher, or the curriculum designer. What it does, however, is to set out clearly - though not always - some pre-determined skills that have to be mastered by a certain step-by-step procedure, without taking into account a practical cognitive interest. In other words, teaching, and not learning, is the central concern of the teacher, since it is the ('right') outcome that matters.

It should also be remembered that the technically informed curriculum has serious implications for teachers as well. A curriculum like this implies a division of labour between the curriculum designers and the curriculum implementers. Not only does the process of curriculum development need to be controlled, but students also need to be 'controlled' so they can achieve what the curriculum designers have planned. Thus, as the increasingly de-skilled teachers - due to rapid technological changes and information volatility - are being forced to become de-skilled pedagogically as well, and then re-skilled as 'educational managers'. We should not forget, what Apple (1982) said about the teaching profession in America, in the light of the increasing emphasis upon classroom management: "As teachers lose control of the curricular and pedagogic skills to large publishing houses, these skills are replaced by techniques for better controlling students".

Performance contradictions

Despite the fact that over-reliance on the textbooks meant to promote objectivity and standardisation of measurement, it has not however contributed to the improvement of the students' performance, not even in purely numerical terms. From 1988 onwards, there has not been any notable increase of mean scores of the candidates in each academic track; on the contrary the general tendency - apart from the track B which leads to medical, veterinarian and the para-medical professions - is rather downward (see newspaper Rapti, 1996, p. 19).

Quite revealing is a short examination of the proportion of those who scored below the base-line (i.e. 80, since the highest score-per-subject is 160). In mathematics of track A (technological and scientific disciplines) this proportion was 46% in 1988, 48% in 1989, 48.3% in 1990 and 80.4% in 1991 and 60% in 1996, while in the same subject of track D (social sciences) the respective figures were 63.5%, 55%, 71%, 82% and 80%! The same picture emerges when we examine the rest of the subjects in the so-called 'theoretical' tracks (tracks C and D). In contrast, the other two tracks (A and B) show only moderate fluctuations in the level of performance (see Ministry of Education, various years; also Rapti, 1991 and 1996).

More controversial arguments about the 'predictive' validity of the high-school, as well as the NE scores as projectors of the future performance of the students (i.e., their performance during their higher studies) have also been brought forward by some scholars. For example, in her study of the admission policies in the 'Panteion' University of Athens during the last 60 years, and the socio-economic, gender and cultural 'identity' of the student population, Sideri (1991) claimed that, among other factors, the higher the grades that a student had gained in the high school or the school-leaving examinations, the 'lower', the 'less satisfactory' or 'less successful' his/her performance was in the various University-departments.³ In addition, Polydorides (1994), compared the results from a sample of upper-secondary school (*lyceum*) graduates who had sat for the NE, with the mean scores that the same individuals achieved in the most significant course-units of their first year in the University. The correlation coefficients that she found were too low and, therefore, (statistically) insignificant in reliably predicting the future performance of those students. These results, apart from, neither indicating an 'equalising effect' of the higher studies for the low-achievers, nor relating in any way to the labour-market prospects of the would-be University graduates, question the public

³ The results were taken after carrying out a factor analysis, in which the main 'depended' variables (criteria) were the award - or not - of a degree, the means cores of all the subjects in each academic year etc.

image of the NE system as - amongst its other merits - an objective judgement of the future performance of students. In that case, there are certain questions arising about the real functions of this system, as these are witnessed in the everyday life of the common Greek citizen: 'is this system a predictor of future success?', and 'if yes, success on what?'; or 'is it a reward for previous achievement?'; or 'both answers are true?'

Given the present structure of the labour market, the socio-economic, cultural, gender and geographical determinants of educational achievement, the pedagogical arrangements and the curriculum content of the schools, one would argue that both of these explanations might be proved trivial, if looked under a rather simplistic functionalist perspective, rather than through a 'holistic' sociological enquiry, based on macro- as well as micro-level research evidence.

Greece and the rest of the EU countries

A comparative review of the educational systems in other European Union countries and their structure has been attempted in chapter 3. Here we should briefly present some indicators concerning access to higher education, in order to outline - even in aggregate figures - the relative position of Greece in a gradually 'integrated' - in economic, as well as in cultural - Europe.

From the early 80s, a number of studies examining educational expenditure across the EEC, showed that the proportion of the GDP spent on education in Greece, was considerably low, compared to the rest of the EEC countries (Pesmazoglou, 1987, chap. 3; also Psacharopoulos and Papas, 1987 and 1993). Although the proportion has, since then, increased substantially (from 2.2% in the early 80s, to 3% in 1991, according to UNESCO statistics), it remains at an impressively low level, in fact one of the lowest in the European Union as a whole (See Psacharopoulos, 1987; UNESCO, 1992 and 1997). As a proportion of the total government expenditure, the educational expenditure has shown wide fluctuations between 8 and 10 percent; its proportion of the recurrent government expenditure remained rather stable at a rate of 13-14 percent, as compared to a 36-40 percent spent in national defence (Pesmazoglou, 1987; Government Budget for the 1997 fiscal year). Although, it is hardly reasonable to argue that the educational expenditure, as a proportion of the total government expenditure, is very low, as compared to the other countries, nonetheless, there are some critics who insistently point out the disproportionately high spending in defence, and claim that, in a country with a weak economy and scarce resources, a climate of hostility with neighbouring countries has

proved an immense handicap in any effort for “viable welfare and educational reform” (Pesmazoglou, 1987, p.146).

As noted earlier, another problem with Greek higher education is the number of Greek students studying abroad. Greece, relative to its population, has the highest - leaving aside Luxembourg - rate of student emigration in the world (see Psacharopoulos, 1987; also UNESCO, 1995). This has to be taken into account when examining aspirations of Greek students for a higher degree, and the economic, as well as social, consequences that such an outflow of human capital might have on the country as a whole. An increasing number of those going to study abroad, finally decide to stay there, either because they find a suitable and well-paid job there, or because they wish to follow a more promising research career.

As far as enrolment ratios in higher education are concerned, they are comparable to, and often higher than, those of the most advanced Western countries of Europe, and, indeed, of the world. For example, the gross enrolment ratios for higher education in the academic year 1985-86 were 30.2 in France and 23.5 in Greece; the respective figures for 1993-94 were 49.7 and 42.5, that is an increase of 39.2% in France as compared with an increase of 44.7% in Greece. In the same period, in other countries, such as Denmark, the enrolment ratios have declined (Psacharopoulos, 1990, p. 64; UNESCO, 1995, table 2.4).

However, when standardised by population, Greece does not have too many tertiary students relative to other EEC countries, something that - according to some researchers - helps us to “dispel some myths surrounding Greek higher education” (Psacharopoulos, 1990, p. 63). In fact, the number of students in higher education establishments has declined in the early 90s, with only small increases in the last four years. But even these insignificant increases only absorb a very small part of the total candidates, including the increasing number of those who sit for the second or more times in the National Examinations. As a result, the proportion of the successful students to the total number of candidates is gradually decreasing. Also, the gap between demand for, and supply of higher education places is widening (see chart 2 in chapter 4).

DATA ON ACCESS TO UNIVERSITIES AND TEIs

The Ministry of Education each year makes available to the public - and especially to the research community - tables with national-level figures about the distribution of the first-year students in the various higher education institutes (that is Universities and TEIs).

In these tables one can find classification of students according to birth place, geographic origin (usually parents' former place of living), parents' educational level and occupation (only father), University location, and academic department

Inequalities in relation to occupational category.

Universities

With the use of the above statistics and of data provided by the Labour Force Survey of the National Statistical Service of Greece, we will construct some Indices of Educational Opportunities. The Index is constructed by dividing the proportion of the students from a particular social group (e.g., those whose fathers work in a managerial post) in the University (or department) examined, by the proportion of male population above 45 years of age of the same social group in the country's 'active' population.

An examination of the respective tables for the academic year 1993-94 reveals a persistent pattern of unequal distribution of different social groups in the University places, in relation to their respective representation in the total population.

For example in table 6.1, we see that there is a clear differentiation in the allocation of places among students with different social backgrounds, in the various Universities around the country. Some of these Universities are located in big urban areas, have more resources available, better qualified teaching staff, while other Universities, in remote areas of the country, are by far the least 'advantaged'. This second type of University 'accept'⁴ the more disadvantaged social groups.

We observe that, although there has been a notable decrease in the over-representation of more prestigious social groups (1, 2 and 3) in relation to the previous decades (see Polydorides, 1985 and 1995a, p.109), nevertheless, there are still students whose class is represented in a higher number in the University than in the population as a whole (see especially, columns 1 and 2, as contrasted to the 3, 4, 5, 6 and 7).

Moreover, we can see a persistent pattern in the (relative) chances of 'privileged' students of entering particular and prestigious higher education institutes, such as the National 'Metsovion' Polytechnic, which has the highest standards in Engineering studies from every other University in the country, and amongst those with the lowest intake of high-school

graduates per each department (see Ministry of Education, 1994, table 1). At the same time, the professions associated to the academic disciplines taught in this HE institute are the more prestigious in the labour market, with the lowest unemployment rates⁵ and the most promising future prospects. In this University, the children of more wealthy people are being represented 2.64 times more than their actual proportion in the total population, whereas those from the 'lower' social strata (see especially groups 4, 5 and 6) have all, except one (group 2), a rate of educational opportunity lower than 1.

In other 'metropolitan' institutes (such as the Agricultural University or the Economic University of Athens), or in various Universities of the 'periphery' (such as the Thrace University or University of Crete), there is a growing participation of 'lower' socioeconomic strata, which, however, have not yet succeeded in achieving indexes of more than 1.

A list with similar tables could be endless, showing not only difference between different Universities and their respective departments, but within each University, between two departments of different 'status'. As we see in table 6.2, the 'gap' between the different social groups is less in certain University faculties than in others.

For example, in the prestigious National 'Metsovion' Polytechnic, the inequalities are much more profound in some disciplines, such as Mechanical Engineering or Architecture, than in others (e.g., Metallurgical Engineering). The latter do not necessarily correspond to 'less prestigious' occupations, but, nevertheless, lack popular acceptance as promoters of high-status and 'modern' jobs.

In the University of Athens, Faculty of Medicine (a traditional stronghold of the upper classes), the group 1 ('scientific and top-managerial occupations') has 1.29 opportunity-points more than the second group ('middle-level office personnel') and 2.66 points more than the fourth group ('farmers, cattle-breeders, fishermen'). In contrast, in the Faculty of Philosophy the respective differences are 0.37 and 1.64. The picture is repeated, but with more 'equalising' results, in other Universities around the country. As we look through the figures, we realise that as we go further away from the 'centre' (that is Athens) the representation of the lower socioeconomic strata increases, and, in certain disciplines - such as the Social Sciences or Education - it is equal to, or even outnumbers that of group 1.

⁴ The verb is used for reasons of convenience, because the admission policy is always regulated by the Ministry through the system of the National Examinations, so we cannot talk of 'discretion' of individual universities to accept or to reject a student.

⁵ For differences in unemployment rates between 'non-manual' and 'intellectual' occupations and 'technical' occupations in the GAA, see TEDKNA, 1994.

TABLE 6.1**INDICES OF EDUCATIONAL OPPORTUNITIES IN VARIOUS UNIVERSITIES (according to father's occupation)**

| | FATHER'S OCCUPATION | | | | | | |
|----------------------------------|---------------------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Athens University | 1.93 | 1.61 | 0.95 | 0.53 | 0.79 | 0.18 | 0.02 |
| Thessaloniki University | 1.7 | 1.64 | 1.04 | 0.95 | 0.77 | 0.17 | 0.02 |
| Thrace University | 1.84 | 1.68 | 0.86 | 0.87 | 0.72 | 0.19 | 0.08 |
| Crete University | 1.46 | 1.57 | 0.79 | 1.23 | 0.74 | 0.3 | 0.02 |
| Patras University | 1.66 | 1.68 | 0.98 | 0.8 | 0.72 | 0.25 | 0.04 |
| National "Metsovion" Polytechnic | 2.64 | 1.9 | 0.86 | 0.2 | 0.57 | 0.15 | 0 |
| Economic University of Athens | 1.6 | 2.16 | 1.4 | 0.62 | 0.6 | 0.2 | 0.03 |
| Agricultural University | 1.7 | 1.67 | 1 | 1.26 | 0.57 | 0.2 | 0 |

TABLE 6.2**INDICES OF EDUCATIONAL OPPORTUNITIES IN SELECTED UNIVERSITY FACULTIES (according to father's occupation)**

| | FATHER'S OCCUPATION | | | | | | |
|---|---------------------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ATHENS UNIVERSITY | | | | | | | |
| Science | 1.94 | 1.51 | 0.88 | 0.21 | 0.91 | 0.16 | 0.02 |
| Philosophy | 2.08 | 1.71 | 0.93 | 0.42 | 0.73 | 0.17 | 0.03 |
| Medicine | 2.92 | 1.63 | 0.69 | 0.24 | 0.47 | 0.16 | 0 |
| Legal and Economic Studies | 2.01 | 1.58 | 1.13 | 0.56 | 0.76 | 0.13 | 0.04 |
| THESSALONIKI UNIVERSITY | | | | | | | |
| Science | 2 | 1.74 | 1.02 | 0.71 | 0.77 | 0.18 | 0 |
| Philosophy | 1.67 | 1.65 | 1.08 | 0.76 | 0.82 | 0.19 | 0.01 |
| THRACE UNIVERSITY | | | | | | | |
| Engineering | 2.16 | 1.77 | 0.5 | 0.87 | 0.83 | 0.17 | 0.03 |
| Education | 1.84 | 2.87 | 1.5 | 2.2 | 1.74 | 0.39 | 0.13 |
| NATIONAL "METSOVION" POLYTECHNIC | | | | | | | |
| School of Architecture | 3.33 | 1.5 | 0.85 | 0 | 0.52 | 0.08 | 0 |
| Mechanical Engineering | 2.52 | 2.33 | 0.87 | 0.07 | 0.42 | 0.19 | 0 |
| Metallurgical Engineering | 1.54 | 2.56 | 1.3 | 0.29 | 0.8 | 0.13 | 0 |
| ECONOMIC UNIVERSITY OF ATHENS | | | | | | | |
| Economics | 1.33 | 2.6 | 1.33 | 0.68 | 0.73 | 0.12 | 0 |
| Business Management | 1.76 | 1.67 | 1.47 | 0.49 | 0.6 | 0.26 | 0.1 |

1= Scientific and top-managerial occupations

2= Middle-level office personnel

3= Self-employed tradesmen and retailing-sector employees

4= Farmers, cattle-breeders, fishermen

5= Skilled Workers

6= Service sector employees

7= unemployed

Source: NSSG, 1995 & Ministry of Education, 1994.

Especially, the opportunity-indices of group 2 ('middle-level office personnel') are considerably high. This is not only because of rapid expansion of 'middle-class' layers of the population in the last three decades *per se*, but also because of wider ideological and cultural implications that this expansion of the 'tertiary' sector of the economy had on parental expectations, as far as future employment prospects of their offspring are concerned (see Tsoukalas, 1977 and 1986; Pasmazoglou, 1988; Maloutas and Economou, 1992).

TEIs

As far as the situation in TEIs is concerned, a quite different picture emerges of the representation of various occupational categories. As tables 6.3 and 6.4 show, the indexes are higher for the 'less prestigious' categories in almost every Technological Institute, and indeed in almost every department.

The variety of specialisations offered in those departments, and the significantly lower prestige attached to the TEIs, makes it easier for less privileged socio-economic groups to have access to this type of higher education institute. These are totally oriented towards the provision of adequate training for the labour-market requirements. The lack of a 'higher status' for the TEIs - something that is demonstrated by the little demand expressed from high-school graduates, and subsequently the very low scores required by the Ministry for entrance in those institutes - is combined with the special character of the admission policies (for 77% of the total TEI places, admission to the first year is regulated by the same rules as for the University candidates, i.e. after passing the National Examinations, and the remaining 23% are reserved exclusively for technical and vocational *lyceum* graduates, who gain admission on the basis of grades in their *lyceum* diplomas). (See also reference in the 'Historical Background')

The establishment of various TEI departments have followed a policy of 'political favouritism' and 'social opportunism' (i.e., the operation of different departments of the same institute in neighbouring cities in order to please the voters in those areas) and - as the tables show - that increased the opportunities of specific 'less privileged' occupational categories in areas where the labour-market orientation favours the above groups (e.g., the case of the department of 'Agricultural Production' in Heraclion). Nevertheless, representation of 'less privileged' groups - in economic as well as in cultural terms - such as the farmers or the service-sector employees, is still very low, far lower than 1. This means that they are under-represented even in that part of higher education specially designed to accommodate their needs and eradicate inequalities created by previous stages of the education system.

TABLE 6.3

| | FATHER'S OCCUPATION | | | | | | |
|--------------|---------------------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Athens | 0.64 | 3.25 | 1.17 | 0.28 | 2.12 | 0.52 | 0.1 |
| Thessaloniki | 0.51 | 2.85 | 1.19 | 0.43 | 2.2 | 0.44 | 0.1 |
| Crete | 0.39 | 2.99 | 1.2 | 0.46 | 2.22 | 0.56 | 0.15 |
| Kavala | 0.39 | 3.42 | 1.02 | 0.46 | 2.09 | 0.41 | 0.07 |
| Kozani | 0.38 | 3.5 | 1.32 | 0.5 | 1.55 | 0.31 | 0.12 |
| Larisa | 0.40 | 2.87 | 1.09 | 0.5 | 2.09 | 0.6 | 0.1 |
| Patra | 0.43 | 3.23 | 1.16 | 0.37 | 2.33 | 0.57 | 0.15 |
| Pereas | 0.50 | 3.4 | 1.07 | 0.22 | 2.23 | 0.6 | 0.1 |
| Serres | 0.36 | 3 | 1.29 | 0.45 | 2.34 | 0.52 | 0.02 |
| Kalamata | 0.30 | 3.69 | 1.07 | 0.56 | 1.83 | 0.86 | 0.1 |
| Mesologi | 0.41 | 2.57 | 0.8 | 0.59 | 2 | 0.55 | 0.1 |
| Chalkida | 0.43 | 3.94 | 1.17 | 0.14 | 2.39 | 0.6 | 0.1 |

TABLE 6.4

| TEI DEPARTMENTS | FATHER'S OCCUPATION | | | | | | |
|-------------------------|---------------------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ATHENS TEI | | | | | | | |
| Civil Engineering | 0.87 | 3.17 | 1.15 | 0.22 | 2.28 | 1.02 | 0 |
| Electronic Engineering | 0.59 | 3.41 | 0.74 | 0.18 | 3 | 0.1 | 0 |
| Food Science | 0.85 | 3.21 | 1.44 | 0.14 | 1.96 | 0.34 | 0 |
| Nursery Studies | 0.23 | 3.14 | 1.04 | 0.62 | 2.02 | 1.03 | 0.47 |
| Social Service | 0.54 | 3.7 | 1.35 | 0.21 | 2.1 | 0.97 | 0 |
| HERACLION TEI | | | | | | | |
| Electrical Engineering | 0.52 | 3.24 | 1.07 | 0.39 | 2.2 | 0.57 | 0 |
| Agricultural Production | 0.27 | 2.31 | 1.32 | 0.94 | 1.74 | 0.25 | 0.23 |
| Social Service | 0.71 | 3.1 | 0.99 | 0.55 | 1.82 | 0 | 0 |
| LARISA TEI | | | | | | | |
| Electrical Engineering | 0.47 | 3.18 | 0.82 | 0.46 | 2.25 | 0.52 | 0.00 |
| Civil Engineering | 0.66 | 2.47 | 0.88 | 0.22 | 2.57 | 0.34 | 0.31 |
| Electronic Engineering | 0.43 | 4.38 | 0.83 | 0.30 | 1.76 | 0.81 | 0.00 |
| Animal Production | 0.73 | 1.85 | 1.39 | 0.46 | 2.24 | 0.61 | 0.00 |
| Agricultural Production | 0.45 | 2.29 | 1.14 | 0.94 | 1.18 | 0.54 | 0.00 |
| Nursery Studies | 0.41 | 2.82 | 0.89 | 0.55 | 2.24 | 0.75 | 0.12 |
| PATRA TEI | | | | | | | |
| Electrical Engineering | 0.22 | 3.90 | 0.88 | 0.13 | 2.36 | 0.99 | 0.00 |
| Civil Engineering | 0.79 | 2.58 | 1.38 | 0.28 | 2.24 | 0.00 | 0.00 |
| Nursery Studies | 0.74 | 2.08 | 0.56 | 0.53 | 2.10 | 0.61 | 0.22 |
| Social Service | 0.16 | 4.13 | 0.77 | 0.60 | 2.30 | 0.52 | 0.48 |

1= Scientific and top-managerial occupations

2= Middle-level office personnel

3= Self-employed tradesmen and retailing-sector employees

4= Farmers, cattle-breeders, fishermen

5= Skilled Workers

6= Service sector employees

7= Unemployed

Source: NSSG, 1995 & Ministry of Education, 1994

The group most 'favoured' by the establishment of this relatively new type of higher technical and professional education seems to be the no 2 (middle-level office personnel). This group reflects the middle-class ideology of the importance that a higher degree might have on future employment prospects. We should also not forget the over-representation of this group in the various University faculties (see tables 1 and 2).

It must also be noted that the category 'skilled workers' - which comprises a large number of self-employed technicians, with high incomes - are also over-represented, especially in those departments offering very modern and technologically-oriented courses (e.g., 'electronic engineering'), although the indexes are quite high in less 'popular' - or at least less prestigious - departments, as well.

More than half the students enroll in three TEIs located in the metropolitan areas of Athens and Thessaloniki (i.e., Athens, Piraeus and Thessaloniki). As a result, "the central TEIs are overcrowded, whereas the regional ones need students to make up viable course enrolment" (Kalamatianos *et al.*, 1988, p. 277).

Inequalities in relation to level of Education

In this case calculation of the Indices of Opportunities is the same as before, only now individuals are classified according to their father's and mother's educational level (i.e., the level of education each of the student's parents has completed).

Universities

What is clearly shown in tables 6.5 and 6.6 is the immense prevalence of those whose parents hold a post-graduate degree. With chances of getting a place in a University from 80 to almost 600 times more than their representation in the labour-market. This group stresses the unquestionably important role that a large 'amount of cultural capital' - in quantitative, as well as qualitative terms - plays on individual opportunities for higher studies. Nevertheless, we should keep in mind that this group accounts for only a tiny fraction of the total labour force (only 0.1%), and it is reasonable that they are over-represented in the HE institutes, although they constitute a very small group, in aggregate numbers.

TABLE 6.5

INDICES OF EDUCATIONAL OPPORTUNITIES IN VARIOUS UNIVERSITIES (according to parents' education)

| | FATHER'S EDUCATION | | | | | | MOTHER'S EDUCATION | | | | | |
|----------------------------------|--------------------|------|------|------|------|-----|--------------------|------|------|------|------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| Athens University | 315 | 0.82 | 2.5 | 0.43 | 0.34 | 0 | 197 | 0.61 | 2.97 | 0.53 | 0.4 | 0.1 |
| Aegeon University | 187 | 0.64 | 2.37 | 0.7 | 0.39 | 0 | 125 | 0.28 | 2.43 | 0.78 | 0.54 | 0.2 |
| Thessaloniki University | 274 | 0.84 | 2.24 | 0.53 | 0.4 | 0.1 | 175 | 0.58 | 2.53 | 0.67 | 0.41 | 0.1 |
| Thrace University | 309 | 0.56 | 2.32 | 0.51 | 0.33 | 0 | 176 | 0.6 | 2.9 | 0.6 | 0.34 | 0 |
| Ionion University | 316 | 0.9 | 2.14 | 0.5 | 0.33 | 0 | 194 | 0.65 | 3.04 | 0.51 | 0.44 | 0.1 |
| Ioannina University | 238 | 0.6 | 2.36 | 0.62 | 0.33 | 0.1 | 148 | 0.55 | 2.48 | 0.77 | 0.28 | 0.1 |
| Crete University | 226 | 0.74 | 2.3 | 0.6 | 0.49 | 0 | 131 | 0.64 | 2.57 | 0.71 | 0.49 | 0.1 |
| Polytechnic University of Crete | 384 | 0.87 | 2.35 | 0.33 | 0.25 | 0.2 | 226 | 0.78 | 2.98 | 0.45 | 0.3 | 0.3 |
| Thessalia University | 312 | 0.42 | 2.21 | 0.6 | 0.11 | 0 | 167 | 0.71 | 2.41 | 0.75 | 0.13 | 0.1 |
| Patras University | 284 | 0.84 | 2.42 | 0.5 | 0.33 | 0 | 166 | 0.54 | 3.05 | 0.6 | 0.33 | 0 |
| National "Metsovion" Polytechnic | 453 | 1.25 | 2.08 | 0.26 | 0.18 | 0 | 266 | 0.93 | 3.28 | 0.37 | 0.14 | 0 |
| Economic University of Athens | 301 | 0.97 | 2.61 | 0.42 | 0.26 | 0 | 155 | 0.88 | 3.23 | 0.54 | 0.26 | 0.1 |
| Panteion University | 179 | 0.85 | 2.51 | 0.63 | 0.43 | 0 | 88.1 | 0.62 | 2.84 | 0.72 | 0.53 | 0.2 |
| Pereas University | 225 | 0.64 | 2.8 | 0.53 | 0.38 | 0 | 112 | 0.31 | 3.5 | 0.6 | 0.42 | 0 |
| Macedonian University | 167 | 0.52 | 2.52 | 0.67 | 0.51 | 0.1 | 91.2 | 0.45 | 2.66 | 0.8 | 0.44 | 0.1 |
| Agricultural University | 268 | 0.76 | 2.92 | 0.43 | 0.3 | 0 | 181 | 0.53 | 3.08 | 0.55 | 0.37 | 0.1 |
| Highest School of Fine Arts | 299 | 0.57 | 2.28 | 0.55 | 0.32 | 0 | 164 | 0.94 | 2.85 | 0.52 | 0.64 | 0 |

TABLE 6.6

INDICES OF EDUCATIONAL OPPORTUNITIES IN SELECTED UNIVERSITY FACULTIES (according to parents' education)

| | FATHER'S EDUCATION | | | | | | MOTHER'S EDUCATION | | | | | |
|---|--------------------|------|------|------|------|------|--------------------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| ATHENS UNIVERSITY | | | | | | | | | | | | |
| Legal and Economic Studies | 388 | 0.75 | 2.34 | 0.43 | 0.32 | 0.05 | 210 | 0.66 | 2.96 | 0.51 | 0.37 | 0.07 |
| Science | 312 | 0.99 | 2.67 | 0.36 | 0.37 | 0.01 | 201 | 0.67 | 3.17 | 0.48 | 0.4 | 0.01 |
| Philosophy | 319 | 0.82 | 2.67 | 0.4 | 0.28 | 0.02 | 210 | 0.68 | 3.12 | 0.49 | 0.31 | 0.07 |
| Medicine | 510 | 1.26 | 1.83 | 0.22 | 0.18 | 0 | 353 | 0.69 | 2.87 | 0.35 | 0.12 | 0 |
| THESSALONIKI UNIVERSITY | | | | | | | | | | | | |
| Science | 324 | 0.88 | 2.29 | 0.46 | 0.28 | 0.03 | 178 | 0.74 | 2.78 | 0.63 | 0.26 | 0.03 |
| Philosophy | 270 | 1.03 | 2.31 | 0.52 | 0.35 | 0.02 | 195 | 0.63 | 2.74 | 0.62 | 0.29 | 0.03 |
| THRACE UNIVERSITY | | | | | | | | | | | | |
| Engineering | 335 | 0.77 | 2.29 | 0.48 | 0.19 | 0 | 184 | 0.7 | 3.03 | 0.57 | 0.25 | 0 |
| Education | 110 | 0.23 | 2.67 | 0.75 | 1.1 | 0.08 | 79.8 | 0.54 | 2.39 | 1.5 | 0.93 | 0.16 |
| NATIONAL "METSOVION" POLYTECHNIC | | | | | | | | | | | | |
| School of Architecture | 557 | 1.19 | 1.87 | 0.16 | 0.07 | 0 | 340 | 1.19 | 3.02 | 0.26 | 0.14 | 0 |
| Mechanical Engineering | 429 | 0.99 | 2.67 | 0.21 | 0.15 | 0 | 229 | 1.18 | 3.65 | 0.34 | 0.05 | 0 |
| Metallurgical Engineering | 304 | 1.28 | 2.66 | 0.4 | 0.1 | 0 | 246 | 0.73 | 2.99 | 0.51 | 0.1 | 0 |
| ECONOMIC UNIVERSITY OF ATHENS | | | | | | | | | | | | |
| Economics | 232 | 1.13 | 2.81 | 0.51 | 0.11 | 0.07 | 94.7 | 1 | 3.33 | 0.6 | 0.23 | 0.21 |
| Business Management | 330 | 0.7 | 2.74 | 0.37 | 0.31 | 0.04 | 157 | 0.91 | 3.37 | 0.51 | 0.24 | 0.09 |

1=Post-graduate degree(Master's or Ph.D)

2=Graduated from a University or TEI

3=Graduated from an upper-secondary school

4= Completed 9-year education

5=Completed (at least a part of) 6-year primary education.

6=Illiterate

Source: NSSG, 1995& Ministry of Education, 1994

Of great significance, however, is the under-representation of the second category (students whose parents hold a first degree, either from a University or a TEI), as contrasted to the over-representation of the third category (students whose parents are only high-school graduates). One would 'normally' expect that the more educated the parent are, the higher the chances their offspring will get a place in a University. In fact, group 2 shows indices lower than 1 ('expected' index), except in very few departments. Even there, they lag far behind the group 3.

The explanation is not straightforward, but it does relate - to a certain degree - to labour-market characteristics. Since - as we discussed in the previous chapter - the possession of a (first) University degree is no longer considered unusual or hard to achieve. The employment prospects of University-degree holders are not good, especially for salaried jobs in the tertiary (service) sector. Those with less years of schooling, have usually been forced to become small entrepreneurs - very often having no, or insufficient financial viability - to deal with the gloomy prospect of unemployment. Although this is not the case to the extent that it used to be - due to an increasingly competitive market and demanding technological requirements - this form of small-sized entrepreneurship has created wealth and prosperity for many Greek families, who in turn have invested heavily in their children's schooling⁶.

The picture emerging for the rest of the categories is rather expected. However, as we go down the 'educational ladder', the chances for entry to either a central University, or a prestigious academic department diminish. For example a student whose father 'belongs' in category 4 ('completed 9 years of schooling', that is, primary education and three years of secondary) has on average an index of 0.7 for securing a place in the Aegean University (a distant and small establishment), 0.43 for a place in the Athens University, and only 0.26 for the National 'Metsovion' Polytechnic, which is one of the most prestigious HE institutes in the country. In addition, s/he has twice as many possibilities of getting a place in the Faculty of Legal & Economic Studies of the University of Athens than in the Faculty of Medicine of the same University; or s/he is 24 or 19 points less likely to enter the School of Architecture or the Department of Mechanical Engineering (respectively) of the National 'Metsovion' Polytechnic, than to enter the Department of Metallurgical Engineering of the same University.

The same pattern emerges when the mother's educational level is taken into account. The only discrepancy here is that the indices for the first two categories are (generally) higher, while those for the last four categories lower.

⁶ We should not forget that, in our indices, we took into account people of 45+ years of age.

Of course the aforementioned patterns do not present huge differences in the opportunity chances of each of the examined categories, especially if we take into account the fact that some Universities offer courses only in a small number of disciplines, and as a result, their student-intake is lower and incomparable to that of other Universities.

TEIs

The picture emerging from the TEIs (tables 6.7 and 6.8) is surprisingly the same, with only slight variations in the size of the Indices. The first group (those whose parents hold a post-graduate degree) is impressively over-represented, as expected, while the opportunities of the second group (students whose parents hold a first degree) are still significantly lower than those of the third (students whose parents are only high-school graduates). Furthermore, the second group lags behind even the fourth (students whose parents have completed only nine years of schooling) and fifth (students whose parents have completed only primary education) groups!

Of course this under-representation of the second group is more explainable here, because of the low prestige that the TEIs enjoy in the eyes of the 'educated' families. It should be noted that, although we are dealing with first-year enrolments, the reality is that the drop-out rate in the subsequent years is very high for these institutes. This is not only because of various unforeseeable social and personal factors that affect the students' performance, but also because it is habit for many high-school graduates to register in their host TEI for one year, and then sit for a second time the NE.

A careful look at the distribution of opportunities across the various departments, would show that the gap in prestige between different disciplines seems to narrow to a considerable degree. We see, for example, that in the Athens TEI the representation of the first two, 'more educated' categories, is higher in the department of Social Service than in the department of Civil Engineering; or in Patra TEI, where in the department of Electrical Engineering, groups 1 and 2 show lower indices than in the department of Nursery Studies. However, the reverse is not true for the 'less educated' - especially groups 4, 5 and 6 - which are still under-represented in the majority of departments, and show relatively higher indices in the less rather than in the more prestigious departments.

Mothers' education - as compared to father's education - seems a less significant factor in improving the opportunities in groups 1 to 3, and more significant in groups 4 to 6.

TABLE 6.7

| | INDICES OF EDUCATIONAL OPPORTUNITIES IN VARIOUS TEIs (according to parents' education) | | | | | | | | | | | |
|--------------|--|-------|--------|------|------|-------|--------------------|--------|--------|---------|--------|----------|
| | FATHER'S EDUCATION | | | | | | MOTHER'S EDUCATION | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| Athens | 167.319 | 0.675 | 2.5041 | 0.64 | 0.58 | 0.061 | 96.135 | 0.483 | 2.4705 | 0.77441 | 0.6406 | 0.122309 |
| Thessaloniki | 139.7168 | 0.542 | 1.9767 | 0.8 | 0.69 | 0.074 | 77.496 | 0.4103 | 1.9141 | 0.92397 | 0.6991 | 0.171582 |
| Crete | 94.40104 | 0.626 | 2.3408 | 0.77 | 0.7 | 0.128 | 65.104 | 0.272 | 2.0625 | 0.91123 | 0.7541 | 0.214158 |
| Kavala | 86.38743 | 0.365 | 2.2281 | 0.87 | 0.64 | 0.052 | 34.031 | 0.3479 | 1.9384 | 0.99138 | 0.7533 | 0.155001 |
| Kozani | 107.6625 | 0.552 | 2.0879 | 0.83 | 0.63 | 0.166 | 59.166 | 0.2824 | 1.9917 | 0.93608 | 0.7606 | 0.204196 |
| Larisa | 104.7359 | 0.501 | 2.1204 | 0.84 | 0.64 | 0.09 | 56.466 | 0.3055 | 1.891 | 0.96956 | 0.7273 | 0.197728 |
| Patra | 110.1164 | 0.555 | 2.5149 | 0.71 | 0.74 | 0.071 | 55.506 | 0.238 | 2.3987 | 0.82026 | 0.8824 | 0.247373 |
| Pereas | 146.0208 | 0.683 | 2.8263 | 0.6 | 0.58 | 0.064 | 82.353 | 0.4117 | 2.5463 | 0.78866 | 0.6323 | 0.154799 |
| Serres | 86.74102 | 0.565 | 2.1283 | 0.84 | 0.71 | 0.13 | 43.371 | 0.3294 | 1.9486 | 0.99262 | 0.6419 | 0.228266 |
| Kalamata | 78.94737 | 0.2 | 2.3704 | 0.85 | 0.68 | 0.139 | 15.789 | 0.1999 | 2.2901 | 0.94608 | 0.7192 | 0.34626 |
| Mesologi | 113.2075 | 0.451 | 1.9844 | 0.88 | 0.54 | 0.166 | 48.218 | 0.2654 | 2.0644 | 0.97322 | 0.5732 | 0.303432 |
| Chalkida | 135.2814 | 0.685 | 2.7345 | 0.66 | 0.47 | 0.1 | 58.442 | 0.2877 | 0.2877 | 0.81405 | 0.654 | 0.199362 |

TABLE 6.8

| TEI DEPARTMENTS | INDICES OF EDUCATIONAL OPPORTUNITIES IN SELECTED TEI DEPARTMENTS (according to parents' education) | | | | | | | | | | | |
|-------------------------|--|-------|--------|------|------|-------|--------------------|--------|--------|---------|--------|----------|
| | FATHER'S EDUCATION | | | | | | MOTHER'S EDUCATION | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 1 | 2 | 3 | 4 | 5 | 6 |
| ATHENS TEI | | | | | | | | | | | | |
| Civil Engineering | 224.498 | 0.689 | 2.233 | 0.69 | 0.24 | 0 | 88.435 | 0.3444 | 3.1158 | 0.7242 | 0.3915 | 0.089509 |
| Electronic Engineering | 121.2121 | 0.575 | 3.0072 | 0.67 | 0.38 | 0 | 83.333 | 0.4795 | 2.4867 | 0.76683 | 0.8175 | 0 |
| Food Science | 186.3354 | 1.022 | 2.6552 | 0.55 | 0.45 | 0.082 | 93.168 | 0.3145 | 2.6077 | 0.75878 | 0.6703 | 0.163452 |
| Social Service | 240 | 0.759 | 2.2901 | 0.56 | 0.58 | 0 | 80.808 | 0.6393 | 2.4674 | 0.82853 | 0.5087 | 0 |
| HERACLION TEI | | | | | | | | | | | | |
| Electrical Engineering | 138.8889 | 0.879 | 2.2265 | 0.75 | 0.45 | 0.091 | 125 | 0.2637 | 2.0144 | 0.78776 | 0.7994 | 0.365497 |
| Agricultural Production | 83.3333 | 0.938 | 2.0498 | 0.68 | 1.2 | 0.244 | 83.333 | 0.3516 | 1.6964 | 0.88876 | 0.9326 | 0.365497 |
| Social Service | 148.1481 | 0.625 | 2.2618 | 0.69 | 0.8 | 0 | 98.765 | 0.1563 | 1.6964 | 1.09883 | 0.2665 | 0 |
| KAVALA TEI | | | | | | | | | | | | |
| Electrical Engineering | 127.451 | 0.745 | 3.3678 | 0.56 | 0.28 | 0.129 | 68.627 | 0.3723 | 2.6194 | 0.80416 | 0.6348 | 0.128999 |
| Oil Technology | 104.4776 | 0.567 | 2.0508 | 0.96 | 0.21 | 0 | 74.627 | 0.1889 | 1.8229 | 0.98982 | 0.6443 | 0 |
| Logistics | 80.98592 | 0.134 | 1.9084 | 0.99 | 0.63 | 0.046 | 17.606 | 0.4011 | 1.6396 | 1.07539 | 0.76 | 0.185322 |
| LARISA TEI | | | | | | | | | | | | |
| Electrical Engineering | 122.1374 | 0.87 | 2.0395 | 0.8 | 0.49 | 0.201 | 76.336 | 0.4831 | 2.0395 | 0.91923 | 0.5492 | 0.2 |
| Civil Engineering | 135.8025 | 0.625 | 1.5079 | 0.88 | 0.8 | 0 | 49.383 | 0.7814 | 2.2618 | 0.86183 | 0.7105 | 0 |
| Agricultural Production | 88.23529 | 0.248 | 2.6194 | 0.77 | 0.63 | 0.258 | 68.627 | 0.3723 | 2.0207 | 0.90682 | 0.6348 | 0.386997 |
| Nursery Studies | 124.3781 | 0.567 | 1.709 | 0.91 | 0.57 | 0.065 | 59.701 | 0.3779 | 1.4432 | 1.10269 | 0.5727 | 0.130924 |
| PATRA TEI | | | | | | | | | | | | |
| Electrical Engineering | 126.1261 | 0.912 | 3.301 | 0.55 | 0.39 | 0 | 81.081 | 0.3421 | 2.6133 | 0.77041 | 0.7129 | 0.11854 |
| Civil Engineering | 166.667 | 0.603 | 2.908 | 0.52 | 0.77 | 0 | 83.333 | 0.1506 | 2.7268 | 0.81027 | 0.5995 | 0 |
| Nursery Studies | 151.7857 | 1.102 | 1.2949 | 0.86 | 0.78 | 0 | 89.286 | 0.3339 | 1.7721 | 0.857 | 0.835 | 0.587 |

1=Post-graduate degree (Master's or Ph.D)

2=Graduated from a University or TEI

3=Graduated from an upper-secondary school

4= Completed 9-year education

5=Completed (at least a part of) 6-year primary education.

6=Illiterate

Source: NSSG, 1995 & Ministry of Education, 1994

CONCLUSIONS

The historically established access of a wide strata of the Greek population to higher education has been hindered by the *numerus clausus* policy. It is important to stress the shift of public pressure for 'equal opportunities' in access in educational provision, from the lower to the higher levels of the system.

The patterns of unequal access examined above showed that the disparities in distribution of higher education places seem to be more profound when differences in occupational status are taken into account, rather than differences in level of schooling completed. This picture is compatible with research findings of various studies - discussed earlier - which have shown that the allocation of University places is very inequitable and favours high income groups, or groups with high social status. Even when research findings claim that performance in the National Examinations - and subsequently success in entering the University - is not directly affected by 'family socio-economic background', there is always an indirect influence through various other factors (Polydorides, 1995 a,b and 1996). Factors such as 'curriculum track' (i.e., route of study), or 'attendance of private cramming institutes', underline the influence that the family exercise on the choices made and on the resources used for ensuring the eventual success.

However, due to both of the examined factors (i.e., occupation and education) the TEIs offered an alternative path for many high school graduates, and especially for the more 'disadvantaged' in terms of, either purely economic wealth, or cultural 'capital'.

Of course, we must be very cautious in judging that the establishment of the TEIs really challenged the traditional patterns of selection. Someone might even argue that they have simply reproduced those patterns by absorbing the low-achievers of high school. Nevertheless, in a highly volatile labour market, where the unemployment rates among University graduates are booming, the last observation may not necessarily be totally negative for a TEI graduate. In a study carried out by the National Centre of Social Research for the metropolitan area of Athens (Kasimati, 1991), 32% of the non-University graduates found a job within a year of their graduation, as compared to just 20% of University graduates. Moreover, salary differentiation related to strategies adopted by specific firms and career 'shifts' across locations in the labour market, often prove that there is no unique allocation to positions in the productive system, by type of qualification. A more extensive study of the relation between previous achievement - either in the high school, or in the National Examinations - and

entrance to specific University or TEI departments would potentially reveal the extent to which low-achievement is connected to hierarchical division of higher education places.

Another aspect highlighted by examining the 'Indices of Educational Opportunities', is the status of certain disciplines, and how the proliferation of new departments in higher education (Universities and TEIs) relates to it.

The establishment of new higher education departments - especially in the TEIs - was the outcome of a policy of 'political opportunism' (see the model of 'negotiation strategies' in a 'centralised' educational system, in Archer, 1979, chap. 6). This resulted in a wide dispersion of them to various remote areas, with poor organisational arrangements and funding sources, crucial for their effective operation, something which has been reflected on the demand levels for them. Whereas, for example, one would expect that the establishment of new specialised and production-oriented TEI departments - such as the Department of Industrial Automation in Thessaloniki or the Department of Agricultural Production in Kalamata - would gain widespread popularity among high school graduates, the reality is quite different. The demand for them is still considerably low.⁷ This becomes obvious when they are compared, not only to relative departments in the Universities, but also to other long-standing departments in the same TEI, even when the latter belong to, for example, the less prestigious social sciences domain.

On the other hand, the creation of new University departments in large cities (i.e., Athens, Pireas, Thessaloniki, Patra etc.) resulted in the general degradation of 'older' and hitherto integrated 'areas of study' (e.g. Economics) into various differentiated specialised courses (e.g. Business, Marketing, Accounting, Finance etc.). The impact on the prestige attached to those areas of study by high-school graduates is demonstrated by their relatively low score-requirements. For example, the base-line score for entrance to the (newly established) Department of Financial Studies of the Pireas University is 5480, whereas that of the Department of Economics is 5155. At the University of Macedonia, the Department of Information Technology has a base-line score of 5512, in contrast to the Departments of Economics, where the respective score is 5194 (see Ministry of Education, 1996).

Of course, it needs to be said that the 'prestige' that each discipline has in the eyes of high-school (*lyceum*) graduates and, subsequently, of the Greek population as a whole, is a very controversial issue which cannot be elucidated by simply invoking 'high' or 'low' entrance requirements for the corresponding departments. A longitudinal study on the attitudes of,

either high-school graduates, or University and TEI students towards certain scientific disciplines, and a very elaborate research on the job qualifications required in various sectors of economic activity, might enable us to elucidate differences of 'status' or 'prestige' in Greece. Until then all suggestions about entrance to higher education and the labour-market structure will only help us to sketch general patterns of selection, and will be proved of limited analytical tenacity and applicability.

⁷ The demand is defined by the minimum score for entrance to those departments, which in fact reveals: i) their very low ranking in the preferences expressed by the students in their application, and ii) the corresponding low performance requirements.

CHAPTER 7

SAMPLING PROCESS

DISTRIBUTION OF STATE SCHOOLS IN GREECE

The author's intention in the selection of the sample of schools was to make it - as much as possible - representative of the whole school population of Athens, and, if possible, derive some general conclusions about the educational inequalities, not only in the examined area, but in the country as a whole.

The major reason for deciding to examine a sample of the whole student population was the lack of national data that provides information about socio-economic (parents' occupation, family income) and educational (educational level of parents) indicators which are sorted by area, type of school and year of study, and are of immense importance to the research. In addition, time limits, geographical barriers and very high financial demands, made the collection of data from the various regions of Greece enormously difficult - something that doubtless would add more validity in any future research conclusion. Thus, a decision was made, under the circumstances, to use the prefecture of Attika, which is believed to concentrate many of the characteristics of the Greek schools throughout the country. Therefore, although it could not be claimed that an absolute similarity to the national picture exists, some useful generalisations of the conclusions might be attempted.

The stratification of the sample needed to be based on a real estimate of the distribution of the school units across the Greater Athens Area (GAA), and subsequently of the school population. (In the table 1 there is a comparison between the school population of the country as a whole and that of Attica).

Moreover, estimations should have taken into account, not only the numeric size of the school population, but also the most important socio-economic indicators of the areas in which the schools are situated.

TABLE 7.1

Distribution of *lycea* in Greece and in Attika, according to type

| | GENERAL | | TECHNICAL | | MULTIL/RAL | | TOTAL* | |
|---------------|---------|--------|-----------|--------|------------|-------|--------|--------|
| | LYCEA | | LYCEA | | LYCEA | | | |
| | Build. | Stud. | Build. | Stud. | Build. | Stud. | Build. | Stud. |
| NAT. | 1191 | 253404 | 275 | 114721 | 31 | 24139 | 1497 | 392264 |
| LEVEL | | | | | | | | |
| ATTICA | 255 | 78601 | 75 | 30171 | 5 | 4665 | 335 | 113437 |

Source: **Ministry of Education, Office of Statistics of Education, 1996.**

* The Total excludes other categories, such as the two-year technical school and other, insignificant in number, types of secondary school.

After extensive reading of the demographic and socio-economic characteristics of the area - the decision taken was to stratify the population of the Greater Athens Area (GAA) into eight (8) 'clusters' (more about the criteria used, will be discussed below) in order to control for socio-economic differences. The target population was not the total population but the school-units spread around the examined area (255 general upper-secondary schools in the academic year 1995-96). In each cluster, the original plan was to take a 10% sample of the total school-units. However, due to obstacles imposed by the official permission granted to the author by the Ministry of Education, the final sample was decreased to 5%, something which, however, did not affect the representativeness of the sample. In some clusters there were few schools, and as a result, 5% represented less than one school-unit. In those clusters one school was chosen as the cluster-sample. Thus, the sample contains 16 schools, with the following distribution:

- group 1: 1 school**
- group 2 : 1 school**
- group 3 : 1 school**
- group 4 : 3 schools**
- group 5 : 4 schools**
- group 6 : 1 school**
- group 7 : 1 school**

group 8 : 4 schools

(see the Appendix-table showing the sample distribution, for more details on the place and size of the selected schools, and the corresponding map of the Metropolitan Area of Athens)

STRATIFICATION OF ATHENS

Aspects of socio-economic and cultural variables.

The stratification process needed to address the problem of the socio-economic and cultural structure of the Greater Athens Area (GAA). In other words, it should have been a selection procedure that would ensure a division of the GAA into different geographical 'entities' which would constitute - more or less - homogeneous clusters.

In the past, few research attempts presented a reliable measure of the relation between socio-economic status and geographical divisions (Pantazidis & Kassimati, 1984; Maloutas & Economou, 1992; TEDKNA, 1994).

The study made in 1992 by Maloutas, Economou *et al.*, can be considered as the most recent and extensive study on social divisions existing in the GAA, including special indicators for the so-called 'collective-consumption' (i.e., education, health and welfare services, transportation, cultural activities) (see chapters 5 - 10).

In relation to the distribution of the various occupational categories across the GAA, and the distinct character that this distribution attaches to each area, the research findings can be summarised as follows:

1. There are four to five (depending on the division or not of the City-centre into two parts) groups of municipalities, each one with similar socio-economic characteristics¹ (Pantazidis & Kassimati, 1984; Balourdos *et al.*, 1990; TEDKNA, 1994): a) north and north-eastern areas; b) rest of the eastern parts of the GAA; c) western municipalities; d) southern municipalities; e) Pireas area; f) City-centre or municipality of Athens.

¹ Those characteristics include: labour-force participation rates, unemployment rates, income distribution, representation of occupational categories and economic sectors, and educational qualifications.

2. Maloutas (1992, pp. 88-91) grouped together various municipalities, according to the 'location quotient', which represents the existence of a particular variable in a specific area, in relation to its importance in a wider geographical unit. He then studied eight different groups of municipalities, according to occupational categories (i.e., the category A had a quotient X in group 1, a quotient Y in group 2.... a quotient Z in group 8; the category B had a quotient K in group 1, a quotient L in group 2 ... etc.). A second grouping was made according to occupational status (i.e., differentiation between employers, self-employed and salaried workers), and this resulted in ten groups. The differences between the above two groupings were not affecting in a significant way the general pattern of the socio-economic structure of the GAA. However, they indicated a strong dispersion of certain characteristics relating to the socio-economic position of the Athenians, especially when the second variable (occupational status) was taken under consideration.

3. In the same book (Kamoutsi, 1992) there was also another application of the 'location quotient'. This time, the quotient described the distribution of educational 'goods', such as school units, classes per unit, pupil/teacher ratio, pupil/class ratio. The number of groups which resulted were five (hierarchical classified from top to bottom): group A consists etc.. of the more wealthy suburbs of the GAA, on the northern part; group B consists mainly of middle-class sections of the population, occupied in the tertiary sector as employers or self-employed, and refers to municipalities covering the central, north-eastern and south-eastern parts of the GAA; group C is identified with the municipality of Zografou, the second greater in the GAA; group D is spread across the eastern spine of the metropolitan area and includes some municipalities on the north-western part; finally, group E consists of all the disadvantaged areas of the GAA, and covers the western and south-western suburbs. The differentiation, as far as the rest of the 'collective consumption' goods are concerned, is roughly the same.

Selection of clusters

As was explained in the chapter about the labour-market characteristics (chap. 4), there are at least two extremes in the distribution of the economic, as well as cultural, welfare across the GAA (Maloutas & Economou, 1992): the northern and north-eastern, on the one hand, and the western and south-western parts, on the other hand (see the relevant Appendix-map of Athens). Thus, it was easier to start the clustering process by selecting the first two clusters from the municipalities situated in those opposite (literally, and metaphorically) parts of the

GAA. In other words, one cluster (the no 1 in the table presenting the final sample of schools) would comprise the northern and north-eastern municipalities, and the other one the (majority of the) western and south-western municipalities (the no 8 in the table presenting the final sample of schools).

* The former cluster is characterised by a gradual social polarisation, with a notable numerical increase of the upper social strata and a similarly notable decrease of the lower ones. It shows high 'location quotients' for the top-managerial and administrative occupations, the scientific occupations and the independent professionals, it is a little above the GAA average for the retailing-sector traders, and there were very low quotients for less prestigious occupations (low- and middle-level office personnel, manual workers, technicians, service-sector low-level employees, public-sector employees etc.). These are the areas with the smallest number of educational establishments, albeit with the excessive concentration of better and abundant resources (see chapter 4, op. cit.). From this cluster, only **one school** was randomly chosen, because a 5% sample would result in less than one school unit - as was explained earlier in this chapter.

* The latter cluster (the no 8 in the table presenting the final sample of schools) comprises the more disadvantaged and poor areas of the GAA. The common denominator of the various geographical entities that constitute this cluster, is a rather homogeneous dispersion of the (lack of) socio-economic and cultural resources. Another characteristic of this cluster is the significantly high correlation between the concentration-rates of the secondary-sector activities, and the invariably low standards of transportation and housing. This, in turn, relates to the labour-force structure of the examined areas. In these areas the only over-represented occupational categories are manual workers and skilled technicians, and, as far as employment status is concerned, the same pattern of over-representation apply to salaried employees and small entrepreneurs in the secondary sector (Maloutas, 1992, pp. 97-116). The above characteristics, in combination with the general degradation of the educational environment, justified the grouping of all the municipalities of the area in a single cluster, despite the unavoidable simplification that might arise from such generalised views regarding the social identity of a complex urban setting. From this cluster, **three schools** were randomly chosen, which represent the 5% of the total school-units.

* From this second cluster, Pareas and Peristeri were excluded, because they represent the largest municipalities of western Athens and, correspondingly, are more likely to vary in their socio-economic structure than any of the rest. Moreover, in a number of classification criteria used to draw up 'maps' of socially or educationally homogeneous areas within the GAA, these two municipalities have not usually shared absolutely common features, and have been grouped in different categories, depending to the criterion that each time is employed (see Pantazidis & Kassimati, 1984; Maloutas & Economou, 1992, esp. chapters 2, 5, 6, 7 and 9). The sample taken from these two areas were **two schools**, each for every municipality (groups no 6 and 7, respectively, in the table presenting the final sample of schools).

So far, the total number of clusters were four (4). Then, it was the turn of the municipalities that stand somewhere in the middle, in terms of representation of groups with an intermediate place in the social-division ladder. A common feature of these areas is that they show a significant increase in the representation of middle and upper levels of the service sector, and mainly of those who can be identified as 'self-employed'.

* The first of the clusters derived from that wider group of municipalities, is the one that covers the western and northern part of the city-centre (Central Athens), as well as a small part of the eastern suburbs of the GAA. This cluster, while it retains the number of manual workers in the same levels as it was in the 1970s, shows a considerable increase in the number of the lower occupations in the tertiary sector of the economy, especially office clerks and low-level service-sector employees (e.g., shop clerks), so that their 'location quotients' - that is their representation rates in these areas in relation to their average representation in the GAA as a whole - are similar. As a result, Maloutas (1992, p. 98) argued that this similarity implies an increasing relativity of the distinction between sectors of the economy as a reliable criterion of social segregation and, therefore, a necessary shift of the attention towards the use of criteria related to the occupational category, or the employment status within the same sector, as a more viable measure of social inequalities. From this cluster, **four schools** were randomly chosen, representing the 5% of the total school-units (group no 5 in the table presenting the final sample of schools).

* The next cluster (group no 4 in the table presenting the final sample of schools) consists of the eastern and a small part of southern. suburbs of the GAA and the rest of Central Athens.

It is characterised, more or less, by the same trends as the previous one. However, its 'location quotients' are higher than the former, except for manual workers or skilled technicians, while its proportion of employers in the tertiary sector is 'outperformed' only by the respective figure in the wealthiest northern suburbs (Maloutas, 1992, pp. 97-99 and 116-117). Additionally, in these areas the quality of the school environment and the quantity of educational resources - at least as far as the state schools are concerned - are at a level matching that of the northern suburbs (Kamoutsi, 1992, pp.275-281 and 294-299). From this cluster, **three schools** were randomly chosen, representing the 5% of the total school-units.

- * Another cluster is one consisting of some of the southern municipalities of the GAA, especially those located along the southern coast of the prefecture of Attika. This is an area with a good reputation for its spacious public places (children's playgrounds, public squares, cafeterias, small-boat harbours etc.). It is considered a place which the wealthiest live in. Nevertheless, it shows a high concentration of low-prestige occupations in the tertiary sector, such as shop clerks or restaurant waiters/waitresses. The quality of the educational establishments there is thought to be very good, although this has hardly been the case lately due to the emergence of overcrowded classes, caused by the small number of available school-buildings. It is exactly this small number of schools that resulted in the selection of only **one school** from this cluster (group no 2 in the table presenting the final sample of schools).

- * Then, it comes the cluster no 3 (group no 3 in the table presenting the final sample of schools) which consists of three municipalities in the southern part of the GAA, and are located next to those of the previous cluster. Although their physical environment does not widely differ with that of the cluster no2, they do, however, show quotients - according to occupational category - above 1 for all the categories but the last one (manual workers or skilled technicians). Thus, these municipalities represent a social frame in which there is a balance of the various occupations, although there are variations - not significant - between different categories of employment status or sector of economic activity (see Maloutas, 1992, p. 116). **One school** was randomly chosen from this cluster, as well.

We should point out here that private upper -secondary schools were not included in the sample for the following reasons:

- The author's main interest was the reproduction of social inequalities within the public (state-maintained) education system, since it was perceived as given and unquestionable the fact that in private schools the vast majority of pupils come from the wealthiest and/or most educated family background.²
- In addition, the dispersion of these types of schools (the number of which is still very small in comparison to the state schools) is disproportionate to the general population distribution in the GAA.
- As Polydorides showed (1995b, chapter 9) the distinction between state and private schools does not play a significant role on the differentiation of performance in the NE, when parental occupation was controlled. This possibly implies that, on the one hand, it is the 'intervention' of the socio-economic background of students that makes the difference and not the 'highest' quality of private schools; on the other hand, differentiation in purely numerical terms (i.e., score in the NE) is not what it matters in the 'educational strategies' of the wealthier families.³
- Finally, a number of practical reasons (e.g., necessity for separate and time-consuming applications for permission to enter each private school, instead of submitting a standard application to the Ministry of Education) deterred the author from including private upper - secondary schools in the sample.

PRESENTATION OF THE VARIABLES

- ◆ The variable CLUSTER corresponds to the stratification-clusters of my final sample (8 clusters in total). Thus, in each occasion the number of the cluster in which the examined school is located was inserted in the SPSS tables.
- ◆ The variable SCHNO refers to the specific school-unit examined. This variable can take any value, from 1 to 17. In some clusters we have only one school, whereas in others, more than one.

² This does not necessarily suggest a better quality of educational provision.

³ There are alternatives for their offspring, such as studying abroad, resitting the exams for many times, or simply being employed in the family business.

- ◆ The variable GENDER is a dichotomous one. 1 was assigned to the female and 2 to the male sex.

- ◆ In the variable AGE, although the most common number is the 18 (at this age the majority of the students officially end their high-school studies and graduate), there are many occasions where we have 17, on the one hand, and 19 or more, on the other. The former is more usual than the latter, because many children register in the primary school at the age of 5, instead of 6 and, as a result - assuming an uninterrupted progress throughout the primary and secondary levels - graduate earlier than the normal age. The latter case implies students who, at least once during their school life, have had to repeat a certain grade, due to their bad achievement in a number of subjects.⁴

- ◆ The SCHSIZE refers to the total number of students in the three grades of the upper-secondary school (*lyceum*). The most common variation for this number is between 300 and 400 students. Only the new type of school, the 'integrated' *lyceum* presents figures as high as 1000 or more, because of the small number of this kind of secondary establishments and the big number of applications for admission.

- ◆ The THIRDGR refers to the number of students in the third (last) grade of *lyceum*. Most of them decide to sit for the National Examinations, although this is not compulsory after 1988.

- ◆ The TEACHERS variable refers to the number of teachers who taught in the respective *lyceum* the school year before the NE of 1996, that is 1995-96. (there has not been any distinction between tenured and non-tenured, or full-time and part-time teachers.)

- ◆ The CLASSIZE variable refers to the mean size of classes, that is the number of students per class. It is the result of dividing the figure of the SCHSIZE by the number of classrooms used - including labs, but excluding store-rooms and gym-centres. (This is an indicator of the quality of learning environment.)

⁴ A student who failed in one subject during the school year has the opportunity to resit for an examination on the specific subject at the September examination-resit period.

- ◆ The PTRATIO refers to the pupils/teacher ratio, and is the outcome of dividing the total number of students (SCHSIZE) of a given *lyceum* by the number of teachers who taught in the same *lyceum* in the academic year 1995-96.

- ◆ ACABRAN refers to one of the four routes of study that students have to follow in order to be entitled for participation in the NE (for the correspondence of each branch to specific subject areas see chapter 4).

- ◆ GRADE1 refers to the combined average score of all the subjects taught and assessed in the first year of *lyceum*. This is a type of interval data.

- ◆ GRADE2 is the same as above, with the only difference being that it refers to the second year of the *lyceum*. This is also a type of interval data.

- ◆ GRADE3 refers to the third - and final - year of *lyceum*, and represents the score with which the students graduate. It is also the score that is typed on their school-leaving certificate (*apolyterion*), but it has no significance for the graduates' chances of getting a place in higher education. It is still, however, a qualification certificate for those who wish to enter into the labour market, although it cannot assign an individual to a particular skill-level, since it implies the possession of only a general education. This is also a type of interval data.

- ◆ PARTIME refers to the number of times a candidate has taken part in the NE. The most common number is 1 (in my data 0 counts for those not having taken part although they graduated), which implies students who have just graduated from *lyceum*. A number of 2 or more implies a student who re-sits the exams because/he failed to pass the final year of *lyceum*, respectively.⁵ This is also a type of interval data.

⁵ A student is always given the permission to sit in the NE, even if s/he failed to get a pass in one or two subjects in the *lyceum*'s final year, but this is allowed under the condition that s/he will finally pass these subjects at the September resit-examination period. In case s/he fails, s/he has to repeat the whole year, and his/her results in the NE are considered invalid. It should be noted that in this category of students we do not include those who graduated from *lyceum* the previous years and decide to resit the NE in order to improve their scores.

- ◆ TOTSCORE refers to the total score a student achieved in the NE. The highest score is 6400 and the lowest 0 - implying students who, have not taken part in the exams.⁶ In other words, this variable can be considered as a ratio variable.

- ◆ UNIVERS refers to the university in which a place has been secured. They were all put in a nominal scale, in other words, no hierarchical differentiation was initially used. The only distinction made was grouping together those universities that operate in the same geographical area (i.e. region, island, city). There is not any judgement about their prestige, however, there seems to be a progressive 'degradation' of, either the standards, or the size of the university as we move up the scale from 1 to 18. (19 counts for 'other', and 0 for those not having taken part in the NE or failed to get a place in a higher-education institute)

- ◆ TEI refers to the Technological Institutes of Higher Education. For the TEIs, a classification according to city where each one is situated was used. Here too, we move from the larger to the smaller cities - and often institute size - as we go up the scale from 1 to 13. (14 counts for 'other', and 0 for those not having taken part in the NE or failed to get a place in a higher-education institute.)

- ◆ UNIFACUL refers to the university faculties in which a place has been secured. For these, the level of measurement can be perceived as 'ordinal scale' since there has been a classification of the more 'prestigious' faculties, which also attract the highest competition, in a higher position (i.e. no 1, then no 2 ...). This is based, partly on the author's subjective interpretation of each faculty's quality, partly on the findings of chapter 5 (about the labour-market structure) and partly on the score requirements for each faculty. Thus, as far as the latter is concerned, the highest is the mean score requirement for a department in a certain faculty, the highest will be placed (starting from 1 and descending) on the scale. (0 counts for those not having taken part in the NE or failed to get a place in a higher-education institute.)

- ◆ TEIDEP refers to the TEI departments around the country. For them, the scale is nominal since, after an investigation of the national level statistics of the Ministry of Education

⁶ The total score is the sum of the scores in each individual subject - weighted according to relevance to the respective route's disciplines - multiplied by 10, and it cannot exceed the 6400 limit, except when students are examined in special subjects (e.g. foreign languages).

concerning the entry requirements of the various departments, no clear-cut indications was found, that would imply a higher prestige for certain specialisations, and a lower for others. Thus, the placement of the departments was made alphabetically. (0 counts for those not having taken part in the NE or failed to get a place in a higher-education institute.)

- ◆ ENTRYORD refers to the order of entry in a specific department. It could take a value from 1 (0 implies non-participation, or complete failure in the NE) to a three-digit integer, since the number of entrees in a specific department, for a certain year cannot exceed the 1000 limit - although there is no legal limit on it.
- ◆ Finally there two categories (FATHOCCU and MOTHOCCU) which should be carefully examined separately for the rest of the variables, and the difficulties encountered specially elucidated.

For a summarised presentation of the variables, see the sample of the coding sheet used for the collection of data, in the Appendix.

DIFFICULTIES IN CLASSIFYING OCCUPATIONAL CATEGORIES

International debates

The problematic nature of assigning individuals to certain class categories, according to a definite criterion, namely their position in the production sphere, has been stressed repeatedly by various theorists and researchers, especially from the 1970s onwards (Giddens, 1973; Poulantzas, 1973; for Greece, Tsoukalas, 1986).

The assumptions that, on the one hand, all social subjects hold a specific role in a social system and, on the other hand, their class - determined by economic criteria - is the only factor affecting their position, are unsatisfactory theoretical and analytical 'tools' in understanding the dynamics of social relations.

The fact that individual 'role-takers' - as they are described by the traditional functionalistic or Marxist thought - during their lives, constitute and participate in different social units, and play roles not easily identified under a static point of view, reveals the dynamic character of the social relations. If this dynamic character is not taken under consideration, then the symbolic

representation of an individual's identity becomes problematic, in the sense that it does not any more correspond to the reality.

Not only other factors, apart from the economic, permeate through the field of each individual's social construction (i.e., educational qualifications, time and place variables, position in the hierarchical division within the same organisational setting, peer relationships, cultural background etc.), but there is also a possibility of the same individual occupying more than one position. In the latter case, the absence of one and only occupational category - and subsequently of a unique class-based role in the social production - creates problems of vagueness on the definition of the class position.

The emphatic shift from conflict to social differentiation as the guiding principle of intra-class analysis has also proved invaluable in the explanation of various inter-group and intra-group activities, which do not exhibit conflictual elements, especially when the analysis refers to the so-called middle levels of the stratification system.

The old dichotomous scheme, derived mainly from Marx's works, and from works of his most orthodox descendants, based on the notion of property relations - namely on the question *who* controls the means of production - has been repeatedly called into question, especially with the advent of the modern technology and its impact on the social relations of the 20th century capitalist societies (see the works of Weber, Aron, Dahrendorf, Ossowski, Giddens).

The notion of 'class', as an analytical tool of social relations, has been enriched by additional subjectively or objectively defined attributes (e.g. the importance of 'status' and 'styles of life' proposed by Weber, and later on by Goldthorpe, 1980, or by Stewart *et al.*, 1980) has been extended to include much more the industrial sphere (ethnic and religious groups, gender etc.). Some thinkers went so far as to argue that group antagonisms became dissolved into a competitive struggle between individuals for valued positions within the occupational system (see Dahrendorf, as quoted in Giddens, 1973, pp. 53-59). The increasing separation of the executive power from the property rights, on the one hand, and the expansion of administrative or non-manual occupations, on the other, contributed to the decomposition of the capitalist and the working class, transforming that way the distinct and clearly identifiable groupings of the nineteenth century into a complex of fluid and less clear hierarchical structures. In certain interpretations of contemporary class systems, classes are considered to be interdependent and co-operative agencies, rather than antagonistic groups (Ossowski, 1979).

On the other hand, we should not ignore the importance of the class as an analytic construct, merely because of the fact that it does not explain all the relationships between

culture and power. In other words, we cannot possibly argue that, since many people do not identify with or act on class interests, the class has gone away. Capitalism still exists as a massive structuring force. By not thinking - or acting - in class terms one cannot put aside his/her 'objective' position in the economic, racial and sexual divisions of labour and simply, nor does it mean that relations of production can be ignored.

Classification of occupations in Greece

As Tsoukalas argued (1986), the peculiarity of the Greek economic development and social formation, especially in the post-war period, allowed the creation of 'multi-positioned' individuals, in the sense that a complex of social activities, beliefs and systems of values make a definite categorisation of individuals into specific class groups impossible. In other words, Tsoukalas studied the outcome of the combination of a rapidly expanded public-sector employment, an increasing interventionist stance adopted by the State - as far as the production planning was concerned - and the crucial role played by the family on the improvement of the 'defensive strategies' of the less wealthy social groups. He then concluded that "the multiplicity of economic activities in combination with the multiplication of various 'non-formal' types of income-generation, made almost unacceptable the total dependence of the social status of an individual on her/his class, or occupational position" (Tsoukalas, 1986, pp. 188-191).

The difficulties arise mostly in the differentiation between occupations belonging to the booming service-sector - currently around 55% of the active population. The heterogeneity of the work-force in this major sector of economy makes it difficult to derive definite conclusions, either on the status and income differentiation, or on the mobility prospects.

The lack of extensive and elaborate research studies on inter- and intra-generational mobility in the Greek tertiary sector - like, for example, the ones carried out in the USA by Duncan *et al.* (1975), and the UK by Goldthorpe (1980) and Stewart *et al.* (1980) - results in a very blurred picture of the real position of various groups in the labour market, and to what extent their power relations reflect a stable pattern of inequalities.

Clearly enough, though, it can be said that the expansion of the service sector has not caused any considerable differentiation in the 'middle echelons' of salaried employment, neither in terms of income disparities, nor in terms of career prospects or exercise of control on the work process. The universalisation of the secondary education and the expansion of higher education during the last twenty years resulted in an abundance of over-qualified degree-

holders, who are frequently forced to work in jobs where only a good standard of general education is required. Despite the fact that in-work experience and promotion remain the most effective way of upward mobility for the majority of middle-level clerks and administrative personnel, there is not yet any clear evidence that opportunities to rise into management from below have increased dramatically, especially with the growing emphasis being placed on academic achievement and higher technical qualifications. On the other hand, at the highest levels of the administrative bureaucracies, or the most prestigious professional occupations, a degree or equivalent qualification - with some occupations requiring post-graduate qualifications - plays a major role, not only on the initial placement of the candidate, but on the future job prospects as well. For this reason we should be more cautious in using the educational qualifications as a criterion for distinguishing between 'lower' and 'higher' occupations.

A further point that should be emphasised here about the occupations, as they have been recorded from the school archives, is that the discrepancies (possibly) existed between the objective position of an individual in a given social system (i.e., occupational category, job status, employment status, sector of economic activity, educational level etc.), on the one hand, and his/her subjective definition of it, would not cause insurmountable problems. More specifically, apart from the fact that various international studies (see Hauser *et al.*, 1976) found high levels of correlation between the objective parental occupational status and the subjective definitions of it - given, either by the pupils, or by the parents themselves - since the data about occupations in the present sample have not derived as a result of questionnaires filled in by the pupils, but as a result of officially recorded statements made by their parents, it would be rather safe to argue that the information provided is as accurate as possible.

This, however, is considerably inhibited by the fact that the classification criteria used by various researchers and research bodies are somewhat dissimilar.

The National Statistical Service of Greece (NSSG) - which is the basis for my classification scheme - uses a 14-group classification scheme, which consists of:

1. 'scientific and top-managerial professions', which require (at least) a university degree (e.g. biologist, doctor, statistician, lawyer, mechanical engineer etc.).
2. 'higher administrative personnel', a group that is usually classified together with the first one because, not only of the similar educational credentials required, but of the job responsibilities, the status and the income-level as well.

3. 'teachers' (in primary and secondary education). Although their educational qualifications could not easily distinguish them from the first group, it is a widespread belief in the research community of this country that their special role, as educators of the younger generations, justifies their placement into a separate group. However, very often, due to classification difficulties and time-constraints, they are placed in the category 'scientific occupations' or 'professionals' (see the Labour Force Surveys by the NSSG, various years; also Pantazidis & Kassimati, 1984; Ministry of Education, various years).
4. 'middle-level office personnel', people who work in the secondary, or the tertiary sectors (public or private) in middle-level positions. Their main difference to the aforementioned occupations is, not just the lack of the highest academic credentials - something that is not usually true - but rather their employment status, income-level and, (perhaps) more importantly, amount of 'cultural capital'.
5. 'non-degree professionals'; a very wide and heterogeneous group (journalists, accountants, dancers, athletes etc.).
6. 'merchants' (i.e., wholesalers, importers and exporters, including some retailers). This group is usually omitted from the various studies because it is identified with the first one.
7. 'small traders' (especially self-employed retailers) and 'sales assistants'.
8. 'service-sector workers'. This is another big and heterogeneous category, and very often occupations belonging to it intersect with almost any one of the aforementioned categories. Nevertheless, it refers to low-prestige and low-paid occupations in the tertiary sector, such as house-cleaners, barbers, cooks, waiters, body-guards, porters etc.
9. 'farmers, cattle-breeders and fishermen' (it does not distinguish between employers and employees in these types of job).

10. 'skilled workers and technicians'. These are lower- or middle-technical school graduates who throughout the years have acquired specific skills and specialities; they are mainly employed in the secondary sector.
11. 'unskilled workers'. These are employed in every sector of the economy, and they perform manual work. Their qualifications are insignificant and, in many cases, less than the compulsory by law schooling.
12. 'Army personnel'.
13. 'housewives'. Although this category is not considered as separate occupation, it is however used in many research studies, when the progress in the labour-market participation-rates of the female population is examined.
14. 'unclassified occupations'.

Given the above classification as a point of reference, we should keep in mind that:

- Although they are not considered as occupational category, unemployed people - as proportion of the 15+ active population - remain a useful comparison group, when aspects of unequal distribution of, or access to, 'collective consumption goods' are examined (Maloutas & Economou, 1992).
- Public-sector employees have been perceived as a distinct socio-economic category, with special affiliation to the political arena and the State mechanisms (Tsoukalas, 1986).
- Certain of the above categories are not usually employed in studies that include 'occupation' as independent variable. On the contrary, some of them are modified, or even mixed, by using criteria such as 'job status', 'sector of economy', 'salary differentiation', 'degree of job-tenure', 'minimum educational requirements' etc. (see Polydorides, 1995b, chap. 9). Our classification scheme will attempt to include as many dimensions as possible, not only - or at least not purely - economic.

- Problems of vagueness concerning the identification of certain occupations with broader categories, which of course will be encountered, can be usually overcome by: a) using a larger, and therefore more inclusive and descriptive, number of occupational categories, and b) by assuming that, in certain cases, the more detailed is the definition of one's own occupation, the more prestigious will that be, in relation to a less detailed one (e.g., the 'head of a directorate, or a division, in the X governmental agency' as opposed to a simple 'public-sector employee', the latter denoting a middle- or low-level clerical position and status).

CLASSIFICATION SCHEME ADOPTED FOR THE EXISTING DATA

The upper class - 'Scientific' and 'managerial' occupations

In this category the decision was to place - broadly speaking - the so-called 'scientific occupations', the 'independent professionals', the 'big proprietors' and the 'top managerial and technical positions' (in the private or public sector), including the 'large-size wholesalers, distributors, importers and exporters'. Finally, the 'high-rank Army and Police officers' were also included.

What is usually meant by the term 'scientific' is those professions that correspond to the Natural Sciences, Engineering and Medical disciplines, and not all the university-degree holders. Of course, the subjective judgement of one's occupational role as more or less 'scientific' is open to serious discussion and argumentation. However, today in Greece, as far as the educational credentials are concerned, what can be identified as related to technological advancement, is (mainly) perceived as scientific too. The sector of economic activity and the job status are not the vital defining factors of this sub-category, since people considered as 'scientists' can be occupied in every sector of the economy (primary, secondary and tertiary) and be self-employed or salaried employees.

When we come to the sub-category 'independent professionals', the criteria of assigning a person in it are broader and, probably, less clear. There is clearly an overlapping between this and the first sub-category, since a scientist can work as an independent professional, usually with higher earning expectations than another one who works in a manufacturing firm (small or large). Here too, the educational qualifications are an essential factor, with first, or post-

graduate university - or TEI - degree being the norm. This sub-category, however, includes graduates from other disciplines, namely lawyers, accountants, financial advisers and others, who invariably work as independent professionals in the private sector.

Now we proceed with the sub-category 'top managerial and technical positions' (in the private or public sector), which, apart from the previously mentioned distinguishing characteristics (i.e., educational level, salary level), has been inextricably identified with the "institutional mediation of power and the mediation of control" (Giddens, 1980). The picture of the 'organisation man', the man - or woman - who is (formally) separated from the owner of the enterprise, as the large joint-stock company is becoming a common feature of capitalism, is a reality in Greece too. What is characteristic of these people - and more importantly for our purpose here - is their exercise of power within a system of hierarchical division of labour in modern firms (Weber, 1968 and 1985). The view that the advent of the 'managerial revolution' has brought about, or is linked to, an increase in social mobility into positions of economic leadership is difficult to evaluate satisfactorily on an empirical level, because of the lack of materials allowing us to determine typical rates of mobility for the Greek case. Therefore, we cannot reliably distinguish between the parity of status of an industrialist, or a major shareholder, on the one hand, and that of a senior administrative officer (e.g., chief executive), on the other (not to mention the very common phenomenon case when these roles coincide). Without falling to the C.W. Mills' exaggeration about the 'power elite', we must admit that in this country too - as it is the case with the most advanced capitalist countries of the Western World - the relationship between managers and owners manifests an overall homogeneity of value and belief, and a high degree of social solidarity. The latter is extremely important for our classification, since what is examined here is not only differences in economic wealth, but mainly similarities in social values, ideological orientations and 'cultural capital', identified with these occupations.

Keeping in mind the aforementioned characteristics of the new 'managerial elites' (i.e., higher educational qualifications, substantial financial rewards, exercise of power, increased responsibility for planning in large bureaucratic organisations), it must be stressed that we are dealing with owners, shareholders, general or production managers and administrators in: a) national or local government; b) large (corporate) companies and organisations; c) manufacturing, construction and energy industries; d) financial institutions, commercial enterprises and IT companies; and e) in transport and storing.

The high-rank Army and Police officers were included because they enjoy very high salary levels and exercise of power - albeit, with no considerable institutional autonomy.

Associate professional & technical occupations

This category is distinguishable from the first one, only as far as the educational qualifications and the hierarchical position in work are concerned. Inclusion in this category requires an associated high-level vocational qualification, often involving a substantial period of full-time training or further study.

Usually, by the term 'high-level vocational qualification' we mean graduates of the Technological Educational Institutes (TEIs) or general higher education establishments other than universities (e.g., schools of fine arts, drama schools etc.) In reality, the problems of identifying this category are greater than those concerning the first one. This is especially true in this sample where we do not have detailed information on either the exact occupational position of the students' parents, or the educational qualifications acquired. We cannot, for example determine what the hierarchical position of a mechanical engineer is, since we do not know his/her exact duties and discretionary power within the administrative machinery of a firm, not even if s/he works as an independent professional, or as a salaried technician. Furthermore, we cannot assert if s/he has a university or a TEI degree in engineering. When reference on the school records of each individual student was precise these problems were minimised, but often this was not the case.

Therefore, persons belonging in this category - if strict occupational and qualification criteria are applied - were placed together with the first category during the statistical analysis.

Small traders and shopkeepers

One category that should be paid attention to is the small traders (wholesalers, retailers) and some owners of small to medium-sized manufacturing workshops. The necessity of classifying them as separate category is based on their impressive presence among the economically active population of Greece.

On the one hand, the identification of the 'independent' merchant, with the 'entrepreneur' remained the dominant feature of the Greek labour market, despite the rapid technological advancements and the globalisation of the markets during the last fifty years. In industry, on the other hand, according to OECD the small size of enterprise has played an important role on the creation of the most crucial characteristics of the Greek economy, with the most

outstanding example being the fact that in the early 1990s, “less than one half of manufacturing employment [was] in establishments with 20 persons or more” (OECD, 1994, p. 18).

While groups such as shopkeepers no longer enjoy the influence that the pre-war system of political ‘clientellism’ allowed them to exercise, they do retain, in their work and market situations, much of the distinctiveness that the ownership of the means of production implies.

Despite the often gloomy economic prospects of the firms (there is an increasing number of such businesses going bankrupt every year, while the volume of credit arrangements through post-dated cheque-payments amounts to tens of billions of drachmas), it seems that money matters less as a reward of shop-keeping, as compared to autonomy in the working environment.

Their main values can be summarised as an economic traditionalism and dislike of change. That is why, while they (in principle) support the free market, in fact they aim at substantial state intervention in the economic planning, and an increasing central control of the market rules, mainly because they face competition from larger and economically more viable enterprises.

The nature of these occupations (all the job titles cannot be treated as one integrated totality) and especially their work situation is such that it offers occupational mobility without social mobility (see also reference, in chapter 5, of the accessibility of those occupations to people with little education and no skill or specific expertise).

High ambitions for their children’s life chances is an important element, usually accompanied by transmission to children of a system of values and beliefs, which emphasises the importance of success through one’s own effort (see Tsoukals, 1977; Tzani, 1983; also Polydorides, 1995b, chap. 9, for a statistical exploration of relationship between those occupations and the educational strategies adopted for success in the National Examinations).

Public-sector employees

What distinguishes the public-sector employees from the rest of the clerical occupations is the job tenure that the former enjoy. This also highly correlates to - and affects - their bargaining power in the negotiations for various aspect of employment practices, salary levels, organisational structures etc. The fact that they hold key positions in the administrative structure of the State enables them to make their voice heard. The stability of their salary levels, although does not contribute to a considerable income differentiation vis-à-vis the other

socio-economic 'strata', plays a major role on the 'symbolic competence' identified with the job tenure, especially in a climate of increasing labour-market volatility and insecurity.

Teachers

Although sometimes teachers are referred to as a sub-category of the 'public-sector employees', they ought to be distinguished from the latter, mainly because of their distinct role as 'cultivators' of the prevailing cultural norms, through the exercise of their symbolic power in school (see Bourdieu & Passeron, 1976). On the other hand, their income levels, their relatively low qualifications (in-service training is a rare practice in Greece) and their lack of control over the administrative structure of the school system, the curriculum content and the pedagogical methods, makes it very simplistic to place them in the same category with scientific and professional, or top-managerial occupations.

As far as the advantages of their offspring for access to HE is concerned, one expects that the 'cultural capital' with which they are equipped⁷ would play a significant role in their chances for higher performance and getting better and more prestigious places - at least as compared to those whose parents' occupations are thought as having the same or equivalent socio-economic status.

Skilled technicians

The category 'skilled technicians' refers to people with some form of post-secondary technical-vocational qualification, and excludes the independent professionals who hold a university or other higher degree. They are lower-grade technicians, whose work is to some extent of a manual character. Most of them have spent a substantial period of time training, often provided by means of a work-based training program. Working experience is crucial in these occupations, something which implies an age-related differentiation rather than a qualification-related one.

These technicians work mainly in all branches of industry as salaried workers, although the existence of many small, 'independent' professionals is very often the case. They have relatively high incomes - sometimes almost comparable with those of higher-grade technicians - and reasonable security of employment may also be supposed. However, their economic

⁷ Especially if we consider the notion of 'school-culture', which is inextricably connected with a specific amount of 'school norms' (Hargreaves, 1982).

prospects are less favourable than those of staff in positions that are more completely integrated into administrative or managerial bureaucracies. Their occupational roles, however, suggest some degree of discretion and job control, in comparison to routine non-manual employees.

Clerical and related occupations

These are, usually people who work in the secondary and tertiary sectors (public or private) in middle-level positions. They are mainly high school graduates, with low skills and high job insecurity, and their share of the total unemployment (especially in the Greater Athens Area) is very high, with an impressive upward tendency in the 90's (TEDKNA, 1994). Their main disadvantage in the labour market is not just the lack of the highest academic credentials - (something that is not usually true) but rather their employment status and income-level.

Whenever there is a higher education degree (either from a university or from a TEI) it usually comes from a department related to the Social Sciences and Humanities. For this specific sub-category (i.e., higher education graduates in clerical and related occupations) research findings showed that, not only their occupational mobility is rarely upward, but it is also evident that they value their job as of low prestige and consider it as absolutely or relatively irrelevant to their initial specialisation in far greater proportion than any other group (Kasimati, 1991, chapter 4).

Small farmers, farm-workers, fishermen and related occupations

This category includes small land-owners whose main occupation is agriculture, as well as farm-workers. Although the former invariably enjoy higher income levels and control over their working environment than the latter, a distinction in our data between these two groups would be pointless, since:

- a) the proportion of farming-related occupations in the GAA is insignificant (approx. 0.3%)
- b) the lack of large-land properties in this area makes it highly unlikely that in the present sample we will encounter farm owners with significantly high economic profile.

The same is true for the fishermen. This category includes people whose main occupation is fishery, but are, either small-boat owners, or fishing workers in large fishing fleets. This is also the case with forestry and other related occupations.

It should be noted here too, the insignificant numbers of those occupations in the total population of Athens. In addition we must distinguish the people who work in this economic sector (or sub-sector) either as small-sized owners, or salaried workers from the respective big owners and top managers.

Unskilled or semi-skilled manual workers

Although the title implies, more or less, the basic characteristics of their positions in the division of labour, we need to elaborate a little further their most important features. In terms of what Giddens (1973) defined as 'mediate' and 'proximate structuration', these people form - together with the farm, fishing and related workers - the most disadvantaged grouped in the social ladder. The very low levels (or lack) of ownership, directive control, income and skills puts them in a clearly inferior position compared to other social groups.

Most occupations in this major group require no formal educational qualification, but will usually have an associated short period of formal experience-related training.

The lack of labour-market power affects undoubtedly their status - in the form of specific 'styles of life' - and their possession of cultural capital, something that, in turn, deprives their children of the benefits of an academic, individualistic and summatively-assessed curriculum.

The aforementioned facts, however, do not rule out the possibility of upward mobility at some point in the future, nor do they imply an equal influence and weight that various 'structuration' factors (income, authority, skill etc.) have on the 'placement' of an individual in the social division of labour. In addition, they prove of little or no importance, as far as the 'class awareness' - or even further, 'class consciousness' - of a person is concerned.

Housewives' and 'Unemployed'

The distinct characteristic of this group is that, while they belong to the (potentially) 'active' labour force, they lack any financial independence and general social status.

Housewives, however, have 'chosen' to remain inactive - forced by sexual stereotypes or a number of pressing family needs - whereas unemployed (women or men) are those who have at

a certain point of their life had a job, lost it and are currently looking for a new one (see definition of the NSSG, 1994; also TEDKNA, 1994).

CHAPTER 8

PRESENTATION OF RESULTS

CLUSTER CHARACTERISTICS

In the summary descriptive table presented below, we are given information about the basic characteristics of the school units of our sample as a whole, such as the mean school size, the mean size of the third grade, the mean number of teachers, the mean class size and mean the pupil/teacher ratio. In the Appendix table 1, at the end of the chapter, there is a break-down of our sample into the nine clusters, and, in each cluster, the total as well as the individual school sizes are given (i.e., the number of students in the specific *lycea*), and there is also a comparison between the cluster sample and the cluster 'population'.

TABLE 8.1

(adopted from the SPSS output)

SUMMARY OF SCHOOL VARIABLES IN THE GAA

Number of valid observations (listwise) = 1686.00

| Variable | Mean | Std Dev | Minimum | Maximum | N | Label |
|----------|--------|---------|---------|---------|------|---------------------------------------|
| PTRATIO | 14.94 | 2.71 | 11.4 | 24.0 | 1686 | P/t ratio |
| CLASSIZE | 24.87 | 2.96 | 20.2 | 30.0 | 1686 | Size of classes (in pupils per class) |
| TEACHERS | 29.31 | 14.43 | 20 | 77 | 1686 | No of teachers in lyceum |
| THIRDGR | 107.65 | 29.37 | | 169 | 1686 | No of students in third grade |
| SCHSIZE | 422.21 | 192.42 | 250 | 1000 | 1686 | Total No of students in lyceum |

In order to have a clearer picture on the educational environment of each cluster, we produced descriptive statistics for each one of them. Apart from the homogeneity of variance that one would expect in one-school clusters, which is evident by definition, we have to inspect the variance in those clusters that contain more than one school-unit. This can be done by carrying out a one-way ANOVA in those clusters, and examining the variance between the means from schools belonging in the same cluster. I chose as the most significant testing variables - of which the total variance will be examined - the class size and the pupil/teacher ratio, because they are indicators of the quality of the general educational environment, and subsequently

would show the existence - if any - of heterogeneous dispersion of the quality of schools in certain clusters.

For cluster no. 4, for example, the F ratio is statistically non significant for the dependent variable class size. The same is the case for the variable p/t ratio, so we could argue that the cluster is rather homogenous - at least as far as these two variables are concerned.

TABLE 8.2.1

(adopted from the SPSS output)

ANALYSIS OF VARIANCE FOR CLUSTER 4

Variable **CLASSIZE** Mean size of classes in the specific lyceum

By Variable **SCHNO** Individual school unit in the specific cluster

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 2 | 73.5625 | 36.7813 | . | . |
| Within Groups | 297 | .0000 | .0000 | | |
| Total | 299 | 73.5625 | | | |

Variable **PTRATIO** Pupil/teacher ratio in the specific lyceum

By Variable **SCHNO** Individual school unit in the specific cluster

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 2 | 818.7292 | 409.3646 | . | . |
| Within Groups | 297 | .0000 | .0000 | | |
| Total | 299 | 818.7292 | | | |

The same procedure has been followed for cluster 5, and the results show a homogeneity of variance between the school-unit means, either for the test variable 'class size', or for the test variable 'p/t ratio'.

TABLE 8.2.2

(adopted from the SPSS output)

ANALYSIS OF VARIANCE FOR CLUSTER 5Variable **CLASSIZE** Mean size of classes in the specific lyceumBy Variable **SCHNO** Individual school unit in the specific cluster

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 3 | 1241.7065 | 413.9022 | . | . |
| Within Groups | 344 | .0000 | .0000 | | |
| Total | 347 | 1241.7065 | | | |

Variable **PTRATIO** Pupil/teacher ratio in the specific lyceumBy Variable **SCHNO** Individual school unit in the specific cluster

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 3 | 160.2661 | 53.4220 | . | . |
| Within Groups | 344 | .0000 | .0000 | | |
| Total | 347 | 160.2661 | | | |

Then we proceed with some descriptive statistics for cluster 8, and the results are the same, that is, they show that the cluster is rather homogenous, at least as far as these two variables are concerned.

Here, however, it should be noted that even between the different clusters there are no huge differences as we move from the more to the less privileged areas of Athens.

TABLE 8.2.3

(adopted from the SPSS output)

ANALYSIS OF VARIANCE FOR CLUSTER 8

Variable **CLASSIZE** Mean size of classes in the specific lyceum
 By Variable **SCHNO** Individual school unit in the specific cluster

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 3 | 2606.8444 | 868.9481 | . | . |
| Within Groups | 441 | .0000 | .0000 | | |
| Total | 444 | 2606.8444 | | | |

Another two variables, the examination of which would justify - or not - the selection of the specific clusters as the most appropriate one for the stratification of my sample, are father's occupation and mother's occupation.

To confirm and clarify the existence or lack of homogeneity in the nine clusters of our sample, using these two variables as testing ones, an analysis of (ANOVA) was carried out for both of them. It showed an overall significant differentiation of occupations according to location of school.

TABLE 8.3

(adopted from the SPSS output)

ANALYSIS OF VARIANCE

FATHOCCU Occupation of the student's father
 by **CLUSTER** Id-number of clusters in the whole sample

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---------------------|----------------|------|-------------|-------|----------|
| Main Effects | 234.452 | 8 | 29.306 | 4.978 | .000 |
| CLUSTER | 234.452 | 8 | 29.306 | 4.978 | .000 |
| Explained | 234.452 | 8 | 29.306 | 4.978 | .000 |
| Residual | 9420.347 | 1600 | 5.888 | | |
| Total | 9654.799 | 1608 | 6.004 | | |

TABLE 8.3 (cont.)
ANALYSIS OF VARIANCE

MOTHOCCU Occupation of the student's mother
by **CLUSTER** Id-number of clusters in the whole sample

| Source of Variation | Sum of | | Mean | | Sig of F |
|---------------------|------------|------|--------|------|-------------|
| | Squares | DF | Square | F | |
| Main Effects | 495.937 | 8 | 61.992 | .964 | .462 |
| CLUSTER | 495.937 | 8 | 61.992 | .964 | .462 |
| Explained | 495.937 | 8 | 61.992 | .964 | .462 |
| Residual | 103102.441 | 1604 | 64.278 | | |
| Total | 103598.378 | 1612 | 64.267 | | |

In other words, we might derive the conclusion that in the Greater Athens Area (GAA), although there are no clear-cut occupational differentiations between the different (groups of) municipalities (see also chapter 7), there are areas with a rather homogeneous occupational structure. This, in turn, justified my decision to select the clusters of my sample.

FACTORS AFFECTING DIFFERENTIATION OF PERFORMANCE

Now we should proceed with the effects of the main social and educational variables upon the performance of the students.

Third-year grade

First we test the effect of the school area ('cluster') on the third-year grade of *lyceum* (variable **grade3**). The ANOVA (Analysis Of Variance) analysis used shows that there are significant differences between the nine clusters of our sample. However, the *post hoc* Scheffé test - with significance level .05 - showed that the most significant mean differences exist between the groups 1, 2, 3, 4 and 5, on the one hand, and group 8, on the other. This is something expected since the latter represents 'deprived' areas of the GAA, and the former represent the most advantageous, in social, as well as in educational-resources terms.

TABLE 8.4

(adopted from the SPSS output)

ANALYSIS OF VARIANCE

Variable **GRADE3** Final mean-score in year 3 of lyceum

By Variable **CLUSTER** ID-number of clusters in the whole sample

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 8 | 344.2729 | 43.0341 | 6.8061 | .0000 |
| Within Groups | 1677 | 10603.4756 | 6.3229 | | |
| Total | 1685 | 10947.7485 | | | |

Levene Test for Homogeneity of Variances

| Statistic | df1 | df2 | 2-tail Sig. |
|-----------|-----|------|-------------|
| 1.5342 | 8 | 1677 | .14 |

----- ONE WAY -----

Variable **GRADE3** Final mean-score in year 3 of lyceum

By Variable **CLUSTER** ID-number of clusters in the whole sample

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1.7780 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 5.58

(*) Indicates significant differences which are shown in the lower triangle

TABLE 8.4 (cont.)

| Mean | CLUSTER | | | | | | | | |
|---------|---------|---|---|---|---|---|---|---|---|
| | | 3 | 8 | 6 | 7 | 1 | 5 | 2 | 4 |
| 14.8608 | 3 | | | | | | | | |
| 14.8820 | 8 | | | | | | | | |
| 15.1111 | 6 | | | | | | | | |
| 15.3219 | 7 | | | | | | | | |
| 15.3794 | 1 | | * | | | | | | |
| 15.7034 | 5 | | * | | | | | | |
| 15.9693 | 2 | | * | | | | | | |
| 15.9993 | 4 | | * | | | | | | |

Then we test the variable 'gender' as an independent variable. The independent t-test¹ shows statistically significant differences between male and female, as far as the (overall) performance in the third (final) year of *lyceum* is concerned. The mean grades of girls are higher than those of boys (see chart 1). However, since this test is parametric, in other words it is based on the assumption that the variance of the two groups (males and females) is equal or homogeneous, we have to examine this. The Levene's Test for Equality of Variances, confirms the aforementioned parametric assumption ($F= 2.176$ and $P= .140$). By carrying out a separate one-way ANOVA, we obtain the same results.

This result is not surprising. According to research studies of the past - which showed a decrease in the differentiation between the two genders and the importance of gender as intervening variable as far as the performance in lyceum is concerned - the girls usually outperform boys. In an attempt to further explore the differences across the clusters of my sample (that is in every group of geographical entities within the GAA), we reach the same conclusions, although the pattern is not the same everywhere. In the first 5 clusters - excluding the no 3 - the differences are greater (the girls again score better than boys), while in the rest they narrow to a considerable degree. Here it should be noted that the former represent areas with higher 'educational standards' and very low representation rates of the 'lower' social strata.

¹ We use the independent t-test because there is one independent variable (gender), with two different groups of 'subjects' (male, female) and the level of measurement is interval (see Bryman & Cramer, 1994, chap. 7).

TABLE 8.5

(adopted from the SPSS output)

T-tests for Independent Samples of GENDER (Gender of individual student)**Total Sample**

| Variable | Number of Cases | Mean | SD | SE of Mean |
|--|--------------------|---------|-------|------------|
| GRADE3 Final mean-score in year 3 of lyceum | | | | |
| Male | 790 | 15.0271 | 2.234 | .079 |
| Female | 896 | 15.7751 | 2.751 | .092 |

Mean Difference = -.7480

Levene's Test for Equality of Variances: F= 2.176 P= .140**T-test for Equality of Means**

| | t-value | df | 2-Tail Sig | SE of Diff | 95% CI for Diff |
|---------|---------|---------|------------|------------|--------------------|
| Equal | -6.08 | 1684 | .000 | .123 | (-.989, -.507) |
| Unequal | -6.16 | 1672.87 | .000 | .122 | (-.986, -.510) |

The variable 'age' also seems to have a significant effect on the performance of the final year of lyceum, as the one-way ANOVA showed. As the *post hoc* Scheffe test shows, differences occur between the ages of 17 and 18, on the one hand, and the ages of 19 and 20, on the other. While the 19-year-olds have a mean grade of 12.85, and the 20-year-olds a mean grade of 13.34, on the other hand, the 17-year-olds' average achievement was 15.26 and that of the 18-year-olds, 15.58.

TABLE 8.6

(adopted from the SPSS output)
ANALYSIS OF VARIANCE

Variable **GRADE3** Final mean-score in year 3 of lyceum
By Variable **AGE** Age of individual student

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 3 | 401.1092 | 133.7031 | 21.3077 | .0000 |
| Within Groups | 1679 | 10535.4938 | 6.2749 | | |
| Total | 1682 | 10936.6030 | | | |

Levene Test for Homogeneity of Variances

| Statistic | df1 | df2 | 2-tail Sig. |
|-----------|-----|------|-------------|
| 2.4754 | 3 | 1679 | .060 |

----- ONEWAY -----

Variable **GRADE3** Final mean-score in year 3 of lyceum
By Variable **AGE** Age of individual student

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

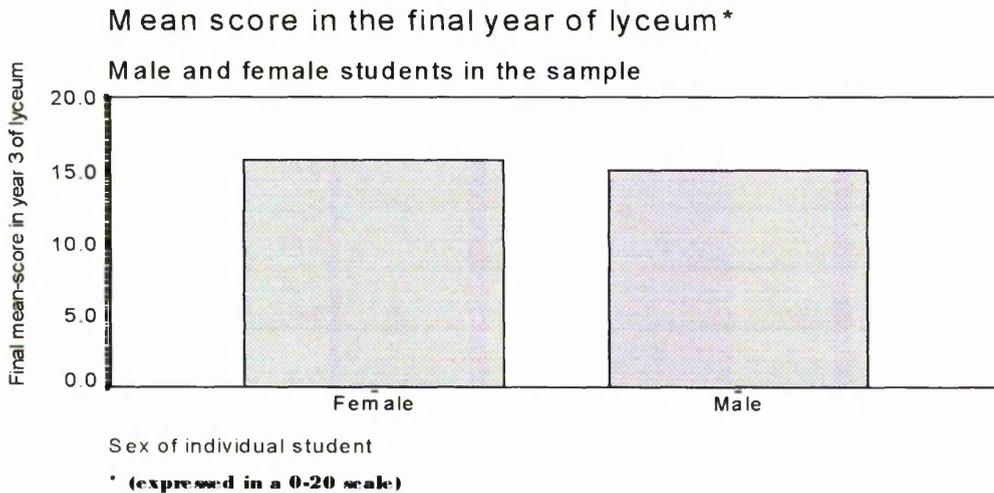
$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1.7713 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 3.96

(*) Indicates significant differences which are shown in the lower triangle

| Mean | AGE | 19 | 20 | 17 | 18 |
|---------|-----|----|----|----|----|
| 12.8553 | 19 | | | | |
| 13.3417 | 20 | | | | |
| 15.2692 | 17 | * | | | |
| 15.5790 | 18 | * | * | | |

CHART 8.1



The variable 'place of birth' does not cause any significant differences (F Ratio = .9889 and F Prob. = .4311). Thus, it is revealed that there are no significant handicaps to be overcome by those who were born outside the GAA, since their 'integration' in their present school environment usually takes place very early in their school life².

We proceed with the two crucial variables that denote the socio-economic background of the students (i.e., father's and mother's occupation) as independent variables. For a first impression of the differences between professions, see charts 2 and 3, for father's and mother's occupation, respectively.

In the results of the ANOVA model, the father's occupation is a highly significant factor for explaining differences between students as far as their final-year performance is concerned. The same is true for mother's occupation. However, we should take into account that there are certain intervening variables (covariates) that have to be considered, if real differences were to be discovered (later in the correlation and regression analyses).

² See also the phenomenon of internal migration towards the big urban centres, and especially Athens, as a possible explanation of lack of significance.

TABLE 8.7

(adopted from the SPSS output)

ANALYSIS OF VARIANCE

GRADE3 Final mean-score in year 3 of lyceum
by **FATHOCCU** Occupation of student's father

UNIQUE sums of squares

All effects entered simultaneously

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---------------------|----------------|------|-------------|-------|----------|
| Main Effects | 220.753 | 8 | 27.594 | 4.215 | .000 |
| FATHOCCU | 20.753 | 8 | 27.594 | 4.215 | .000 |
| Explained | 220.753 | 8 | 27.594 | 4.215 | .000 |
| Residual | 10466.905 | 1599 | 6.546 | | |
| Total | 10687.659 | 1607 | 6.651 | | |

1686 cases were processed.; 78 cases (4.6 pct) were missing.

TABLE 8.8

(adopted from the SPSS output)

ANALYSIS OF VARIANCE

GRADE3 Final mean-score in year 3 of lyceum
by **MOTHOCCU** Occupation of the student's mother

UNIQUE sums of squares

All effects entered simultaneously

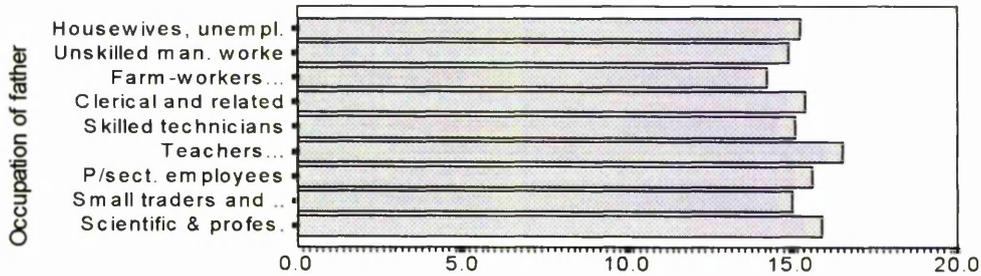
| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---------------------|----------------|------|-------------|-------|----------|
| Main Effects | 290.230 | 8 | 36.279 | 5.591 | .000 |
| MOTHOCCU | 290.230 | 8 | 36.279 | 5.591 | .000 |
| Explained | 290.230 | 8 | 36.279 | 5.591 | .000 |
| Residual | 10402.115 | 1603 | 6.489 | | |
| Total | 10692.345 | 1611 | 6.637 | | |

1686 cases were processed.; 74 cases (4.4 pct) were missing.

CHART 8.2

Mean score in the final year of lyceum*

Students grouped by father's occupation**



Final mean-score in year 3 of lyceum

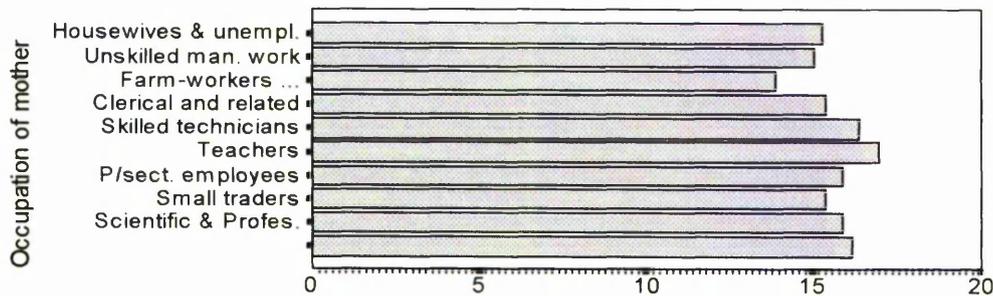
* (expressed in a 0-20 scale)

** (in a hierarchical scale)

CHART 8.3

Mean score in the final year of lyceum*

Students grouped by mother's occupation**



Final mean-score in year 3 of lyceum

* (expressed in a 0-20 scale)

** (in a hierarchical scale)

As far as the variable 'size of class' (the mean number of students per class) is concerned, there is also a significant overall effect on performance at the end of *lyceum*. As the *post hoc* Scheffe test shows, the bigger - and most significant - differences in achievement between the various class sizes of schools, are those between schools with 23 and schools with 25 to 26 students per class.³

³ In the tables only integer-figured class sizes are illustrated, whereas in the sample, the (mean) size of the classes is expressed as a decimal number. That is because the SPSS rounded each number to the closest integer.

TABLE 8.9

(adopted from the SPSS output)

ANALYSIS OF VARIANCE

Variable **GRADE3** Final mean-score in year 3 of lyceum

By Variable **CLASSIZE** Mean size of classes in the specific lyceum

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 7 | 336.5319 | 48.0760 | 7.6025 | .0000 |
| Within Groups | 1678 | 10611.2166 | 6.3237 | | |
| Total | 1685 | 10947.7485 | | | |

----- ONE WAY -----

Variable **GRADE3** Final mean-score in year 3 of lyceum

By Variable **CLASSIZE** Mean size of classes in the specific lyceum

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1.7782 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 5.31

(*) Indicates significant differences which are shown in the lower triangle

| Mean | CLASSIZE | |
|---------|----------|-------------------------|
| | | 23 22 28 21 25 20 26 30 |
| 14.4581 | 23 | |
| 14.9836 | 22 | |
| 15.0522 | 28 | |
| 15.3307 | 21 | |
| 15.7543 | 25 | * |
| 15.7993 | 20 | |
| 15.8400 | 26 | * |
| 15.9693 | 30 | * |

As far as the p/t ratio is concerned the one-way ANOVA shows an overall (statistically) significant difference, although the *post hoc* Scheffe test found no very significant differences in comparing the mean of pairs of different p/t ratios.

TABLE 8.10

(adopted from the SPSS output)
ANALYSIS OF VARIANCE

Variable **GRADE3** Final mean-score in year 3 of lyceum
 By Variable **PTRATIO** Pupil/teacher ratio in the specific lyceum

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 7 | 167.4697 | 23.9242 | 3.7239 | .0005 |
| Within Groups | 1678 | 10780.2788 | 6.4245 | | |
| Total | 1685 | 10947.7485 | | | |

----- ONE WAY -----

Variable **GRADE3** Final mean-score in year 3 of lyceum
 By Variable **PTRATIO** Pupil/teacher ratio in the specific lyceum

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1.7923 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 5.31

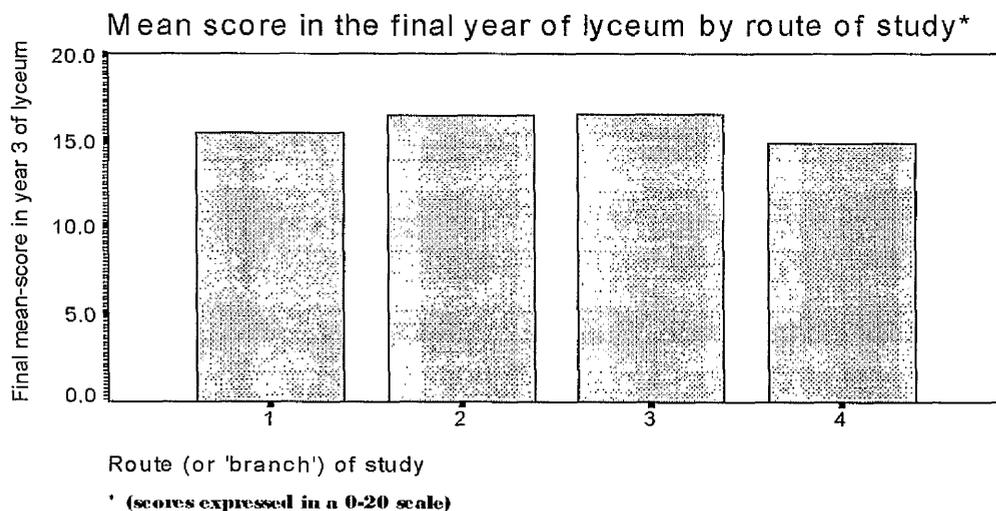
(*) Indicates significant differences which are shown in the lower triangle

| Mean | PTRATIO |
|---------|---------|
| 15.8957 | 15 |
| 15.1111 | 24 |
| 15.1279 | 14 |
| 15.3794 | 11 |
| 15.4762 | 12 |
| 15.6235 | 13 |
| 15.6766 | 16 |
| 15.9693 | 18 |

*

'Acbranch' (i.e. route of study,) seems to have a significant effect on differentiation of performance. Using the independent-samples test, we find a score of -6.08 for equal samples size, and -6.16 for unequal samples size resulted, which are both statistically significant at the .000 level. A visual representation of this effect can be seen in chart 4 below. It is clear that students following the routes 1, 2 and 3 score higher than those following the fourth route, although the differences are not very wide, because there are variations, not only of curriculum content, but of attainment targets and assessment requirements.

CHART 8.4



What has been manifested clearly here is the significance of a number of family, school and general environmental factors upon the differentiation in the achievement in the last year of the upper-secondary school (*lyceum*). These factors will be looked at again when we will attempt to infer significant causal relationships - later on - between the various variables.

Performance in the National Examinations

Examination of potentially significant differences in the **performance in the National Examinations** will be attempted. This will be done by using only the most influential factors, not only in terms of their significance in the precedent analysis, but also in relation to the findings of previous research evidence. For example, factors connecting to the school quality, or the place of birth, have not been associated with significant effects on performance on the

NE (See Polydorides, 1995b; 1996), and their importance is declining, although the former's importance on the *lyceum* - as it is also evident in the present analysis - is still very high.

It should be noted first that the success rate of students in the sample (the proportion of those who finally got a place in higher education to the total number of those who, either graduated or sat the exams) was very small. As was stated at the beginning of chapter 6, in national level, approximately 35% of the candidates finally succeed to enter into higher education. In this sample - which is representative of the student population in the Greater Athens Area - from the 1,686 graduates in the academic year 1995-96, 1,329 sat the exams, and only 300 finally got a place in a higher education department (a proportion of 17.8% of the former, and 22.5% of the latter). Therefore, it has to be taken into account that a lot of 'filtering' had already been done before even the students decided to sit for national examinations. This process is deeply linked to the dominant ideology of 'meritocracy': the 'few', the most 'capable', the most 'intelligent' could and should have access to the highest educational levels possible, and enjoy the privileges and social status that the most prestigious academic disciplines can secure. The rest - through an 'objective' and 'impeccably' administered selection mechanism - have been convinced that they do not 'possess' the above qualities and they 'deserve' to remain out of higher education.

The ANOVA analysis shows that, in overall terms, the gender of students does not play a significant role on the differentiation in the NE. However, as the charts 5 and 6 below show (all candidates and successful students, respectively), females outperform males in total, although this is only an overall indication and should be examined later in detail our analysis in order to avoid oversimplifications and misinterpretations of the reality. Moreover, age plays a significant role on the performance differentiation in the NE, as the one-way ANOVA reveals.

TABLE 8.11

(adopted from the SPSS output)

T-tests for Independent Samples of GENDER Gender of individual student

| Variable | Number of Cases | Mean | SD | SE of Mean |
|---|--------------------|-----------|----------|------------|
| TOTSCORE Total score achieved in the NE | | | | |
| Male | 789 | 2402.9455 | 2379.348 | 84.707 |
| Female | 894 | 2568.2819 | 2001.445 | 66.938 |

Mean Difference = -165.3364

Levene's Test for Equality of Variances: F= 2.140 P= .144

| t-test for Equality of Means | | | | | 95% |
|------------------------------|---------|---------|------------|------------|--------------------|
| Variances | t-value | df | 2-Tail Sig | SE of Diff | CI for Diff |
| Equal | -1.55 | 1681 | .122 | 106.815 | (-374.841, 44.168) |
| Unequal | -1.53 | 1547.09 | .126 | 107.963 | (-377.106, 46.433) |

TABLE 8.12

(adopted from the SPSS output)

----- ONEWAY ANALYSIS OF VARIANCE-----

Variable **TOTSCORE** Total score achieved in the NE

By Variable **AGE** Age of individual student

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|-------------------|-----------------|------------|------------|
| Between Groups | 3 | 157720051.3 | 52573350.44 | 11.1913 | .0000 |
| Within Groups | 1676 | 7873355802 | 4697706.326 | | |
| Total | 1679 | 8031075853 | | | |

TABLE 8.12 (cont.)

Variable **TOTSCORE** Total score achieved in the NE
 By Variable **AGE** Age of individual student

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1532.5969 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 3.96

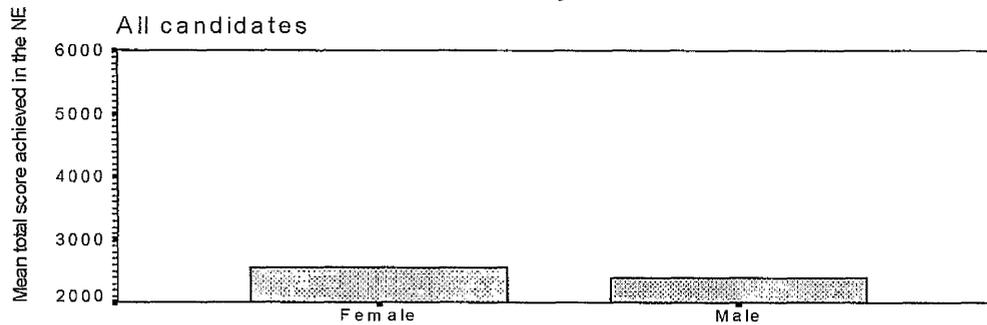
(*) Indicates significant differences which are shown in the lower triangle

| Mean | AGE | | | | |
|-----------|-----|----|----|----|----|
| | | 20 | 19 | 17 | 18 |
| 879.1667 | 20 | | | | |
| 924.8936 | 19 | | | | |
| 2439.3500 | 17 | * | | | |
| 2580.5965 | 18 | * | | | |

CHART 8.5

Performance in the NE by sex

All candidates

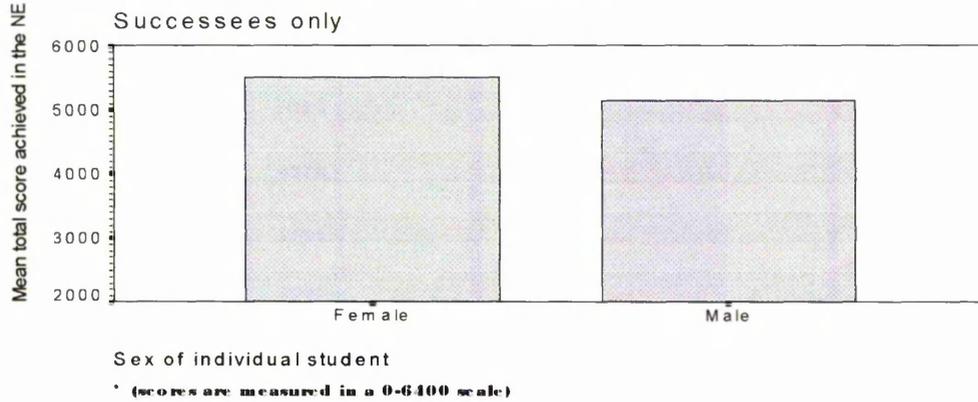


Sex of individual student

* (scores are measured in a 0-6400 scale)

CHART 8.6

Performance in the NE by sex



When we examine simultaneously the effects of gender and age, the F-ratio is not significant (F-sig. = .755).

Table 8.13

(adopted from the SPSS output)

***** ANALYSIS OF VARIANCE *****

TOTSCORE Total score achieved in the NE

by **GENDER** Gender of individual student

AGE Age of individual student

UNIQUE sums of squares

All effects entered simultaneously

| Source of Variation | Sum of Squares | DF | Mean Square | F | Sig of F |
|---------------------|----------------|------|--------------|--------|----------|
| Main Effects | 155451314 | 4 | 38862828.534 | 8.274 | .000 |
| GENDER | 5003121 | 1 | 5003120.891 | 1.065 | .302 |
| AGE | 155332109 | 3 | 51777369.571 | 11.023 | .000 |
| 2-Way Interactions | 5595339 | 3 | 1865112.839 | .397 | .755 |
| GENDER AGE | 5595339 | 3 | 1865112.839 | .397 | .755 |
| Explained | 177262459 | 7 | 25323208.401 | 5.391 | .000 |
| Residual | 7853813395 | 1672 | 4697256.815 | | |
| Total | 8031075853 | 1679 | 4783249.466 | | |

Study-route is an important factor of differentiation (F prob. = .000). As the *post-hoc* Scheffe test shows, the bigger differences occur when we compare the means of each of the first, second and third branch against that of the fourth, which represents the lowest scores of all the branches of study.

TABLE 8.14

(adopted from the SPSS output)

**** ANALYSIS OF VARIANCE ****

Variable **TOTSCORE** Total score achieved in the NE

By Variable **ACABRAN** Route (or path) of study

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 3 | 690261802.4 | 230087267.5 | 52.4925 | .0000 |
| Within Groups | 1679 | 7359459110 | 4383239.494 | | |
| Total | 1682 | 8049720913 | | | |

Variable **TOTSCORE** Total score achieved in the NE

By Variable **ACABRAN** Branch (or path) of study

Multiple Range Tests: *Scheffe* test with significance level .05

The difference between two means is significant if

$$\text{MEAN}(J) - \text{MEAN}(I) \geq 1480.4120 * \text{RANGE} * \text{SQRT}(1/N(I) + 1/N(J))$$

with the following value(s) for RANGE: 3.96

(*) Indicates significant differences which are shown in the lower triangle

| Mean | ACABRAN | 4 | 1 | 2 | 3 |
|-----------|---------|---|---|---|---|
| 1950.4524 | 4 | | | | |
| 2594.7512 | 1 | * | | | |
| 3090.0376 | 2 | * | | | |
| 3643.9898 | 3 | * | * | | |

The effects of pupil/teacher ratio, class size and number of teachers are insignificant.

The effects of father's occupation and mother's occupation are, as expected, significant, although not to the extent witnessed in the final-year grades of the students.

TABLE 8.15

(adopted from the SPSS output)

**** ANALYSIS OF VARIANCE ****

Variable **TOTSCORE** Total score achieved in the NE

By Variable **FATHOCCU** Occupation of the student's father

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 8 | 212762382.1 | 26595297.76 | 5.6348 | .0000 |
| Within Groups | 1596 | 7532812027 | 4719807.034 | | |
| Total | 1604 | 7745574409 | | | |

Notice: No student with father belonging to the category 7 (farmers ...) sat the N. Examinations

TABLE 8.16

(adopted from the SPSS output)

**** ANALYSIS OF VARIANCE ****

Variable **TOTSCORE** Total score achieved in the NE

By Variable **MOTHOCCU** Occupation of the student's mother

| Source | D.F. | Sum of Squares | Mean Squares | F Ratio | F Prob. |
|----------------|------|----------------|--------------|---------|---------|
| Between Groups | 8 | 148840748.6 | 18605093.57 | 3.9121 | .0001 |
| Within Groups | 1600 | 7609259680 | 4755787.300 | | |
| Total | 1608 | 7758100428 | | | |

Notice: No student with father belonging to the category 7 (farmers ...) sat the N. Examinations.

As we see in the charts 7 and 8 for the IV father's occupation, the more privileged group of students are those whose father's are teachers. The hypothesis of the importance of 'cultural capital' - though not of financial resources - for this occupational category, is supported by the findings here. The second group - as expected - are the 'scientific and managerial' occupations, and then come the rest of the groups. What is also notable in these two charts is that, while the category 'clerical and related occupations' in average outperforms (performance measured by the mean score) the category 'skilled technicians' when all the candidates are examined, the opposite is true when only the successes are examined. Of course this is something that must be explored, but, for the moment it is important to stress that this picture might imply a more effective 'strategy' and goal orientation of the latter category in comparison to the former - and certainly, in comparison to the rest of the categories, since it represents the third highest scoring group. It must also be noted here that there is an absence of any student sitting the National Examinations with a father working as a farmer, fisherman or cattle-breeder. That shows that, in educational, as well as economic terms, these students are the most disadvantaged in the Greater Athens Area, although this disadvantage could be explained by the extremely low representation of the specific occupations in the total population of Athens, which is a purely urban metropolitan conurbation.

When the occupation of mother is used as independent variable (IV), the results are more or less the same (see charts 9 and 10), although, in this case, the second group with the highest performance are the 'public sector employees'. This is something that proves, that it is not the more advantaged background of students falling within this category, but rather the very small number of observations in the category 'scientific and managerial occupations', something that is reflected on the calculation of the mean.⁴ Additionally, the previous observation concerning the performance of the categories 'clerical and related occupations' and 'skilled technicians', is reversed here: while the category 'skilled technicians' in average outperforms the category 'clerical and related occupations' when all the candidates are examined, the opposite is true when only the successful students are examined.

Finally, it should be noted, that the category 'retired, unemployed and housewives' proves to be very advantaged in relation to the rest of the groups, mainly because it contains the 'retired' persons. The latter sub-category includes many persons who are considerably wealthy and very educated and, therefore, despite their age, are able to offer a very 'resourceful' learning environment to their children and boost their chances for success. In other words - as

⁴ The 'median', as we know, depends highly on the number of cases and their dispersion, rather than on their respective frequency weight, as the 'mean' does.

it was explained in the previous chapter - a retired person is not necessarily poor, or less advantaged than the rest of the (economically) active population.

CHART 8.7

Performance in the NE by father's occupation
All candidates

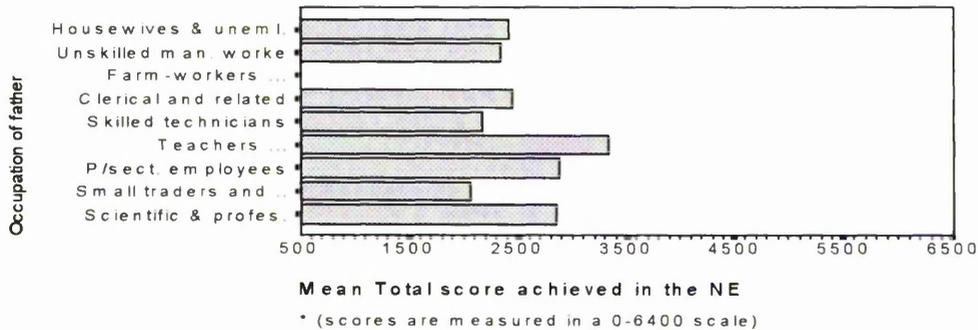


CHART 8.8

Performance in the NE by father's occupation
Successeees only

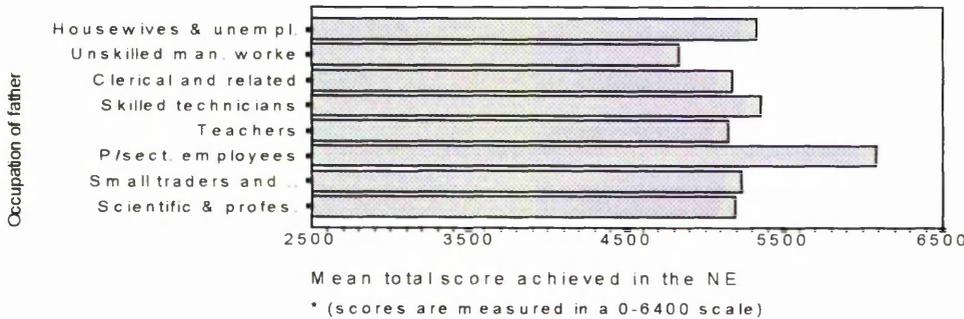


CHART 8.9

Performance in the NE by mother's occupation*
All candidates

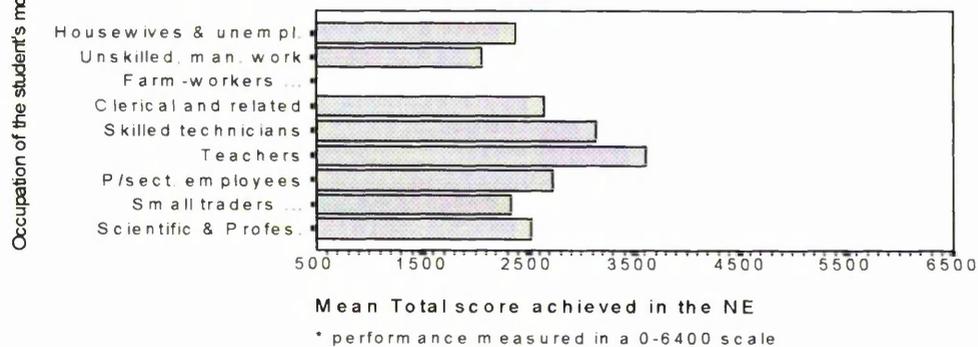
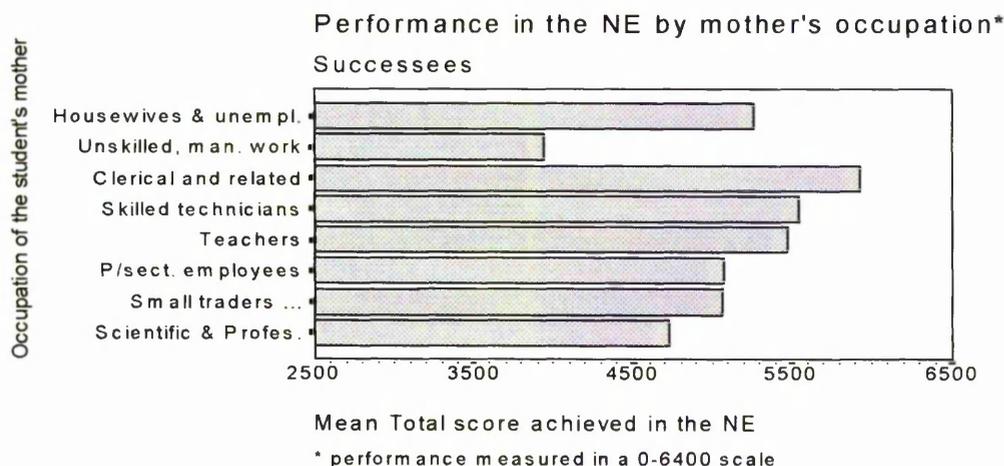


CHART 8.10



CORRELATION ANALYSIS OF STATISTICALLY SIGNIFICANT DIFFERENCES AND THEIR STRENGTH

As previous tests showed, the influence of variables such as school-cluster (location of school), gender, age, route of study, parents' occupation and previous achievement in *lyceum* is very significant as far as the **final-year achievement**, or the **score in the NE** are concerned.

Although the effect of gender has been diminished as we shifted from performance in *lyceum* to performance in the NE, nevertheless, my research hypotheses suggest that it appears again in the differentiation between successful students in Universities and TEIs, and in the various faculties and departments. I also argue that the parental occupation's effect on the differentiation in higher education is very important.

By examining now the partial correlation coefficients for a number of variables, that is, by controlling for a number of other intervening ones, it will easier to discern the strength of certain relationships, and therefore, to construct more accurately causal-relation models with the help of regression analysis.

Third-year grade

First the variable '**grade3**' is examined (i.e., performance in the final year of *lyceum*), and its association with other variables.

By controlling the effects of previous achievement in the *lyceum* (i.e., variables 'grade1' and 'grade2'), the variable father's occupation does not have any significance, (an one-tail

significance level is used, since occupation can be clearly perceived as the independent factor, that is we can discern the direction of the relationship) the probability of making a type I error is .380, that is high enough in statistical terms (see at the output below). The significance of the rest of the variables when we control for the intervening ones is, however, very high. The negative sign in the matrix cell showing the correlation between gender and achievement in final year, means that females perform better than males (we assigned 1 for the category 'female' and 2 for the category 'male'). Something similar occurs with the independent variable 'cluster', that is the location of the school. As we move away from cluster no 1 (north and north-eastern municipalities of the GAA) to no 8 (western municipalities) the overall performance at the end of *lyceum* deteriorates (partial $r = -.1606$, $p = .000$). (The correlations between the categorical variables should be overlooked since the Pearson's coefficient is not an appropriate measure of them. In the previous analyses of variance, we saw that bivariate relations do exist between most of our qualitative variables, although here we are interested in how much they are correlated to the main indicators of differentiation at the end of secondary schooling and start of higher education, and in what way they influence those indicators).

TABLE 8.17

(adopted from the SPSS output)

--- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. GRADE1 GRADE2

GRADE3

CLUSTER -.1606

(1603)

P= .000

AGE -.0665

(1603)

P= .008

GENDER -.1319

(1603)

P= .000

ACABRAN .2251

(1603)

P= .000

TABLE 8.17 (cont.)

Grade 3

| | | |
|----------|---------|--|
| FATHOCCU | .0078 | . |
| | (1603) | |
| | P= .754 | (or P= .377 for 1-tailed significance) |
| MOTHOCCU | .0159 | |
| | (1603) | |
| | P= .525 | (or P= .263 for 1-tailed significance) |

(Coefficient / (D.F.) / 2-tailed Significance)

Another important aspect of differentiation in the performance at the end of *lyceum*, as we saw in the previous (bivariate or multivariate) analyses of variance, was the general quality of the school environment, as it is measured by the size of the school, the size of the third-grade (in number of students) the size of classes, the p/t ratio and the number of students. If we produce a matrix of partial correlations between these variables and the 'grade3' variable, we see insignificant correlations in the zero-order table - apart from the school size. But when we control for variables 'grade1' and 'grade2' - that is, if we examine sub-groups of students with the same overall performance in the first and second year of *lyceum* - all of them become significant (at .05 level, and for a 1-tailed significance, since we can clearly discern which is the dependent variable).

TABLE 8.18

(adopted from the SPSS output)

VARIABLES= grade3, thirdgr, schsize, teachers, classize, ptratio BY grade1, grade2.

| Variable | Mean | Standard Dev | Cases |
|----------|----------|--------------|-------|
| GRADE3 | 15.4246 | 2.5490 | 1686 |
| THIRDGR | 107.6459 | 29.3694 | 1686 |
| SCHSIZE | 422.2106 | 192.4168 | 1686 |
| TEACHERS | 29.3114 | 14.4298 | 1686 |
| CLASSIZE | 24.8735 | 2.9567 | 1686 |
| PTRATIO | 14.9445 | 2.7058 | 1686 |
| GRADE1 | 16.6514 | 72.9717 | 1686 |
| GRADE2 | 14.8272 | 2.9396 | 1686 |

TABLE 8.18 (cont.)

--- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. **GRADE1 GRADE2**

| | GRADE3 | THIRDGR | SCHSIZE | TEACHERS | CLASSIZE | PTRATIO |
|-----------------|------------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|------------------------------|
| GRADE3 | 1.0000 (0) P= . | .0557 (1682) P= .011 | -.1007 (1682) P= .000 | -.1483 (1682) P= .000 | .0969 (1682) P= .000 | .0433 (1682) P= .038 |
| THIRDGR | .0557 (1682) P= .011 | 1.0000 (0) P= . | .6569 (1682) P= .000 | .4631 (1682) P= .000 | .4854 (1682) P= .000 | .3070 (1682) P= .000 |
| SCHSIZE | -.1007 (1682) P= .000 | .6569 (1682) P= .000 | 1.0000 (0) P= . | .9618 (1682) P= .000 | .3061 (1682) P= .000 | -.0035 (1682) P= .442 |
| TEACHERS | -.1483 (1682) P= .000 | .4631 (1682) P= .000 | .9618 (1682) P= .000 | 1.0000 (0) P= . | .1475 (1682) P= .000 | -.1656 (1682) P= .000 |
| CLASSIZE | .0969 (1682) P= .000 | .4854 (1682) P= .000 | .3061 (1682) P= .000 | .1475 (1682) P= .000 | 1.0000 (0) P= . | .5481 (1682) P= .000 |
| PTRATIO | .0433 (1682) P= .038 | .3070 (1682) P= .000 | -.0035 (1682) P= .442 | -.1656 (1682) P= .000 | .5481 (1682) P= .000 | 1.0000 (0) P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

If the effect of 'cluster' is partialled out, because, in the light of previous findings, it is a very important independent variable - in other words, we have a 'multiple-causation' situation - the correlations remain significant, although their strength is reduced.

TABLE 8.19

(adopted from the SPSS output)

VARIABLES= grade3, thirdgr, schsize, teachers, classize, ptratio BY grade, grade2 and cluster.

| Variable | Mean | Standard Dev | Cases |
|----------|----------|--------------|-------|
| GRADE3 | 15.4246 | 2.5490 | 1686 |
| THIRDGR | 107.6459 | 29.3694 | 1686 |
| SCHSIZE | 422.2106 | 192.4168 | 1686 |
| TEACHERS | 29.3114 | 14.4298 | 1686 |
| CLASSIZE | 24.8735 | 2.9567 | 1686 |
| PTRATIO | 14.9445 | 2.7058 | 1686 |
| GRADE1 | 16.6514 | 72.9717 | 1686 |
| GRADE2 | 14.8272 | 2.9396 | 1686 |
| CLUSTER | 5.5101 | 2.3312 | 1686 |

--- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. GRADE1 GRADE2 CLUSTER

| | GRADE3 | THIRDGR | SCHSIZE | TEACHERS | CLASSIZE | PTRATIO |
|-----------------|---------|---------|---------|----------|----------|---------|
| GRADE3 | 1.0000 | .0576 | -.0511 | -.0920 | .0384 | .0389 |
| | (0) | (1681) | (1681) | (1681) | (1681) | (1681) |
| | P= . | P= .009 | P= .018 | P= .000 | P= .058 | P= .055 |
| THIRDGR | .0576 | 1.0000 | .6881 | .4966 | .5221 | .3073 |
| | (1681) | (0) | (1681) | (1681) | (1681) | (1681) |
| | P= .009 | P= . | P= .000 | P= .000 | P= .000 | P= .000 |
| SCHSIZE | -.0511 | .6881 | 1.0000 | .9596 | .4675 | .0055 |
| | (1681) | (1681) | (0) | (1681) | (1681) | (1681) |
| | P= .018 | P= .000 | P= . | P= .000 | P= .000 | P= .410 |
| TEACHERS | -.0920 | .4966 | .9596 | 1.0000 | .3240 | -.1670 |
| | (1681) | (1681) | (1681) | (0) | (1681) | (1681) |
| | P= .000 | P= .000 | P= .000 | P= . | P= .000 | P= .000 |

TABLE 8.19 (cont.)

| | GRADE3 | THIRDGR | SCHSIZE | TEACHERS | CLASSIZE | PTRATIO |
|-----------------|---------------|----------------|----------------|-----------------|-----------------|----------------|
| CLASSIZE | .0384 | .5221 | .4675 | .3240 | 1.0000 | .5761 |
| | (1681) | (1681) | (1681) | (1681) | (0) | (1681) |
| | P= .058 | P= .000 | P= .000 | P= .000 | P= . | P= .000 |
| PTRATIO | .0389 | .3073 | .0055 | -.1670 | .5761 | 1.0000 |
| | (1681) | (1681) | (1681) | (1681) | (1681) | (0) |
| | P= .055 | P= .000 | P= .410 | P= .000 | P= .000 | P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

What strikes the reader, however, is the sign of the coefficients. For example, one would expect that the smaller the number of students enrolled in the third grade, the larger the number of teachers in a certain school, the smaller the class-sizes and the smaller the pupil/teacher ratios, the higher will be the performance. Here we witness the opposite. This is however not unexplainable, since it relates to the **advantages of big urban settings as compared to the rest of the country, and implies that the resources allocated to large schools with the aforementioned characteristics are a more decisive factor of differentiation than some quality standards that are still unattainable in the majority of the Greek schools** (see also Polydorides, 1995b and 1996).

Until now, the partial effects of certain personal and social variables were examined separately from the effects of variables related to the general educational environment of each student, holding constant his/her previous achievement in *lyceum*. Now it will be attempted to discover any significant relationships between each of the aforementioned variables with the dependent one, when controlling (apart from the previous achievement and the route of study)⁵, for other characteristics as well. More specifically, a partial correlation matrix for the personal and social variables will be produced, holding constant the previous achievement, the educational environment (i.e., school size, p/t ratio etc.), the location of school (i.e., cluster) and the route of study.

⁵ This variable is a combination of personal aspirations, educational achievement and administrative arrangements.

TABLE 8.20

(adopted from the SPSS output)

VARIABLES= gender, age, fathoccu, mothoccu, grade3 BY schsize, thirdgr, classize, ptratio, acabran, grade1, grade2, cluster and teachers.

-- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. **SCHSIZE THIRDGR CLASSIZE PTRATIO ACABRAN GRADE1
GRADE2 CLUSTER TEACHERS**

| | GENDER | AGE | FATHOCCU | MOTHOCCU | GRADE3 |
|-----------------|------------------------------|------------------------------|-----------------------------|-----------------------------|------------------------------|
| GENDER | 1.0000 (0) P= . | -.0489 (1675) P= .023 | .0184 (1598) P= .230 | .0272 (1602) P= .138 | -.0817 (1675) P= .000 |
| AGE | -.0489 (1675) P= .023 | 1.0000 (0) P= . | .0052 (1598) P= .417 | .0198 (1602) P= .214 | -.0820 (1675) P= .000 |
| FATHOCCU | .0184 (1598) P= .230 | .0052 (1598) P= .417 | 1.0000 (0) P= . | .0717 (1596) P= .002 | .0050 (1598) P= .421 |
| MOTHOCCU | .0272 (1602) P= .138 | .0198 (1602) P= .214 | .0717 (1596) P= .002 | 1.0000 (0) P= . | .0168 (1602) P= .251 |
| GRADE3 | -.0817 (1675) P= .000 | -.0820 (1675) P= .000 | .0050 (1598) P= .421 | .0168 (1602) P= .251 | 1.0000 (0) P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

The results show that, **in assessing students living in the same - or similar in socio-economic terms - area, studying under the same school environment, having chosen the same subjects (i.e., same route of study) and having performed similarly in the first two years of *lyceum*, the factors that mostly influence their performance in the last year are gender and age, and not so much their parents' occupation.**

However, if a 'dual' classification scheme is adopted, which makes a distinction between more and less prestigious occupations, with the former including the category one ('scientific, professional and top-managerial occupations') and the latter the remaining categories, the correlation coefficients produced are statistically significant.⁶ **Thus, it seems that the differentiation between those at the top of the occupational ladder and those in the middle and lower levels is more operational, at least in statistical terms.**

If the relationship of the educational-environment variables with the dependent variable (performance in last year of *lyceum*) is examined, by keeping this time constant, not only the route of study and the previous achievement, but also the four most important personal and social characteristics (i.e., gender and age, and father's and mother's occupation, respectively) the results are surely very interesting. First of all, they show a significant effect of all the independent variables.

TABLE 8.21

(adopted from the SPSS output)

VARIABLES= grade3, teachers, thirdgr, schsize, classize, ptratio, BY fathoccu, mothoccu, gender, age, grade1, grade2 and acabran.

--- PARTIAL CORRELATION COEFFICIENTS ---

| Controlling for.. | FATHOCCU | MOTHOCCU | GENDER | AGE | GRADE1 | GRADE2 |
|-------------------|------------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|
| ACABRAN | GRADE3 | TEACHERS | THIRDGR | SCHSIZE | CLASSIZE | PTRATIO |
| GRADE3 | 1.0000 (0) P= . | -.1521 (1598) P= .000 | .0615 (1598) P= .007 | -.1031 (1598) P= .000 | .0993 (1598) P= .000 | .0474 (1598) P= .029 |
| TEACHERS | -.1521 (1598) P= .000 | 1.0000 (0) P= . | .4645 (1598) P= .000 | .9620 (1598) P= .000 | .1480 (1598) P= .000 | -.1673 (1598) P= .000 |
| THIRDGR | .0615 (1598) P= .007 | .4645 (1598) P= .000 | 1.0000 (0) P= . | .6576 (1598) P= .000 | .4859 (1598) P= .000 | .3079 (1598) P= .000 |
| SCHSIZE | -.1031 (1598) P= .000 | .9620 (1598) P= .000 | .6576 (1598) P= .000 | 1.0000 (0) P= . | .3062 (1598) P= .000 | -.0054 (1598) P= .415 |

⁶ For the original classification of occupations, see chapter 7.

TABLE 8.21 (cont.)

| | GRADE3 | TEACHERS | THIRDGR | SCHSIZE | CLASSIZE | PTRATIO |
|-----------------|---------------|-----------------|----------------|----------------|-----------------|----------------|
| CLASSIZE | .0993 | .1480 | .4859 | .3062 | 1.0000 | .5463 |
| | (1598) | (1598) | (1598) | (1598) | (0) | (1598) |
| | P= .000 | P= .000 | P= .000 | P= .000 | P= . | P= .000 |
| PTRATIO | .0474 | -.1673 | .3079 | -.0054 | .5463 | 1.0000 |
| | (1598) | (1598) | (1598) | (1598) | (1598) | (0) |
| | P= .029 | P= .000 | P= .000 | P= .415 | P= .000 | P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

In other words, for students with the same personal and social characteristics - at least the ones provided by our data - the general school environment plays a significant role on their performance at the end of *lyceum*. However, the signs here too are not the ones expected from a 'qualitative' point of view - apart from the school size, which refers to the total number of enrolments in the *lyceum*, and not only in the last year.

Performance in the NE

Next, the relationships existed between the various personal, social and educational factors, and the performance in the NE (**total score**), are examined.

An analysis of how social and personal variables relate to the performance in the NE was carried out. One variable is the location of school, which in the previous analysis did not have any major effect on performance in the NE, compared to its effects on *lyceum* achievement. Here we have the opportunity to assess its importance, in controlling many other variables simultaneously. Initially, the bivariate coefficients for cluster and total score is examined, but it does not show a significant relationship ($r = -.0336$, $p = .084$). After controlling for personal and social variables (i.e., gender, age, father's and mother's occupation) this results in a decrease of the relationship ($p = .135$). By, additionally, partialling out the effects of previous achievement, route of study and time of participation in the NE, the relationship remains non-significant. However, if there is control for more variables, such as those referring to the

characteristics of the school environment, the result is a significant correlation coefficient (see the table below).

TABLE 8.22

(adopted from the SPSS output)

VARIABLES= **totscore, cluster** BY **grade2, grade3, grade1, acabran, partime, fathoccu, mothoccu, gender age, schsize, thirdgr, teachers, classize, ptratio.**

--- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. **GRADE2 GRADE3 GRADE1 ACABRAN PARTIME FATHOCCU MOTHOCCU GENDER AGE SCHSIZE THIRDGR TEACHERS CLASSIZE PTRATIO**

| | TOTSCORE | CLUSTER |
|-----------------|-----------------|----------------|
| TOTSCORE | 1.0000 | .0485 |
| | (0) | (1588) |
| | P= . | P= .027 |
| CLUSTER | .0485 | 1.0000 |
| | (1588) | (0) |
| | P= .027 | P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

Due to the (unique) contribution - found earlier - of various school-environment factors upon the differentiation in the NE performance, then, even within similar clusters there are wide - and sometimes decisively influential - differences in how a combination of personal, social and educational characteristics may contribute to achievement.

The separate examination of the personal and social factors from the educational ones, will certainly be of great importance here. Firstly, the relationships between the first group of factors and our dependent variable (score in the NE) is tested, by partialling out the second group,. The only coefficient which is significant is that for gender - contrary to the results of

the analysis of variance carried out previously - whereas the other three are not (see table 8.23). This tells us that the importance of personal and social factors, when we examine students coming from the same schools and having had the same previous achievement, is reduced considerably.

TABLE 8.23

(adopted from the SPSS output)

VARIABLES= totscore, gender, age, fathoccu, mothoccu, BY grade2, grade3, grade1, acabran, partime, schsize, thirdgr, teachers, classize, ptratio.

--- PARTIAL CORRELATION COEFFICIENTS ---

Controlling for.. **GRADE2 GRADE3 GRADE1 ACABRAN PARTIME SCHSIZE THIRDGR TEACHERS CLASSIZE PTRATIO**

| | TOTSCORE | GENDER | AGE | FATHOCCU | MOTHOCCU |
|-----------------|------------------------------|------------------------------|------------------------------|-----------------------------|-----------------------------|
| TOTSCORE | 1.0000 (0) P= . | .0776 (1592) P= .001 | -.0321 (1592) P= .100 | .0113 (1592) P= .327 | .0132 (1592) P= .299 |
| GENDER | .0776 (1592) P= .001 | 1.0000 (0) P= . | -.0435 (1592) P= .041 | .0209 (1592) P= .203 | .0277 (1592) P= .134 |
| AGE | -.0321 (1592) P= .100 | -.0435 (1592) P= .041 | 1.0000 (0) P= . | .0074 (1592) P= .385 | .0224 (1592) P= .186 |
| FATHOCCU | .0113 (1592) P= .327 | .0209 (1592) P= .203 | .0074 (1592) P= .385 | 1.0000 (0) P= . | .0708 (1592) P= .002 |
| MOTHOCCU | .0132 (1592) P= .299 | .0277 (1592) P= .134 | .0224 (1592) P= .186 | .0708 (1592) P= .002 | 1.0000 (0) P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

The examination of the so-called 'educational-quality' variables (i.e., those referring to the characteristics of the school environment), when partialling out the rest, shows highly significant relationships, although the contribution of each individual variable to the total variance of the dependent variable, as measured by the r^2 , is very low. For example the r^2 for the variable 'school size' is 0.005, 0.004 for class size etc.(see table 8.24).

TABLE 8.24

(adopted from the SPSS output)

VARIABLES= totscore, schsize, thirdgr, teachers, classize, ptratio BY gender, age, acabran, grade1, grade2, grade3, partime, mothoccu, fathoccu.

--- PARTIAL CORRELATION COEFFICIENTS ---

| Controlling for.. | GENDER | AGE | ACABRAN | GRADE1 | GRADE2 | GRADE3 | PARTIME |
|-------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------|
| MOTHOCCU | FATHOCCU | TOTSCORE | SCHSIZE | THIRDGR | TEACHERS | CLASSIZE | PTRATIO |
| TOTSCORE | 1.0000 (0) P= . | -.0754 (1593) P= .001 | -.0624 (1593) P= .006 | -.0532 (1593) P= .017 | -.0614 (1593) P= .007 | -.0486 (1593) P= .026 | |
| SCHSIZE | -.0754 (1593) P= .001 | 1.0000 (0) P= . | .6862 (1593) P= .000 | .9548 (1593) P= .000 | .3472 (1593) P= .000 | .0490 (1593) P= .025 | |
| THIRDGR | -.0624 (1593) P= .006 | .6862 (1593) P= .000 | 1.0000 (0) P= . | .4790 (1593) P= .000 | .4877 (1593) P= .000 | .3385 (1593) P= .000 | |
| TEACHERS | -.0532 (1593) P= .017 | .9548 (1593) P= .000 | .4790 (1593) P= .000 | 1.0000 (0) P= . | .1801 (1593) P= .000 | -.1313 (1593) P= .000 | |

TABLE 8.24 (cont.)

| | TOTSCORE | SCHSIZE | THIRDGR | TEACHERS | CLASSIZE | PTRATIO |
|-----------------|------------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|
| CLASSIZE | -.0614 (1593) P= .007 | .3472 (1593) P= .000 | .4877 (1593) P= .000 | .1801 (1593) P= .000 | 1.0000 (0) P= . | .5498 (1593) P= .000 |
| PTRATIO | -.0486 (1593) P= .026 | .0490 (1593) P= .025 | .3385 (1593) P= .000 | -.1313 (1593) P= .000 | .5498 (1593) P= .000 | 1.0000 (0) P= . |

(Coefficient / (D.F.) / 1-tailed Significance)

Examination of the relationships within each path of study reveals the same patterns. The effect of gender is much more significant than that of age or parents' occupation, although its contribution to the total variance of the dependent variable (score in the NE) is quite low.

Furthermore, a separate examination of the partial correlation coefficients between scores in each of the four subjects and personal or social variables, shows no significant relationships between the latter and the former.

Success chances for entrance to higher education

Initially, the role of parent's occupation on the differentiation of **success in entering higher education** will be examined. Here we can look at its effect when other important variables are controlled. Since we also discerned an important influence of the variable 'route' on the success differentiation, it is this IV that will be initially held constant.

The use of the χ^2 test results in no significant relationship between the two dichotomous variables (father's occupation and mother's occupation) and the success variable - which is also dichotomous - when we partial out the effect of the study-route, except in the case of the third route⁷ (see table 8.25).

⁷ Subjects examined: Written Expression, Ancient Greek Literature, History and Latin Literature.

TABLE 8.25.1

(adopted from the SPSS output)

SUCCESS Success of getting a place in higher education

by **FATHOC1** Differentiation between 'more' and 'less prestigious' occupations.

Controlling for..

ACABRAN Route (or path) of study

Value = 1

| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 1.80258 | 1 | .17940 |
| Continuity Correction | 1.45993 | 1 | .22694 |
| Likelihood Ratio | 1.75774 | 1 | .18491 |
| Mantel-Haenszel test for linear association | 1.79794 | 1 | .17996 |

Minimum Expected Frequency - 25.003

SUCCESS Success of getting a place in higher education

by **FATHOC1** Differentiation between 'more' and 'less prestigious' occupations.

Controlling for..

ACABRAN Route (or path) of study

Value = 2

| Chi-Square | Value | DF | Significance |
|---|--------|----|--------------|
| Pearson | .05345 | 1 | .81717 |
| Continuity Correction | .00000 | 1 | 1.00000 |
| Likelihood Ratio | .05308 | 1 | .81779 |
| Mantel-Haenszel test for linear association | .05304 | 1 | .81785 |

Minimum Expected Frequency - 7.534

TABLE 8.25.1 (cont.)

SUCCESS Success of getting a place in higher education

by **FATHOC1** Differentiation between 'more' and 'less prestigious' occupations.

Controlling for..

ACABRAN Branch (or path) of study

Value = 3

| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 4.39817 | 1 | .03598 |
| Continuity Correction | 3.70138 | 1 | .05437 |
| Likelihood Ratio | 4.15334 | 1 | .04155 |
| Mantel-Haenszel test for linear association | 4.38206 | 1 | .03632 |

Minimum Expected Frequency - 13.949

SUCCESS Success of getting a place in higher education

by **FATHOC1** Differentiation between 'more' and 'less prestigious' occupations.

Controlling for..

ACABRAN Branch (or path) of study

Value = 4

| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 2.77728 | 1 | .09561 |
| Continuity Correction | 2.28196 | 1 | .13089 |
| Likelihood Ratio | 2.56132 | 1 | .10951 |
| Mantel-Haenszel test for linear association | 2.77386 | 1 | .09581 |

Minimum Expected Frequency - 13.655

TABLE 8.25.2

(adopted from the SPSS output)

SUCCESS Success of getting a place in higher education
 by **MOTHOC1** Differentiation between more and less prestigious occupations
 Controlling for..
ACABRAN Route (or path) of study **Value = 1**

| Chi-Square | Value | DF | Significance |
|---|--------|----|--------------|
| Pearson | .50943 | 1 | .47539 |
| Continuity Correction | .29067 | 1 | .58979 |
| Likelihood Ratio | .49665 | 1 | .48098 |
| Mantel-Haenszel test for linear association | .50811 | 1 | .47596 |

Minimum Expected Frequency - 12.956

SUCCESS Success of getting a place in higher education
 by **MOTHOC1** Differentiation between more and less prestigious occupations
 Controlling for..
ACABRAN Route (or path) of study

Value = 2

| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 1.10343 | 1 | .29351 |
| Continuity Correction | .45766 | 1 | .49872 |
| Likelihood Ratio | 1.32939 | 1 | .24891 |
| Mantel-Haenszel test for linear association | 1.09501 | 1 | .29536 |

Fisher's Exact Test:
 One-Tail: .26365 / Two-Tail: .46334

Minimum Expected Frequency - 2.405
 Cells with Expected Frequency < 5 - 1 OF 4 (25.0%)

TABLE 8.25.2 (cont.)

SUCCESS Success of getting a place in higher education

by **MOTHOC1** Differentiation between more and less prestigious occupations

Controlling for..

ACABRAN Route (or path) of study

Value = 3

| Chi-Square | Value | DF | Significance |
|--|--------------|-----------|---------------------|
| Pearson | .40580 | 1 | .52411 |
| Continuity Correction | .13999 | 1 | .70829 |
| Likelihood Ratio | .42816 | 1 | .51289 |
| Mantel-Haenszel test for linear association | .40432 | 1 | .52487 |

Minimum Expected Frequency - 5.212

SUCCESS Success of getting a place in higher education

by **MOTHOC1** Differentiation between more and less prestigious occupations

Controlling for..

ACABRAN Route (or path) of study

Value = 4

| Chi-Square | Value | DF | Significance |
|--|--------------|-----------|---------------------|
| Pearson | .20900 | 1 | .64755 |
| Continuity Correction | .06119 | 1 | .80462 |
| Likelihood Ratio | .20082 | 1 | .65406 |
| Mantel-Haenszel test for linear association | .20874 | 1 | .64775 |

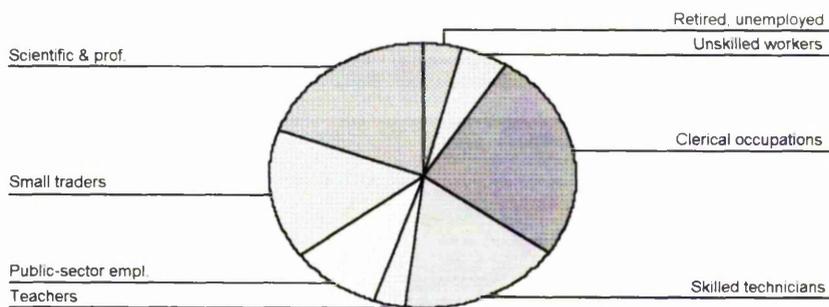
Minimum Expected Frequency - 6.910

Charts 8.11-12 show diagrammatically the parents' occupation of the candidates in the N.E. (summer 1996), whether they managed or not to enter higher education. Thus, although the previous analysis showed no dramatic effects of the occupational differentiation upon the differentiation between successful and non-successful students, it is clear from the charts that the category 'scientific, professional and top-managerial occupations' increased its proportion in relation to other occupations when the successful students were examined. The same is true for the category 'teachers', which occupies a considerably larger proportion in the case of the successful students. This trend is more noticeable when the occupation of mother is taken as independent variable.

The significance of this sub-category on the chances of students in scoring high in school or in the NE has been demonstrated earlier in this chapter, and it was also highlighted in the previous chapter. In that chapter it was suggested that the offspring of teachers are usually 'equipped' with better educational resources, and their strategies are more effectively aligned to the dominant 'school-culture' and 'school norms' (Hargreaves, 1982), at least in relation to those students whose parental occupations are thought to have the same or equivalent socio-economic status.

CHART 8.11

Differentiation of candidates by father's occupation
Non-successful students



Successful students

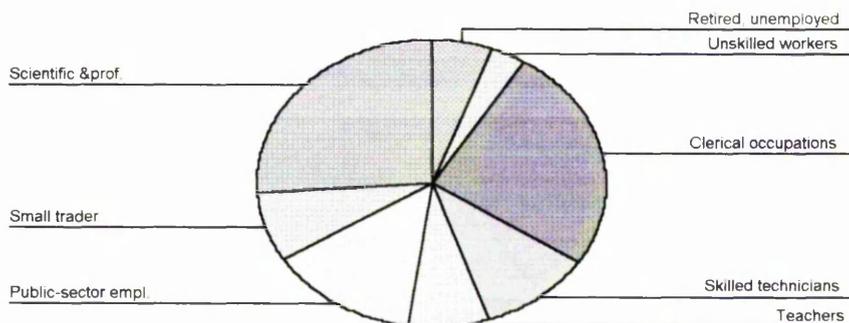
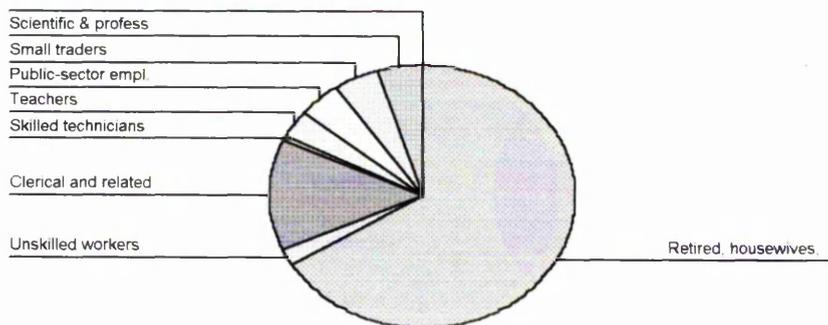
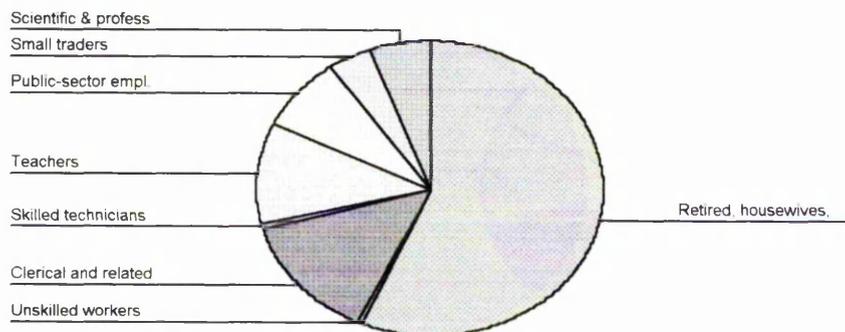


CHART 8.12

Differentiation of candidates by mother's occupation
Non-successful students



Successful students



In order to assess the significance of occupational differentiation, it is necessary to take into account - and control for - the most significant educational factor, which is the previous achievement in *lyceum*. This variable has been transformed into three main categories: 1) for

those scoring from 0 to 13.5; **2**) for those scoring from 13.6 to 17; **3**) for those scoring from 17.1 to 20. The following title were assigned to each category: 'poor', 'good' and 'very good'. The same coding was followed for all the grades of the *lyceum* (i.e., the variables 'grade1', 'grade2' and 'grade3').

By partialling out the (transformed) variable 'grade11' (i.e., the overall achievement in the first year of *lyceum*) no significant coefficients have been produced. By partialling out the (transformed) variable 'grade22' (i.e., the overall achievement in the second year of *lyceum*), however, we have one exception: the category 'father's occupation' is correlated (significance of Pearson's χ^2 and Cramer's V is .03650) to the chances of success or failure, for those students who performed 'good' in the second year of *lyceum*, that is between 13.5 and 17 - which is the most numerous category (see table 8.26). By partialling out the (transformed) variable 'grade33' (i.e., the overall achievement in the final year of *lyceum*) the correlation coefficients of both the two occupational variables as related to the dependent ('success') are insignificant.

TABLE 8.26

(adopted from the spss output)

TABLES= success BY fathoc1 mothoc1 BY grade22

SUCCESS success in getting a place in higher education

by **FATHOC1** Occupational differentiation between 'more' and 'less prestigious' occupations

Controlling for..

GRADE22 Differentiation between 'poor', 'good' and 'very good'

| Chi-Square | Value | Value = 2 Good | |
|--------------------------|---------|----------------|--------------|
| | | DF | Significance |
| Pearson | 4.37378 | 1 | .03650 |
| Continuity Correction | 3.89107 | 1 | .04854 |
| Likelihood Ratio | 4.12074 | 1 | .04236 |
| Mantel-Haenszel test for | 4.36857 | 1 | .03661 |

linear association

Minimum Expected Frequency - 26.196

Similar results occurred with the other 'educational variables', which, when partialled out, did 'enrich' the relationship between parental occupation and chances of success to higher education.

Thus, we can see that the **overall effect of the National Examinations on the chances of the 'less privileged' social strata in entering higher education is rather positive, and it highlights the equalising effects that a nationally administered examination system have had during the last decade.**

The effect of another socio-economic variable, that is, the location of school - which proved to be significant in certain tests - revealed an overall pattern of differentiation on success between the various clusters of the sample (see table 8.27). However this needs to be elucidated in the subsequent analysis, in order to discern the strength and direction of potential causal effects. Chart 8.13 shows diagrammatically the success rates (percentages of successful and non-successful candidates) of the wealthiest suburbs, and that of the least wealthy ones. It is evident that, although there are still differences between this two groups, these are not as wide as was suggested in previous studies (Katsikas, 1994; Polydorides, 1995b).

The crosstabs test on the association between gender and success rate produced no significant results, and the same became evident when the corresponding chart was drawn, although the latter showed that males have higher success rates than females (see table 8.28 and chart 8.14). However, there is a need to examine more deeply this relationship, when other variables are kept constant (later in the analysis).

The same (crosstabs) test, on the association between age and success rate produced significant results, although the test for linear association produced no significant results (see table 8.29). This can also be illustrated on the chart 8.15.

TABLE 8.27

(adopted from the spss output)

SUCCESS success in getting a place in higher education

by **CLUSTER** location of school

| Chi-Square | Value | DF | Significance |
|---|----------|----|--------------|
| Pearson | 17.40687 | 8 | .02614 |
| Likelihood Ratio | 17.66012 | 8 | .02392 |
| Mantel-Haenszel test for linear association | 3.73756 | 1 | .05320 |

Minimum Expected Frequency - 11.170

CHART 8.13

Success rates in the NE, by cluster

Distinction between successful and non-successful students

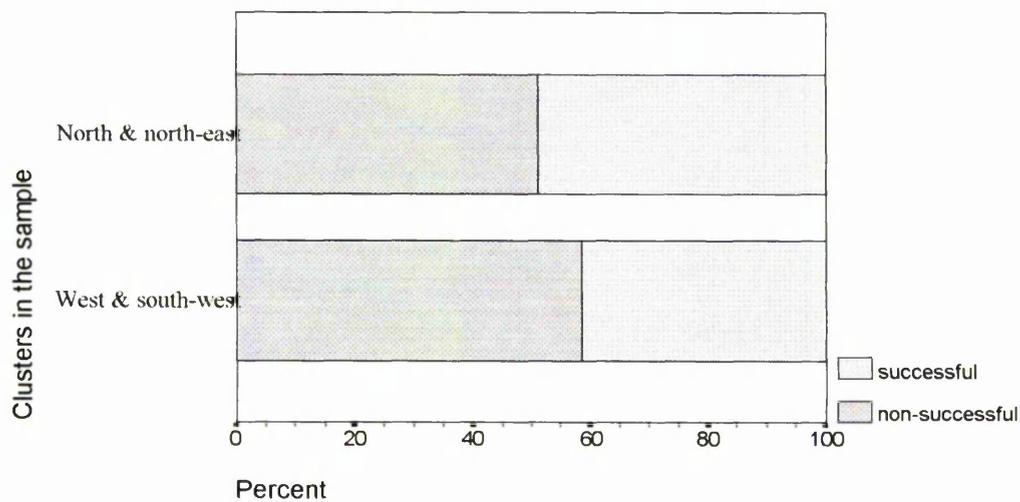


TABLE 8.28

(adopted from the spss output)

GENDER Gender of individual student
by **SUCCESS** success of getting a place in higher education

| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 2.42677 | 1 | .11928 |
| Continuity Correction | 2.22633 | 1 | .13568 |
| Likelihood Ratio | 2.42485 | 1 | .11942 |
| Mantel-Haenszel test for linear association | 2.42498 | 1 | .11941 |

Minimum Expected Frequency - 142.148

Number of Missing Observations: 0

CHART 8.14

Success rates in the NE, by gender

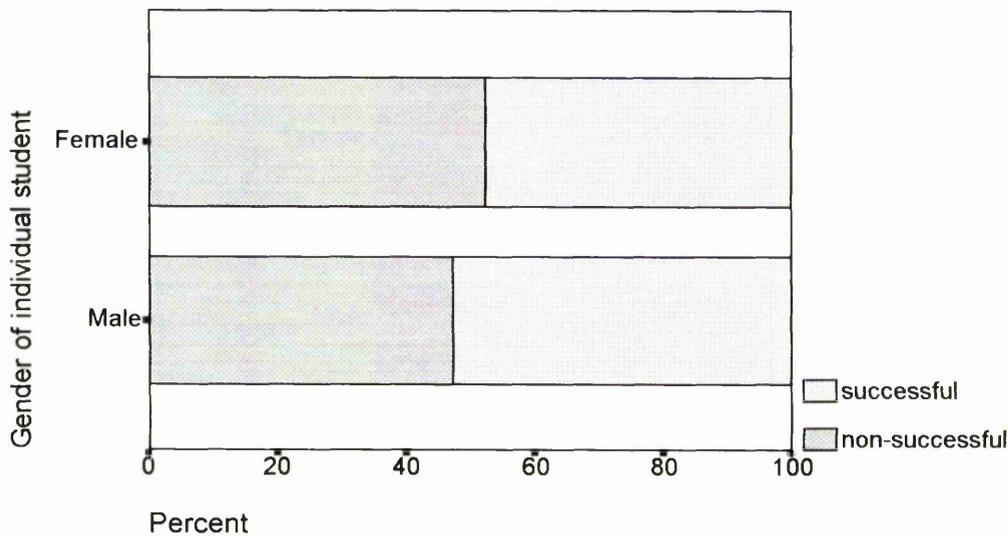


TABLE 8.29

(adopted from the spss output)

AGE Age of individual student
 by **SUCCESS** Success of getting a place in higher education

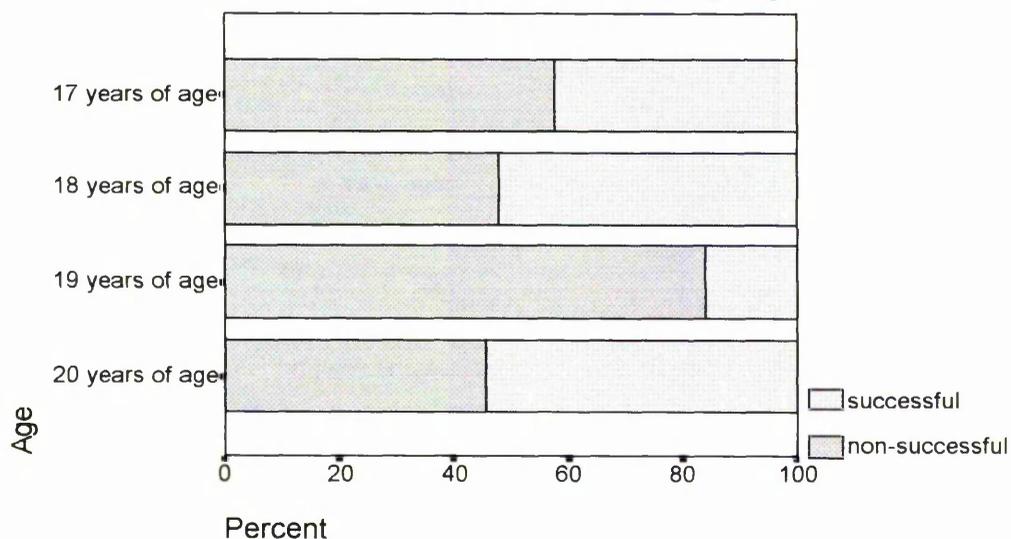
| Chi-Square | Value | DF | Significance |
|---|---------|----|--------------|
| Pearson | 8.11306 | 3 | .04373 |
| Likelihood Ratio | 9.44742 | 3 | .02390 |
| Mantel-Haenszel test for linear association | 1.92605 | 1 | .16519 |

Minimum Expected Frequency - .876

Cells with Expected Frequency < 5 - 3 OF 8 (37.5%)

CHART 8.15

Success rates in the NE, by age



Two things need to be stressed here:

1. In order to assess more reliably the relationships discovered in the previous analysis and determine the strength and direction of any causal link between socio-economic and

personal variables, and performance in the *lyceum* and the National Examinations, a more rigorous analysis must be carried out.

2. Inequalities inherent in the educational and social system, as reflected on the differentiation between successful and non-successful students, university and TEI students, students in large and small HE institutes, and students in more and less 'market-oriented' faculties, have never been statistically examined in any research study in Greece. The attempts so far remained mainly descriptive and focused on general patterns emerging in national level (e.g., Kasimati, 1991). Even when elaborate statistical analyses were used, either they referred to very old data sets (Meimaris & Nikolakopoulos, 1978; Polydorides, 1995b and 1996), or they used as dependent variables only the more quantitative ones such as the numerical score in the National Examinations, limiting that way their analytical and explanatory rigour to the cut-off point of the examination system, and failing to identify the differentiation picture inside the higher education system (Polydorides, 1995b and 1996).

The general patterns emerging from differentiation in performance will be examined through a (linear) regression analysis, and those concerning differentiation patterns within the higher education system will be explored through a logistic regression analysis (details appear later in the chapter).

REGRESSION ANALYSIS AND IMPORTANT CAUSAL RELATIONSHIPS

Achievement in the last year of lyceum

The first regression model will examine the effect of certain independent variables (i.e., gender, age, father's and mother's occupation, school size, teachers' number, location of school etc.) on the **performance in the first year of lyceum (grade 1)**.

For the specific regression model, the 'stepwise' approach was adopted, that is, adding regressors to the equation one at a time, depending on the contribution of each variable to the explained variance (Bryman Cramer, 1990, p.245; also Kinnear & Gray, 1994, pp.183-187). First the dependent variable is examined for any outlier(s) - which will be subsequently eliminated - and then, a check is carried out for multicollinearity problems.⁸

From an inspection of the SPSS output, it is clear that most of the personal, socio-economic and school variables are included in the final model (only the occupation of mother does not present a statistically significant coefficient). Therefore it becomes clear that at this early stage, selection is significantly influenced by each student's background and the general quality of the learning environment.

More specifically, it becomes evident (taken under account the signs of the b coefficients) that: a) older students perform poorer than younger ones; b) females outperform boys (the former were classified as 1, and the latter as 2) ; c) as we move on from the wealthiest suburbs of the Greater Athens Area to the poorest ones (from 1 to 9) the performance deteriorates; d) a big school size affects negatively the student performance, whereas the number of teachers available, positively; e) the offspring of wealthier and more educated families (father's occupation is here the decisive factor) have better chances of higher grades in the *lyceum*.

It must be noted, however, that the overall effect of all the independent variables to the dependent one ('grade1') is rather small, since only a 0.03 of the total variance is explained (see R squared in the table below). This is the case because in this data-set there is a lack of information about previous achievement in the three years of the lower-secondary school (the so-called *gymnasium*), the importance of which will be examined later on in the analysis, when the inclusion of previous achievement, as an independent variable, will considerably increase the explanatory power of the final regression model.

⁸ Among the indicators suggested for securing that there are no problems of multicollinearity, the most crucial are: the distribution of the standardised residuals must fit the normal distribution, their expected and observed cumulative probabilities lie along the diagonal and, finally, the scatterplot of predicted scores against residuals shows no pattern (Bryman and Cramer, 1994, chap. 10).

TABLE 8.30

(adopted from the spss output)

Dependent Variable: **GRADE1** Performance in the first year of *lyceum****** MULTIPLE REGRESSION *****

Multiple R .18145
 R Square .03292
 Adjusted R Square .02930
 Standard Error 2.00858

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|------------|------|----------------|-------------|
| Regression | 6 | 219.76113 | 36.62686 |
| Residual | 1600 | 6455.02468 | 4.03439 |

F = 9.07866 Signif F = .0000

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|-----------------|-----------|----------|----------|--------|-------|
| AGE | -.209555 | .095881 | -.053796 | -2.186 | .0290 |
| CLASSIZE | -.057055 | .018830 | -.084468 | -3.030 | .0025 |
| CLUSTER | -.081671 | .025392 | -.093318 | -3.216 | .0013 |
| FATHOCCU | .063261 | .021443 | .073105 | 2.950 | .0032 |
| GENDER | -.451719 | .100593 | -.110558 | -4.491 | .0000 |
| TEACHERS | .017174 | .004282 | .109405 | 4.011 | .0001 |
| (Constant) | 20.286356 | 1.806122 | | 11.232 | .0000 |

The second model will analyse the effect of the same variables, with the achievement in the first year of *lyceum* (the previous dependent variable) being treated as an independent one, and its place will be taken from the achievement in the second year of *lyceum*.

In this case, the dominant effect of the previous achievement becomes evident, whereas most of the personal and social variables lose their significance. This can be seen, not only in the b coefficient and the final contribution of the model to the total variance, but also during the stepwise deletion of non-significant variables where the importance of the specific variable (i.e., 'grade1') is unquestionable (in the table below, the whole step-wise process is not provided).

The school variables, however, remain significant, which may be linked to the general family wealth, since there is always a connection between the area where the school is located (the variable 'cluster' is significant) and its characteristics, on the one hand, and the parental occupation. In other words, parents with relatively high socio-economic status may always send their offspring to the best schools available (in terms of quality of teaching and quantity of educational resources). This does not imply that parents have the absolute discretion to transfer their children to whatever school they like⁹, but that different socio-economic groups live in areas with different standards in housing, transportation networks, social welfare, free-space availability and other indicators of level of 'collective consumption'. We should also bear in mind that the law actually permits each school's parents association to intervene in matters of supply of educational resources (e.g., the purchase of new equipment for the chemistry laboratory) and, therefore, to actively define at least the 'quantitative' side of the educational provision.

TABLE 8.31

(adopted from the spss output)

Dependent Variable: **GRADE2** Performance in the second year of *lyceum*

***** MULTIPLE REGRESSION *****

Listwise Deletion of Missing Data

| | |
|-------------------|--------|
| Multiple R | .90071 |
| R Square | .81128 |
| Adjusted R Square | .81069 |
| Standard Error | .90936 |

⁹ Formally, each school has its own 'catchment area', although the school authorities are invariably lenient in enforcing the law.

TABLE 8.31 (cont.)**Analysis of Variance**

| | DF | Sum of Squares | Mean Square |
|------------|------|----------------|-------------|
| Regression | 5 | 5691.28928 | 1138.25786 |
| Residual | 1601 | 1323.91980 | .82693 |

F = 1376.48128 Signif F = .0000

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|-----------------|----------|------------|----------|--------|-------|
| CLUSTER | -.021977 | .010676 | -.024494 | -2.059 | .0397 |
| PTRATIO | .071351 | .010625 | .092610 | 6.716 | .0000 |
| SCHSIZE | -.003944 | 5.4391E-04 | -.334524 | -7.251 | .0000 |
| TEACHERS | .059251 | .007655 | .368190 | 7.740 | .0000 |
| GRADE1 | .917530 | .011194 | .894991 | 81.967 | .0000 |
| (Constant) | .117648 | .236896 | | .497 | .6195 |

The next regression model will examine the effect of certain independent variables (i.e., gender, age, father's and mother's occupation, previous achievement and school quality) on the **performance in the last year of *lyceum* (grade 3)**.

As far as the previous achievement is concerned, only the variable 'grade2' was chosen, since the average scores in the first two years of *lyceum* highly correlate to each other - as we saw clearly earlier. Thus, problems of collinearity are avoided and, at the same time, unnecessary factors are excluded from the analysis.

The same is done with the 'school quality' variables, from which the variable that highly correlates to the 'grade 3' is the school size. From the previous analysis, the school size had the most significant effect on performance in *lyceum* - albeit very small in terms of power.

For parents' occupation, the categorical variables 'fathocc1' and 'mothocc1' will be used, which represent the occupational classification as division between more and less prestigious occupations, because the use of so many occupational categories - as we saw also in the previous regression analysis - has not been proved operational in statistical terms, something which became evident in this regression model as well (see above for a discussion of this reduction of categories, and its statistical importance so far).

The regression equation shows that all the independent variables, except mother's occupation, are statistically significant below the .05 level. As expected, first in the equation enters the variable 'grade2' (final mean-score in year 2 of *lyceum*) which explains over 70% of the total variance ($R^2 = .70954$). Then, it comes the variable 'acabran' (route of study) which raises the R^2 to .73281, the variable cluster which raises the R^2 to .73907, the variable 'gender' which raises the R^2 to .74406, the variable 'schsize' (size of school in number of students) which raises the R^2 to .74501, the variable age which raises the R^2 to .74589, and finally the variable 'fathoccu' (father's occupation) which raises the R^2 to .74657.

TABLE 8.32

(adopted from the spss output)

Dependent Variable: **GRADE3** Performance in the last year of *lyceum*

****** MULTIPLE REGRESSION ******

Multiple R .86405
 R Square .74657
 Adjusted R Square .74546
 Standard Error 1.02884

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|------------|------|----------------|-------------|
| Regression | 7 | 4983.01008 | 711.85858 |
| Residual | 1598 | 1691.49181 | 1.05851 |

F = 672.51287 Signif F = .0000

----- **Variables in the Equation** -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|------------|----------|--------|-------|
| CLUSTER | -.060999 | .011517 | -.069699 | -5.296 | .0000 |
| GENDER | -.290560 | .052658 | -.071090 | -5.518 | .0000 |
| AGE | -.115768 | .049189 | -.029719 | -2.354 | .0187 |
| SCHSIZE | -3.7665 | 1.4989E-04 | -.032754 | -2.513 | .0121 |
| FATHOC1 | .137512 | .066012 | .026816 | 2.083 | .0374 |
| ACABRAN | .250129 | .022528 | .152893 | 11.103 | .0000 |
| GRADE2 | .866264 | .013388 | .888074 | 64.706 | .0000 |
| (Constant) | 4.449024 | .921673 | | 4.827 | .0000 |

Using the final b values the equation becomes:

$$\text{GRADE3} = -0.06 (\text{CLUSTER}) - 0.29 (\text{GENDER}) - 0.11 (\text{AGE}) - 3.7665 (\text{SCHSIZE}) + 0.13 (\text{FATHOCC1}) + 0.25 (\text{ACABRAN}) + 0.86 (\text{GRADE2}) + 4.45.$$

In order to understand the effects of the independent variables, we need to standardise our regression coefficients because, of all the independent variables, 'grade2' and 'school size' are interval data. This is done by looking at the 'beta' values, which reveal that - apart from the unquestionably high effect of previous achievement - most important positive effects are those of father's occupation and path of study, and most important negative those of age, gender, location of school ('cluster') and school size. Thus, the above equation becomes:

$$\text{GRADE3} = -0.07 (\text{CLUSTER}) - 0.07 (\text{GENDER}) - 0.03 (\text{AGE}) - 0.03 (\text{SCHSIZE}) + 0.03 (\text{FATHOC1}) + 0.15 (\text{ACABRAN}) + 0.89 (\text{GRADE2}).$$

The findings show that:

- 1) **the older a student finishes the *lyceum*, the poorer is her/his (overall) achievement (the strength, however, is small).**
- 2) **females perform better than males in the *lyceum*.**
- 3) **students whose fathers belong to the category no 1 (managerial, scientific and top-professional occupations) outperform all the rest.**
- 4) **as we move on from the wealthiest suburbs of the GAA to the poorest ones (from 1 to 8) the performance deteriorates.**
- 4) **the larger the number of students in a specific school the lower their achievement is (the strength, however, is small).**

Examining the performance of students in each - of the four - routes of study, revealed the following (see also table 8.33):

- * In the first one, only the previous achievement in *lyceum* - as it is expressed by the variable 'grade2' - and the location of school appear to generate the most (statistically) significant effects, both of them in the expected direction. More specifically, previous achievement has a very high positive effect (beta value = 0.884), and location of school a less strong, but significant negative effect. **The latter suggests that, for those following the specific route of study, as we move from the (relatively) wealthier to the poorer suburbs of the Greater Athens Area, performance in the last year of the upper-secondary school (*lyceum*) deteriorates.** However, none of the remaining social and personal variables (i.e., parent's occupation, or age and gender) has any considerable influence and, therefore, we should be very cautious in assessing such indications.
- * In the second one, the results are the same, although this time the influence of previous achievement is greater.
- * In the third one, apart from the two aforementioned variables, the influence of the school size is entered as a significant independent variable, and it is - as expected - negative.
- * In the fourth one, it is gender - not school size - that additionally plays an important role on differentiation of achievement, although its effect is small (beta value = -.068, sig. at 0.0004). The negative sign reveals that, in this study route females outperform males.

TABLE 8.33

(adopted from the SPSS output)

Dependent Variable: **GRADE3** Performance in the final year of *lyceum*

ROUTE 1

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|---------|----------|--------|-------|
| GRADE2 | .837559 | .022330 | .884538 | 37.508 | .0000 |
| CLUSTER | -.096743 | .018790 | -.121416 | -5.149 | .0000 |
| (Constant) | 3.065788 | .358809 | | 8.544 | .0000 |

TABLE 8.33 (cont.)

ROUTE 2

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|---------|----------|--------|-------|
| GRADE2 | .833161 | .030687 | .920214 | 27.150 | .0000 |
| CLUSTER | -.106740 | .029709 | -.121776 | -3.593 | .0005 |
| (Constant) | 3.362726 | .528280 | | 6.365 | .0000 |

ROUTE 3

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|------------|----------|--------|-------|
| GRADE2 | .850516 | .040411 | .801536 | 21.047 | .0000 |
| SCHSIZE | -.001177 | 3.9942E-04 | -.120304 | -2.947 | .0035 |
| CLUSTER | -.068117 | .033032 | -.083094 | -2.062 | .0402 |
| (Constant) | 4.191675 | .633247 | | 6.619 | .0000 |

ROUTE 4

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|---------|----------|--------|-------|
| GRADE2 | .896480 | .020893 | .825571 | 42.909 | .0000 |
| GENDER | -.260152 | .073236 | -.068115 | -3.552 | .0004 |
| CLUSTER | -.034233 | .015946 | -.041113 | -2.147 | .0321 |
| (Constant) | 3.003461 | .340611 | | 8.818 | .0000 |

If now, only the successful students in the N. Examinations are included in the regression model, and especially those who got a place in a University the results show that **previous**

achievement, gender and location of school are the most important independent variables.

TABLE 8.34

(adopted from the SPSS output)

Dependent Variable: **GRADE3** Performance in the final year of *lyceum*

STUDENTS IN UNIVERSITIES

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|-----------|---------|----------|--------|-------|
| GRADE2 | .481313 | .040121 | .622563 | 11.997 | .0000 |
| GENDER | -.564512 | .110775 | -.263636 | -5.096 | .0000 |
| CLUSTER | -.077205 | .025774 | -.153238 | -2.995 | .0031 |
| (Constant) | 11.008946 | .744629 | | 14.784 | .0000 |

If, in turn, we examine those who got a place in a TEI, apart from previous achievement, only **the route of study seems to exert a significant influence** (see table 8.35 below). The positive sign of the coefficient suggests that achievement in the end of *lyceum* gets higher from the first to the fourth study route, for those who later make it to secure a place in a TEI, something that it is clearly not the case with the successees in (the more ‘prestigious’, in market value) Universities. This in turn, does not suggest a higher prestige attached to the departments belonging in the last two study routes as contrast to the first two, but rather the contrary. As past research has shown (Polydorides, 1995b and 1996) this is the outcome of a higher degree of ‘simplicity’ and ‘easiness’ for the respective subjects which fall within the Humanities and Social Sciences domain, and a lower for those departments belonging to the domains of Natural Science, Technology and Medicine. That is also related to the total intake of the respective departments, with the former accepting the majority of students, and the latter only a minority of students who have succeeded in getting a place after a very competitive examination.

TABLE 8.35

(adopted from the SPSS output)

Dependent Variable: **GRADE3** Performance in the final year of *lyceum*

STUDENTS IN TEIs

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|----------|----------|---------|--------|-------|
| GRADE2 | .704676 | .055722 | .852489 | 12.646 | .0000 |
| ACABRAN | .452056 | .068925 | .442120 | 6.559 | .0000 |
| (Constant) | 4.551623 | 1.005035 | | 4.529 | .0000 |

Performance in the NE

The effects that various factors have on the **performance in the National Examinations** (variable **totscore**) are examined next.

The same independent variables are kept, except the 'grade2', and in its place we add the effect of 'grade3'. This time none school-quality variable is included because in the previous tests for the exploration of potentially significant relationships between various factors and performance in the NE, although those variables were statistically significant, their strength was considerably low.

In this case too, the assumptions of the linear regression (linear relationship between independent and dependent variables, lack of relationship between standardised predicted values and standardised residuals, and normal distribution of residuals) are met.

The results of the stepwise analysis show that **the most significant effects are those of previous achievement, mother's occupation, gender, and location of school ('cluster')**.

TABLE 8.36

(adopted from the SPSS output)

Dependent Variable: **TOTSCORE** Performance in the National Examinations

Multiple R .78472
 R Square .61579
 Adjusted R Square .61457
 Standard Error 956.03056

Analysis of Variance

| | DF | Sum of Squares | Mean Square |
|------------|------|------------------|-----------------|
| Regression | 4 | 1844325256.63734 | 461081314.15933 |
| Residual | 1259 | 1150718985.90697 | 913994.42884 |

F = 504.46841 Signif F = .0000

----- **Variables in the Equation** -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|--------------|------------|----------|---------|-------|
| GENDER | 202.791052 | 54.795009 | .065827 | 3.701 | .0002 |
| CLUSTER | -31.410716 | 11.681388 | -.047123 | -2.689 | .0073 |
| GRADE3 | 651.471534 | 14.594969 | .796266 | 44.637 | .0000 |
| MOTHOC1 | 215.247921 | 92.477526 | .040682 | 2.328 | .0201 |
| (Constant) | -7383.781708 | 270.019346 | | -27.345 | .0000 |

The regression equation becomes (using the standardised (β) regression coefficients):

$$\text{TOTSCORE} = 0.06(\text{GENDER}) - 0.05(\text{CLUSTER}) + 0.04 (\text{MOTHOC1}) + 0.79 (\text{GRADE3}).$$

(An investigation for possible causal relationships in each cluster separately, showed no significant effect of the main personal, educational and social variables)

We can clearly see that, in a hierarchical order, the first two most significant variables are 'grade3' and gender, and that the effect of the school location ('cluster') is stronger than that of the occupation of mother.

In the case of gender, the results that emerge are in line with previous research studies. More specifically, **the advantage that girls have in the *lyceum* against boys, disappears here**, since the sign of the β and beta values is positive. In other words, **males outperform females in the National Examinations**.

As expected, **the influence of the achievement in *lyceum*** - as represented by the variable 'grade3' - **is very strong and positive** (beta value = .796266).

By examining the performance of students in each - of the four - academic branches, the picture emerging is the following (see also the table below):

- * In all the branches - except the third one - the pattern is a little different from the one generated by our general regression model, previously discussed. In this case, the effect of the 'cluster' variable (i.e., location of school in the GAA) is insignificant, and in its place we find the variable gender (again we result with higher performance for boys than for girls). It should also be noted that the effect of the variable grade3 (grade in the last year of *lyceum*) in the second and third branches of study is higher than in the first and last one (β -values are .860046 for branch no2 and .803144 for branch no3, as compared to .768434 for branch no1 and .765414 for branch no4).

- * When examining the students of the third branch (this one offers opportunities for entrance in departments like Philosophy, Modern-ancient Literature, Education) the other important variable, apart from the grade3, is the location of school, instead of gender - as it was the case in the rest of the branches. The positive value of the coefficients shows that - at least in statistical terms - students coming from the less advantaged areas of Athens perform significantly high in the NE, as compared to those coming from the wealthiest areas, but only when they have chosen to study in the academic branch no 3, which comprises of disciplines with relatively low prestige in the labour market and few job prospects.

TABLE 8.37

(adopted from the SPSS output)

Dependent Variable: TOTSCORE Performance in the National Examinations**ROUTE 1**

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|---------------|--------------|------------|---------|---------|-------|
| GRADE3 | 620.386318 | 28.057059 | .768434 | 22.112 | .0000 |
| GENDER | 361.386458 | 106.068566 | .118405 | 3.407 | .0007 |
| (Constant) | -7146.989336 | 455.023925 | | -15.707 | .0000 |

ROUTE 2

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|---------------|--------------|------------|---------|---------|-------|
| GRADE3 | 695.939779 | 39.611326 | .860046 | 17.569 | .0000 |
| GENDER | 453.518373 | 152.562865 | .145517 | 2.973 | .0036 |
| (Constant) | -8451.541286 | 676.508477 | | -12.493 | .0000 |

ROUTE 3

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|--------------|------------|---------|---------|-------|
| GRADE3 | 708.673136 | 34.457385 | .803144 | 20.567 | .0000 |
| CLUSTER | 121.852956 | 25.900721 | .183719 | 4.705 | .0000 |
| (Constant) | -8638.909250 | 601.613780 | | -14.360 | .0000 |

ROUTE 4

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|---------------|--------------|------------|---------|---------|-------|
| GRADE3 | 601.563641 | 22.615898 | .765414 | 26.599 | .0000 |
| GENDER | 311.279226 | 81.712087 | .108891 | 3.809 | .0002 |
| (Constant) | -6800.824168 | 361.175884 | | -18.830 | .0000 |

In the regression model where only those who got a place in a University are included, the results are quite different. **Only the achievement in the last year of *lyceum*, the route of study and the occupation of mother produce statistically significant effects** (in order of power). The overall contribution of those variables to the total variance of the dependent is less than in the model that included all the successees ($R^2 = .27954$ as opposed to $R^2 = .61579$).

TABLE 8.38

(adopted from the SPSS output)

Dependent Variable: **TOTSCORE** Performance in the National Examinations

STUDENTS IN THE UNIVERSITIES

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|-------------|------------|----------|--------|-------|
| ACABRAN | 128.193209 | 34.746279 | .244289 | 3.689 | .0003 |
| GRADE3 | 266.151654 | 41.445682 | .422257 | 6.422 | .0000 |
| MOTHOC1 | -345.221390 | 155.107653 | -.147437 | -2.226 | .0274 |
| (Constant) | 429.840799 | 779.616729 | | .551 | .5821 |

The regression equation becomes (using the standardised (β) regression coefficients):

$$\text{TOTSCORE} = 0.244 (\text{ACABRAN}) + 0.422 (\text{GRADE3}) - 0.147 (\text{MOTHOC1}) .$$

If now, in the regression model only those who got a place in a TEI are included, the results are again different. Only the achievement in the last year of *lyceum* and the route of study produce statistically significant effects (in order of power). The overall contribution of those variables to the total variance of the dependent is less than in the model that included all the successees ($R^2 = .50607$ as opposed to $R^2 = .61579$), probably implying that there is a considerable amount of unexplained variance, that is, there might be other factors - not present here - that account for the it.

TABLE 8.39

(adopted from the SPSS output)

Dependent Variable: **TOTSCORE** Performance in the National Examinations

STUDENTS IN THE TEIs

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|-------------|------------|---------|-------|-------|
| ACABRAN | 213.425812 | 43.305303 | .395275 | 4.928 | .0000 |
| GRADE3 | 263.844207 | 40.004282 | .528975 | 6.595 | .0000 |
| (Constant) | -528.424800 | 685.782075 | | -.771 | .4433 |

The regression equation now becomes:

$$\text{TOTSCORE} = 0.395 (\text{ACABRAN}) + 0.528 (\text{GRADE3}).$$

Here too, the relatively strong positive effect of the variable ‘route of study’ is clear, which implies that **as we move from the first to the fourth routes of study, the (average) performance of the students increase**, not because the latter are considered more prestigious and of higher quality than the former, but rather **because of the degree of ‘easiness’ that characterises the subjects examined in the last two routes of study** (see also Polydorides, 1995b and 1996).

Order of entry

As far as the order of entrance is concerned, a model containing the most important independent variables was constructed (i.e., ‘cluster’, ‘age’, ‘fathoccl’, ‘mothoccl’, ‘totscore’ and ‘gender’). Because this model presented many outliers which would affect the assumptions

for normality, linearity and homoscedasticity, there has been a transformation of this variable using the square roots of the entry-order scores, and creating a new variable with the name 'entrord1'. Indeed that transformation satisfied the aforementioned criteria, that is, normality, linearity and homoscedasticity. From the regression analysis it occurred that the only significant effect is that of the location of school ('cluster'), and it is negative ($b = -.585250$ and $\beta = -.253497$, with $t = -4.361$ and significance at .0000 level). This demonstrated that, the students from the more advantaged areas of Athens gain the higher places in the Universities and TEIs, as compared to those students from the less advantaged areas (see table below).

TABLE 8.40

(adopted from the SPSS output)

Dependent Variable: **ENTRORD** The order according which the students were allocated their places in specific HE institutes.

----- Variables in the Equation -----

| Variable | B | SE B | Beta | T | Sig T |
|----------------|-----------|---------|----------|--------|-------|
| CLUSTER | -.569027 | .134197 | -.245638 | -4.240 | .0000 |
| (Constant) | 12.494428 | .753095 | | 16.591 | .0000 |

Summary

From the above tests it was revealed that the effects of various social, personal and educational variables, are not equally important when a distinction between Universities and TEIs, on the one hand, and between different routes of study, on the other, is made. The above discrepancies are more evident when dependent variable is the total score in the N. Examinations.

The dependent variable achievement in the last year of lyceum ('grade3'), compared to the score in the N.E., seems to be more influenced by socio-economic (parent's occupation,

location of school) and personal (age, gender) as well as educational (previous achievement, school size) variables. However, their strength is not great, and this becomes clearer when we separately examine students in the various routes of study, or select sub-sample of them which consists of only the successes in higher education (Universities or TEIs). Only the previous achievement in *lyceum* and the location of school - and in one case, the student's gender - have significant effects on achievement in the last year of *lyceum*.

The picture generated by the regression analysis, when dependent variable is the **total score in the N.E ('totscore')**, is approximately the same to that of the previous variable, but only when the total number of candidates is examined (irrespective of success or failure in getting a place in higher education). In this case, the most significant variables are the 'grade3', gender, the effect of the school location ('cluster') and occupation of mother.

When the successful students in Universities are examined, gender and location of school - quite surprisingly - lose their significance, and are 'replaced' by the route of study. This means that for those who succeeded in getting a place in Universities, gender differences and differences based on the socio-economic environment had not played an important role in the (scoring) performance, but it was rather the degree of 'easiness' of the subjects examined in the last two routes of study that considerably affected the total score (see also Polydorides, 1995b and 1996).

When the successful students in TEIs are examined, the effect of parents' occupation loses its significance, implying this way an 'equalising' function of the higher technical education as far as the access chances are concerned, something that has been repeatedly shown in the past research findings (see also chapters 3, 4 and 6 of this thesis).

When successful students in the various routes of study were examined (no distinction between Universities and TEIs this time) 'grade3' and gender were the most important variables (both of them with positive effects). Only in route 3 it was also the location of school that showed a significant effect, suggesting that students coming from the less advantaged areas of Athens perform high in the NE, as compared to those coming from the wealthiest areas. However, in assessing the latter, it is important to note that this specific route comprises disciplines with relatively low 'prestige' in the labour market and few job prospects.

In the case of the **order of entrance ('entrod')**, the only (statistically) significant variable is the location of school, and it suggests, thanks to its highly significant coefficient ($\beta = -.245$, with $t = -4.361$ and sig. of $t = .0000$) that students from the more advantaged areas of Athens

gain the higher places in the Universities and TEIs, as compared to those students from the less advantaged areas.

In the tables below, are presented in a summarised form the most influential factors (IV) for the dependent variables 'performance in the last year of *lyceum*', 'total score in the N.E.' and 'order of entrance in a higher education department'.

TABLE 8.41

Beta regression coefficients, with DV the achievement in the last year of *lyceum*.

| <i>I.Variables</i> | <i>All candidates</i> | <i>Study route 1</i> | <i>Study route 2</i> | <i>Study route 3</i> | <i>Study route 4</i> | <i>Successes in TEIs</i> | <i>Successes in Universities</i> |
|------------------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------|----------------------------------|
| Age | -0.029* | -0.007 | 0.005 | -0.039 | -0.033 | -0.123 | -0.003 |
| Cluster | -0.696* | -0.121* | -0.0121* | -0.001* | -0.041* | -0.025 | -0.153* |
| Father's occ. | 0.026* | 0.011 | 0.036 | 0.049 | 0.033 | 0.107 | 0.055 |
| Mother's occ. | 0.062 | 0.041 | 0.034 | 0.015 | -0.02 | 0.053 | 0.034 |
| Prev. perf. in <i>lyceum</i> | 0.888* | 0.884* | 0.92* | 0.801* | 0.825* | 0.852* | 0.622* |
| School size | -0.032* | 0.008 | 0.003 | -0.12 | -0.029 | 0.102 | -0.082 |
| Gender | -0.071* | -0.011 | -0.016 | -0.066 | -0.068* | -0.028 | -0.263 |
| Study-route | 0.153* | | | | | 0.442* | 0.102 |
| R ² | 0.7 | 0.8 | 0.8 | 0.6 | 0.7 | 0.6 | 0.5 |

Three decimal points were allowed for, therefore the coefficients have been rounded to the closest number.

* Significant at the 0.05 level

TABLE 8.42

Beta regression coefficients, with DV the total score in the N. Examinations.

| <i>I.Variables</i> | <i>All candidates</i> | <i>Study route 1</i> | <i>Study route 2</i> | <i>Study route 3</i> | <i>Study route 4</i> | <i>Successes in TEIs</i> | <i>Successes in Universities</i> |
|------------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|--------------------------|----------------------------------|
| Age | -0.018 | 0.039 | 0.026 | -0.03 | -0.05 | 0.1 | -0.039 |
| Cluster | -0.471* | -0.035 | -0.024 | 0.184* | 0.019 | -0.03 | -0.117 |
| Father's occ. | -0.004 | -0.035 | 0.029 | -0.001 | -0.006 | -0.111 | -0.064 |
| Mother's occ. | 0.407* | 0.06 | 0.028 | 0.019 | -0.043 | -0.53 | 0.147* |
| Perf. in <i>lyceum</i> | 0.796* | 0.768* | 0.86* | 0.803* | 0.765* | 0.529* | 0.422* |
| Gender | 0.065* | 0.118* | 0.145* | -0.035 | 0.108* | ... | -0.036 |
| Study-route | 0.6 | | | | | 0.395* | 0.244* |
| R ² | 0.6 | 0.6 | 0.7 | 0.6 | 0.5 | 0.5 | 0.3 |

Three decimal points were allowed for, therefore the coefficients have been rounded to the closest number.

* Significant at the 0.05 level

TABLE 8.43**Beta regression coefficients, with DV the order of entry into a H.E. department.**

| <i>I.Variables</i> | <i>All candidates</i> |
|----------------------|-----------------------|
| Age | 0.005 |
| Cluster | 0.245* |
| Father's occ. | 0.025 |
| Mother's occ. | 0.055 |
| Pref. <i>lyceum</i> | -0.048 |
| Gender | 0.015 |
| Study-route | 0.048 |
| R² | 0.6 |

Three decimal points were allowed for, therefore the coefficients have been rounded to the closest number.

* Significant at the 0.05 level

LOGISTIC REGRESSION AND PATTERNS OF STUDENT DIFFERENTIATION IN HIGHER EDUCATION

Explanation of the analysis and of its variables

The examination of differentiated performance in the NE, requires the clarification of the importance that some personal and socio-economic variables play in the allocation of the students in the various institutions of higher education. The score that each student has achieved in the NE, does not reveal too much about, either her/his final allocation to a university - or TEI - department, or the differentiation between Universities and TEIs, and between more and less 'prestigious' departments. It is specifically through these clarifications that inequalities linked to personal and social characteristics will be elucidated and understood.

We should always keep in mind that a high score in the NE does not guarantee that: 1) the student will get a place in the institution s/he hoped for, because sometimes luck plays a highly significant role in the allocation of places; 2) even if s/he gets what s/he wants, s/he might be in a less advantaged position from someone else - in the same or other academic route - who scored considerably lower, but gained a place in a more prestigious university, or in a department that secures bright job prospects for its graduates.

Consequently, the analysis deal with mainly qualitative and discrete variables. Therefore, the general approach henceforth will deal with, what is generally called, 'multiway frequency

analysis'. This analysis is "an extension of the two-way x^2 test of association between two discrete values" (Tabachnick & Fidell, 1989, p. 236). The purpose of this analysis is to discover associations among (more than two) discrete variables. The parameters estimates are used to predict cell frequency, and they also reflect the importance of each effect to the frequency in that cell. If one of the variables is considered as the dependent one (in our case, the various variables indicating the allocation patterns in higher education will be the dependent variables), "the odds that a case falls into one of its categories can be predicted from the estimates" (ibid., p.237). In this way, questions about association are translated into tests of main effects (associations between the DV and the IVs) and interactions (associations between the DV and the join effects of two or more IVs).

For the aforementioned purposes, two ways of analysis are suitable (through the SPSS package): a) the LOGLINEAR Logit analysis and b) the Logistic Regression, which is the more general procedure, because "it allows continuous as well as categorical IVs" (ibid., p. 272).

With the latter method, we will try to construct a model out of the variables that proved - in earlier tests - to be the most important ones, as far as their effects on performance are concerned. In this model, we will follow a method of 'backward elimination' of those variables that do not contribute considerably to a statistically reliable 'departure' from the equal-frequencies hypothesis, which is the necessary condition for the existence of (statistically significant) effects of the IVs on the given DV. This is done progressively (stepwise approach) so that the IVs with the smallest contribution to the total cell variation (that is, the difference between observed and expected cell frequencies) are exempted from the model. The main goal is to reach a stage where in our model (or else, equation, since we accept one variable as dependent and regress the IVs on it) the residual left (i.e., the unexplained by the included IVs variance) is not statistically significant.

General success in entering higher education

The first DV is the **chances of getting a place in higher education, among those who sat in the National Examinations**. This is a dichotomous variable, and it is coded as 1 for those who did not succeed in getting a place at all, and 2 for those who did - either in a university, or in another higher-education institution. The IVs included in this logistic regression equation are the achievement in the last year of *lyceum* and the NE, on the one hand, and the parents'

occupation and gender of the student, on the other. As far as the parents' occupation and the gender of student are concerned, three discrete variables with two categories exist. The other two continuous variables are transformed into categorical ones, something that has already been done in the previous analysis.

The variable referring to achievement in the last year of *lyceum* has been transformed into three main categories: 1) for those scoring from 0 to 13.5; 2) for those scoring from 13.6 to 17; 3) for those scoring from 17.1 to 20. It has been decided that each category would be assigned the titles, 'poor', 'good' and 'very good', respectively. For reasons of convenience, the same was done for the variable 'totscore', and a new one was created, which is called 'totscor1' and contains four categories: 1 for 'bad', that is, score between 0 and 4000; 2 for 'good', that is, score between 4001 and 5000; 3 for 'very good', that is, score between 5001 and 6000; 4 for 'excellent', that is, score between 6001 and 6400.

The parameter estimates generated at each step (the b coefficients) in the logistic regression model show the unique effects of each sub-category of the IVs on the given DV, which is the variable representing the chances of getting a place in higher education. The model reduces the categories in each IV, because its purpose is to compare the effects of the rest of sub-categories on the DV, to those effects of the 'reference category'. For example, in this case, the effects of the **first three sub-categories** of the IV 'totscor1' (1 for score between 0 and 4000, 2 for score between 4001 and 5000; 3 for score between 5001 and 6000) on the DV 'success', will be compared to the effects that the **fourth sub-category** (score between 6001 and 6400) has on the same DV. This is done through a transformation of each sub-category into a dummy variable, which is assigned - by the respective SPSS program - a value of 1 and is contrasted to the reference sub-category, which is assigned a value of 0.

Additionally, together with the computed parameters for each 'cell' of this model, there is an estimation of their 'log of odds ratios' as well. This means that the parameters are converted to 'odds ratios', which express in a logarithmic scale the odds that each of the sub-categories examined (in our case, students performing 'very bad', 'bad', or 'good') have to fall within the category of the DV to be examined (in this case, success in entering a higher-education department), as contrasted to the remaining sub-category (in this case, the students performing 'excellent' in the NE) (see also Tabachnick & Fidell, 1989, p. 272)

After a series of backward eliminations, the variables that remained in the equation (as we can see in the table below) are: 'grade33', 'totscor1' and gender; the variables representing the influence of parents' occupation were 'eliminated' because their overall effects were statistically insignificant (see the likelihood ratios, LR_s, for these variables in the SPSS output).

This provides a model which reveals that, controlling for the effects of the IVs, the residual's χ^2 test indicates a good fit between observed frequencies and expected frequencies generated by the model ($\chi^2=.388$ with 2 df, Sig = .8236).

TABLE 8.44

(adopted from the SPSS output)

Logistic Regression Model (BWRD Conditional Procedure)

Dependent Variable **SUCCESS** (success in getting a place in higher education)

Number of selected cases: 1362

Number rejected because of missing data: 95

Number of cases included in the analysis: 1267

----- **Variables in the Equation** -----

| Variable | B | S.E. | Wald | df | Sig | R | Exp(B) |
|---------------------|---------|--------|----------|----|-------|--------|--------|
| GRADE33 | | | 13.2066 | 2 | .0014 | .0849 | |
| -GRADE33(1) | -1.5262 | .6862 | 4.9471 | 1 | .0261 | -.0480 | .2174 |
| -GRADE33(2) | .3700 | .3573 | 1.0726 | 1 | .3003 | .0000 | 1.4478 |
| TOTSCOR1 | | | 195.8569 | 3 | .0000 | .3854 | |
| -TOTSCOR1(1) | -4.4671 | 3.3738 | 1.7531 | 1 | .1855 | .0000 | .0115 |
| -TOTSCOR1(2) | -1.5559 | 3.3701 | .2132 | 1 | .6443 | .0000 | .2110 |
| -TOTSCOR1(3) | .4092 | 3.3726 | .0147 | 1 | .9034 | .0000 | 1.5056 |
| GENDER(1) | -.7037 | .1191 | 34.8972 | 1 | .0000 | -.1604 | .4947 |
| Constant | .5133 | 3.3854 | .0230 | 1 | .8795 | | |

TABLE 8.44 (cont.)

----- Model if Term Removed -----

Based on Conditional Parameter Estimates

| Term Removed | Log Likelihood | -2 Log LR | df | Significance of Log LR |
|-----------------|-------------------|-----------|----|---------------------------|
| GRADE33 | -310.652 | 16.992 | 2 | .0002 |
| TOTSCOR1 | -469.106 | 333.902 | 3 | .0000 |
| GENDER | -322.669 | 41.028 | 1 | .0000 |

----- Variables not in the Equation -----

Residual Chi Square .388 with 2 df Sig = .8236

| Variable | Score | df | Sig | R |
|------------|-------|----|-------|-------|
| FATHOC1(1) | .2654 | 1 | .6064 | .0000 |
| MOTHOC1(1) | .1738 | 1 | .6768 | .0000 |

No more variables can be deleted or added.

The results can be summarised as follows:

- From the variable ‘grade33’, the most significant sub-category is the no 2 (category ‘good’), which has a log of odds ratio of approximately 1.45 against the reference category (category ‘very good’). In other words, students having performed ‘good’ in the last year of *lyceum* (that is, between 13.6 to 17 out of 20) are 1.45 more likely to manage to get a place in higher education than those who performed ‘very good’ (between 17.1 and 20 out of 20). The result for the other category of the IV ‘grade33’ showed that those who performed ‘bad’ in the last year of *lyceum* (less than 13) have 0.2 less chances to succeed (the b parameter equals -1.5262, and the log odds ratio is 0.2174). The above differences tend - apart from the case of the ‘low-achievers’ - to question the superiority of the so-called ‘high-flyers’, or ‘good students’, as far as the chances of success in the National Examinations are concerned.
- For the score in the NE, the model shows that the first two categories (score between 0 and 4000 out of 6400, and between 4001 and 5000 out of 6400) negatively influence the

chances of success - albeit not so dramatically - whereas the third category (score between 5001 and 6000) influences positively the chances of success ($b = 0.4092$ and $\exp(b) 1.5$).

- The parameter for gender is negative (the reference category, which is assigned by the model the value '0' in the specific model, is 'male') and the odds ratio - of gaining a place in higher education - for the category 'female' students (value =1) is about 0.5 to 1.
- The two variables representing parents' occupation proved (statistically) insignificant in the present model.

If students are examined separately according to study-route (group of subjects, in other words), a slightly - albeit not widely - different picture emerges:

- * For the students in the first branch of study (leading to university departments of Science and Technology and other higher technological institutes) the effects of achievement in the *lyceum* and performance in the NE remain significant, but in this case, father's occupation is included in the final (saturated) model. The effect of belonging to the first category ('less prestigious occupations') is, as we see, negative ($b = 0.4159$) and the odds of this category (to win a place in higher education) against the second one ('more prestigious occupations') are 0.66 to 1. In this branch the variables 'mothoc1' and gender were excluded from the model.
- * For the students in the second branch of study (leading to medical, biological and related departments), all the IVs, but one, were excluded from the final model. Only the variable 'tot scor1' - representing the scoring performance in the NE - retained its significance. The positive sign of the parameter estimate and the very high odds for success (8.65 to 1) that the third group of students (i.e., those who performed between 5001 and 6000 out of 6400) as compared against the fourth group (i.e., those who performed between 6001 and 6400 out of 6400) show that in this branch, although a high score is a very decisive factor in the chances of success, it is not the only one, since scoring excellence does not by itself guarantee success, but interacts with other personal and social factors. For example, a student who scored 'excellent' might have missed a place in higher education because her/his complacency and/or optimism prevented him/her from applying for a number of low-prestige departments, whereas the contrary might have happened with another student whose targets were more modest. Another (expected) conclusion in the final model is the very few chances that students performing 'bad' or

'good' in the NE have for entering higher education - as it is clearly demonstrable from the high and negative b scores and the corresponding odds ratios.

- * The same results were produced for the third branch of study (departments of Philosophy, Law, Modern-ancient Literature and Education), with the only difference being that the odds ratio for the third sub-category (i.e., those who performed between 5001 and 6000 out of 6400) is 50 to 1!

- * For the students in the fourth branch of study (departments of Political, Social, Economic Sciences and related disciplines) the most significant effects are those of the achievement in the *lyceum* and performance in the NE, as well as father's occupation and gender. For the variable 'grade33', the most significant sub-category is the no 2 (category 'good'), which has a log of odds ratio of approximately 13 to 1 against the reference category (category 'very good'), something that must be attributed to the fact that this branch of study attracts the low achievers of the *lyceum*, therefore their overall probability of getting a place in a university or TEI - no matter how low or high in terms of esteem they might place it - is higher than that of the 'high-achievers', who are a very rare phenomenon in this study route. The findings for the score in the NE are quite similar to those of the rest of the study routes. As far as the father's occupation is concerned, however, it seems that the effect of the sub-category 'less prestigious occupations' is positive - albeit not so high - and its odds ratio is approximately 1.9 to 1, as compared to the reference sub-category 'more prestigious occupations'. That leads to the conclusion that the low-achievers of the *lyceum* find a more favourable climate in the fourth study route rather than in the other three, and therefore, their chances to enter into a - usually less 'prestigious' and 'rewarding' - higher education department equal or exceed those of the high-achievers.

Differentiation between Universities and TEIs

The next dependent variable examined is 'heplace' (**differentiation between Universities and TEIs**). Here we have a sub-sample of the original sample (300 from 1686), that is, those students who got a place in higher education. The main concern is to look at the patterns of

differentiation between those who have been allocated a place in a university and those who have been allocated a place in a TEI.

When all the sub-sample is examined, the model that emerges - after the 'backward (conditional) elimination' procedure - includes only the variable 'totscor1', with more significant sub-category the third one, as the table below reveals. Its effect parameter has a positive sign, suggesting this way that those students who performed 'very good' in the NE have bigger chances of getting a place in a university, in comparison to those having scored 'excellent'(odds ratio 3.25). The parameter signs of the other two categories and their corresponding odds ratios show that the students who scored 'bad' or 'good' are more likely to enter into a TEI department¹⁰, and, additionally have less opportunities than the other two sub-categories.

TABLE 8.45

(adopted from the SPSS output)

Logistic Regression Model (BWRD Conditional Procedure)

Dependent Variable.. **HEPLACE** (Differentiation between Universities and TEIs)

Number of selected cases: 300
 Number rejected because of missing data: 48
 Number of cases included in the analysis: 252

----- **Variables in the Equation** -----

| Variable | B | S.E. | Wald | df | Sig | R | Exp(B) |
|---------------------|---------|-------|---------|----|-------|--------|--------|
| TOTSCOR1 | | | 39.0467 | 3 | .0000 | .3224 | |
| -TOTSCOR1(1) | -2.4917 | .5388 | 21.3894 | 1 | .0000 | -.2469 | .0828 |
| -TOTSCOR1(2) | -.0674 | .3576 | .0355 | 1 | .8505 | .0000 | .9348 |
| -TOTSCOR1(3) | 1.1796 | .3591 | 10.7930 | 1 | .0010 | .1663 | 3.2532 |
| Constant | .4123 | .3206 | 1.6539 | 1 | .1984 | | |

¹⁰ We should keep in mind that in the variable 'heplace', those who got a place in a TEI were coded as '1' and those who got a place in a university as '2'.

TABLE 8.45 (cont.)

----- Model if Term Removed -----

Based on Conditional Parameter Estimates

| Term Removed | Log Likelihood | -2 Log LR | df | Significance of Log LR |
|-----------------|-------------------|-----------|----|---------------------------|
| TOTSCOR1 | -159.057 | 58.642 | 3 | .0000 |

----- Variables not in the Equation -----

Residual Chi Square 2.031 with 6 df Sig = .9168

| Variable | Score | df | Sig | R |
|-------------|-------|----|-------|-------|
| MOTHOC1(1) | .6121 | 1 | .4340 | .0000 |
| GRADE33 | .6149 | 2 | .7353 | .0000 |
| -GRADE33(1) | .4115 | 1 | .5212 | .0000 |
| -GRADE33(2) | .5079 | 1 | .4761 | .0000 |
| FATHOC1(1) | .0753 | 1 | .7838 | .0000 |
| CLUSTER | .0189 | 1 | .8905 | .0000 |
| GENDER(1) | .7849 | 1 | .3757 | .0000 |

No more variables can be deleted or added.

When the student population is examined, by specific study route, the following results emerge:

- * In the first study route, the results are the same as with the all the successful students examined together, although the odds ratio of the third sub-group of the variable 'tot scor1' is very high (approximately 225 to 1).
- * In the second study route, only father's occupation seems to play a significant role. The negative sign of the parameter estimate ($b = -0.987$) for the sub-category 1 (students with fathers in 'less prestigious occupations') and its odds ratio (0.37 to 1) suggests that the students in this group have considerably fewer chances to get a place in a university,

compared to the second sub-category (students with fathers in 'more prestigious occupations'). It should be noted here that, as we have seen in some of the previous tests, this study route is the most demanding of all the four, although not necessarily depended on socio-economic characteristics.

- * In the third study route, only the effect of the variable gender seems to be important, although its significance is low (sig. of Log. Likelihood Ratio is 0.4). The negative sign of the of b-estimate for the sub-category 1 (females) implies a disadvantage for girls.

- * In the fourth study route, most important are the variables 'mothoc1', gender and 'totscor1'. From the last one, the only sub-category that considerably enhances the possibilities for access to a university is - surprisingly - the second one (those having scored between 4001 and 5000), in contrast to the findings in the previous study routes. Here the odds of this group of students are 1139 to 1 as compared to the fourth group (score between 6001 and 6400, that is, 'excellent'), whereas, the effect of the third sub-group - previously considered as the most important - proved (statistically) insignificant. The importance of the second group of the variable totscor1 stresses the predominantly bad performance and the corresponding low scoring requirements in this study route of the N. Examinations system. The model also shows that the sub-category 1 of the variable 'mothoc1' (students with mothers in 'less prestigious occupations') has much more opportunities of getting a place in a university department - of a relevant discipline - than the reference category (students with mothers in 'more prestigious occupations'). Here it is evident, as in previous tests, that **the specific route of study favours the representation of lower social strata**, although in this case it is the occupational differentiation of mothers, rather than of fathers, which plays a significant role on the chances of access to Universities. Finally, girls are - again - less likely - almost less than 50% - to get a university place than boys (b = -0.6, odds ratio = 0.543).

Distribution between 'large' and 'small' Universities and TEIs

Another DV should be examined is **the differentiation - if any - between various university institutions across the country (univer1)**. The classification of Universities employed here is the same to that used in the previous multivariate analysis, that is between 'large Universities'

(Universities concentrated in Athens, Thessaloniki, Crete and Patra) and ‘small Universities’ (those located in remote areas such as the Thrace University, Aegeon University etc.).

As it was shown in the previous analysis, the effects of the most important IVs (gender, ‘fathoc1’, ‘mothoc1’, ‘totscor1’ and ‘cluster’) are not very significant when a linear regression model is constructed, but the different ‘weight’ that the IV sub-categories have in forecasting the ‘membership’ of a particular sub-category of the DV might be proved of some interest in the analysis.

In table 8.37, the two IVs included in the final model are ‘fathoc1’ and ‘mothoc1’ (significance of Log LR is 0.04 and 0.02, respectively). As the b parameters and odds ratios demonstrate, the chances of getting a place in a ‘large’, urban university for students, whose parents work in less prestigious occupations, are less from those whose parents work in more prestigious occupations (odds ratio 0.02 to 1, for mother’s occupation, and 0.61 to 1, for father’s occupation).

TABLE 8.46

(adopted from the SPSS output)

Logistic Regression Model (BWRD Conditional Procedure)

UNIVERSITY DISTRIBUTION

Dependent Variable.. UNIVER1 ('Big' and 'small' Universities)

Number of selected cases: 198
Number rejected because of missing data: 37
Number of cases included in the analysis: 161

TABLE 8.46 (cont.)

----- Variables in the Equation -----

| Variable | B | S.E. | Wald | df | Sig | R | Exp(B) |
|-------------------|---------|---------|--------|----|-------|--------|--------|
| MOTHOC1(1) | -3.7338 | 12.2732 | .0926 | 1 | .7610 | .0000 | .0239 |
| FATHOC1(1) | -.4904 | .3246 | 2.2832 | 1 | .1308 | -.0451 | .6124 |
| Constant | 5.6105 | 12.2749 | .2089 | 1 | .6476 | | |

----- Model if Term Removed -----

Based on Conditional Parameter Estimates

| Term Removed | Log Likelihood | -2 Log LR | df | Significance of Log LR |
|-----------------|-------------------|-----------|----|---------------------------|
| MOTHOC1 | -67.916 | 5.265 | 1 | .0218 |
| FATHOC1 | -66.684 | 2.800 | 1 | .0943 |

----- Variables not in the Equation -----

Residual Chi Square 4.507 with 5 df Sig = .4790

| Variable | Score | df | Sig | R |
|--------------|--------|----|-------|-------|
| GENDER(1) | .1602 | 1 | .6890 | .0000 |
| TOTSCOR1 | 3.7518 | 3 | .2895 | .0000 |
| -TOTSCOR1(1) | .4610 | 1 | .4972 | .0000 |
| -TOTSCOR1(2) | 3.4196 | 1 | .0644 | .1011 |
| -TOTSCOR1(3) | .1137 | 1 | .7359 | .0000 |
| CLUSTER | .3221 | 1 | .5704 | .0000 |

No more variables can be deleted or added.

When each study route is examined separately, the following results emerge:

- * In the first study route, the occupation of mother is included in the final model, something that seems to be consistent with the rest of test-results, and shows the

increasing importance of the differentiation between female occupations upon their offspring's chances of securing a place in one of the large state Universities around the country. As the results show, the chances for students with mothers in the less prestigious occupations are .02 to 1, as compared against those with mothers in the more prestigious ones.

- * The second study route was not examined because the number of selected cases was too small (4 students), and, therefore, it is impossible to produce a sound and reliable statistical analysis, since we ended up with too many variables in relation to number of cases (see Tabachnick & Fidell, 1989; also Bryman & Cramer, 1990).
- * In the third study route, the occupation of father remains the only significant IV, with the group 1 (less prestigious occupations) showing considerably less chances than the control group (more prestigious occupations).
- * In the fourth study route, the only significant effect is that of the score in the NE. The positive b score and the corresponding log-odds ratio show that the group no 2 (i.e., those scoring between 4,000 and 5,000 out of 6,400 points) has considerably more chances of securing a place in one of the large state Universities, as compared to the control group (i.e., those scoring between 6,001 and 6,400 out of 6,400 points, that is 'excellent'). This, in turn, demonstrates that, in the specific study route, good performance in the NE does not play a significant role in the allocation of students to large university institutions, but it is rather a matter of luck, or 'personal aspirations' and choice.

The next DV examined is **the differentiation between TEIs in large urban centres, on the one hand, and in small cities and towns, on the other ('tei1')**. The grouping was made according to the host city's population and the particular institution's size (i.e., specialised departments and courses offered). As 'large' TEIs were considered the ones situated in Athens, Pareas, Thessaloniki, Patra, Heraklion, and as 'small' ones all the rest. Table 8.38 shows the (main) SPSS output:

TABLE 8.47

(adopted from the SPSS output)

Logistic Regression Model (BWRD Conditional Procedure)**TEI DISTRIBUTION**

Number of selected cases: 98
 Number rejected because of missing data: 16
 Number of cases included in the analysis: 82

----- Variables in the Equation -----

| Variable | B | S.E. | Wald | df | Sig | R | Exp(B) |
|---------------------|---------|--------|---------|----|-------|-------|---------|
| GENDER(1) | .6959 | .3086 | 5.0871 | 1 | .0241 | .1661 | 2.0056 |
| TOTSCOR1 | | | 19.3652 | 3 | .0002 | .3456 | |
| -TOTSCOR1(1) | -.2021 | 5.5801 | .0013 | 1 | .9711 | .0000 | .8170 |
| -TOTSCOR1(2) | 2.0187 | 5.5732 | .1312 | 1 | .7172 | .0000 | 7.5288 |
| -TOTSCOR1(3) | 3.8249 | 5.5938 | .4675 | 1 | .4941 | .0000 | 45.8261 |
| Constant | -1.2542 | 5.5657 | .0508 | 1 | .8217 | | |

----- Model if Term Removed -----

Based on Conditional Parameter Estimates

| Term | Log Likelihood | -2 Log LR | df | Significance of Log LR |
|-----------------|----------------|-----------|----|------------------------|
| Removed | | | | |
| GENDER | -39.773 | 5.719 | 1 | .0168 |
| TOTSCOR1 | -52.954 | 32.079 | 3 | .0000 |

----- Variables not in the Equation -----

Residual Chi Square 2.282 with 4 df Sig = .6840

| Variable | Score | df | Sig | R |
|------------|--------|----|-------|-------|
| CLUSTER | .2477 | 1 | .6187 | .0000 |
| FATHOC1(1) | 1.2269 | 1 | .2680 | .0000 |
| MOTHOC1(1) | 1.1178 | 1 | .2904 | .0000 |
| PARTIME(1) | .3439 | 1 | .5576 | .0000 |

No more variables can be deleted or added.

The findings demonstrate that, when all the successes in TEIs are examined, two are the most important variables (at least in statistical terms) for the differentiation: gender and score in the NE (as it has been classified in four main categories, from our previous analysis).

Score appears to be more important differentiation factor, and the sub-group with the biggest weighting is the no 3 ('very good' score). The very high odds ratio - generated by the model - for this group, in comparison, not only to the reference group (no 4), but to the rest of the sub-groups of the variable, suggests that: 1) good performance in the NE does play a significant role in the allocation of students to various TEIs; and 2) from those succeeding in TEIs, hardly anyone achieved an exceptionally high score ('excellent'). In other words, a good performance is needed, but not an 'exceptionally' good.

On the other hand, females (sub-category 1) have more chances of gaining a place in a large TEI than boys.

When each study route is examined separately, the following results emerge:

- * In the first study route, apart from the IV 'tot scor1', the occupation of the father is also included in our final model. As far as the second IV is concerned, the b parameter and the corresponding odds ratio show a considerable gap between less and more prestigious occupations, with the latter having more than 3 to 1 chances of getting a place in one of the big TEIs around the country. This finding is consistent with our previous analysis, which showed that the effects of parents' occupational category are much more profound in the first two study routes (academic branches 1 and 2).
- * The second study route was not examined because the number of selected cases was too small (17 students), and, therefore, it was impossible to carry out a sound and reliable statistical analysis (see above, for the case of Universities). The problem here corresponds to the very small number of specialisations in TEIs available for the students of this route, and the subsequent immensely low rate of students entering such higher education institutions. The same is true for the third study route.
- * In the fourth study route, the only variable that proved important is gender (albeit, with no great influence on the differentiation, as we saw from previous tests). The b parameter reveals that females have better chances of entering a big TEI than males (2.12 to 1).

Distribution in university faculties and TEI departments

The next logistic regression is carried out for the **distribution of students between the various university faculties (unifac1)**. For analytical reasons, we divided the faculties between more and less prestigious. This has been done on the basis of information about the labour market characteristics and the students preferences for higher education studies, as well as on the basis of the original theoretical framework, which places emphasis on the structural attributes of the inequalities in education (see chapters 5, 6 and 2, respectively).

TABLE 8.48

(adopted from the SPSS output)

Logistic Regression Model (BWRD Conditional Procedure)

Distribution in University faculties

Total number of cases: 198 (Unweighted)

Number of selected cases: 198

Number of unselected cases: 0

Number of selected cases: 198

Number rejected because of missing data: 29

Number of cases included in the analysis: 169

----- Variables in the Equation -----

| Variable | B | S.E. | Wald | df | Sig | R | Exp(B) |
|---------------------|--------|-------|---------|----|-------|--------|--------|
| GENDER(1) | -.6885 | .1810 | 14.4608 | 1 | .0001 | -.2339 | .5023 |
| TOTSCOR1 | | | 7.4265 | 3 | .0595 | .0791 | |
| -TOTSCOR1(1) | -.1008 | .9805 | .0106 | 1 | .9181 | .0000 | .9042 |
| -TOTSCOR1(2) | .1477 | .4565 | .1046 | 1 | .7463 | .0000 | 1.1591 |
| -TOTSCOR1(3) | -.7622 | .4285 | 3.1638 | 1 | .0753 | -.0715 | .4666 |
| MOTHOC1(1) | -.5102 | .2973 | 2.9452 | 1 | .0861 | -.0644 | .6004 |
| Constant | .3181 | .4624 | .4733 | 1 | .4915 | | |

TABLE 8.48 (cont.)

----- Model if Term Removed -----

Based on Conditional Parameter Estimates

| Term Removed | Log Likelihood | -2 Log LR | df | Significance of Log LR |
|-----------------|-------------------|-----------|----|---------------------------|
| GENDER | -106.599 | 15.837 | 1 | .0001 |
| TOTSCOR1 | -102.500 | 7.639 | 3 | .0541 |
| MOTHOC1 | -100.209 | 3.056 | 1 | .0804 |

----- Variables not in the Equation -----

Residual Chi Square 2.407 with 2 df Sig = .3002

| Variable | Score | df | Sig | R |
|------------|--------|----|-------|-------|
| FATHOC1(1) | 2.3236 | 1 | .1274 | .0377 |
| CLUSTER | .0021 | 1 | .9638 | .0000 |

No more variables can be deleted or added.

The model so far shows that:

- The most important variables are gender, score in the NE and occupation of mother. The most significant seems to be gender, and the negative sign of the parameter estimate (b-score) suggests that **females have less chances of getting a place in the more prestigious university faculties of the country, as compared to males, which is the reference category** (odds ratio 0.5 to 1).
- As far as the sub-categories of the variable 'totscor1' are concerned, it seems that **scoring below the 'excellent' category (i.e., 6001 to 6400 out of 6400) has a somewhat negative effect in the chances of getting a place in the more prestigious university faculties**. For example, those who scored between 5001 and 6000 ('very good') have an odds ratio of 0.46 as compared to the reference category ('excellent').
- In contrast, mother's occupation seems to have a significant effect. **More specifically, students whose mothers work in less prestigious occupations have fewer chances of**

entering a prestigious faculty than those with mothers in more prestigious occupations (the reference category). Here the variable occupation of father was not included in the final model.

A separate analysis for each study route was not carried out because the DV ('unifac1') already contains information about the study-routes. More specifically, the first sub-category of the DV (i.e., Humanities and Social Sciences faculties, or 'less prestigious faculties') corresponds to the study routes 3 and 4, whereas the second sub-category of the DV (i.e., Natural Sciences, Medicine and Engineering faculties, or 'more prestigious faculties') corresponds to the study routes 1 and 2. Thus, the carrying out of this analysis would simply result in empty cells for either of the two sub-categories of the DV, depending which study route was examined.

Finally, a logistic regression analysis for the TEI departments was not attempted, since - as expected - the diversity of those departments is greater than that of the university, and there is no clear-cut pattern of prestige differentiation between them. Moreover, in the previous statistical analyses it was showed that there were not any differentiating patterns between them (i.e., the TEI departments).

Summary

The logistic regression that has been carried out elucidated some issues about the pattern of inequalities emerging from the allocation of places in higher education.

- **Success in getting a place in higher education** is mainly influenced by the score in the NE, gender of the student and previous achievement in the *lyceum*.

◆ For achievement, it is noted that it is 'good' performance, rather a 'very good' or 'exceptionally high', that influences positively the chances of students. As is suggested from further analysis for this or other variables - scoring excellence does not by itself guarantees success, but interacts with other personal and social factors, and very often with luck. The factors related to achievement retain their significance when examined separately students from different study routes, with more important the score in the NE.

- ◆ The variable gender, however, loses its significance when each study route is analysed separately, except the case of the fourth study route. In any case, though, the effect of the female gender is negative, as compared to that of males.
- ◆ From the socio-economic variables (i.e., parents' occupation and location of school), only the occupation of father seems to cause any significant effect on chances of success¹¹. The most interesting aspect, however, is that in the first study route (leading to university departments of Science and Technology and other higher technological institutes) the students whose fathers work in more prestigious occupations (categories 8 and 9 of our original classification) have considerably more chances of entering higher education (Universities or TEIs) than those whose fathers work in less prestigious occupations. the opposite is true in the fourth study route (departments related to Humanities and Social or Economic Studies) where students from lower socio-economic background have relatively more opportunities to enter into a high education department.

Table 8.49 below summarises the results of the specific logistic regression.

TABLE 8.49

Most important variables and sub-categories, resulted from a logistic regression analysis, where DV is 'success in access to higher education'.*

| <i>I.Variables</i> | <i>All candidates</i> | <i>Study route 1</i> | <i>Study route 2</i> | <i>Study route 3</i> | <i>Study route 4</i> |
|--------------------------|-----------------------|-----------------------------------|----------------------|----------------------|-----------------------------------|
| Father's occ. | --- | most prest. occupations (+) | --- | --- | less prest. occupations (+) |
| Perf. in lyceum | good (+) | good (+) | --- | --- | good (+) |
| Gender | male (+) | --- | --- | --- | male (+) |
| Total score in NE | very good (+) | very good (+) | very good (+) | very good (+) | very good (+) |

* All important variables are assessed at 0.05 significance level

'---' implies non-significance

¹¹ We should keep in mind that a 'dual' classification between less and more prestigious occupations was used in our analysis.

- By examining patterns of **differentiation between successses in Universities and successses in TEIs**, the most influential IV proved the total score in the N. Examinations, except for students following study routes 2 and 3.

- ◆ More specifically, when performance in the NE was found to be the most crucial factor of differentiation, it was shown that those who performed ‘bad’ (score between 0 and 4000 out of 6400), or ‘good’ (score between 4001 and 5000 out of 6400) had considerably less chances of getting a place in a university than those who performed ‘excellent’ (score between 6001 and 6400 out of 6400). On the contrary, those who performed ‘very good’ (score between 5001 and 6000 out of 6400) had more chances - in the case of study route 1, enormously more chances - than those who performed ‘excellent’ (score between 6001 and 6400 out of 6400).

- ◆ However, in the study route 4, it is the second category of the IV ‘total score in the N.E. (i.e., those who performed between 4001 and 5000 out of 6400) that shows the most (statistically) significant effect! In general, it could be said that (high) performance plays a significant role on the allocation patterns in higher education, but is a more crucial factor for those following Natural Sciences, Medicine and Engineering courses. On the other hand, excellent performance does not always goes in hand with success, not because it is a negative factor per se, but rather because it is a very rare phenomenon in a system with constantly deteriorating scoring standards (see also chapter 6 on the downward general tendency of the mean scores in each study route).

- ◆ When the successses in the second study route are examined, the only significant IV is the occupation of father, whereas in the third and fourth study routes only gender appears to be the most influential factor of differentiation, with girls having much less chances of getting a place in a university. The former reinforces the credibility of the previous findings about the extent of influence of the socio-economic background in this specific ‘academic track’. The latter also is just another reminder of the reproductive character of the school system as far as the traditional role of women in the labour market is concerned.

Table 8.50 below summarises the aforementioned findings.

TABLE 8.50

Most important variables and sub-categories, resulted from a logistic regression analysis, where DV is ‘differentiation between successes in Universities and successes in TEIs’.*

| <i>I.Variables</i> | <i>All candidates</i> | <i>Study route 1</i> | <i>Study route 2</i> | <i>Study route 3</i> | <i>Study route 4</i> |
|--------------------------|-----------------------|----------------------|-----------------------------------|----------------------|-----------------------------------|
| Father’s occ. | --- | --- | most prest. Occupations (+) | --- | --- |
| Mother’s occ. | --- | --- | --- | --- | less prest. occupations (+) |
| Gender | --- | --- | --- | male (+) | male (+) |
| Total score in NE | very good (+) | very good (+) | --- | --- | good (+) |

* All important variables are assessed at 0.05 significance level

‘---’ implies non-significance

- Further on, the analysis of students (successful candidates) in Universities showed the significant effect that parent’s occupation has on **the differentiation between large and small Universities** (that is Universities concentrated in Athens, Thessaloniki, Crete and Patra, on the one hand, and those located in remote areas such as the Thrace University, Aegeon University etc.).

- ◆ The results suggest - if we examine either all the ‘successes’, or separately each route of study - that the chances of students, whose parents work in less prestigious occupations, for getting a place in a ‘large’, urban university are less than those whose parents work in more prestigious occupations.
- ◆ Only in the fourth study route, it is the total score that plays the most significant differentiating role. Additionally, when the importance of each category of this IV is analysed, results demonstrate that in the specific study route good performance in the NE does not play a significant role in the allocation of students to large university institutions. It seems therefore that the allocation of places is rather a matter of luck, or ‘personal aspirations’ and choice.

Table 8.51 shows the most important variables and sub-categories of them, when the differentiation between large and small Universities is examined, as a DV.

TABLE 8.51

Most important variables and sub-categories, resulted from a logistic regression analysis, where DV is ‘differentiation between successses in large and small Universities’.*

| <i>I.Variables</i> | <i>All candidates</i> | | <i>Study route 1</i> | | <i>Study route 3</i> | | <i>Study route 4</i> | |
|--------------------------|-----------------------|--------|----------------------|--------|----------------------|--------|----------------------|-----|
| Father’s occ. | most | prest. | --- | | less | prest. | --- | |
| | occupations | | | | Occupations | | | |
| | (+) | | | | (+) | | | |
| Mother’s occ. | most | prest. | most | prest. | --- | | --- | |
| | occupations | | occupations | | | | | |
| | (+) | | (+) | | | | | |
| Total score in NE | --- | | --- | | --- | | good | (+) |

* All important variables are assessed at 0.05 significance level

‘---’ implies non-significance

Study route 2 is excluded from the analysis because it contains very few cases

- In the case of TEIs, **the distribution of students is more evenly distributed between large and small establishments** (for the criteria of this classification, see previous analysis, either in the part concerning the logistic regression, or that concerning multivariate tests, earlier in this chapter), with most significant factor being the performance in the N.E.

◆ The most interesting part of the results for the influence of the performance in the N.E., when all the successses in TEIs are taken into account, is that, not only those who performed ‘very good’ (between 5001 and 6000 out of 6400), but also those who performed just ‘good’ (between 4001 and 5000 out of 6400) have much higher chances of getting a place in a large, urban TEI than those who performed ‘excellent’ (between 6001 and 6400 out of 6400). This reveals that scoring performance is not a vital factor of differentiation in TEIs, and even if in statistical terms it is, it usually favours the low-achievers. However, the attachment of higher or lower prestige (or academic excellence, or resource allocation) to a specific TEI is not always without problems, especially when it comes to the question of how to apply homogenous (qualitative or quantitative) criteria to institutes with an enormous heterogeneity across departments.

◆ Generally, there are no major effects caused by socio-economic and personal variables, except in the first study route (i.e., when we examine only those successses who followed

the specific route), where both the gender of the student and the profession of his/her father seem to play an important role. In this case, it is females, rather than males, together with the offspring of people working in the more prestigious occupations, who have higher chances of entering a larger TEI.¹²

Table 8.52 shows the most important variables and sub-categories of them, when the differentiation between large and small TEIs is examined, as DV.

TABLE 8.52

Most important variables and sub-categories, resulted from a logistic regression analysis, where DV is ‘differentiation between successes in large and small TEIs’.*

| <i>I.Variables</i> | <i>All candidates</i> | <i>Study route 1</i> | <i>Study route 4</i> |
|--------------------------|-------------------------|-----------------------------------|----------------------|
| Father’s occ. | --- | most prest. occupations (+) | --- |
| Gender | females (+) | --- | females (+) |
| Total score in NE | good & very good (+) | bad (-) | --- |

* All important variables are assessed at 0.05 significance level

‘---’ implies non-significance

Study routes 2 and 3 are excluded from the analysis because they contain very few cases.

- As it was demonstrated earlier, the effect of mother’s occupation is a crucial factor of differentiation between students who get a place in various Universities around the country. When **differentiation between various university faculties** is examined, this factor re-emerges and its effect is very strong, in contrast to previous dependent variables where it had only minor - if significant at all - influence. More specifically, the results show that:

- ◆ The high and negative b-parameter for the sub-category 1 (‘less prestigious occupations’) suggests that inequalities in occupational status exercise a significant influence on the chances of students to get a place, either in faculties of Technology, Science and Medicine, or in those of Humanities and Economic and Social Studies (b = -0.5102, log odds ratio =

¹² It must be noted, however, that it was not possible to carry out logistic regression for the successes in the second and third because of the limited number of cases.

0.6004). In other words, students whose mothers work in the most prestigious jobs, have more chances to follow courses leading to the most 'rewarding' occupations - in terms of esteem, financial returns and future prospects. The increasing importance of the female occupational disparities is evident here - as it has been in previous multivariate analyses - and suggests that in a labour market where female employment for older age cohorts is not a common phenomenon, the slightest occupational differentiation might result in considerable inequalities of financial wealth and, potentially, educational resource provision¹³.

- ◆ Gender is another differentiating factor, and it seems that boys have significantly more chances of gaining a place in a prestigious University faculty, as compared to girls. This reinforces our initial assumptions about the gender stereotypes prevailing in the Greek labour market and, subsequently, in the Greek educational system.
- ◆ As far as the effect of performance in the N.E. is concerned, it was noticed that scoring 'excellent' (between 6001 and 6400 out of 6400), unlike the previous regressions, plays a significant and positive role in the allocation of students to the faculties of Technology, Science and Medicine. More specifically, whereas in our previous logistic regressions, scoring 'very good' (between 5001 and 6000 out of 6400) exerted a positive effect of the differentiations between 'success and failure', 'university and TEI', 'large and small institutions', now its influence is negative compared to the reference category, which is 'excellent'. This suggests that for candidates wishing to follow 'applied' and 'scientific' studies, scoring excellence is a much more decisive factor, than for those who generally seek to enter higher education, or simply aim at a place in a university, or even prefer to do their studies in the larger and more 'prestigious' institutions. Although the above does not necessarily imply a unabridged difference in prestige between the different university faculties, it reveals that there is a stricter selection mechanism for entry to specific departments, which happen to coincide with occupations placed higher in the hierarchical scale of labour market demand.

Table 8.53 shows the most important variables and sub-categories of them, when we examine as DV the differentiation between 'more' and 'less' prestigious university faculties.

¹³ In this sample, the vast majority of mothers are around or above 40 years of age.

TABLE 8.53

Most important variables and sub-categories, resulted from a logistic regression analysis, where DV is ‘differentiation between university faculties’.*

| <i>I.Variables</i> | <i>All candidates</i> |
|--------------------|-------------------------|
| Mother's occ. | more prest. occ. (+) |
| Gender | males (+) |
| Total score in NE | excellent (+) |

* All important variables are assessed at 0.05 significance level

'---' implies non-significance

- No significant inequality pattern were found to exist in **the distribution of students in the various TEI departments**, according to personal, social and educational variables. Thus, it could be said that TEIs do not present the patterns of inequalities existed in Universities, and which became evident from previous tests. It seems that they offered an alternative, ‘fairer’ and ‘freer’ from social influences path to higher specialised studies, although, as it will be discussed below, they became the host to the low-achievers of the *lyceum* and have not radically questioned the ‘traditional’ patterns of selection.

CHAPTER 9

CONCLUSIONS - DISCUSSION

THE PICTURE EMERGING FROM THE STATISTICAL ANALYSIS

From the statistical analysis carried out so far a number of useful conclusions can be derived, and if properly interpreted provide a crucial starting point for a more elaborate discussion on the inequalities of student access and distribution to higher education in Greece.

Differentiation in the Greater Athens Area

In the sample examined, although there are no clear-cut occupational differentiations between the different (groups of) municipalities, there are areas homogeneous in terms of general school characteristics and occupational structure. This justified the initial decision for selecting the specific clusters.

We saw that when holding constant other personal (educational or not) and socio-economic variables, the effect of the area where each school is located is a significant factor related to the performance in the upper-secondary school and becomes less significant as we progress from secondary level towards higher education. Clearly, there is an advantage for students coming from the wealthiest suburbs of Athens. That means that - considering the stronger significance of this variable as compared to the occupational variables - not only the school environment (quality of buildings, material resources etc.), but also the general socio-economic and cultural characteristics of each area, have a more decisive influence on graded achievement than individual family differences. (*See research question 2 in the Introduction*) Furthermore, since the same variables indirectly affect - through the graded achievement - the differentiation of students in higher education, we could reasonably assume that individual disparities in family's socio-economic position have substantially been diminished as a factor of unequal access to higher education in relation to other personal and environmental variables, although - as we will discuss shortly - they continue to play a crucial, but more subtle, role in the differentiation between institutions and academic disciplines.

It should be considered, however, that (as was explained in chapter 7) an investigation of the effects of the same variables on a sample that included private secondary schools in the

Greater Athens Area, would probably reveal a far larger extent of inequalities attributed to occupational, as well as generally social differentiation that prevails in this area.

Nevertheless, even in the context of State education, where the inequalities of opportunity witnessed in the past appear to be less profound, as far as the concentration of 'advantages' and 'disadvantages' is concerned, one should never forget that 'space' cannot be treated as an optional extra, or a 'neutral' term. Physical space is socially constructed. 'Locales' (Giddens, 1984) carry social meaning and symbols which are widely accepted and which considerably affect social relation. Even though these meaning and symbols can certainly be challenged and reinterpreted, they still deeply affect how people as individuals and groups interpret their own and other people's circumstances.

Inequality of educational level is often hard to conceal. For example, in the early nineties, the average proportion of higher education graduates in the western and south-western parts of Athens was 7-8%, whereas the corresponding figure for the north and north-eastern parts was 40-45% (Katsikas, 1994, p. 91). Furthermore, it is not a coincidence that for the last 7 years - and, presumably, earlier than this - the success rates (i.e., proportion of those gaining a place in higher education, to the total number of candidates) for students coming from the less advantaged suburbs of the Greater Athens Area (western and south-western parts) have been considerably lower, as compared to those coming from wealthiest ones (north, north-eastern and eastern parts). For the former, the range of success rates has been - with very few exceptions - between 14% and 30%, whereas for the latter the range has been between 40% and 50% (Katsikas, 1994, pp. 91-92; Rapti, 1996).

The picture emerging from the collected data showed that the wide differences of the past in success rates between less and more 'wealthy' areas, are diminishing increasingly. However, there are still differences in the success rates between the two extremes. No matter how 'blurred' the picture is in those parts of Athens, which are considered as of highly 'mixed' socio-economic representation (see relevant discussion in chapter 7), there is still a noticeable 'gap' of around 10 percentage points between the average success rates of the north, or north-eastern suburbs and the western and south-western one (see table 8.27 and chart 8.13).

The author personally experienced - during the collection of the data - the general climate of deprivation in certain areas of Athens, especially those representing clusters 5 to 8. Although the differences in performance - as has already been shown - cannot be considered as large and significant, however, other indicators, such as the high levels of school truancy and rates of grade repetition, or the concentration of the majority of students in the third and fourth study routes, reveal a 'qualitative' rather than 'quantitative' pattern of differentiation. Even in terms

of 'quantitative' performance indicators, it became clear from this study that it is not the school-unit characteristics themselves that could give a precise forecast of the chances of each student for high achievement (see discussion below). Numerous social and socio-psychological studies in the past have indicated that 'low achievement' (or 'underachievement') is not a matter of innate intelligence, but depends heavily on family influences, school norms, social stereotypes and values, and is reflected on how the students respond to various demands placed upon them (see Feldman, 1986). This 'response' in the case of Athens is highly linked to wider differences in the geographical and social distribution of 'educational affluence'. These differences "are considered as 'natural' by those people who de facto accept the inequality of benefiting from the schooling process between various groups of students" (Katsikas, 1994, p.100).

The social stratification of Athens - as it was depicted in chapters 5 and 7 - is still a dominant feature of the geographical dispersion of the population, although the picture in the last three decades has become increasingly blurred in terms of occupational or status differentiation and sector of main economic activity. The overrepresentation of the managerial and scientific occupations in the north and north-eastern parts of the GAA, and the corresponding concentration of the low-paid jobs of the secondary and tertiary sector in the western and south-western suburbs - with the remaining areas being somewhere in the 'middle' - nurtures an atmosphere of social polarisation, which very often in our analysis became evident.

In the present sample, where each school is located is a significant factor related to the performance in the upper-secondary school and becomes less significant in the case of the National Examinations¹. However, when the score in the NE was examined, there was still a certain test in which it remained relatively high (see table 22 in chapter 8): when all the main personal, social and educational variables were controlled, the correlation between score in the NE ('totscore') and the school location ('cluster') became significant below the .05 level. Students of the same age and gender, similar socio-economic background, studying in similar schools, following the same routes of study and having performed equally during the *lyceum* years, are significantly influenced by the area where their school is located.

The location of school, as an independent variable, favours the less advantaged areas of Athens in terms of score level in the NE, only in the case of the less prestigious study routes: the third and fourth ones. As the regression models for each separate study route showed (see table 30.1 in chapter 8), when we examine the students of the third branch (opportunities for

entrance in the departments of Philosophy, Modern-ancient Literature, Education) the most important variable, apart from the 'grade3', is the location of school, instead of gender, as it was the case in the first two study routes. The positive value of the coefficients shows that - at least in statistically terms - students coming from the less advantaged areas of Athens perform significantly high in the NE, as compared to those coming from wealthier areas, but only when they have chosen to follow the third route, which - as we saw - comprises of disciplines with relatively low prestige in the labour market and few job prospects.

Thus, we see that the 'selection' patterns for certain disciplines are more rigid than those for others, and the increased opportunity for certain groups is significantly linked to those patterns.

School environment variables

The influence of variables related to the general 'quality' of the school environment (size of the school and size of the third-grade, number and size of classes, number of teachers and p/t ratio), apart from the already stressed importance on graded assessment throughout the upper-secondary school years, moved, in certain tests, in 'unexpected' directions. For example, one would expect that the smaller the number of students enrolled in the third grade, the larger the number of teachers in a certain school, the smaller the class-sizes and the smaller the pupil/teacher ratios, the higher would be the performance. However, in almost all the multiple-correlation ('zero-order' or 'partial') statistics, the reverse was true. This is however not unexplainable, since - as it has been explained - these findings reveal the advantages of big urban settings when it comes to matters of resource allocation. So, in the Greater Athens Area, large schools (in terms of number of students enrolled) with oversized classes, few teachers and, subsequently, high p/teacher ratios, do not necessarily lead to lower standards and performance deterioration. This is due to two main reasons: **a)** Athens, although it is a densely populated metropolitan conurbation, has not experienced in the past the geographical 'segregation' and the vast inner-city problems prevailing in other large urban centres of the western world, since as early as the end of World War I (see Rudman & Featherstone, 1968; Kozol, 1992); **b)** quality standards regarding small class sizes, adequate numbers of well trained teachers, better equipped laboratories, modern buildings and free space, are still unattainable in the majority of the (State-controlled) Greek schools. Additionally, some academics argue that there are undeniable advantages of the big urban settings (in a country

¹ Thereafter, the effect of the location of school loses its significance.

where the ‘abandonment’ of the countryside and the internal migration flows towards the big cities are the dominant demographic trend) and that the disproportionate concentration of economic investment and public services into the GAA, is a more decisive factor of school success than some ideal, but unachievable, quality standards (Polydorides, 1995b and 1996). (See research question 2 in the Introduction)

Nevertheless, despite the lack of strong indications of unequal distribution of educational resources among the various schools in the Greater Athens Area, the author witnessed the existence of inadequate infrastructure (building condition, housing of two or more schools in the same premises, ‘double shifts’, ‘standardised’ architectural design, lack of libraries, modern gymnasiums and free leisure-time spaces, environmental pollution etc.) in certain under-privileged areas, such as the western suburbs and the city-centre. Even the distribution of the types of upper-secondary schools in Athens seems to ‘discriminate’ against specific areas. As Katsikas (1994) pointed out, the vast majority of the less prestigious schools (i.e., two-year technical schools, three-year technical and vocational *lycea*, ‘evening’ *lycea* and some other, obsolete, types) are concentrated in the western and south-western suburbs, as well as around the city centre (p. 95). Moreover, in these parts of Athens, there is a total lack of private *lycea*, whereas in the northern suburbs they flourish, and, in a certain number of them, the proportion of students attending exclusively private schools is 100% (p.96)!

The above signify the importance of the combination of variables referring to the location of school and the quality of the school environment, and not an examination of the latter as an isolated group of influential factors. The present findings are compatible with previous studies (Polydorides, 1985a), which showed that the school resources and the size of the classrooms - in a period of rapid expansion of secondary education, as the late 1970s and early 1980s have been - play a significant role in school achievement only when they are linked to general standards of living of the respective community (p. 43). Thus, this might be the main reason for the ‘failure’ of the present analysis to discern any highly significant - in statistical terms - influence of the so-called ‘school variables’ on the dependent variables of the statistical tests.

Other reasons could vary from purely accidental factors - due to the random selection of the sample - to specific objective obstacles concerning the ‘richness’ of the data contained in the examined school records (a richer data set could provide us with more information on individual, as well as general school characteristics, and allow the derivation of a number of useful conclusion in comparative perspective). Finally, this type of data might have proved of greater importance in a different research context. For example, if a more elaborate, ‘qualitative’ and micro-level approach (‘ethnographic’ or ‘action-research’) had been

adopted. However, this is something that depends on the original research hypotheses and the corresponding theoretical principles and methodological rules that each researcher subscribes to.

Achievement variables

The most significant variables related to the scoring level in the NE, or even the distribution in higher education, are the ones representing previous achievement in the upper-secondary school.

However, their significance tends to considerably diminish, in comparison to the other (independent) variables, as we move from the examinations of more quantitative dependent variables (e.g., score in the NE) to the more qualitative ones (e.g., differentiation between universities and TEIs, or distribution across faculties). This is becoming evident in the logistic regression models, where the results showed that, although the previous achievement remained a very influential factor of differentiation, it was those who had scored 'very good' (score between 5001 and 6000 out of 6400), rather than 'excellent' (score between 6001 and 6400 out of 6400), that had more chance - in some cases, incredibly more chance - of gaining a place at a large University, in a big urban centre, and in a more prestigious faculty (see tables 36-39 in chapter 8).

The close examination of regression coefficients - in the 'linear' or the 'logistic' models - also showed that the influence of previous (graded) achievement is more significant for those following the first and second routes, rather than the last two. After all, the underachievement of the latter group (especially of those following the fourth route) could not possibly permit any optimism for a higher score in the NE, or a better place in higher education, since the final score in the NE is - formally at least - totally separated from the performance in *lyceum*. The specific group(s) of students rely heavily on such factors as cramming of the official curriculum, targeting of specific departments and - to a great extent - luck!

We can also stress the fact that those who got a place at a University had been less dependent on previous achievement in terms, either of scoring higher in the NE, or of getting the best places in higher education (see all the regression equations where a distinction is made between successful candidates in universities and successful candidates in TEIs. (*See research questions 1 and 2 in the Introduction*))

Gender differences

Although the effect of gender has diminished as we shifted from performance in upper-secondary school to performance in NE, it is evident that gender plays a highly significant differentiating role when students with the same social background, area of living and previous performance are examined. (*See research question 2 in the Introduction*)

It also appeared to be a significant factor in the differentiation between: 1) successful and non-successful students; 2) those gaining a place in a University and those gaining a place in a TEI - only when the last two routes were examined; 3) those gaining a place in the more, and those in the less prestigious University faculties and departments.

More specifically:

- Girls outperform boys in all the grades of the lyceum, albeit with a diminishing trend towards last grade.
- Boys outperform girls in the National Examinations.
- Girls have significantly less chances of getting a place in higher education than boys.
- Girls have less chance of getting a place in a University as contrasted to a TEI, than boys, when the last two - and least prestigious - study routes are examined. When students as a whole, or those following the first two study routes, are concerned, the effect of gender does not play a (statistically) significant role.
- Girls, however, have significantly more chance of getting a place in a large (urban) TEI than boys. This reflects the 'favourable' effect of TEIs on the chances of less privileged social groups, as it was manifested in the analysis.
- Boys have significantly more chance (50%) of gaining a place in a prestigious University faculty, as compared to girls.

It should be noted here a pattern of unequal outcome which has been identified in previous research studies and re-emerges again in the present analysis: the case of gender disparities. While girls outperform boys in the upper-secondary school, the picture in the National Examinations changes in favour of boys when Natural Sciences, Engineering and Medical disciplines are concerned, and remains unchanged when Social Sciences and Humanities are examined. As a result, girls are over-represented in the latter and underrepresented in the former (see chapter 5 for women's place in the labour market; also NCSR, 1996, pp. 154-159;

for their participation in the educational system see, Polydorides, 1985, 1995a,b and 1996, and Katsikas, 1994, pp. 123-132).

The above findings reflect the gender stereotypes prevailing in the Greek labour market and, subsequently, in the Greek educational system. What is suggested here, however, is not a simplistic perception of the school and examination systems as a field of 'conspiracy plots' that aim to underestimate the role of women in society. It is rather a structural phenomenon, which corresponds to: 1) centuries of female subordination within and outside family; 2) certain labour market practices, conditions and regulations; 3) gender related cultural models nurtured in every social setting and reinforced by the curriculum content and pedagogical methods of schools; 4) finally, a specifically designed and implemented system of occupational orientation, reflecting - mostly realistic - expectations of future prospects and rewards.

The division of the labour market into women's and men's jobs (the so-called 'sexual division of labour') leaves women distinctly disadvantaged. In Greece - as, indeed, in other countries - both the State and the legal system tend to support the sexual division of labour and the basic 'patriarchal paradigm' (Cole, 1989, chapter 8) of the dependent woman and the 'breadwinner' man, despite the developments that took place in the 1980s (equal opportunities and equal pay legislation).

The 'disadvantaged' role of woman in the division of labour is evident from their higher rates of unemployment in comparison to their male counterparts, the narrow limits of job choices, the low prestige and financial returns and their unquestionable (and socially determined) burden in housekeeping and childbearing (NCSR, 1996, pp.154-156).

These labour market 'expectations' and the aforementioned stereotypes of 'female' and 'male' occupations, are also reproduced in schools. Despite the radical changes made on school textbooks and the implementation of new pedagogical methods, the cultural resources that girls, teachers and boys respectively draw upon are both very different and unequally valued. As a result, in the schooling process these values become incorporated into moderately fixed individual identities. (*See research question 6 in the Introduction*)

Statistical figures describing representation of females in higher education show that for the last ten years they are concentrated in those departments with the gloomiest job prospects and the highest rates of graduate unemployment (Polydorides, 1985; Ministry of Education, 1996). Thus, the educational system contributes to - but not necessarily determines - the creation of a 'vicious cycle' of degradation of the women's social position.

Higher education and labour market

Differentiation between various University faculties (in other words, areas of knowledge and corresponding jobs in the labour market) reinforced what is becoming evident in the international bibliography as the complex socialisation role that the educational system tends to play, in the rapidly changing international division of labour and increasingly heterogeneous national labour markets (see Ingenkamp, 1977; Noah & Eckstein, 1992). The case of Greece in this sense resembles - although remotely - that of France, where, as P. Broadfoot pointed (1996), University departments that correspond to option 'C' of the *lycée* (mathematics and physical sciences) are becoming stricter in their admission policies, following the example of the *Grandes Écoles* and the *Institutes Universitaires Techniques* (IUT). More specifically, they impose - in contrast to past practices when the selection was done through the University courses - a *numerous clausus* policy, since, among other things, "unemployment is attributed to the universities [for] not being sufficiently selective and not offering useful courses rather than to the State of the job market as a whole" (Broadfoot, 1996, p. 148).

The role of the State in these developments is often crucial, although it is, neither the primary, nor the main cause of them. In other words, the government, through its various agencies and organisations seems to 'promote' certain academic disciplines at the expense of others. It is obvious, for example, that, not only the funding and admission requirements for the different higher education departments are heavily influenced by the government's own assessment of what the labour market needs, but the policy of scholarships is increasingly aligned to changing views of what constitutes 'good' and 'worth-doing' research and what does not. (*See research question 6 in the Introduction*)

Characteristic of this trend, is that, for the academic year 1994-95, from the 342 scholarships for post-graduate studies abroad, awarded by the State Scholarship Foundation of Greece, the 116 (34%) were related to the so-called Humanistic and Social Sciences disciplines, and if we exclude Law and Business & Economic Studies, the number falls to 72 (21%). In 1997-98, the respective figures were 29% and 17% (SSFG, 1994 and 1997).

This process neither in itself represents a linear and causal relationship between dominant mode(s) of production and school output, nor suggests that determinism rules out any interaction effect between various agents involved in the educational evolution (see also Archer, 1979). Therefore, there must be a distinction between the "requirement for the [educational] system to legitimate itself" and the "legitimation the system provides for the

social structure as a whole” (Broadfoot, 1996, p. 107). In practical terms that means that, even those disciplines with few chances for future substantial financial returns or status rewards in the labour market, are not necessarily considered by the students and their parents as of little or no importance at all. Traditional academic disciplines such as Greek Literature or Philosophy are still perceived by many families as (at least) worth studying and of high educational importance for their offspring, even if this stance is not based on systematic and rational calculation of future prospects, but rather on outdated ideological convictions and social stereotypes.

As far as the role of various interest groups on the interaction process (main reference point of which is still the highly centralised Greek State mechanism) is concerned, we could say that the influence exerted by academics whose work is mostly related to the Humanities and Social Sciences domains, is sometimes very significant, especially when they act as advisers for various governmental and/or research agencies. Thus, in no case could we argue that a highly ‘bureaucratic’ and ‘centralised’ State mechanism defines the ‘inputs’ and ‘outputs’ of the educational establishments (in every level) by simply responding to the ‘requirements’ of a volatile capitalistic labour market. The picture of the educational system (as emerging in a certain instance or across time) resembles very often to a ‘motley mosaic’ that consists of personal beliefs and aspirations, ideological convictions, popular social models and stereotypes, structural limitations, temporary institutional and administrative arrangements, and very often - especially with the present system of National Examinations - luck.

Nevertheless, what the statistical analysis and literature review imply is that power relationships, inescapably present in every aspect of a given society, can be as well reflected on the differential access to (someone might argue, interpretation and use of) knowledge. What the present analysis showed is, on the one hand, an unequal access of different social strata to certain areas of knowledge and, on the other hand, a decrease of socially determined achievement in other areas.

Although in Greece the bibliography on the high-school student aspirations towards HE - and especially towards those disciplines leading to the more ‘prestigious’ and ‘rewarding’ occupations - is very limited (Kasimati, 1991; Polydorides, 1995b & 1996), research findings in various western countries have suggested that aspirations towards HE are dependant on family background and experience of HE, as well as on socio-economic status (Bowles & Gintis, 1972; Boudon, 1974; Duncan & Featherman, 1976; Egerton & Halsey, 1993; Foskett & Hesketh, 1995; HEFCE, 1996). So, if we accept that decision for continuation of studies in higher education is not necessarily an irrational and stereotypical process, the ‘positional’

theory (Boudon, 1974) can be applied here: students and their families assess what is 'good' and, more importantly, an 'achievable' educational career, not by an absolute standard, but relatively, that is, according to their position in the social structure. In this direction the importance of the school assessment process is crucial. The more internalised the fairness and objectivity of assessment-selection in the school, the easier it is to link any potential failure (e.g. to get a place in a HE institution) to individual responsibility or weakness. Therefore, the easiest it is to avoid a legitimisation crisis targeted against the established system.²

Knowledge in this context resides in a notion of objectivity and detachment that renders questions concerning the production and legitimisation of its form and content irrelevant. Additionally, and perhaps more importantly, the hierarchical ordering of higher education institutes reveals a wider and decisive division of knowledge into 'higher' and 'lower'; knowledge that is worth-knowing and knowledge that is not. (*See research question 5 in the Introduction*)

Occupational differentiation

The parental occupation's effect on the differentiation in performance, either in the upper-secondary school or in the NE, is not so important as it appears to be on the allocation patterns in higher education establishments. In addition, their influence is not straightforward or equally crucial.

For example, we saw that the classification of occupations in the original 9 categories, although it was based on a sound assessment of the labour market structure and some assumptions common in the national and international literature on occupational differentiation, has not generally been 'operational' in purely statistical terms. As a result, there was a need to reduce them into two main opposing sub-groups: more and less prestigious occupations, with the former corresponding to the top managerial, administrative and scientific occupations - characterised by high levels of power, financial rewards and social status - and the latter with the rest of the initial categories.

Even after the trimming-down of those original categories, the occupational differentiation seems to have lost the significance it once had in determining the success chances of students,

² When the criticism against the system was in a 'unusually' high level, like it used to be during the 90's, the government and various professional bodies shifted their attention and gave a more serious attention towards a new 'smoother' type of selection, which (as it was officially described) combines more than one nationally administered and assessed external examination during the upper-secondary school years.

either for participation in the N. Examinations or for entry into various higher education institutions. Moreover, we cannot but stress the fact that - in terms of scoring achievement and when the occupational variables are statistically significant - while the sons and daughters of the wealthiest families do better during upper-secondary school years, it is those from the less wealthy families that very often score higher in the N. Examinations. In other words, it looks that the present system of nationally uniform and externally assessed examinations - despite accusations for lack of reliability and validity - contributed to the 'democratisation' of selection for access to higher education and created a mechanism widely accepted as 'objective' and 'impeccably' administered. (*See research questions 1 and 2 in the Introduction*)

Nevertheless, it must be born in mind that high scoring does not necessarily imply a better place in higher education (see chapter 8 for a discussion on the degree of 'easiness' of subjects examined in different routes). Additionally, it is in the 'objectivity' and 'impeccability' of the system that we should trace its real character and function. Since it is invariably agreed - not only in Greece - that there must be a selection for access to higher education (because of limited places, or standards of teaching, or labour-market requirements, or different academic aspirations etc.), then we need also ask *who* decides *what* is the appropriate number of successes and *how* these are going to be distributed in the various faculties and departments. Although it is very difficult to answer the first two questions, the analysis of our data provided us with some information that could give a clearer answer for the last two.

For example, the effect of parental occupation has a differentiated degree of significance between various routes (that is, different subject groups). More specifically, the occupation of parents (mainly that of father) plays a more important role on the differentiation patterns for those students who followed the first and second study routes, and a less important one on the last two. (*See research question 2 in the Introduction*)

What can we derive from the regression coefficients of the 'logistic regression' models produced, is the significant effect of parents' occupation - and especially of that of the father - in the chances of entering higher education, or gaining a place at a University rather than a TEI, when candidates for the first two routes of study are examined.

Another question arising from the present analysis is, why, for candidates following the first two study routes, the chances of getting a place in a large, urban University for those whose mothers work in less prestigious occupations, are five times less than those whose mothers work in more prestigious occupations (one and a half, for father's occupation)? Why is the same true - albeit with some difference in the strength of the relationship - in the case of TEIs, which unquestionably favour the disadvantaged social strata as far as access patterns are

concerned? How can we interpret the fact that students whose mothers work in less prestigious occupations have fewer chances of entering a prestigious faculty than those with mothers in more prestigious occupations?

As was shown in chapter 5 (especially in the case of Athens), the various academic disciplines and their corresponding faculties and departments offer different future job prospects for their graduates and, subsequently, have quite unequal significance and prestige in the labour market. Taking into account the differential importance that various occupations have in the preservation and reproduction of the existing economic order and the gross inequalities in financial rewards for different types of labour, we should also consider the theoretical work of Foucault and others, who stressed that knowledge is not 'pure' but is necessarily political and reflects "a particular set of power relations" (as quoted in Broadfoot, 1996). This is also reflected on the unemployment rates of the various occupations, and their time trends (see TEDKNA, 1994).

Quite revealing of the wide variations in expectations for students nearly finishing their secondary education is the comparative work of Noah & Eckstein (1992 and 1993) on eight countries with different educational systems and examination arrangements. Although clear-cut relations and similarities between those countries and Greece cannot be drawn, we cannot help but notice the heavy dependence of individual's choices upon her/his family socio-economic position, cultural background and support. If the immensely centralised nature of the Greek educational system and the lack of many second chances and alternative opportunities for success apart from the path leading to University degree are taken into account, then it can be realised how serious and long-standing would be the consequences of failure. Therefore, not only the 'chances of success', but also the decisions regarding certain educational strategies of each student (if s/he will sit the exams for a second time in case of failure, what kind of departments s/he will apply for etc.) will bound to depend to a great extent on a mix of social and personal characteristics, rather than purely on factors like 'intelligence' and 'aptitude'.

However, it seems that, in comparison to the rest of the country, inequalities of access to tertiary education are much less profound. The examination of the 'Indices of Opportunities' in chapter 6 revealed a significant over-representation of students from upper classes in almost all the Universities of the country, with more profound inequalities witnessed in certain urban institutions and specific high prestigious faculties. In this way, the general picture of the country as a whole was that the historically established access of wide strata of the Greek population to higher education has been hindered by the *numerous clausus* policy, and that the most 'favoured' occupational categories were - and still are - the 'managerial', 'scientific' and

'top-professional' ones, with the middle-level white-collar jobs following. This picture was not 'reproduced' in the analysis of the sample of Athenian schools, which implied an 'equalisation effect' that the system of National Examinations has had on the chances of different socio-economic categories to access higher education, especially when the - recently established - Technological Education Institutes (TEIs) were examined (for a separate reference on TEIs, see below). In other words, the fear expressed in chapter 7, concerning the selection of sample and its representativeness, is finally reaffirmed, especially as occupational differentiation is concerned. There seems to be a 'melting-pot effect' that the over-concentration of population and service-sector activities in Athens has exerted on the boundaries between socio-economic categories and their relative advantages on securing better education and job prospects for their offspring.

Here it is crucial to repeat one more time the critical stance of the author against some orthodox Marxist and 'radical' readings of the base-superstructure issue, in which institutions like schools were reduced to the reflex or shadow of the mode of production. This is specially important in the education field, where dominant ideologies - which are themselves often contradictory, as are different factions of the 'ruling' classes - are not only 'reproduced' and 'internalised', but also 'filtered', 'debated' and often 'resisted'. As Giroux argued (1983), different students "bear the logic of domination in different degrees", and to forget this allows one to run the risk of - among other things - "mystifying the dynamics of hegemonic ideologies and structure" (p. 106).

In Greece, changes - slow and controversial as they have proved - were the result of a growth of the popular demand for democratisation of the system, from lower to higher grades. The domination of State over the provision of schooling and the lack of extensive privately-run educational institutions made it difficult to offer a proper alternative to public instruction, from which (alternative) the wealthiest families would invariably benefit. As it was noted earlier in the thesis (chapter 4, p. 10), the most important form of negotiation in the Greek educational system has been the 'political manipulation' (Archer, 1979) through which even otherwise 'underprivileged' social groups may bring about educational change. Considering the egalitarian principles which were incorporated into the main public policy initiatives of the 1980s (social-democratic governments) and the long Greek tradition of political sensitivity to 'popular' pressure, one can see why there have not been many 'profound' inequalities, especially as far as the provision of schooling in the area of Athens is concerned.

Nevertheless, occupational differentiation - especially a dual 'polarisation' between the most prestigious jobs as contrasted to all the rest combined - still plays a significant role on the

distribution of students in higher education, mainly when a distinction between large (urban) and small Universities, or between more and less prestigious faculties, is made. These findings reinforce the possibility that the representation of a wider *spectrum* of social classes in the student population of a specific discipline leads to a progressive degradation of the importance that the corresponding profession has in the social division of labour. So, it is true that the 'lower' social strata achieved an unprecedented level of access to higher education, year after year, it is becoming evident that the only use of many of higher degrees (at Universities or TEIs) is their 'face value', since they do not satisfy anything else (i.e., employment, job security) than the 'self indulgence' of thousands of Greek parents who praise themselves for having an (unemployed) graduate in the family.

Departments with a large student intake each year (the so-called 'mass-education departments', such as Philosophy, Education, Literature, Economics, Social Studies etc.) also correspond to occupations with the highest unemployment rates and the lowest labour-market prestige (see Kassimati, 1991; NSSG, 1993; Katsikas and Kavadias, 1994; Ministry of Education, 1994; Polydorides, 1995a). At the same time, the over-representation of the lower social strata in these departments has been clearly shown in chapter 6. Therefore, it would not be unsound to claim that the formulation of a new hierarchy of professions in the division of labour might be followed by a change in the social background of students in the corresponding disciplines (see also Polydorides, 1995a, chap. 2). (*See research question 6 in the Introduction*)

The female employment and socio-economic disparities

Another aspect of socio-economic disparities that drew our attention was the emergence, in certain tests, of the occupation of mother as a more significant factor than that of the father (e.g., when scoring in the NE for University successses, or when differentiating allocation to University faculties were examined). The increasing importance of female occupational disparities is here evident and - as was noted earlier - suggests that increasing female labour-market participation does not necessarily imply a considerable progress of women towards emancipation but mainly a replication of the already existing occupational differentiation. An interrelationship of patriarchy and capitalism means that occupational sex segregation lowers the wages of women in the jobs which do remain open to them and forces them to remain dependent on men within the family. These disparities might result in considerable inequalities of wealth and educational resource provision, since the majority of women with children in

upper-secondary education are housewives, or occupied in low-prestige jobs. In other words, few women in prestigious, well-paid jobs might make a huge difference in education opportunities and chances of success for their offspring, as compared to the vast majority of women in low-paid and less prestigious occupations, or to those who offer 'domestic' labour, that is, the housewives.

Mother's socio-economic status and , mainly, educational background could prove a highly significant differentiating factor of children academic achievement, especially if the distinction made by Bernstein (1973, 1977) between 'positional' and 'person-orientated' families is examined in the Greek context. In other words, the importance of communication codes developed between mother and child, derived from differential 'valuation' given to educational orientation by different groups of mothers (the distinction that Bernstein made was between middle- and working-class mothers), could provide some insight on how maternal occupation and education might improve their offspring's chances for 'success'. Unfortunately, this type of study has not yet been carried out in Greece.

Past debates concerning class influences on education at an international level were inadequate because they disregarded girls' and women's values and life patterns. Our findings, although not providing us a solid analytic framework, suggest that various aspects of social inequalities would be more effectively handled if they involved a synthesis of gender, class and other social formation patterns. A person's social class is still officially represented by the status of the male head of household. However, such notions of class have long been rendered problematic in other western countries (e.g., UK) by a number of factors: changes in the labour market and in the family; shifts in perception of class membership; critiques of feminist theorists who have challenged the logocentrism of previous analyses (Lather, 1991); and new class/gender formations emerging within education in the 1980s and 1990s.

Following the example of research carried out in various western societies, with a long tradition of feminist movements (see Weiner, 1997)³, future research has to explore more elaborately and precisely the labour-market and workplace-training opportunities which leave girls with fewer choices than boys and to raise questions about the role of women in the labour market. As we have already seen, in previous decades it was mainly male sociologists on the political left, who studied working class communities and/or rural or manufacturing working class experience. For example, as Mitchell argued (1971), what needs to be done by academics interested in the new dimensions that recent technological developments brought into the

³ Paper presented at the BERA Annual Conference/ September 11-14 1997: University of York. Browsed from the BERA web-site at <<http://www.leeds.ac.uk/educol/documents/000000357.htm>>

foreground, is to pay more attention to the importance of changes in: production - women's place in the labour market; reproduction - sexual divisions within the family; sexuality, in the views of women as primarily sexual beings and sex-objects; and socialisation - in the way in which the young were reared and educated. *(See research question 6 in the Introduction)*

The role of TEIs

The statistical analysis in chapter 8, as well as the national picture emerging in chapter 6, showed that, on every account, the TEIs offered an alternative path for many upper-secondary school graduates, and especially for the more 'disadvantaged' in terms of, either purely economic wealth, or cultural 'capital'. *(See research questions 3 and 4 in the Introduction)*

Of course, we must be very cautious in judging that the establishment of the TEIs really challenged the 'traditional' patterns of selection. Someone might even argue that they have simply reproduced those patterns by absorbing the low-achievers of upper-secondary school.

In a recent field-study in a town in north-western Greece (Benincasa, 1998), there was a widespread dislike for the TEIs. Although most of the respondents admitted that "compared with certain University institutions, TEIs offer qualifications and knowledge that are much more useful on the labour market", when they were asked to state their preferences they chose the University route. TEIs were seen as having "lower status" (p. 36).

Nevertheless, in a highly volatile labour market, where unemployment rates among University graduates are booming, there is no unique allocation to positions in the productive system by type of qualification, and the competition is fierce. Although there still wide differences of prestige and salary levels between University and TEI graduates, research evidence showed that it is often easier for the latter to find a job (Kassimati, 1991). A more extensive study of the relationship between previous achievement - either in upper-secondary school, or in the National Examinations - and entry into specific University or TEI departments would potentially reveal the extent to which low-achievement is connected to the hierarchical division of the higher education places.

Another issue (highlighted also in chapter 6, through the examination of the 'indices of opportunities'), is the status of certain disciplines, and how the proliferation of new departments in higher education (universities and TEIs) relates to it.

As it was noted earlier, the establishment of new higher education departments - especially in the TEIs - was mainly the outcome of a policy of political opportunism and resulted in a wide dispersion of them to various remote areas, with poor organisational arrangements and

funding sources. The operation of different departments of the same institute at neighbouring cities in order to please voters in those areas, is a sign of an almost unplanned expansion of higher education, with many damaging consequences on the learning environment and, subsequently, the qualifications awarded.

RECENT PROPOSALS FOR EDUCATIONAL REFORMS

Last year (1997), after years of systematic criticism of the existing National Examinations arrangements and its defects (e.g., psychological stress, promotion of memorisation, significant influence of the 'lack' factor on the final score, negative effects of examination process on the curriculum balance and lack of incentives for better school achievement), the Greek government decided to initiate a series of reform measures in the education system. Although the breadth of the proposed reforms is quite wide (it covers issues from nursery schooling to educational provision for repatriated Greeks and minorities), here we will briefly deal with three of them: a) the consolidation of all types of (State) upper-secondary schools into one new 'integrated' school; b) the introduction of a national school-leaving certificate based on which entrance in higher education will be done in the future; c) the further 'opening' of higher education, with the introduction of new 'flexible' courses, which will be suited to the needs of those who cannot get a higher education place according to their school-leaving certificate.

The 'Integrated' School

According to official governmental statements and parliamentary legislation (Law, 2525/97; Ministry of Education, 1997), all current types of upper-secondary school will be progressively replaced by a new integrated type of *lyceum*, with the same curriculum content, but different study routes ('humanitarian', 'scientific' and 'technological') (Law 1525/97, article 1).

The officially stated driving forces behind the decision for introduction of this type of *lyceum* are the radical technological developments, the widespread use of information technology in economy, research and generally in many aspects of social life, the integration of the country into international political and economic bodies, the challenging experiences from inter-cultural contact and interaction etc. At the same time, there is need for a general improvement in the quality of study in school, the disentanglement of *lyceum* from higher education, and the creation of an 'autonomous' secondary school system, which would be able

to provide “general education of the highest possible level” to every pupil (Ministry of Education, 1997). Characteristic of that, among other provisions, in the respective legislation (Law 1525/97) is that the proportion of common ‘core’ subjects to the total curriculum content in the first year of the ‘integrated’ lyceum will be 100%, in the second 60% to 65%, and in the third 50% to 55% (article 1).

Despite the official optimism about the future of this new type of *lyceum*, and the fact that this reform has always been seen - by academics, teachers and parents - as a necessary step forward, there are certain issues that have to be considered carefully, before any conclusion is reached:

- The new improvised way of introducing this type of *lyceum*, without extensive consultation with all interested parties might put in danger a long sought after reform attempt. It is characteristic that such a bold legislative step was inserted as a single article within a draft law, which contained provisions for a variety of educational issues, ranging from nursery schooling to teacher training and assessment, and from arrangements for literacy provision to repatriated Greeks to changes in the organisational structure of educational-planning agencies.
- The inertia characterising educational policy-making and the lack of adequate funding at every level of the Greek system, makes it quite probable that these highly publicised reforms will be significantly delayed, if not altogether abandoned. This gap between officially stated goals in study and planning and very poor results at the level of implementation, has been repeatedly demonstrated by previous research (Kazamias, 1967 and 1978; Bouzakis, 1987; Dimaras, 1988; Nikta, 1991; Katsikas and Kavvadias, 1994 and 1998; Persianis, 1998). For example, while the new system is planned to start in the school year 1998-99, there are thousands of vacant teaching posts in schools to be filled, the organisational structure of the new type of school has not yet been designed, and the content of the new ‘integrated’ curriculum has not yet been defined (Zoulas, 1997, p. 7; Katsikas and Kavvadias, 1998, chapter 6)! Thus, it is not difficult to predict that changes will be fragmented, without internal cohesion and dynamism, and are bound, not only to fail to bring about the stated results, but also to be progressively absorbed into, and ‘neutralised’ by the established system.
- Linked to the last observation is the inferior status that technical and vocational secondary schools have in comparison to the general lyceum, something that is not going to change as easily as the decision makers want the public to believe. The main obstacle to vocational

education has been the reluctance of parents to accept non-traditional orientations for their children and the reluctance of students to abandon the dreams of a job in the public sector. The distinction between manual and non-manual work has still an appeal to the minds of most families in Greece. By actually forcing students who chose to enrol into a technical secondary school to study for three years, four compulsory, 'general' education subjects⁴ - not to mention the other 'free-choice' academic subjects - the education policy-makers, in reality reinforce the above dichotomy. This will happen because students in technical-vocational schools will have to make a forced decision: the old ones to go back to a system from which they were excluded, and the new ones to a system which is not designed to meet their needs (applied courses, with more flexible curriculum and assessment arrangements).⁵ The existing system of technical-vocational secondary education, despite its numerous problems and defects, provided the 'bad' students (the 'excluded' from general education) an alternative path for obtaining qualifications - no matter how low their prestige has been proved - and, often, gave them the opportunity to gain a place in higher education, under a system of quota allocation. If the new type of *lyceum* - which in principle must be superior to all existing types - is not able to offer a new kind of curriculum, in terms of scope and depth, and remain 'trapped' within the old academic boundaries, many students will feel more excluded than they already are, and inequality will flourish again.

New Examination Arrangements

According to the new changes, assessment of students will be taking place throughout their upper-secondary school studies, at national level and in a uniform way. It will also rely on performance in standardised tests - like the American model of SATs.⁶ Internal school assessment - with the use of formal or informal methods - will stay, but it will only play a role in the promotion of students to the next grade.

However, the calculation of the final graded-point average (GPA) for the new National School-leaving Certificate (the so-called *Ethnikon Apolyterion*) will be based on the standardised (national) assessment of students in seven subjects in the last two years of *lyceum*. The four 'core' subject - mentioned above - will have a bigger weighting for the final GPA, and there will also be three additional examined subjects, with differential weighting, according

⁴ These subjects are: Greek Language & Literature, History, Mathematics, and Physics.

⁵ It is really a 'forced' decision because all the previous types of upper-secondary school will, according to the Law 2525, be progressively abolished (article 1).

to the study route (three in total) chosen by each candidate and the higher education department s/he will apply for.

Another innovation is that each higher education department will be able to define the weighting coefficients for the seven subjects. In that sense, the system seems to partly resemble that which existed before 1964, when each University (there were no other higher education institutes) had contacted its own entrance examinations (see chapter 4).

Additionally, each candidate will be free to choose two out of a total of eight subject tracks (more detailed classification of the aforementioned three routes), and apply for any department belonging to those tracks. S/he will also be able to see his/her results (i.e., the GPA of the National School-leaving Certificate) before apply to any University or TEI, something completely different from the present system, where each candidate selects a limited number of departments, before his/her examination results are published.

Generally, the new assessment procedures, apart from the 'flexibility' they offer to the candidates to apply for the departments that mostly interest them - whether or not they succeed in getting place in them is another matter - and the (re)shift of attention from the NE back to schools, is actively promoting a system of continuous and standardised examinations throughout the three-year upper-secondary school. Whilst a first look at the rhetoric of the proposed changes would probably cause a positive reaction from any well-intentioned reader, because it disentangles *lyceum* from the 'grip' of National Examinations, a second, closer look would reveal that the examination 'fever' is getting higher, and with more serious and long-lasting consequences. The barrage of tests - 'diagnostic' as they are called by the Ministry of Education - will be so intense that a major part of school time will have to be devoted exclusively to different sorts of compulsory exams (hour-long or short classroom exams, exams based on limited or extended parts of the textbooks, and, of course, the national testing each year) (Katsikas and Kavvadias, 1998, p. 90). It was estimated that - if finally the Ministry directives are implemented to the last detail - in the first school term of the first grade of lyceum, students will have to sit exams almost every day of the term (ibid.)!

Apart from any considerations about advantages and disadvantages of the formal assessment methods - and especially of standardised tests - which have been identified in numerous research studies at international level (see chapter 2 for more details), it must be considered what the present study showed in relation to inequality patterns. More specifically, it was shown that unequal achievement within schools is more influenced by personal (age,

⁶ At the time of writing the thesis, it was not yet clear if the examinations would take place at the school-unit level, or in special examination centres, like those of the University-entrance Examinations.

gender) and other social variables (place of living, parental occupation) in comparison to National Examinations at the end of *lyceum*. Therefore, any attempt to bring formal assessment inside schools, especially in its most extreme version (i.e., 'summative', standardised assessment), might place the more disadvantaged student groups in danger of being constantly 'stigmatised', under an 'objective' and 'impeccably administered' system of selection.⁷

Finally, the new system of student assessment seems to disregard the fact that a considerable number of students are currently abandoning school - especially in the countryside - as a result of the strict selection mechanisms that exist in schools, as well as a response to wider social handicaps, which render continuation of school an unnecessary 'luxury' for the offspring of the lower social strata. These students will be the most vulnerable in this new system of assessment, since they will 'accumulate' from the very early stages - in contrast to the present system - the 'critical mass' of school failure. The only difference this time will be the even higher 'objectivity' of the selection process and, consequently, the even stronger and more effective legitimization of the 'need' for selection.

'Opening up' Higher Education

The government, in the same law which introduced the new 'integrated' *lyceum*, attempted to impress - and please - the public and the popular pressure for freer access to higher education, by announcing the introduction of new 'Free-Access Programs of Studies' in higher education (Law 2525/97, article 2). The new programs - based on the current structure of higher education establishments - will operate in parallel to already existing departments, and will be entitled to award publicly recognised undergraduate and postgraduate degrees with the same status as the latter. The teaching staff of those programs will be mainly drawn from the current academic staff of the respective higher education departments, but it is also possible that a program can be organised by members of two or more University or TEI departments, or one University and one TEI department. The law even allows for the establishment of such a program by individual members of higher education institutes (Law 2525/97, article 2; also information on 'Free-Access Programs of Studies' from the web-site of the Greek Ministry of Education at <<http://www.ypepth.gr>>).

⁷ The most ironic thing in this case is that the same academics who had once fiercely opposed the introduction of summative assessment and standardised diagnostic tests in schools, were among those 'specialists' who advised the Minister of Education for their eventual adoption, and strongly defended the new changes (see Katsikas and Kavvadias, 1998, p.89).

Although it is too early to assess this new institutional reform of the government, and despite the fact that, in principle, it can be considered as a bold step towards a more equal access for those who did not make it through the present system of selection, we should concentrate on certain key problems in the implementation of these 'Free-Access Programs of Studies'.

First of all, the problems of under-funding and under-staffing faced today by many higher education institutes around the country cannot cause any sense of optimism, especially regarding a notoriously inert Ministry of Education and, generally, a widely dysfunctional State mechanism. Would the introduction of new degree-leading courses be the answer to the immense problems tantalising high education institutes these days? Whilst most of the small and remote departments are struggling to survive and 'begging' the permission of the Ministry of Education to proceed with vital economic and administrative tasks (e.g., public procurements, hiring of personnel, employment issues of academic staff, construction or refurbishment of buildings etc.), the new law seems to further complicate matters. In addition, it does not give any guarantee for the maintenance of high quality studies, since in a very short time⁸, those who were interested should, not only improve their study quality, but also to be able to create new courses and host - and later award degrees to - thousands of new students, without having secured additional State funding (see Ministry of Education web-site at <<http://www.ypepth.gr>>).

Finally, there exists the danger that new rivalries will arise, not only between, but also within departments for a 'favourable' distribution of already scarce resources, and that the autonomy and unity of academic institutions will be severely challenged.

The mere fact that it was officially recognised that there is currently a highly selective system for access to higher education and that life-long learning is a necessity in a rapidly changing world is not negative by itself. On the contrary, every opportunity should be 'grasped' - by politicians, policy-makers, academics, teachers, students and parents - in order to maximise the potential of this new enterprise and, most of all, to carefully monitor its implementation so that no violation of the 'free access' principle is made. However, the political opportunism that has characterised the past Greek governments' educational policy suggests two things: either the Greek education policy makers are continuously and 'masochistically' falling from one blunder to another, or there is a growing pressure exerted by international organisations, and politico-economic or academic interests, for the fragmentation

⁸ In the first five months after the publication of the new law higher education institutes were obliged to submit their proposals - if any - for the organisation of new 'Free-Access Programs of Studies'.

and eventual disintegration of free, State-provided higher education, so that new private, fee-paying higher education institutes will be introduced (it needs a constitutional amendment) and promoted. Connections between transnational corporations and institutions of higher education continue to flourish as global commerce grows. Consequently, a hierarchical system of influence exists; labour market requirements (facilitated by TNCs) influence universities which provide the credentialing and cultural knowledge needed for advance in a global society.

Apart from purely practical problems, there are also some epistemological and ethical connotations that the new system seems to entail. Although heavily marketed as an alternative route to higher education degrees - something which is widely seen as 'good' and 'fair' - the operation of these 'Free-Access Programs of Studies', with their 'flexible' course arrangements and credit-award schemes, might well be proved the pre-cursor of a model of education in which an unprecedented degree of fragmentation of knowledge will take place (see Giroux, 1983; Lyotard, 1984). The provision of 'chunks' of knowledge reflected by mostly vocationally-orientated skills, might hide more than initially appears to do, as far as individual 'empowerment', through self-pacing studies, is concerned. Although, 'Free-Access Programs of Studies' seem to have real potential to promote some forms of meaningful learning and personal development, evidence from international experience indicates that the rhetoric of 'flexibility', 'independence' and 'self-reliance', which are so much stressed by contemporary work organisation and management theories, might ultimately imply wider socio-economic developments and reflect the respective adjustments that global power structures have to enter in order to avoid or absorb 'undesirable' legitimisation crises (see Helsby *et al.*, 1998).

GENERAL PATTERNS OF SELECTION AND INEQUALITY

Access and equality

Higher education in Greece and access patterns to it, must be seen in their 'symbolic value' context, as well as in their practical connections and interrelations to the power structure of the Greek society.

A higher degree is important for its holder. Some argue that this is, above all "an act of naming ...ingredient in the social construction of status" (Benincasa, 1998, p. 39). The National Examinations have functioned as a mechanism which helped towards the

'mystification' of that socially constructed status. They have been seen - and still are seen - as an objective evaluation of what the student learnt during her/his school years, and also as the fairest possible solution for selecting the 'ablest' and 'academically oriented' students.

The problem is that, whereas in the past, winning a place in upper-secondary school had been considered a success, in the last two decades - after the abolition of examinations between lower and upper-secondary school - there has been a strong public pressure for 'freer' access to Universities and other institutes of higher education. However, since places in higher education - given its 'free-of-charge' character and the restraints imposed by State budgets - were limited, Greece has experienced a situation where 'demand' exceeded 'supply'. A type of 'inflation' emerged, which was also equated with a corresponding inflation at the other end of the continuum (i.e., the output of higher education). It was considered that if access was open to everybody, not only the symbolic value of the ('inflationary') educational qualifications would fall, but also the teaching standards of Universities and TEIs would suffer immensely. This imbalance had - and still has - to be controlled by the system of National Examinations.

As far as the first two arguments about the necessity of examinations are concerned, it has been shown throughout this thesis that they are both flawed. For the first one (i.e., evaluation of previous achievement), although there was a strong correlation between previous achievement in lyceum and National Examination score, the latter is supposed - at least officially - to be completely separated from the former, because the school certificate is gained on the basis of internal school assessment, and it is mandatory before a student can sit the NE. As far as the second argument is concerned (i.e., the 'predictive validity' of the NE), previous research findings (Polydorides, 1995a) showed that there is little or no correlation between score in NE and performance during higher education studies.

The question of 'quality', and the importance of preserving it at the highest possible levels showed that there are certain implicit assumptions which remain unanswered. For example, what do we mean by 'quality standards', and who defines those 'standards'? Additionally, why are there always certain socio-economic groups, which are constantly excluded from higher education provision? Why are some occupations over-represented in certain Universities or University-faculties, and others under-represented? Why do girls, while performing better than boys in school, lag behind them in the NE, and placed in less prestigious higher education departments?

Although inequalities in access to higher education have been considerably reduced in recent years - something that became evident in the present analysis of Athens - my firm belief is that the reproduction of social stratification still remains strong. After all, the selection

patterns do not necessarily correspond to constant socio-economic divisions and power relations. As it was almost inconceivable in the past for the son of a farmer to enter and graduate from upper-secondary school, the same 'hard reality' is faced today by the same person in obtaining a place in a prestigious Engineering department. Despite the fact that secondary schooling became (almost) universal in Greece, there are still significant obstacles for the offspring of the lowest social strata to obtain a place in a department that would secure a future career in a job considered as 'highly prestigious' in market terms.

Within the context of personal aspirations, and under the 'obligation' to abide to the 'socially acceptable' norms of what constitutes 'good' and 'worth-learning' knowledge, students have to follow the rules, which have been pre-determined by 'others'. The passive conformity to the school - that is, social - regulations (e.g., the need to memorise the content of school textbooks, so they will later be able to reproduce them during the examinations' strict time-limits) is the requirement for the completion or continuation of studies, and, subsequently, for the social integration of the individual into a new socially determined role, into a new social identity. The selection process cannot be seen primarily as a pure reflection of class inequalities, but rather as a mechanism which refines the socio-economic and educational background of each student, creates new categories of professional types, or maintains old ones, generating quite different from the traditional, but still significantly strong, social boundaries. (*See research question 1 in the Introduction*)

By appearing to be an impartial and neutral 'transmitter' of the benefits of a valued culture, schools - and assessment being carried out in them - are able to promote inequality in the name of 'fairness' and 'objectivity'.

For example, the student who succeeds in getting a place in a department of Sociology, part of a small University, located in a remote semi-urban area of Greece, must feel very satisfied with her/his 'success'. S/he has been through an extremely competitive and laborious process and "s/he finally made it". S/he might even be happy, because among Greek high-school graduates "there is a strong interest in the immediate independence that student life, preferably, in another town, represents" (Benincasa, 1998, p. 36). In case of 'failure' s/he would possibly accept it as her/his own 'mistake', 'weakness' or 'bad luck'.

The system itself has hardly ever been accused as legitimating factor which, not only inhibits personal aspirations and future choices, but also shapes and channels them into certain directions. The fact is that the particular student, through his/her school life, through graded achievement, classroom interaction, formal and informal pedagogy, 'learnt' her/his 'path'. S/he 'learnt' which study routes s/he will choose, and which higher education path - if any - s/he

should follow. S/he 'internalised' her/his 'potentials' and mastered the ways for 'developing' them. In this sense, one could even argue in favour of the 'Rational Action' model (see Boudon, 1974; Goldhorpe, 1996; Hatcher, 1998), which explains the transition choices after the end of compulsory schooling, to rational decisions made by families and their offspring, on the basis of the costs of further education and potential future returns for any type of 'educational investment'. However, neither this model, nor the meritocratic principles upon which the present system of National Examinations is based, pay any attention to the fact that this student 'inherited' from his/her family and the wider socio-economic environment in which s/he was raised sets of meanings, qualities of style and modes of thinking. These are accorded a certain social value and status as a result of what dominant class, or classes, or ideologies, or 'discourses' label as the most valued cultural capital. Nobody regards the hard reality that formal educational institutions, especially at the level of higher education, embody - but do not always reflect in an explicit way - interests and ideologies that capitalise on a kind of familiarity and set of skills which only specific students have received by means of their family backgrounds and class relations. Finally, it is not the 'internalisation' of values and ideologies that highlights the 'gap' between students from different socio-economic and cultural backgrounds. It is mainly the practical realisation of these differences in everyday life. For example, a graduate of the Department of Business Administration of the Economic University of Athens, whose father (or mother) is a low-level office clerk in a large manufacturing corporation, might have performed equally or even better during his studies compared to the son/daughter of a chief executive, or the major shareholder of a particular corporation. What chances has the first one - in comparison to the second one - as far as employment prospects, job security, salary level, position in the firm and future promotion are concerned? So, apart from personal differences, there is a vast complex network of power relationship that define - not always towards the same ends, with the same intensity and the 'expected' results - the rules and limits in individual action. (*See research questions 2 and 6 in the Introduction*)

Higher Education and Hierarchisation of Knowledge

As noted earlier in this chapter, the de facto categorisation of higher education, especially that between more vs. less 'prestigious' faculties and departments, implies an implicit hierarchisation of knowledge, and this subsequently corresponds to specific power relations.

Instead of separating knowledge from power, an account of what the 'new sociology of education' proponents argued about the nature of knowledge needs to be taken (Young, 1971;

Young and Whitty, 1977): what counts as knowledge in any given society, school, or social site presupposes and constitutes specific power relations.

A technocratic approach to knowledge is being progressively supported by formal schooling, and anything that is not easily measurable and quantifiable, is thought as 'unproductive' and 'useless'. Although the traditional perception of higher education in Greece was that of a symbolic act, a 'naming' ritual, which attaches social status to graduates, progressively, the changes brought about in the division of labour and in the technological applications of scientific knowledge at national and international level, are going to considerably change or modify those perceptions. Today, when most people manage to get a University degree and only a minority have a post-graduate diploma, "the University graduates would be in much the same position as the high school graduates" (Benincasa, 1998, p. 30). Additionally, those disciplines which traditionally have enjoyed a high status in the popular consciousness, such as Philosophy, Pure Economics, Political and Social Sciences, are increasingly losing ground, due to the post-modern domination of the so-called 'technical rationality' (Habermas, 1971). This rationality is not independent from the demands of global accumulation of capital, internalisation of labour markets and unprecedented technological advancements.

A major assumption reinforced by these changes is that theory - and certainly educational theory - should contribute to the mastery and control of the environment through a set of deductively derived operations aimed at discovering the regularities that exist among isolated variables under study. In this 'quest', critical knowledge derived from the Humanitarian and Social disciplines is rather 'unwelcome', and that can easily be seen in labour market structures and practices. 'Hard' data becomes the focus of explanation and discovery, while other forms of knowledge, such as those that cannot be universalised intersubjectively, are banished to the realm of mere 'speculative' wisdom.⁹ Knowledge acquired through traditionally established faculties (e.g., Medicine and Natural Sciences), or technologically orientated disciplines (e.g., Engineering courses, especially those connected to Electronics, Telecommunications and Robotics) and some new specialisations which deal with Management, Financing and other operations vital to the maintenance of global capitalism, is highly valued and rewarded.

At the same time, the old distinction between manual and non-manual work, not only remains unaffected, but is also reinforced, albeit redefined. For example, the preference - for those who 'can' - for technologically orientated jobs does not imply a more positive stance

⁹ In this respect, it is highly ironic that the most 'speculative' institution ever existed, the Stock Exchange, is 'worshipped' for its vitality and ability to sustain the global economic structure.

against manual labour. Those who graduate from prestigious University faculties - even those coming from corresponding disciplines in the less prestigious TEIs - aim at a non-manual, administrative and supervisory career. The operation of machinery and the low-level supervision is left to post-secondary vocational-college graduates and other semi- or unskilled workers.

Moreover, the need for business to respond rapidly to innovate and to raise quality whilst cutting costs has led to changed prescriptions and beliefs about the organisation of work. Moving away from the Fordist system of mass production, with large bureaucratic structures and hierarchical division of labour, and the Taylorist techniques of 'scientific management', what is increasingly needed today is self discipline and self-reliance, as well as the ability to communicate, to work with others and to continue to learn. In other words, what is progressively sought from workers today is 'flexibility' and 'employability', rather than 'specialisation', in order to cope with an uncertain future. These developments, although it is argued that they contribute to the 'empowerment' of workers and their increased participation in decision-making, in reality lead to a deskilled and disempowered and obedient labour force. The fact that the goals of the organisation are either fixed (e.g., profit-making), or are decided by an elite group of leaders means that unavoidably, workers could 'co-decide' only "within the framework of such values and goals. As a result, we are progressively witnessing what Gorz (1989) predicted as a "division of the workforce into three main 'sections': skilled workers with permanent jobs in large firms; peripheral workers with, badly paid and insecure jobs; and an underclass of semi-unemployed workers, who obtain only occasional work or 'odd jobs'" (as quoted in Helsby *et al.*, 1998, p. 66).

In this sense, it is not only a hierarchisation of knowledge that takes place in every-day life, but also a continuous 're-distribution' and 're-definition' of it, according to the power relations existed in the global economic order. This does not necessarily suggest that formal educational systems - and in our case, the Greek system - explicitly or implicitly 'promote' the hierarchisation of occupations and knowledge in a direct way. Since they do not have their own 'will', but simply reflect the balance of power and socio-economic order - with all the contradictions and irregularities this entails - they just legitimise the inequalities prevailing in the wider social context.

Therefore, the system of National Examinations does not 'define' what type of knowledge is 'higher' or 'lower', 'worth-learning' or 'not-worth-learning', nor does it 'select' for its own sake. After all, we saw that in certain conditions - when socio-economic and cultural factors allow it - it can play an 'equalising' role, as far as specific educational 'goods' are concerned.

What it invariably does, however, is to legitimise the process of selection and its necessity by 'baptising' it as 'objective' and 'neutral'. (*See research questions 5 and 6 in the Introduction*)

Improvement, or the 'New Face' of Inequality?

Do the above arguments suggest that equality of opportunity and/or outcome are still a dream for Greece? The answer is both *yes* and *no*. This means that nobody can give a definite answer to a question which cannot be answered in terms of black & white distinctions.

Even the most recent studies of inequalities in schools and/or access to higher education (Katsillis and Rubinson, 1990; Kiridis, 1996; Benincasa, 1998; Katsikas and Kavvadias, 1998;) showed that educational achievement, as well as opportunities for access to higher education, are determined - one way or another - by the social background of the student.

The present study, confirmed much of previous research, but also found a significant degree of 'equalisation' in the Metropolitan Area of Athens (GAA), as far as achievement and access patterns are concerned.

It is true that significant changes have been introduced in the last twenty years: provision of better technical-vocational education, construction of schools buildings, establishment of new Universities and other higher education institutes, attempts for introduction of more informative and detailed in-school vocational guidance, publication of modern books and so on. This was also the result of wider political developments and exercise of popular pressure - mainly through trade and teacher unions, academics and political parties - onto a government (the socialist PASOK Party) which was committed to long-term demand for equality of opportunity (see the model of 'political negotiation' in centralised educational systems; in Archer, 1979). Changes - slow and controversial as they have proved - for democratisation of the system, have had an impact and brought about changes from lower to higher grades.

However, the Greek educational system, because of its heavily centralised structure, enabled the governments and the various politically influential groups to impose organisational and financial restrictions on the 'democratisation' of decision-making. Reforms remained the tool in the hands of power political groups and alliances in order to 'manipulate' popular feelings for 'democratisation' of education and direct them for their own political purposes (see chapter 4, for a discussion of past reforms).

After all, how democratic could an educational system be, when the wider social and economic power structures (at its narrowly national, or broader international level) are based

on unequal relative positions and roles? How could education - and especially formal State education - compensate for social injustices?

However, this is not necessarily a negative point for the Greek State and the educational provision it offers to the citizens. Given the evolution of the Greek political and educational system, the structural weaknesses of the economy, the dependent character of the country's development and its position within the international division of labour, the present patterns of educational 'selection' in Greece, cannot be considered as 'severe' as compared to other Western countries. In a country, deeply traditionalist and governed by totally 'autarchic' regimes until very recently, and in which political opportunism, nepotism, populism and instability have been the prevailing social features, it would have been inconceivable a few years ago for a manual worker's son to enter a Medical School. The fact that today this is becoming more and more attainable - albeit with immensely slow pace - is something that must not be passed unnoticed. (*See research question 1 in the Introduction*)

Despite the optimistic picture painted by the higher education access-patterns in the Greater Athens Area, the situation at the national level is worryingly pessimistic. As it was shown in chapter 6, inequalities are much more profound in the rest of the country, rather than in the Greater Athens Area. This should not 'comfort' our worries with claims of nearly achieving an 'egalitarian' school system. On the contrary, the author's main concern has been - and still is, as the title itself implies - the patterns of inequalities emerging in the country as a whole. Thus, the influence of socio-economic background merits further exploration at national level. The present study may have possibly revealed how important it would be to include in any future analysis the dimension of regional differences in educational inequalities, that is, the huge differences prevailing in the relationship between 'centre' and 'periphery'.

Furthermore, it has also been admitted earlier that the data collected was one of the main obstacles for the derivation of useful conclusions. Perhaps if data were richer in information about personal, family and general social characteristics, more complex relationships would be revealed, and more elaborate analysis of unequal access to higher education would be feasible. Additionally, if data contained information on some new emerging forms of social exclusion in Greece (e.g., racism mainly based on ethnic or religious origin) a broader picture of inequality would be obtainable.¹⁰

The system of National Examinations - as indeed the educational system as a whole - has many complex dimensions which can be scrutinised and analysed by, neither 'deterministic'

views and 'cause-effect' statistical inferences, nor fragmented, micro-level and 'subjectivist' approaches. There is a need for a combination of research methodologies, data collection techniques and - most of all - a holistic theoretical approach to society and its constituent parts.

The present study did not attempt a 'holistic' approach to the relationships 'shaping' the Greek educational system. Such an attempt would be, after all, impossible, given the theoretical, methodological, practical, ethical and ideological constraints, which unavoidably limit the scope of a research monograph. However, I believe, it was an insightful examination of a number of crucial issues concerning the Greek educational system, and the country as a whole, today: from a detailed historical account of contemporary Greek education, to description of the present structure of the school system; and finally, to an analysis of patterns of inequalities which have existed in the transition from secondary to tertiary education, as well as in the distribution of students within tertiary education (the latter having hardly been examined in the past).

¹⁰ Unfortunately, this kind of data are not available in Greek schools. Such information could only be collected through a more qualitative field-research, something which needs generous funding and large-scale support (at regional or national level).

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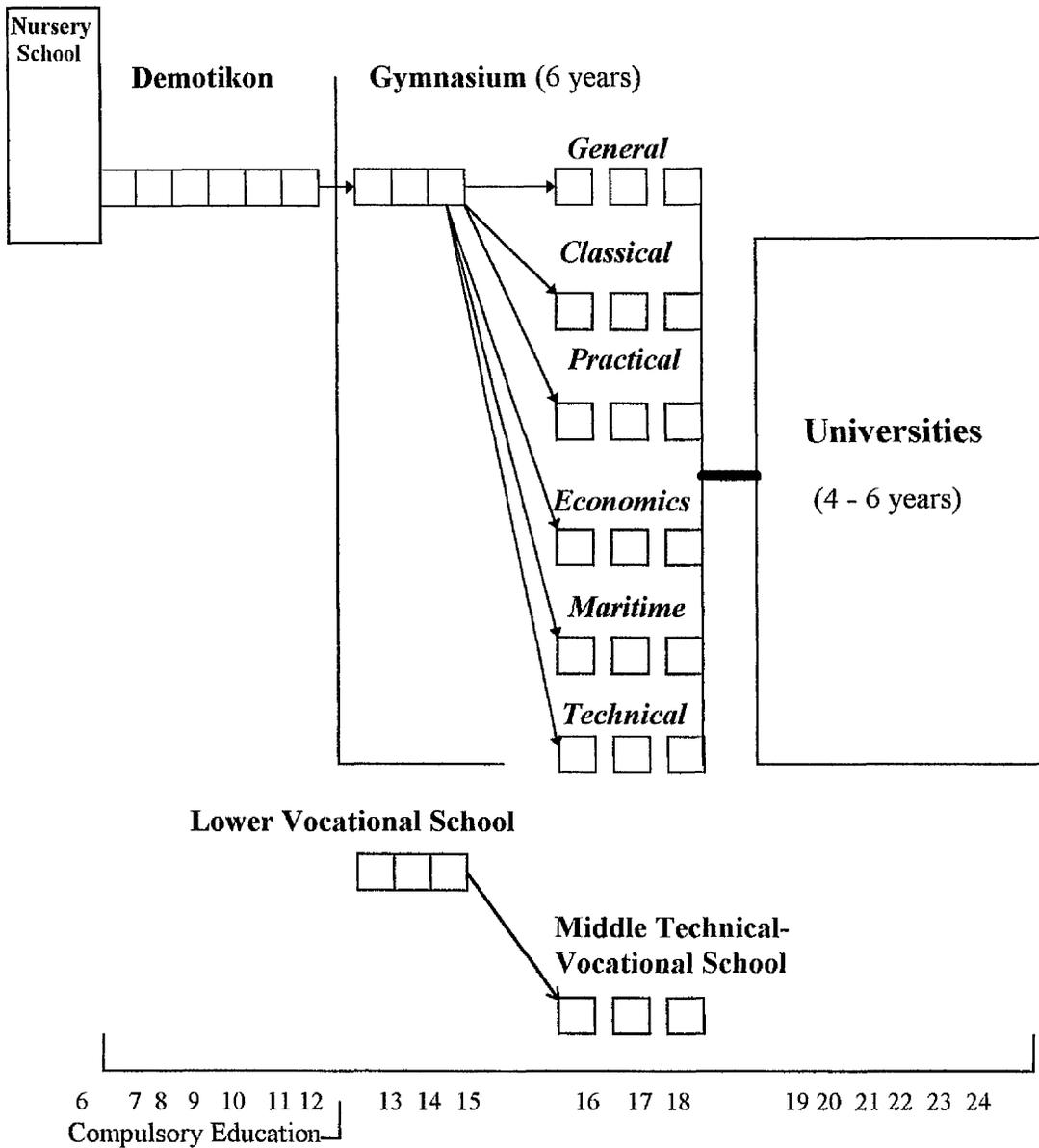
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APPENDIX

DIAGRAM 4.1

THE GREEK EDUCATIONAL SYSTEM BEFORE 1976



→ Access through examinations

→ Free access

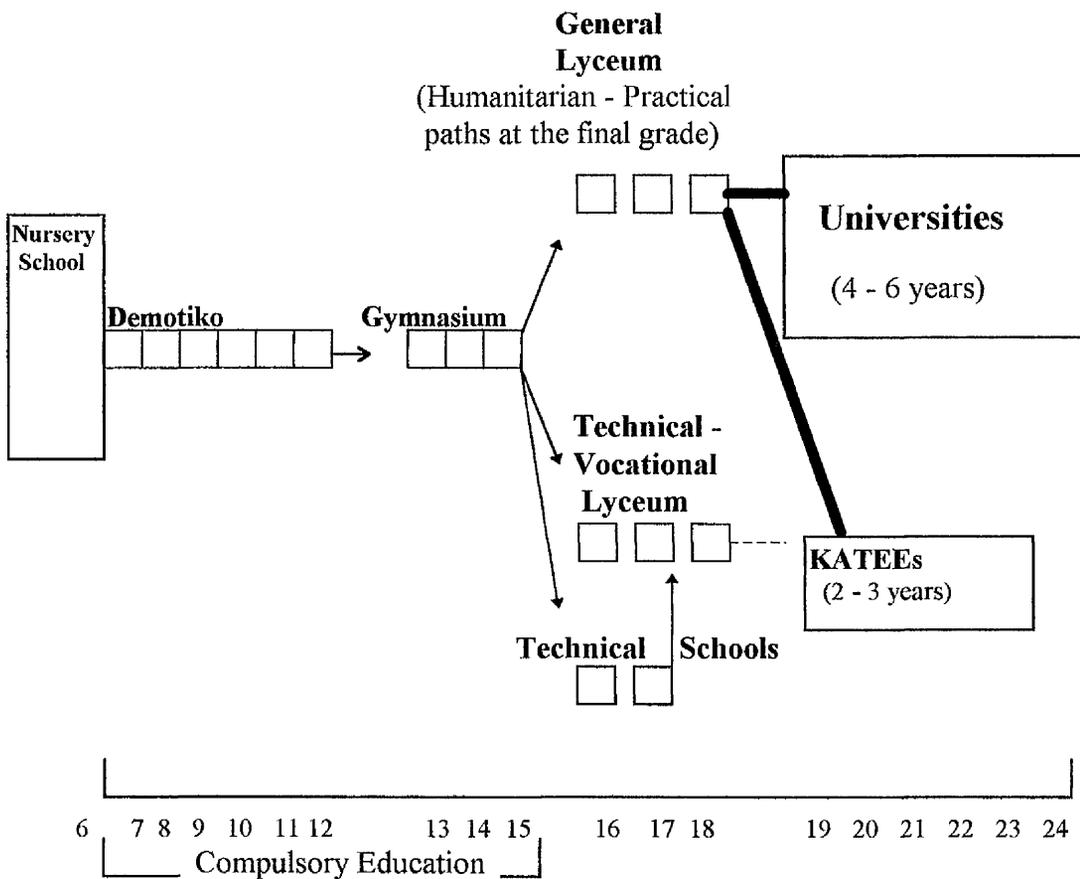
----- Restricted access (according to fixed quotas determined by the Ministry) as a percentage of the total places available each year, and based mainly on graduation results.

———— Entrance after National Examinations, and allocation of places according to achievement levels in these Examinations and their relation to the number of places available each year (pre-determined by the Ministry).

*KATEEs are not included although they were established in 1974.

DIAGRAM 4.2

THE GREEK EDUCATIONAL SYSTEM AFTER 1976



→ Access through examinations

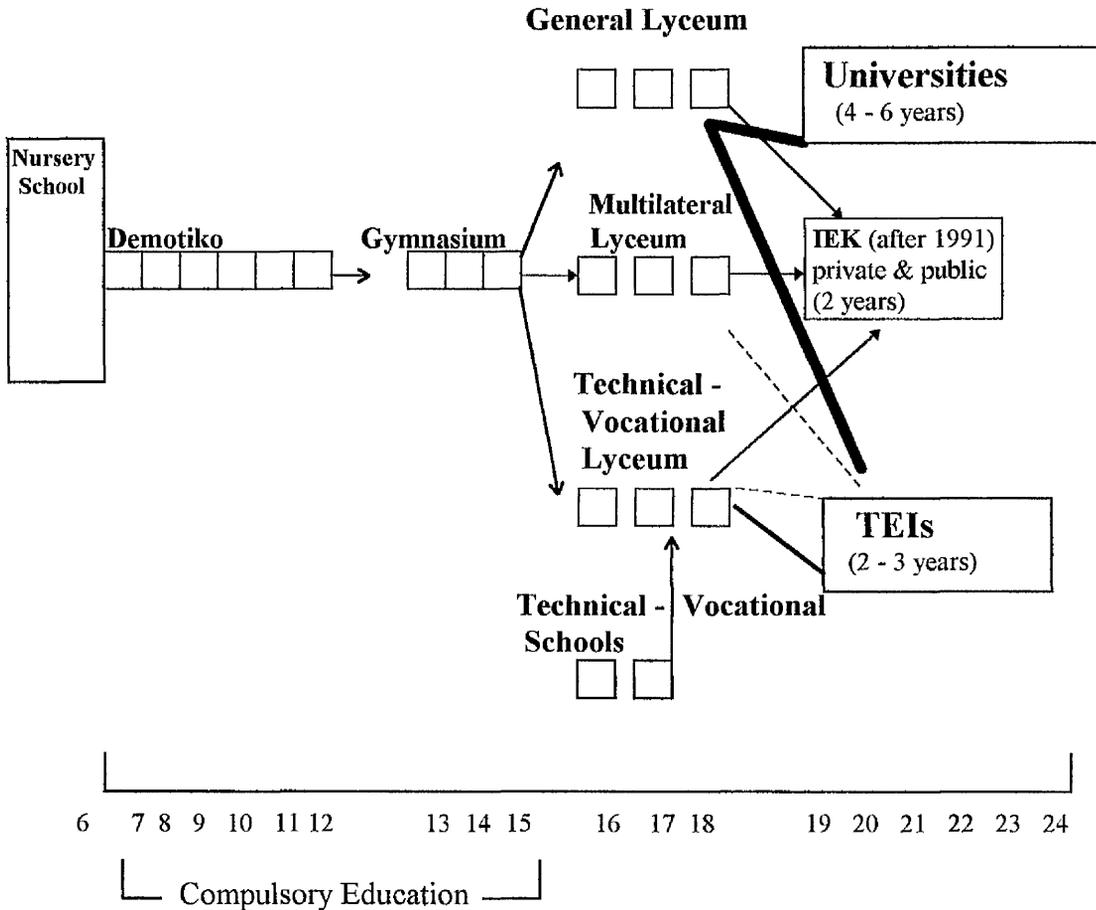
→ Free access

----- Restricted access (according to fixed quotas determined by the Ministry) as a percentage of the total places available each year, and based mainly on graduation results.

———— Entrance after National Examinations, and allocation of places according to achievement levels in these Examinations and their relation to the number of places available each year (pre-determined by the Ministry).

DIAGRAM 4.3

THE GREEK EDUCATIONAL SYSTEM AFTER 1985



→ Free access, but beyond a certain limit, random selection through draw among the all candidates.

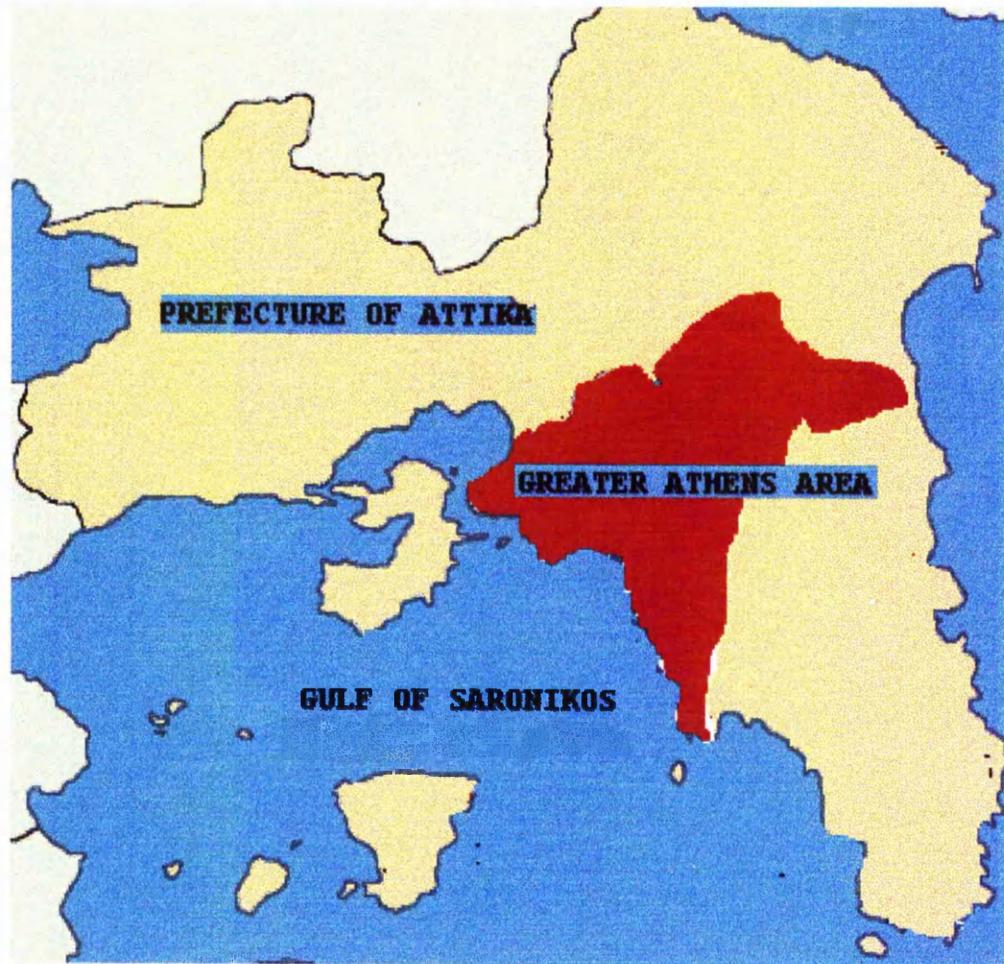
→ Free access

----- Restricted access (according to fixed quotas determined by the Ministry) as a percentage of the total places available each year, and based mainly on graduation results.

— Entrance after National Examinations, and allocation of places according to achievement levels in these Examinations and their relation to the number of places available each year (pre-determined by the Ministry).

MAP 1

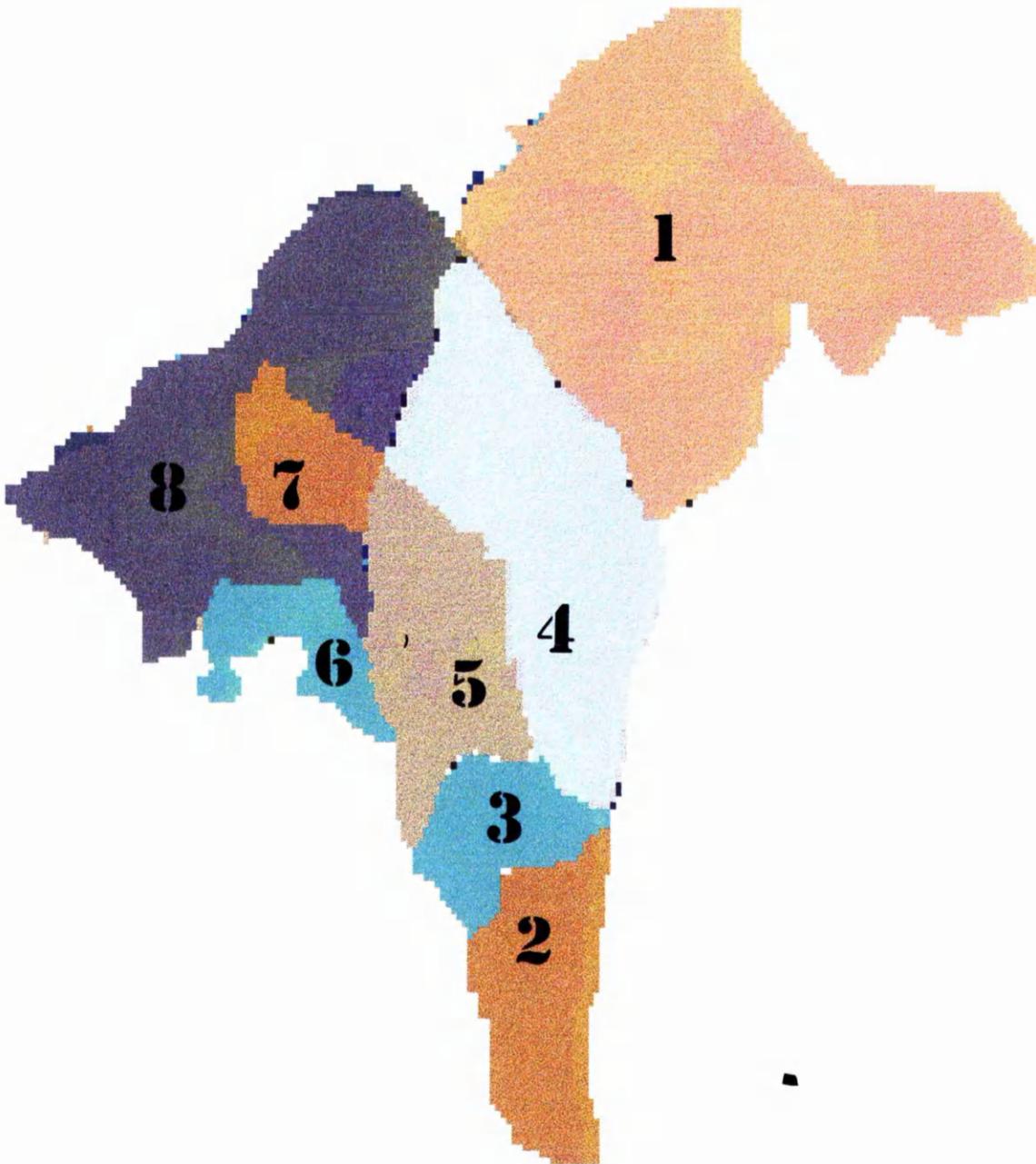
THE PREFECTURE OF ATTIKA AND THE GREATER ATHENS AREA



0 20 km.

MAP 2

THE DIVISION OF THE GREATER ATHENS AREA IN 8 CLUSTERS



0 5 km.

TABLE 1

Summary of schools in each cluster, and main indicators of school size in the sample and the population.

| CLUSTER 1 | CLUSTER 2 | CLUSTER 3 | CLUSTER 4 | CLUSTER 5 |
|-----------------------|-------------------------|---|--|--|
| 1st Lyceum of Kifisia | 1st Lyceum of Giffada | 4th Lyceum of Alimos | 3rd Lyceum of N. Smyrni 28th Lyceum of Athens 4th Lyceum of Zografou | 2nd Lyceum of Byron 8th Lyceum of Kallithea 4th Lyceum of Ilion 21st Lyceum of Athens |
| 68 | 150 | 97 | 125 | 82 |
| 66 | 150 | 97 | 80 | 81 |
| 66 | 8.595989 | 5.56874 | 95 | 65 |
| 3.782235 | 150 | 97 | 300 | 120 |
| 459 | 150 | 98 | 87.5 | 266 |
| 114.75 | 8.595989 | 5.56874 | 17.192 | 76 |
| 2.108 | 882 | 1048 | 5796 | 15.24355 |
| | 130.571 | 116.44 | 109.358 | |
| | 4.095 | 4.934 | 26.628 | |
| | | | | |
| CLUSTER 6 | CLUSTER 7 | CLUSTER 8 | | |
| 4th Lyceum of Pareas | 4th Lyceum of Peristeri | 2nd Lyceum of Drapetsona 2nd Lyceum of A. Demetrios 3rd Lyceum of Aegaleo 4th Lyceum of Korydallos | | |
| 82 | 98 | 89 | | |
| 82 | 98 | 134 | | |
| 4.6991404 | 5.616046 | 134 | | |
| | | 144 | | |
| 82 | 98 | 412 | | |
| 82 | 98 | 137.333 | | |
| 4.6991404 | 5.616046 | 23.6103 | | |
| 1235 | 1160 | 5064 | | |
| 95 | 82.857 | 100.268 | | |
| 5.674 | 5.386 | 24 | | |

T-Tests for all the samples revealed no statistically significant differences between sample and population (cluster) means.

TABLE 2

CODING SHEET

SCHOOL No:

SCHOOL RECORD No:

SEX:

AGE:

PLACE OF BIRTH:

LOCATION OF SCHOOL:

SIZE OF SCHOOL(in number of pupils):

THIRD-YEAR ENROLLMENTS(in number of pupils):

NUMBER OF TEACHERS:

MEAN SIZE OF CLASSES (in numbers of pupils per class):

PUPIL/TEACHER RATIO:

ACADEMIC BRANCH:

FIRST-YEAR FINAL GRADE:

SECOND-YEAR FINAL GRADE:

THIRD-YEAR FINAL GRADE:

TIME OF PARTICIPATION IN EXAMINATIONS (i.e first, second):

NATIONAL EXAMINATIONS (OVERALL) SCORE:

NAME OF HIGHER EDUCATION INSTITUTE:

NAME OF ACADEMIC DEPARTMENT:

ORDER OF ENTRY (1, 2,):

FATHER'S OCCUPATION:

MOTHER'S OCCUPATION:

JOHN F. LEAR
2001-2007
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1-8